LAUNCH COMPLEX 34, SWMU CC054
2023 DNAPL SOURCE ZONE OPERATIONS, MAINTENANCE, AND MONITORING, SITE-WIDE LONG-TERM MONITORING, AND HOT SPOT 6 AIR SPARGE SYSTEM ANNUAL PERFORMANCE MONITORING AND PHASE TWO EXPANSION CONSTRUCTION COMPLETION REPORT
CAPE CANAVERAL SPACE FORCE STATION, FLORIDA

Prepared for:



National Aeronautics and Space Administration
Kennedy Space Center, Florida

July 2024
Revision 0

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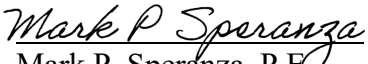
Approved by: 
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July 2024

PROFESSIONAL ENGINEER CERTIFICATION

This 2023 Annual Performance Monitoring Report for the Dense Non-Aqueous Phase Liquid Source Zone, Operations, Maintenance, and Monitoring, Site-Wide Long-Term Monitoring, Hot Spot 6 Air Sparge System, and Hot Spot 6 Phase Two Expansion Construction Completion Report for Launch Complex 34, SWMU CC054, Cape Canaveral Space Force Station, Florida, dated July 2024, has been prepared by or under the responsible supervision, direction, or control of the Florida-licensed professional engineer whose signature and seal appear below. This document and the work described herein complies with standard professional practices and the requirements of Chapter 62-780, Florida Administrative Code (F.A.C.) and other rules of the Florida Department of Environmental Protection according to Rule 62-780.400(1), F.A.C.



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ABBREVIATIONS AND ACRONYMS

ADP	Advance Data Package
AS	Air Sparge
bls	below land surface
CatOx	Catalytic Oxidation Unit
CCR	Construction Completion Report
CCSFS	Cape Canaveral Space Force Station
cDCE	cis-1,2-dichloroethene
cfm	cubic feet per meter
CMD	Corrective Measures Design
CMS	Corrective Measures Study
COC	Contaminant of Concern
CPT	Cone Penetrometer Test
CVOC	Chlorinated Volatile Organic Compound
DNAPL	Dense Non-Aqueous Phase Liquid
DSZ	DNAPL Source Zone
DPT	Direct-Push Technology
EE	Engineering Evaluation
ESB	Engineering Support Building
°F	degree Fahrenheit
FDEP	Florida Department of Environmental Protection
feet	foot or feet
GCTL	Groundwater Cleanup Target Level
gpm	gallon per minute
HAP	Hazardous Air Pollutant
HC	Hydraulic Containment
HCP	High Concentration Plume
HCS	Hydraulic Containment System
HDPE	High-Density Polyethylene
HMI	Human Machine Interface

ABBREVIATIONS AND ACRONYMS (CONTINUED)

hp	horsepower
HPT	Hydraulic Profiling Tool
HS	Hot Spot
IDW	Investigation-Derived Waste
IM	Interim Measure
IMWP	Interim Measure Work Plan
IWP	Implementation Work Plan
KSC	Kennedy Space Center
KSCRT	Kennedy Space Center Remediation Team
LC34	Launch Complex 34
LCP	Low Concentration Plume
LDA	Large-Diameter Auger
LPGAC	Liquid-Phase Granular Activated Carbon
LTM	Long-Term Monitoring
mg/L	milligram per liter
MIP	Membrane Interface Probe
MNA	Monitored Natural Attenuation
NADC	Natural Attenuation Default Concentration
NaOH	Sodium Hydroxide
NASA	National Aeronautics and Space Administration
NAVD88	North American Vertical Datum of 1988
nBA	n-butyl acetate
O&M	Operation and Maintenance
OM&M	Operation, Maintenance, and Monitoring
OMMR	Operations, Maintenance, and Monitoring Report
PCB	Polychlorinated Biphenyl
PED	Partitioning Electron Donor
PID	Photoionization Detector
PLC	Programmable Logic Controller

ABBREVIATIONS AND ACRONYMS (CONTINUED)

PMR	Performance Monitoring Report
psi	pound per square inch
psig	pound per square inch gauge
PVC	Polyvinyl chloride
RAE	Remedial Alternatives Evaluation
RCRA	Resource Conservation and Recovery Act
REC	Record of Environmental Consideration
RFI	RCRA Facility Investigation
ROI	Radius of Influence
SAP	Sampling and Analysis Plan
scfm	standard cubic foot per minute
SOP	Standard Operating Procedure
SWMU	Solid Waste Management Unit
TCE	Trichloroethene
tDCE	trans-1,2-dichloroethene
THHN	Thermoplastic High Heat-Resistant Nylon-Coated
µg/L	microgram per liter
USEPA	United States Environmental Protection Agency
VADC	Vertical Air Distribution Column
VC	Vinyl Chloride
VFD	variable frequency drive
VOC	Volatile Organic Compound
ZVI	Zero-Valent Iron

EXECUTIVE SUMMARY

This Annual Performance Monitoring Report (PMR) for the Dense Non-Aqueous Phase Liquid (DNAPL) Source Zone (DSZ), Site-Wide Long-Term Monitoring (LTM), and Hot Spot 6 (HS 6) Air Sparge (AS) System presents the results of Year 14 operations and performance monitoring of the hydraulic containment (HC) Interim Measure (IM), details associated with construction and implementation of the HS 6 AS system expansion (Phase Two), and the results of operations and performance sampling of the HS 6 AS IM at Launch Complex 34 (LC34), located at Cape Canaveral Space Force Station (CCSFS), Florida. The timeframe for activities documented in this PMR extends from April 1, 2023 to March 31, 2024. LC34 has been designated Solid Waste Management Unit CC054 under the Kennedy Space Center (KSC) Resource Conservation and Recovery Act Corrective Action Program.

The objective of the HC IM at LC34 is to contain the shallow and deep DSZ and surrounding dissolved-phase trichloroethene (TCE) high concentration plume via operation of a hydraulic containment system (HCS). The pre-IM design 300 micrograms per liter (µg/L) TCE groundwater contour was used to establish the deep zone capture area for deep recovery wells, and the shallow zone capture area was defined by the DSZ. The system began operating in 2010, and in 2015, the system was expanded to provide HC for areas within the 300 µg/L TCE groundwater isocontours of HS 3 and 4. In 2018 and 2019, an investigation was conducted to re-characterize the DSZ, which included investigating TCE mass in Layer 7. This data was subsequently used to optimize the pumping rates of the HCS and install additional recovery wells in Layer 7 to more adequately capture residual contaminant mass.

The operational period for Year 14 of the HCS was from April 1, 2023 to March 31, 2024. Operational runtime for the system was 94 percent during Year 14, with downtime events attributed to planned maintenance, system repairs, and power outages. As of March 31, 2024, a total of 344,849,634 cumulative gallons of groundwater containing 94,656 pounds of chlorinated volatile organic compounds (CVOCs) have been removed by the HCS. During the reporting period covered under this report, the HCS recovered 31,176,393 gallons and approximately 6,319 pounds of CVOC mass. Total combined influent concentrations of TCE have decreased since startup from approximately 280,000 µg/L (January 2010) to 25,000 µg/L (March 2024).

During the reporting period, all effluent concentrations from the HCS (aqueous and vapor) were below regulatory reporting limits, indicating the system continues to operate as intended.

Performance monitoring was conducted in January 2024 within the DSZ to evaluate TCE contamination. Groundwater samples were collected via DPT at nine locations, consistent with previous events between 2017 and 2022. Full vertical profile sampling was completed at each DPT from 8 to 98 feet below land surface (bls), at 5-foot intervals. The DPT performance monitoring results are summarized in this PMR. The results revealed TCE remains at concentrations greater than 11,000 µg/L in the DSZ (1-percent solubility, indicative of DNAPL) at eight of the nine DPT locations and at depths ranging from 28 to 98 feet bls. An overall decreasing trend of TCE concentrations was observed in DPT samples during this reporting period, which is a reduction from the previous event (December 2022) and the peak event in December 2021, where TCE percentages appeared to increase in all depth zones because several recovery wells were turned off during the AS pilot study in the DSZ. The maximum TCE concentration in January 2024 was 1,600,000 µg/L in the 53 feet bls depth interval at DPT594 (previous maximum result in 2022 was 1,800,000 µg/L in the 48 feet bls depth interval at DPT599). This maximum concentration in the 53 feet bls depth interval is in the deep capture zone. During the January 2024 DPT event, the largest portion of TCE mass was observed in the 48 feet bls interval above/within Layer 4. This trend remains consistent with previous years and appears to indicate continued mass discharge from Layer 4 (fine-grained unit).

In addition to DPT sampling, annual groundwater samples were collected from 11 deep monitoring wells in the DSZ area (Layers 7 and 8) in December 2023 to verify vertical and horizontal delineation. Three of the wells were also sampled biweekly to evaluate operations of recovery well RW21D (screened 86 to 106 feet bls), which was installed in January 2023. Of the Layer 7/8 monitoring sampled only annually, results were non-detect or less than groundwater cleanup target levels GCTLs in December 2023, with the exception of one well, IW45D2, which had a cis-1,2-dichloroethene (cDCE), detection greater than the GCTL. Of the three wells sampled biweekly during the operational period, the well located closest to Layer 7 recovery well RW21D (IW44D2, screened 105 to 115 feet bls) had concentrations of TCE, cDCE and vinyl chloride (VC) greater than GCTLs throughout the operational period, but displayed a

decreasing trend since the peak concentrations in September 2023. The maximum TCE concentration during this operational period was 190,000 µg/L at IW44D2 in September 2023, but reduced to 700 µg/L in March 2024, indicating the HCS is still effectively removing mass from the source area. Expansion of the HCS and addition of new recovery wells is ongoing and will continue to be evaluated as the groundwater recovery scheme is optimized. Details of the expansion and optimization will be provided in a future PMR.

The HS 6 AS IM was initiated in 2018 with 160 AS wells and expanded in 2019 with another 140 AS wells. An additional expansion of the HS 6 AS IM was completed during the reporting period covered under this report and details of the construction implementation and startup of the expansion are detailed in Section III of this report. The new expansion, referred to as Phase Two, was implemented between August 17, 2022 and August 28, 2023, and included the installation of 190 air sparge wells to treat an additional 11.2 acres. The original configuration (referred to as Phase One) operated until Phase Two came online, then all but 52 AS wells were turned off so the components could be moved and utilized in the Phase Two area. The 52 AS wells that remain on are in a barrier configuration preventing contaminated groundwater from impacting the treated area. The HS 6 AS system (both Phase One and Two) operated normally during the reporting period covered under this report. Semi-annual performance monitoring of the Phase One configuration was conducted in April and November 2023, consistent with previous years. For the Phase Two configuration, 21 new monitoring wells were installed and sampled quarterly, with a baseline event in July 2023, and quarterly events in November 2023 and February 2024 summarized in this report. Semi-annual monitoring results collected in April and October 2023 show concentrations of contaminants of concern (cDCE, trans-1,2-dichloroethene, and VC) have decreased to less than GCTLs in nearly all wells and not impacting the surface water drainage canal, indicating the HS 6 IM continues to meet objectives. The baseline and quarterly sampling for the Phase Two configuration indicate generally decreasing concentrations in wells within and around the perimeter of the treatment area. At least two more quarters of monitoring will be conducted and once those results are evaluated a reduced the sampling frequency may be considered.

Overall, the tasks associated with Year 14 operation of the HC IM and operation of the HS 6 AS IM were performed in accordance with recommendations included in the previous 2022 LC34 (Year 13) PMR. Evaluation of results from the HC IM and HS 6 IM show that these systems are operating as designed and meeting performance objectives.

The following items are recommended for Year 15 of operation of the HCS (April 1, 2024 through March 31, 2025):

- Continue site-wide LTM on a biennial frequency with the next LTM event in December 2024. This event will include the same 55 wells sampled during the previous 2022 biennial event and one well that was recommended to be relocated, as detailed in the 2022 PMR.

- Continue operation of the HCS with the following actions:

    - Continued operation of the catalytic oxidizer for offgas treatment;

    - Monthly sampling of aqueous effluent from the air strippers, and liquid phase granular activated carbon when online;

    - Quarterly sampling of combined system influent and individual recovery well influent (monthly at Layer 7 and Layer 7/8 recovery wells);

    - Annual vapor-phase sampling;

    - Annual sampling in the DSZ at the same nine DPT locations (DPT593 to DPT601) and depth intervals as the 2023 event; and

    - Annual sampling at 11 Layer 7/8 wells (IW0001D2, IW0042D2, IW0043D2, IW0044D2, IW0045D2, IW0160, IW0161, IW0162, IW0163, IW0164, and IW0165), with biweekly sampling at selected locations as-needed based on results.

    - Once the new Layer 7 air compressor is operational, begin operating recently installed Layer 7 recovery wells.

- Continue operation of the HS 6 AS system with the following actions:
    - Weekly inspection of flow meters, transmitters, and AS system components for leakage and excessive vibration, noise, or abnormal temperatures;
    - Weekly inspection of oil levels and lubrication;
    - Weekly inspection of condensate treatment systems and refrigerated air dryer;
    - Assessment of differential pressure across filtration units and process equipment;
    - Recording of system operational data and comparing data to design conditions and previous operating data;
    - Repairing and cleaning equipment as needed;
    - Routine maintenance and housekeeping as needed; and
    - Semi-annual performance monitoring at 28 wells and three surface water locations sampled for the Phase One configuration and quarterly sampling of 21 wells for the Phase Two configuration.

Results and recommendations summarized in this PMR were presented to the KSC Remediation Team on June 13, 2024, and Team concurrence was received on the path forward (Meeting Minute 2406-M09, Decisions 2406-D34 through D37). It is understood that the Florida Department of Environmental Protection may have questions or additional recommendations based on their review of this report.

SECTION I
INTRODUCTION

This 2023 Annual Performance Monitoring Report (PMR) for the Dense Non-Aqueous Phase Liquid (DNAPL) Source Zone (DSZ), Site-Wide Long-Term Monitoring (LTM), and Hot Spot (HS) 6 Air Sparge (AS) System presents the results of Year 14 operations and performance monitoring of the hydraulic containment (HC) Interim Measure (IM), details associated with construction and implementation of the HS 6 AS system expansion (Phase Two), and the results of operations and performance monitoring of the HS 6 AS IM at Launch Complex 34 (LC34), located at Cape Canaveral Space Force Station (CCSFS), Florida. This site has been designated Solid Waste Management Unit (SWMU) CC054 under the Kennedy Space Center (KSC) Resource Conservation and Recovery Act (RCRA) Corrective Action Program. This PMR was prepared by Tetra Tech, Inc., for the National Aeronautics and Space Administration (NASA) under Indefinite Delivery Indefinite Quantity Contract 80KSC019D0011-80KSC019F0067. The reporting period covered under this PMR is April 1, 2023 through March 31, 2024.

The HC IM for the DSZ was implemented in 2009-2010. The Year 14 operational period for the HC IM was from April 1, 2023 to March 31, 2024. The following activities were completed during Year 14 of the HC IM:

- Continued operation and maintenance (O&M) of the hydraulic containment system (HCS);
- Monthly sampling of primary and secondary air stripper effluent;
- Monthly sampling of the liquid-phase granular activated carbon (LPGAC), when online;
- Annual sampling of seven Layer 7 and 8 recovery wells, with four additional wells sampled more frequently for performance monitoring
- Quarterly sampling of combined system influent and individual recovery well influent;
- Annual vapor-phase sampling (pre- and post-catalytic oxidation unit [CatOx] treatment); and,

- Annual performance monitoring of the HCS via groundwater sample collection at nine DPT locations and 11 monitoring well locations in the DSZ, with selected wells also sampled biweekly (Table 1-1).

The HS 6 IM AS system was implemented in 2018 to prevent plume expansion and migration into the drainage canal and to contain and remediate the HS 6 area located downgradient to the east of the HC IM at LC34. The HS 6 AS system is currently in the operational phase in accordance with the Implementation Work Plan (IWP) (NASA, 2017b) and expansion IWP (NASA, 2018). A second phase (Phase Two) of the HS 6 AS expansion was implemented in accordance with the Phase Two IWP (NASA, 2021a) and revised Phase Two IWP Advance Data Package (ADP) (NASA, 2022a). Details of construction and implementation of the HS 6 Area Phase Two AS system expansion are included in Section III of this report.

The following HS 6 IM activities were completed during the operational period covered under this report:

- Construction completion activities associated with the HS 6 Phase Two expansion, including:
- Pre-construction DPT sampling conducted in August 2022;
- Installation of 190 AS wells in October 2022 – February 2023;
- Installation of 21 performance monitoring wells in November 2022 – January 2023;
- Installation of trenches, piping, utilities, and phased startup in January 2023 – August 2023; and,
- Baseline sampling of the 21 new performance monitoring wells (July 2023) and two quarterly monitoring events (November 2023 and February 2024) for volatile organic compound (VOC) analysis (Table 1-1).

- Semi-annual sampling in April and November 2023 of the original (Phase One) HS 6 performance monitoring network, which includes 28 monitoring wells and three surface water locations for VOC analysis (Table 1-1); and,

- O&M of the HS 6 AS system including the original configuration (Phase One) and Phase Two.

The activities listed above were presented in an ADP during the June 13, 2024 KSC Remediation Team (KSCRT) Meeting and are presented in detail in this report. The ADP and Meeting Minutes from June 13, 2024 are included in Appendix A.

Note, site-wide LTM at LC34 is conducted on a biennial basis to evaluate the dissolved-phase low concentration plume (LCP) and high concentration plume (HCP) at the site. The most recent (2022) biennial LTM sampling results and recommendations are detailed in the 2022 Annual PMR (NASA, 2023b) and are summarized in Section 1.4.31 of this report. During the 2023 monitoring period covered under this report, the LTM network was not sampled; the next biennial LTM sampling event is scheduled for December 2024.

1.1 BACKGROUND

LC34 is located at CCSFS in Section 6, Township 23 South, and Range 38 East, in the False Cape Quadrangle. CCSFS was previously named Cape Canaveral Air Force Station, with formal name change occurring in December 2020. LC34 is bordered to the north by Launch Complex 37, to the south by Launch Complex 20, to the west by ICBM Road (Samuel Phillips Parkway), and to the east by the Atlantic Ocean. The launch pad and associated facilities at LC34 were built in the late 1950s and used by NASA's Apollo Space Program for the launching of Saturn rockets from 1960 to 1968. The Apollo 1 tragedy occurred on the launch pad on January 27, 1967. LC34 became part of the Man In Space National Historic Landmark in 1984.

Historical information suggests that rocket engines and other parts were cleaned at the site using solvent degreasers, most notably trichloroethene (TCE). It is speculated that releases of solvents occurred during cleaning operations through both intentional and unintentional discharges to nearby areas. Based on groundwater and soil sampling data, these releases occurred primarily in

the immediate vicinity of the former Engineering Support Building (ESB) located southwest of the Blockhouse and identified on Figure 1-1. Since shutdown of the launch pad in 1968, LC34 has remained largely inactive, although several site features (e.g., Blockhouse, camera pad, etc.) are still present. Most operational equipment (service towers, fuel storage tanks, piping, etc.) has been dismantled, and the majority of previous on-site buildings and structures were abandoned in place. Native and invasive vegetation has overgrown the majority of the site, and dense wooded areas currently surround the site. Figure 1-1 shows the site location and major site features.

1.2 SITE CHARACTERIZATION

Beginning in 1993, a number of site investigations, engineering studies, and pilot-scale in situ remedial technology demonstrations were conducted at LC34. Extensive soil and groundwater contamination was identified and characterized during these investigations into seven HS areas (Figure 1-2). Chlorinated compounds TCE, cis-1,2-dichloroethene (cDCE), trans-1,2-dichloroethene (tDCE), and vinyl chloride (VC) are the primary contaminants of concern (COCs) and have been detected at trace to high concentrations in groundwater and soil. TCE is also present as a DNAPL in the ESB area and is currently being contained by the HCS.

The majority of the mass of TCE at LC34 is present upgradient (west) of HS 6 within the DSZ. The overall mass of TCE released at the site is unknown. Modeling performed in 2005 estimated the mass of TCE DNAPL at the time as 40,500 pounds in the shallow zone (0 to 50 feet below land surface [bls]) and an additional 33,300 pounds in the lower zone (50 to 120 feet bls) of the surficial aquifer. In 2019, data collected in support of the source area re-characterization study indicated the approximate total TCE mass has been reduced to 32,000 pounds. It is noted, however, that the presence of DNAPL creates a higher degree of uncertainty in this estimate. At HS 6, the TCE daughter products cDCE, tDCE and VC are the primary COCs. The tDCE results only exceeded State of Florida Groundwater Cleanup Target Levels (GCTLs) and cDCE and VC were the only constituents that exceeded Florida Department of Environmental Protection (FDEP) Natural Attenuation Default Concentrations (NADCs), representing 1,500 pounds and 430 pounds, respectively. Currently, the extent of the overall groundwater contaminant plume where COCs exceed GCTLs is approximately 322 acres. Within the overall plume, the hydraulic

capture zone currently covers approximately 10 acres, and the HS 6 treatment area is approximately 14.4 acres.

1.3 LITHOLOGY

Subsurface materials have been subdivided into nine facies (layers) in the LC34 area. Layers 1, 2, 3, 6, and 8 are considered the primary water-transmitting units in the site area and are the focus of the LTM and performance monitoring program. The lithologies of Layers 1 through 8, illustrated on Figure 1-3, are as follows:

- Layer 1 – tan/gray fine sand with shell fragments (approximately 25 feet thick from 0 to 25 feet bls);
- Layer 2 – gray silty clayey fine sand (approximately 5 feet thick from 25 to 30 feet bls);
- Layer 3 – gray silty fine sand with shell fragments (approximately 12 to 15 feet thick from 30 to 45 feet bls);
- Layer 4 – (shallow confining unit) – greenish gray sandy clay unit (less than 1 to 5 feet thick from 45 to 50 feet bls);
- Layer 5 – medium to coarse sand with shell fragments (approximately 12 to 15 feet thick from 50 to 65 feet bls);
- Layer 6 – gray fine to medium “salt and pepper” sand (approximately 15-20 feet thick from 65 to 80-85 feet bls);
- Layer 7 – fine silty gray sand with abundant shell fragments (approximately 15-20 feet thick from 80-85 to 100 feet bls); and
- Layer 8 – fine to coarse sand with shell fragments (approximately 20 feet thick from 100 to 120 feet bls).

- The Hawthorn Group (Layer 9), which directly underlies the lower sand unit (Layer 8) and ranges from 120 to 140 feet bls, is a thick green sandy clay and is considered a regional confining unit.

1.4 SITE HISTORY

This section provides a summary of investigation activities, documents, and what KSC formerly called the Engineering Evaluation (EE) Process and reports for LC34. LC34 was transitioned into the EE Multi-Step Process following installation of the original HC IM in 2008. Per the KSC Decision Process Document (NASA, 2019b), the EE process was developed to characterize and address groundwater contamination through one or more iterative IMs until a final recommendation of groundwater monitoring is appropriate for the site. The steps of the EE process are designed to allow KSCRT members the opportunity to participate in confirmation of groundwater delineation, evaluation of remedial technologies, review of preliminary designs, and evaluation and optimization of the efficacy of treatment systems following installation. The four steps of the EE process include Site Characterization (formerly referred to as Step 1 EE), Remedial Alternatives Evaluation (RAE) (formerly referred to as Step 2 EE), IM Design and Implementation (formerly referred to as Step 3 EE), and IM Optimization and Monitoring (formerly referred to as Step 4 EE), and the results of these steps are presented as ADPs at KSCRT Meetings. Although the individual steps in the EE process are similar to individual phases of the RCRA Corrective Action process, they are not intended as replacements. For example, Site Characterization is similar to a RCRA Facility Investigation (RFI) but does not serve as a replacement for this document or phase. Accordingly, RAE is similar to Corrective Measures Study (CMS), and IM Design and Implementation is similar to Corrective Measures Design (CMD). The last step, IM Optimization and Monitoring, is applicable to active IMs only, as passive IMs would proceed to interim groundwater monitoring after the previous step.

An overview of site activities and document submittals is summarized in the following sections.

1.4.1 RCRA Facility Investigation. The RFI Report for LC34 was submitted in 1999 and included human health and ecological risk assessments (NASA, 1999).

1.4.2 RCRA Facility Investigation Addendum. The RFI Report Addendum for LC34, prepared in July 2003, summarized remediation demonstration projects conducted at the site by the Interagency DNAPL Consortium and RFI Addendum activities conducted in 2002 and 2003 (NASA, 2003). Six demonstration projects were performed at LC34 using the following technologies: chemical oxidation, Six-Phase Heating™, steam injection, emulsified zero-valent iron (ZVI), bioaugmentation, and sequential oxidation/enhanced bioremediation. RFI Addendum field activities included collection of membrane interface probe (MIP) data, soil cores, groundwater level measurements, and groundwater samples.

1.4.3 Corrective Measures Study Report. The CMS identified and evaluated potential remedial technologies based on existing site conditions and contamination identified during RFI and RFI Addendum activities. The selected alternative was hydraulic containment of the DSZ and TCE HCP, monitored natural attenuation (MNA) with IMs in the HCP, and MNA of the LCP (NASA, 2007). The HCP has concentrations of COCs greater than FDEP NADCs, and the LCP has concentrations of COCs greater than GCTLs.

1.4.4 Interim Measure Design. The design details for the proposed IM remediation system, which was focused primarily on the area identified as HS 2, were provided in the 2008 LC34 Interim Measures Design for Hydraulic Containment of the DNAPL Source Zone and Deep TCE Groundwater Plume (NASA, 2008). Additional assessment activities, including MIP and DPT sampling, were conducted in 2008 to refine the horizontal and vertical extent of TCE contamination in the vicinity of the ESB. The deep zone results were used to determine the limits of the capture area for the proposed HCS.

1.4.5 Hot Spot 1 Site Characterization ADP. The HS 1 Site Characterization for LC34, presented at the April 2009 KSCRT Meeting, summarized field investigations conducted to delineate the TCE plume to the NADC (300 micrograms per liter [µg/L]). MIP results, cone penetrometer test (CPT) and lithology data, and DPT and monitoring well sampling results were included in the Site Characterization. Team consensus was reached to install a monitoring well screened from 70 to 80 feet bls in the area of well cluster IW0002, to install piezometers within the capture zone in Layer 5, and to conduct a slug test in the area of the IW0002 well cluster. Team consensus was also reached on the alternatives for the RAE, which included

bioremediation, thermal treatment, large-diameter auger (LDA), and excavation (Meeting Minute 0904-M4, Decisions 0904-D09 through D12).

1.4.6 Interim Measure Work Plan. The DSZ Interim Measure Work Plan (IMWP) presented the activities required to install, operate, and monitor the HC IM (NASA, 2009b).

1.4.7 Hot Spot 1 Site Characterization Addendum. The HS 1 Site Characterization Addendum presented at the October 2009 KSCRT Meeting summarized follow-up field activities completed as proposed at the April 2009 meeting. Slug testing was performed at four Layer 5 monitoring wells. Team consensus was reached to proceed with an Environmental Security Technology Certification Program pilot study to evaluate bioremediation with a partitioning electron donor (PED) in HS 1, beginning with preparation of an IMWP (Meeting Minute 0910-M11, Decision 0910-D34).

1.4.8 Hot Spot 2 Performance Monitoring ADP. A Performance Monitoring ADP was presented at the July 2010 KSCRT Meeting to summarize IM activities conducted since startup of the HCS on December 7, 2009. At the time of the presentation, due to an involved troubleshooting phase, the system had only been operational 65 percent of the time since startup, increasing to an operational runtime of 80 percent following troubleshooting. The treatment system was installed to treat influent groundwater at a peak flow rate of 50 gallons per minute (gpm). The primary components included groundwater recovery via three shallow (screened interval of 15 to 45 feet bls) and six deep recovery wells (screened interval of 50 to 80 feet bls) for DSZ and deep TCE plume containment, primary treatment via air stripping, air stripper off-gas treatment via catalytic oxidation, and treated groundwater discharge to an infiltration gallery and 12 deep injection wells (screened interval of 50 to 80 feet bls). The approved path forward was to install piezometers where performance monitoring data gaps were present; perform a hydraulic capture study in Layers 1, 2, 3, and 6 using pressure transducers; adjust pumping rates to increase hydraulic capture; install additional extraction wells (as needed); and test the use of condensate from the quench as an acid source to lower pH in the air stripper aqueous effluent.

1.4.9 Interim Measure Completion Report. The LC34 HC IM Completion Report, dated April 2011, presented the activities associated with implementation of the HS 2 IM, including construction, commissioning, and startup (NASA, 2011a).

1.4.10 Hot Spots 3 and 4 Site Characterization ADP. The HSs 3 and 4 Site Characterization ADP for LC34, presented at the December 2011 KSCRT Meeting, summarized delineation of TCE contamination to the NADC (300 µg/L), MIP results, CPT and lithology data, and DPT and monitoring well sampling results. Team consensus was reached to install monitoring wells in HS 4 to evaluate TCE concentrations exceeding the NADC in the 6- to 10-foot and 11- to 15-foot bls intervals. Additionally, KSCRT consensus was reached to evaluate expanding the HCS as an optimization in the Performance Monitoring ADP, without first preparing an RAE and IMWP for HSs 3 and 4 (Meeting Minute 1112-M14, Decisions 1112-D20 and D21).

1.4.11 Hot Spot 1 Interim Measures Implementation ADP. The HS 1 IM Implementation ADP for the PED demonstration was presented at the December 2012 KSCRT Meeting. The PED demonstration was the first field implementation using n-butyl acetate (nBA), and the PED was successfully injected into the low-permeability zone. During the pilot test, over 1 million gallons of groundwater were recirculated, with an approximately 92-percent reduction in the mass of chlorinated volatile organic compounds (CVOCs) observed in two recovery wells after 12 months of operation. Team consensus was reached to collect groundwater samples in March 2013 at BW-01B, BW-01C, and BW-01D for analysis of CVOCs, nBA, and methane, ethane, and ethene to evaluate the potential for a second injection event (Meeting Minute 1212-M4, Decision 1212-D5).

1.4.12 Pumping Optimization and Hot Spots 3 and 4 Expansion ADP. The Pumping Optimization and HSs 3 and 4 Expansion ADP, presented at the March 2013 KSCRT Meeting, described a proposed IM pumping optimization and HCS expansion to address HSs 3 and 4. The presentation also included results from a MIP investigation performed to evaluate contaminant magnitude and a hydraulic profiling tool (HPT) investigation performed to evaluate hydraulic permeability variations. The results of the MIP and HPT investigations were correlated to distinguish mobile and stored mass signatures within the HC zone, particularly within the DSZ, and to provide pumping optimization recommendations. KSCRT consensus was reached on

recovery well optimizations at select wells, including adjusting of pump intake invert elevations and isolating screened intervals via water-inflated packers (Meeting Minute 1303-M3, Decision 1303-D9). For the HCS expansion, Team consensus was reached for modification and retrofitting of the treatment system, proposed recovery well locations, pumping rates, and expansion construction plans (Meeting Minute 1303-M4, Decisions 1303-D10 through D14). Of note, HS 4 is no longer within the current HCS capture zone boundary (see Figure 1-2). This is because of the reduction of TCE concentrations in HS 4 over the years and the resulting optimization of the HCS pumping scheme.

1.4.13 Hydraulic Containment Expansion Implementation Work Plan. The Hydraulic Containment Expansion Implementation Work Plan described the activities for expansion of the existing HCS to HSs 3 and 4 in the shallow surficial aquifer and additional source zone recovery in the deep surficial aquifer. The expansion included seven new shallow recovery wells and one deep recovery well, 11 new monitoring wells, and installation of infrastructure and treatment equipment required to accommodate expansion of the hydraulic containment footprint (NASA, 2014).

1.4.14 Hydraulic Containment Expansion Construction Completion ADP. The LC34 Hydraulic Containment IM Expansion Construction Completion ADP, dated September 2015, presented the activities associated with implementation of the expansion of the HC IM, including installation of new recovery wells, installation of packers in selected recovery wells, installation of a new air stripper, refurbishment of the catalytic oxidizer, commissioning, and startup (Meeting Minute 1509-M05; NASA, 2015).

1.4.15 Hot Spot 6 Area of Investigation Site Characterization ADP. The HS 6 Area of Investigation Site Characterization ADP, dated December 2016, summarized delineation, and refinement of the TCE, cDCE, and VC HCPs and HS downgradient of HS 1 using DPT and monitoring well sampling results. Team consensus was reached to collect additional samples at depth at DPT418 and surface water samples from the drainage canal within HS 6 (Meeting Minute 1612-M2, Decisions 1612-D2 through D4).

1.4.16 Hot Spot 6 Area Implementation Work Plan. The Implementation Work Plan for HS 6, dated November 2017, described the AS system installed to remediate contaminated groundwater within the treatment zone and support transition to MNA (NASA, 2017b).

1.4.17 Hot Spot 6 Area Expansion Implementation Work Plan. The Implementation Work Plan for HS 6 Expansion, dated October 2018, described the AS system expansion installed to remediate contaminated groundwater within the treatment zone and support transition to MNA (NASA, 2018).

1.4.18 2018 Operations, Maintenance, and Monitoring Report and Hot Spot 6 Construction Completion Report. The 2018 Operations, Maintenance, and Monitoring Report (OMMR) and Hot Spot 6 Construction Completion Report (CCR), dated June 2019, described the Year 9 operation and performance monitoring of the HCS, results from the biennial LTM event, and provided construction completion details for the HS 6 AS system, which was installed in two stages. Construction of the initial stage of the HS 6 AS system included the installation of 160 AS wells and 11 monitoring wells between February 19, 2018 and July 7, 2018. The AS system operated from July 9, 2018 through January 7, 2019, when it was shut down for the expansion. Construction for the expanded AS system was conducted from November 9, 2018, through April 2, 2019. An additional 140 AS wells and 14 monitoring wells were installed (NASA, 2019c). The expanded system was fully operational in May 2019.

1.4.19 Hot Spot 5 Site Characterization Engineering Evaluation ADP. The HS 5 Site Characterization ADP, dated June 2019, summarized delineation of the cDCE and VC HS located downgradient (south-southwest) of the DSZ using DPT sampling results, as well as HCP and LCP conditions along and to the south of Phillips Parkway. Team consensus was reached that HS 5 was adequately delineated horizontally and vertically, and to also implement a HS 5 AS barrier wall north of Phillips Parkway (Meeting Minute 1906-M12, Decisions 1906-D70 and D71). Note, the HS 5 AS barrier has not been implemented to date because the U.S. Space Force is considering a project that would realign Phillips Parkway in this vicinity.

1.4.20 Soil Interim Measure Report. The Soil Interim Measure Report, dated January 2019, describes the removal of soils contaminated with polychlorinated biphenyls (PCBs),

dioxins/furans, and total recoverable petroleum hydrocarbons from 20 different areas around the site. No Further Action for soil was approved for all 20 areas (NASA, 2019a).

1.4.21 Hydraulic Capture System Investigation Work Plan. The HCS Investigation Work Plan, dated June 2019, described the activities proposed to re-characterize the DSZ, to include investigating and delineating TCE in the Layer 7 lithologic zone. Activities included soil and groundwater sampling at discrete depth intervals to delineate TCE, installation of monitoring wells in the source area, and a pump test to determine the effectiveness of the HCS in Layer 7 (NASA, 2019d).

1.4.22 DSZ Site Characterization Engineering Evaluation ADP. The DSZ Site Characterization Engineering Evaluation ADP, dated October 2019, presented the results of the HCS Investigation including site characterization sampling, TCE delineation, well installation and sampling, updated mass calculations, results of the Layer 7 aquifer testing, and HCS revised pumping rates. During the DSZ site characterization, a Layer 7 recovery well was installed in August 2019 (RW17C, screened from 80 to 95 feet bls) to evaluate feasibility of HCS expansion into the fine-grained unit. Six monitoring wells (IW0160 through IW0165, screened from 105 to 115 feet bls) were also installed in Layer 8 in the source area in August 2019 but outside the TCE >11,000 µg/L contour. Team consensus was reached that TCE was adequately delineated in the source area, and the path forward included preparation of an RAE to evaluate the next phase of the treatment train (Meeting Minute 1910-M02, Decisions 1910-D02-D22).

1.4.23 Electrical Substation T-2 Area Soil Interim Measure Report. The Soil Interim Measure Report Electrical Substation T-2 Area, dated January 2020, described the sampling and removal of PCB-contaminated soil and concrete in a former electrical substation area located along the southeast side of the LC34 launch pad. A fence was installed as an engineering control to prevent exposure to residual PCBs in concrete and soil beneath the concrete where the electrical equipment was previously located. A monitoring well was also installed in this area (IW0122) and groundwater sampling for PCBs was incorporated into the site's biennial LTM program (NASA, 2020a).

1.4.24 2019 Operations, Maintenance, and Monitoring Report for DNAPL Source Zone and Hot Spot 6 Air Sparging System. In the 2019 OMMR, dated April 2020 (NASA, 2020b), it was recommended to discontinue LTM sampling at wells in Layer 3 and Layer 6, which included IW0015D, IW0031D, IW0052D, IW0066D1, and IW0068D because of their proximity to the HCS, abandon wells IW0021S, IW0038S, and IW0038I because of damage or obstructions, and initiate PCB sampling at well IW0122 to monitor the Electrical Substation T-2 IM area. In addition, the frequency of Layer 8 wells IW0001D2, IW0042D2, IW0043D2, IW0044D2, and IW0045D2 was increased from biennial to annual to monitor performance of the HCS. These recommendations and the Year 11 sampling plan were presented in the April 2020 KSCRT meeting and received concurrence from the Team (Meeting Minute 2004-M03, Decisions D05, D06). The monitoring wells recommended for abandonment (IW0021S, IW0038S, and IW0038I) have since been abandoned by the KSC Remediation Program.

1.4.25 Remedial Alternatives Evaluation and DNAPL Source Zone Air Sparge Pilot Study Work Plan. A DSZ RAE Discussion and Pilot Study was presented to the KSCRT in the October 2020 meeting. The DSZ from the 2019 Site Characterization was compared to the historical plume in 2009. It was concluded that the DSZ was relatively the same size, perhaps slightly larger, different configuration, and that it extended into Layer 7. In addition, mass calculations showed that a large majority of the mass was trapped within the fine-grained units, Layer 4 and Layer 7. The on-going RAE was discussed to determine the next implementable step for the treatment train for the DSZ. Preliminary alternatives included LDA with steam and ZVI, in situ thermal treatment, pump-and-treat with microbial amendments, and expansion of the HCS to control Layer 7. The pilot study was developed to determine the feasibility of AS to treat groundwater contamination, within and below confining lithology units. Consensus was reached to conduct the AS pilot study with a work plan developed and submitted for review (Meeting Minute 2010-M4, Decision 2010-D8). The DSZ Air Sparging Pilot Study Work Plan (NASA, 2021b) included design details for installation of AS wells to various depths between 43 and 82 feet bls, and installation of piezometers, vapor monitoring points, and vertical air distribution columns (VADCs) for data collection. The revised work plan was submitted and approved by FDEP in April 2021. The pilot study operated from July 2021 to February 2022, with results presented to the KSCRT in September 2022 (described below).

1.4.26 Hot Spot 6 Area Expansion Phase Two Implementation Work Plan. The Hot Spot Area 6 Expansion – Phase Two Implementation Work Plan, dated January 2021 (NASA, 2021a), described the design to expand the HS 6 AS system area. The design included installation of 76 AS wells to depths of approximately 35 feet bls, to remediate contaminated groundwater within a 4-acre area located north of the existing HS 6 treatment area. The expansion targeted "hot spot" concentrations of cDCE and VC. Elements of the IWP were presented during the December 2020 KSCRT meeting, and consensus was reached to proceed with development of the work plan and implement the project. The IWP was approved by FDEP on June 18, 2021.

Implementation of the expansion was delayed while the U.S. Fish and Wildlife Service reviewed information regarding threatened and endangered species at LC34. Planning for the next expansion proceeded, and in May 2022, FDEP was briefed on additional expansion that would include 116 AS wells and 10 performance monitoring wells over an area of 5.7 acres. FDEP concurred with proceeding without an additional IWP on condition that further expansion would be documented with as-builts in the CCR. The proposed additional expansion was documented in a revised ADP, dated March 2022 (NASA, 2022a).

Implementation of the Phase Two expansion area is complete, with the new AS wells integrated into existing HS 6 AS operations in August 2023. Construction completion, start-up, operation, maintenance, and monitoring, and performance data for the Phase Two expansion area are included in this Annual PMR.

1.4.27 2020 DNAPL Source Zone Operations Maintenance and Monitoring (OM&M), Site-Wide LTM, and HS 6 AS Performance Monitoring Report. Activities and monitoring results associated with the 2020 operational period (April 1, 2020 to March 31, 2021) for the HCS and HS 6 AS system were presented to the KSCRT in June 2021. Site-wide biennial LTM results from 56 wells were also presented, which found no TCE concentrations greater than GCTLs, tDCE greater than the GCTL in only one well, and cDCE and VC concentrations greater than GCTLs in the LCP and NADCs in the HCP at select locations. Trend analysis of the biennial wells showed generally decreasing or stable trends along the plume boundaries with increasing trends in the interior or transitional portions of the plume. KSCRT consensus was reached to continue monitoring on a biennial basis with the next event in 2022, abandon wells found to be

damaged (IW0012S and TMW0001), and continue monitoring one well for PCB analysis (Meeting Minute 2106-M06, Decision D04). Consensus was also reached to continue OM&M of the HCS consistent with the current approach (Meeting Minute 2106-M06, Decision D05) and continue operation of the HS 6 AS IM, but to reduce the performance monitoring frequency from quarterly to semi-annual (Meeting Minute 2106-M06, Decisions D06 and D07) (NASA, 2021c). Monitoring wells IW0012S and TMW0001 were abandoned by the Remediation Program in July 2021 (NASA, 2021d).

1.4.28 2021 DNAPL Source Zone OM&M, and HS 6 AS Performance Monitoring Report. Activities and results associated with the 2021 operational period (April 1, 2021 to March 31, 2022) for the HCS and HS 6 AS system were presented to the KSCRT in June 2022. Results from the HCS showed the system was operating as designed and the IM objective was continuing to be met; however, sampling results from Layer 8 well, IW0162 (screened 105-115 feet bls), showed a TCE detection during the monitoring event. The well was re-developed and subsequent monthly sampling showed increasing concentrations of TCE, with a March 2022 result of 33 µg/L. The increasing concentrations were suspected to be from downward migration enhanced by well re-development. It was recommended to install an additional recovery well, screened 90-100 feet bls, to manage TCE beneath recovery well RW20C (screened 80-95 feet bls). Team consensus was reached to continue OM&M consistent with the current approach and install the new recovery well (Meeting Minute 2206-M04, Decisions D02 and D03). Results from the HS 6 AS system showed that the IM was operating as designed and meeting performance objectives. At that time, the HS 6 expansion was still pending a biological assessment and had not been initiated. Team consensus was reached to continue operating the AS system, and semi-annual performance monitoring of the same wells and surface water locations (Meeting Minute 2206-M04, Decision D01) (NASA, 2022b).

1.4.29 DNAPL Source Zone Air Sparging Pilot Study Report. Pilot study results were presented to the KSCRT in September 2022. The pilot study commenced in July 2021 and ended in February 2022. Data was collected to evaluate radii of influence (ROI), ambient air, vapor emissions, groundwater, and system operations. Data was used to evaluate geotechnical conditions, ROI, vapor emissions and limits, and treatability. The pilot study showed that vapor

capture and treatment would be required if AS was implemented full-scale in the DSZ and that VADCs would be necessary to vent vapors from under Layer 4. The pilot study concluded that a full-scale design should include a conservative 15-foot ROI. Based on findings, Team consensus was reached that AS was a feasible technology for further evaluation in the RAE (Meeting Minute 2209-M03, Decision D07) (NASA, 2022c).

1.4.30 DNAPL Source Zone Area Remedial Alternatives Evaluation ADP. The DSZ RAE was presented to the KSCRT in February 2023. Five alternatives were evaluated: Alternative 1 (DSZ-1) was optimization of the HCS with full-scale expansion into Layer 7; Alternative 2 (DSZ-2) was AS with vapor capture; Alternative 3 (DSZ-3) was LDA with steam and ZVI and AS; Alternative 4 (DSZ-4) was in situ solidification/stabilization with cement and persulfate and AS; and, Alternative 5 (DSZ-5) was a slurry wall with cap and hydraulic control, and emulsified ZVI and vegetable oil injection. The ADP presented details for each alternative and comparisons (e.g., advantages and disadvantages, limitations, cleanup timeframes, sustainability considerations, and projected costs). Short-term (DSZ-1) and long-term (DSZ-3) alternatives were recommended. Team consensus was reached on the short-term alternative (DSZ-1) to optimize the HCS with full-scale expansion into Layer 7 (below 80 feet bls) in the DSZ area where TCE is greater than 300 µg/L (DSZ-1) (Meeting Minute 2302-M04, Decision D01), and also on the long-term alternative (DSZ-3) to conduct a two-phase IM to include LDA with steam and ZVI in the DSZ area where TCE is greater than 11,000 µg/L (except near the Blockhouse), and AS in the DSZ area where TCE concentrations are between 300 µg/L and 11,000 µg/L (Meeting Minute 2302-M04, Decision D02) (NASA, 2023a).

1.4.31 2022 DNAPL Source Zone OM&M, Site-wide LTM, and HS 6 AS Performance Monitoring Report. Activities and monitoring results associated with the 2022 operational period (April 1, 2022 to March 31, 2023) for the HCS and HS 6 AS system were presented to the KSCRT in October 2023. Site-wide biennial LTM results from 55 wells were presented, which found no TCE or tDCE concentrations greater than GCTLs, cDCE and VC concentrations were greater than GCTLs in the LCP and NADCs in the HCP at select locations, consistent with the previous LTM event in 2020, with trends continuing to generally decrease. KSCRT consensus was reached to continue LTM on a biennial basis with the next event in 2024, abandon a well

found to be damaged (CW0002) and re-install it further at the edge of the LCP north along the beach, and continue monitoring one well for PCB analysis (Meeting Minute 2310-M11, Decisions D28 and D29) (NASA, 2023b). The HCS continued to meet operational goals during the reporting period and efficiency was increased with installation of new recovery well RW21D. Consensus was reached to continue OM&M of the HCS consistent with the current approach and continue the annual performance monitoring scheme with selected wells sampled biweekly (Meeting Minute 2310-M11, Decision D30). For HS 6, consensus was reached on continued OM&M of the IM with semi-annual performance monitoring and transition to a new operational scheme once the Phase Two expansion is online (Meeting Minute 2310-M11, Decisions D31-D33).

1.4.32 HS 6 AS Phase Three Expansion Site Characterization and IWP ADP. Activities for site characterization and IWP of the Phase Three Expansion was presented in February 2023. A DPT investigation was conducted in 2023 to refine delineation of two hot spot areas previously exceeding 10xNADC to support air sparging implementation. There were 314 samples collected from 49 locations (spaced 100 feet apart) in Area #1, located west and southwest of the HCS 1-year capture zone, and 275 samples collected from 44 locations (spaced 50 feet apart) in Area #2, located southeast of the launch pad. The proposed expansion design included 192 AS wells total (170 in Area #1 and 22 in Area #2) to treat a total of 9.4 acres (8.3 acres in Area #1 and 1.1 acres in Area #2). Team consensus was reached that Areas #1 and #2 were adequately delineated and to implement the Phase Three expansion of the HS 6 AS IM based on the ADP and submission of a subsequent IWP to FDEP (Meeting Minute 2402-M03, Decisions D02-D04).

1.5 PURPOSE

The purpose of this PMR is to present various activities conducted at LC34 during the Year 14 operational period of the HC IM (April 1, 2023 to March 31, 2024). Activities included operation and performance monitoring of the HCS, construction and implementation of the HS 6 Phase Two expansion, and overall operation and performance monitoring of the HS 6 AS system (original configuration and expansion).

Table 1-1. LC34 Sampling Network for 2023-2024

Sample Location (LC34-)	Sampling Function			
	Biennial LTM	Annual HCS PM	Semi-Annual HS 6 PM	Quarterly HS 6 Expansion PM
Event Date	Not Sampled	December 2023	April / November 2023	July 2023 (baseline)/ November 2023/ February 2024
IW0001D2		X		
IW0004S	X			
IW0005S	X			
IW0006I	X			
IW0009S	X			
IW0009I	X			
IW0010SR	X			
IW0010IR	X			
IW0011S	X			
IW0013I	X			
IW0014IR	X			
IW0018I	X			
IW0021I	X			
IW0022I	X			
IW0023I	X			
IW0024S	X			
IW0024I	X			
IW0025S	X			
IW0029S	X			
IW0029I	X			
IW0031I	X			
IW0032S	X			
IW0033I	X			
IW0036I	X			
IW0037S	X			
IW0037I	X			
IW0039I	X			
IW0042D2		X		
IW0043D2		X		
IW0044D2*		X		
IW0045D2		X		
IW0051S	X			
IW0051I	X			
IW0054S	X			
IW0055I	X			
IW0057S			X	
IW0057I			X	
IW0058S	X			
IW0059S	X			
IW0059I	X			

Table 1-1. LC34 Sampling Network for 2023-2024 (Continued)

Sample Location (LC34-)	Sampling Function			
	Biennial LTM	Annual HCS PM	Semi-Annual HS 6 PM	Quarterly HS 6 Expansion PM
Event Date	Not Sampled	December 2023	April / November 2023	July 2023 (baseline)/ November 2023/ February 2024
IW0061I	X			
IW0062I	X			
IW0063S	X			
IW0063I	X			
IW0064S	X			
IW0064I	X			
IW0074S	X			
IW0095	X			
IW0096	X			
IW0097	X			
IW0098	X			
IW0099	X			
IW0100	X			
IW0101	X			
IW0102	X			
IW0103	X			
IW0104	X			
IW0105	X			
IW0106	X			
IW0107	X			
IW0108			X	
IW0109	X			
IW0110	X			
IW0122[(1)]	X			
IW0123			X	
IW0124			X	
IW0125			X	
IW0126			X	
IW0127			X	
IW0128			X	
IW0129			X	
IW0130			X	
IW0131			X	
IW0132			X	
IW0133			X	
IW0134			X	
IW0135			X	
IW0136			X	
IW0137			X	
IW0138			X	

Table 1-1. LC34 Sampling Network for 2023-2024 (Continued)

Sample Location (LC34-)	Sampling Function			
	Biennial LTM	Annual HCS PM	Semi-Annual HS 6 PM	Quarterly HS 6 Expansion PM
Event Date	Not Sampled	December 2023	April / November 2023	July 2023 (baseline)/ November 2023/ February 2024
IW0139			X	
IW0140			X	
IW0141			X	
IW0142			X	
IW0143			X	
IW0144			X	
IW0145			X	
IW0146			X	
IW0147			X	
IW0168				X
IW0169				X
IW0170				X
IW0171				X
IW0172				X
IW0173				X
IW0174				X
IW0175				X
IW0176				X
IW0177				X
IW0178				X
IW0179				X
IW0180				X
IW0181				X
IW0182				X
IW0183				X
IW0184				X
IW0185				X
IW0186				X
IW0187				X
IW0188				X
SW1001			X	
SW1002			X	
SW1004			X	
IW0160		X		
IW0161		X		
IW0162*		X		
IW0163		X		
IW0164		X		
IW0165		X		
DPT0593		X		

Table 1-1. LC34 Sampling Network for 2023-2024 (Continued)

Sample Location (LC34-)	Sampling Function			
	Biennial LTM	Annual HCS PM	Semi-Annual HS 6 PM	Quarterly HS 6 Expansion PM
Event Date	Not Sampled	December 2023	April / November 2023	July 2023 (baseline)/ November 2023/ February 2024
DPT0594		X		
DPT0595		X		
DPT0596		X		
DPT0597		X		
DPT0598		X		
DPT0599		X		
DPT0600		X		
DPT0601		X		

Notes:

Sampling network shown represents the reporting period from April 1, 2023 to March 31, 2024
Samples are analyzed for VOCs by EPA Method 8260D
(1) - Well IW0122 is only analyzed for PCBs by Method 8082 to monitor the T2 Area
* IW0044D2 and IW0162 were on a biweekly sampling schedule during the reporting period
IW0165 was sampled biweekly until October 2023
LTM - Long-Term Monitoring
HCS - Hydraulic Capture System
HS 6 - Hot Spot 6
PM - Performance monitoring
At each DPT location 19 depth intervals are sampled; from 8 to 98 feet below land surface

FIGURE 1-1 SITE LOCATION MAP
LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION, FLORIDA

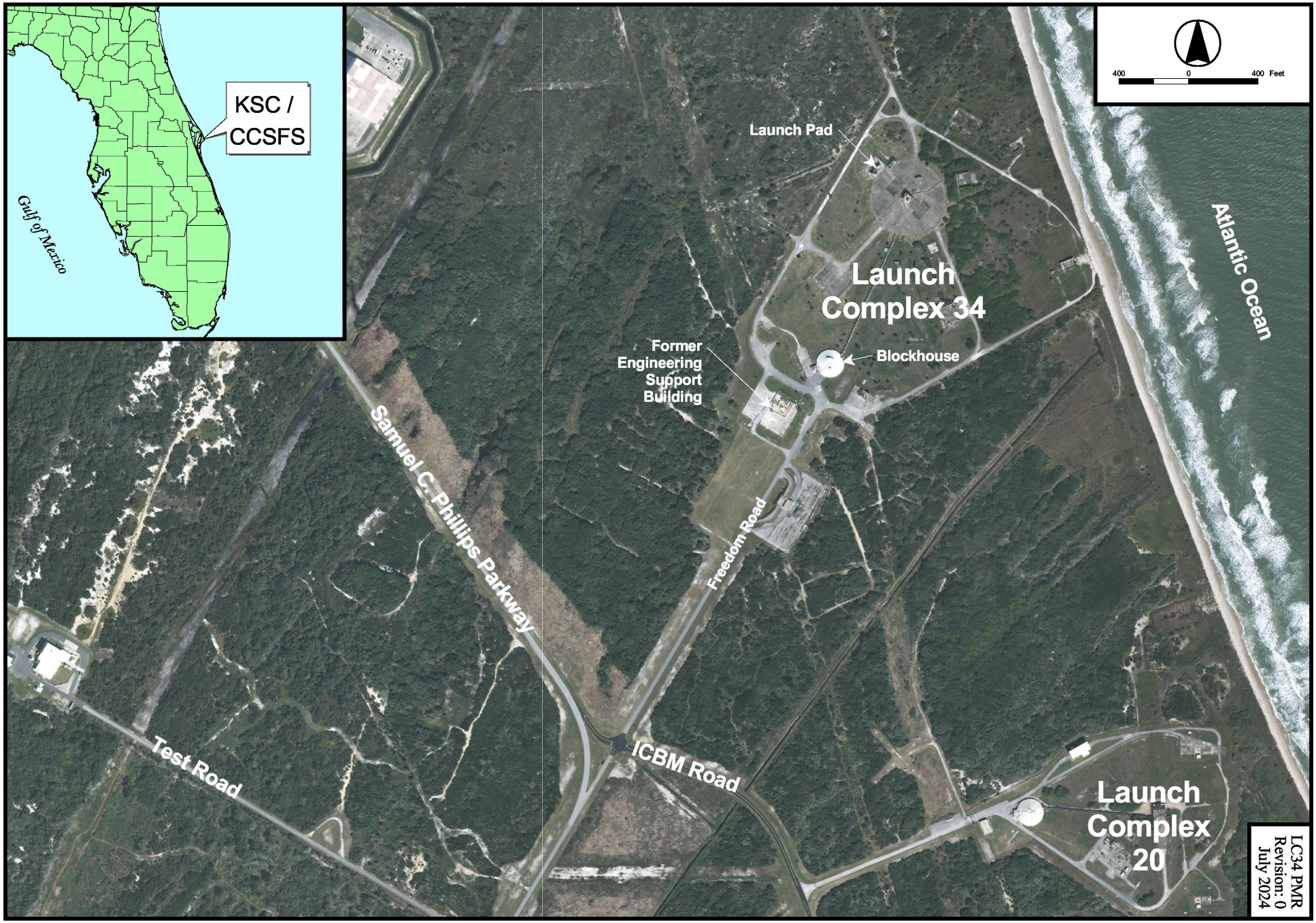


FIGURE 1-2 LC34 HOT SPOT LOCATIONS
LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION, FLORIDA

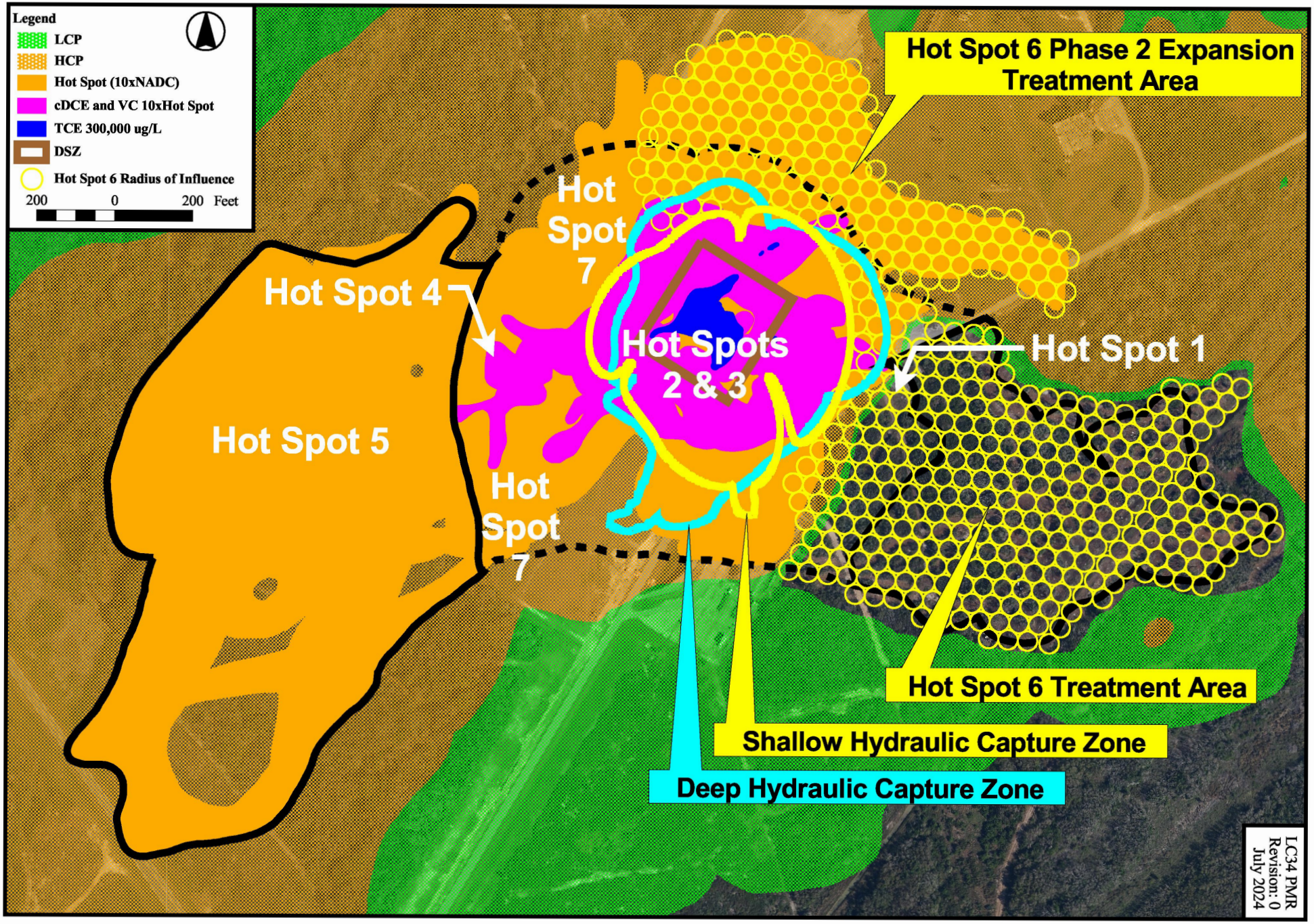
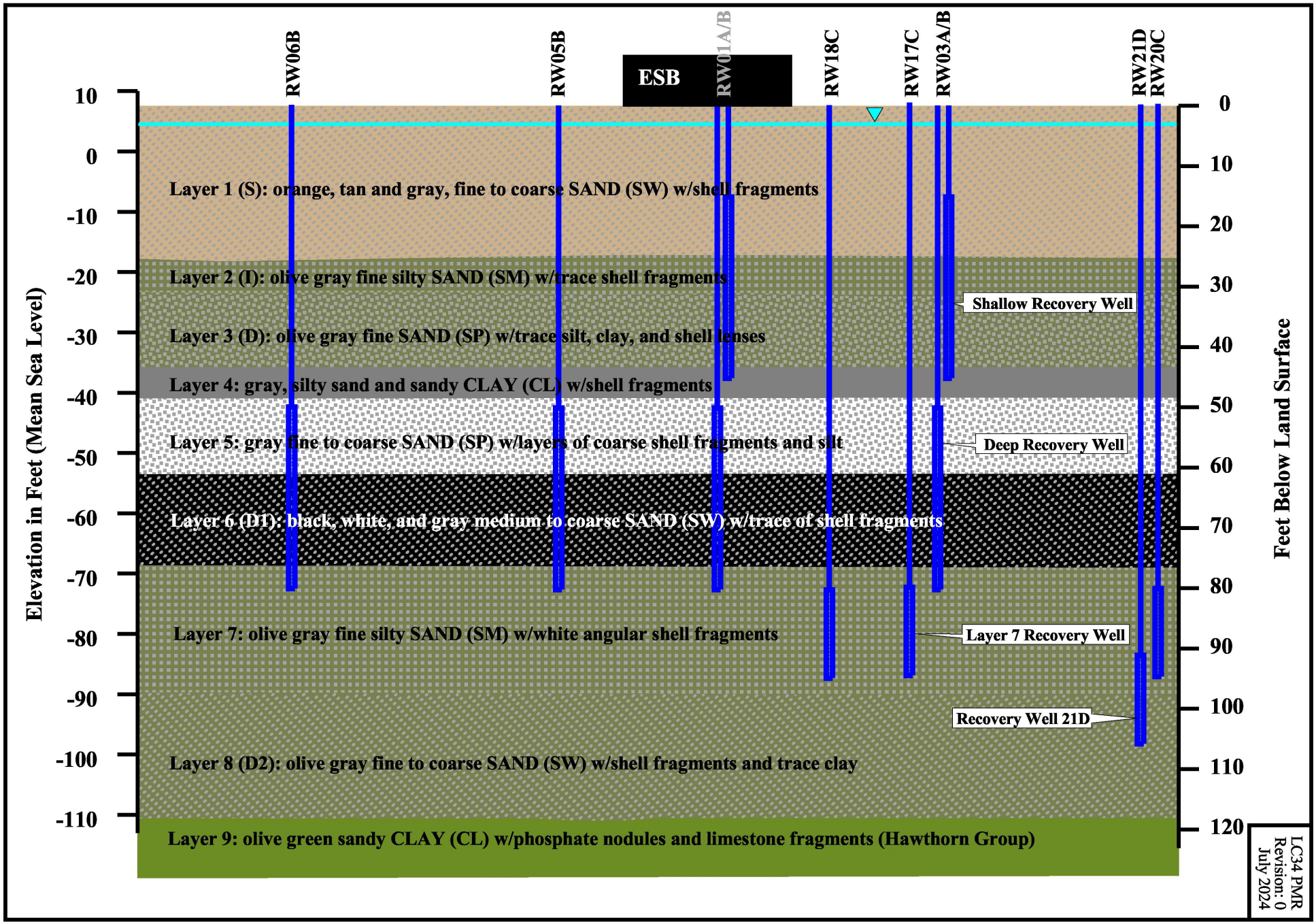


FIGURE 1-3 LITHOLOGY
LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION, FLORIDA



LC34 PMR
Revision: 0
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SECTION II
HCS IM OPERATIONS, EVALUATION, AND PERFORMANCE MONITORING

This section summarizes the performance of the HCS during this reporting period (April 1, 2023, to March 31, 2024) and discusses the performance monitoring sampling results for the overall HC IM. System performance includes evaluation of system runtime, system sampling results, condition of process components, and volume and mass recovery. Sampling logs and field documentation associated with the HCS are provided in Appendix B.

2.1 INTERIM MEASURE OBJECTIVES

The primary objective of the HC IM is to contain the shallow and deep DSZ and surrounding TCE HCP via operation of the HCS. The pre-IM design 300 µg/L TCE groundwater contour was used to establish the deep zone capture area for deep recovery wells, and the shallow zone capture area was defined by the DSZ. In 2015, the original system providing hydraulic containment in the HS 2 area was expanded to provide hydraulic containment of HS 3 and 4. The expanded containment system included areas within the 300 µg/L TCE groundwater isocontours of HSs 3 and 4. Secondary IM objectives include maintaining treatment standards for aqueous and air discharges, maintaining system equipment to sustain plume containment, and maximizing contaminant mass removal.

2.2 HCS OVERVIEW

The following sections provide an overview of the treatment process of the HCS. Sections 2.2.2 and 2.2.3 give a summary of modifications to the process components and O&M procedures during the lifetime of the system including any changes made during this reporting period.

2.2.1 Process Description. This section provides a process description of the LC34 HCS, as operated during the reporting period of April 1, 2023 to March 31, 2024. The HCS layout is shown on Figure 2-1. The piping and instrumentation diagrams are provided on Figures 2-2 through 2-4.

During the current operational period, groundwater was extracted from four shallow zone recovery wells (RW01A, RW02A, RW03A, and RW09A), three deep zone recovery wells (RW01B, RW02B, and RW03B), four Layer 7 zone recovery wells (RW17C, RW18C, RW19C, and RW20C) and from the recovery well that straddles Layers 7 and 8 (RW21D). The pumping rates and scheme for the recovery wells have been adjusted over the course of the IM based on concentrations and mass recovery. Recovery wells have been added, such as RW21D in January 2023, or turned off to optimize the pumping scheme over the course of the IM, to enhance contaminant recovery. Recovery wells selected to be turned off had consistent TCE detections below 300 µg/L. Pumps in each recovery well convey contaminated groundwater (influent) to the treatment system located on the former ESB concrete slab. Flow rates of extracted fluids from individual recovery wells are individually totalized prior to being manifolded. Two 25-micron bag filters, plumbed in parallel arrangement, remove sediment from the water prior to entry into a 500-gallon, 304-stainless-steel, double-walled, equalization tank. A chemical metering pump doses groundwater from the equalization tank with a biodispersant in 15-minute dosage cycles every 8 hours to prevent biological accumulation within treatment system components.

A three-phase, 240-volt, 1.5-horsepower (hp), pump transfers groundwater from the equalization tank into the primary horizontal four-tray air stripper that strips most of the CVOCs from groundwater into the vapor phase. The air strippers are equipped with a three-phase, 240-volt, 20-hp blower rated for 600 standard cubic feet per minute (scfm) that conveys atmospheric air into the secondary air stripper, which then flows into the primary air stripper. Treated groundwater is pumped from the primary air stripper sump to the secondary horizontal four-tray air stripper via a three-phase, 240-volt, 1.5-hp, transfer pump where most, if not all, of the remaining CVOCs are removed from the liquid into the vapor phase. The treated water from the secondary air stripper sump is pumped by a three-phase, 240-volt, 7.5-hp transfer pump through two 50-micron bag filters plumbed in parallel. The treated water is then pumped through two available 1,500-pound LPGAC vessels in series to provide secondary treatment, when necessary. The water is then discharged into 12 deep zone injection wells and an infiltration gallery consisting of two 300-foot-long infiltration gallery laterals. Treated groundwater is metered and injected into the 12 injection wells at flow rates of 2 gpm per well and at pressures less than 5

pounds per square inch (psi), and the remaining flow is discharged to the infiltration gallery located southeast of the ESB area.

Moisture in the CVOC-laden primary air stripper exhaust is removed via a moisture separator. Moisture condensate accumulated in the moisture separator is pumped via a three-phase, 240-volt, 0.5-hp, centrifugal, transfer pump into the equalization tank. Following moisture separation, the exhaust air undergoes treatment via a CatOx unit rated for an air flow of 600 scfm. The unit contains a 50 percent efficient air-to-air heat exchanger, a three-phase, 480-volt, 112-kilowatt, air heater with a watt density of 29 watts per square inch, and specialized catalyst media for destruction of CVOCs. A quench tower reduces the air temperature of the CatOx discharge to less than 130 degrees Fahrenheit (°F) by injecting a fine droplet water aerosol. An acid gas scrubber neutralizes the acidic process stream generated during oxidation of CVOCs in the CatOx. As part of the acid gas scrubbing process, 20-percent sodium hydroxide (NaOH) is injected into a recirculation line via a chemical metering pump connected to a 3,000-gallon double-walled storage tank. The chemical metering pump is controlled by a pH sensor and controller that adjusts the NaOH dosage rates to maintain a near neutral pH within the scrubber sump. Quench and scrubber makeup water is provided via CCSFS potable water service. A 2,000-gallon reservoir tank and booster pump provide continuous flow (3 to 4 gpm) and pressure (60 psi) to the quench and scrubber makeup water feeds. Process water from the air scrubber blow-down is discharged into the infiltration gallery at an average rate of 3 to 4 gpm.

2.2.2 Summary of Component Modifications. This section gives an overview of the changes to the HCS process components over the course of the IM to date. The original system was built in 2009 and full-scale O&M began in May 2010. In February 2015, the system was expanded which added seven shallow recovery wells (RW09A through RW15A) screened 15 to 45 feet bls and one deep recovery well (RW16B) screened 50 to 80 feet bls, removed the air stripper and installed two new air strippers, removed the DNAPL separator because there was no DNAPL present in the influent, replaced the control system with Siemens Human Machine Interface (HMI)/Programmable Logic Controller (PLC), and the CatOx was refurbished with a metal housing and a new catalyst module. The system operated without significant modification between 2015 and 2019. In August 2019, a new recovery well (RW17C) screened from 80 to 95

feet bls was installed which started extracting groundwater at 1 gpm from Layer 7. During the initial startup of RW17C, the two 1,500-pound LPGAC vessels were returned online from August 2019 to November 2019 to ensure system effluent met GCTLs. In January 2021, three additional recovery wells were installed (RW18C, 19C, 20C) in Layer 7 with the same screen interval as RW17C. The LPGAC vessels operated during startup of these recovery wells and have since operated through March 2024. In January 2023, RW21D was installed and screened from 86 to 106 feet bls with the upper nine feet of the screen in Layer 7 and the lower 11 feet in Layer 8. A pumping test was performed that determined 15 gpm was the maximum pump rate the recovery well could accommodate. To operate RW21D at maximum flow and not surpass design gpm of the HCS treatment system, RW12A, RW13A, RW14A, RW15A, RW5B, and RW16B, which had low CVOC recovery, were turned off. Monthly influent sampling indicated that this change did not result in a decrease of CVOC recovery.

2.2.3 Summary of O&M Modifications. This section gives an overview of the changes to the O&M schedule over the course of the IM to date. Further details related to the original commissioning, startup, and prove-out of the system are provided in the 2010 Annual Groundwater Monitoring and Interim Measure Performance Report (NASA, 2011b), and details related to the commissioning, startup, and prove-out of the expanded system are provided in the 2015 CCR (NASA, 2015). The O&M phase initially involved weekly influent and effluent sampling and daily system monitoring. The system sampling frequency transitioned to monthly after the September 22, 2010 sampling event, and this frequency was maintained during 2011 and 2012 O&M activities. Team consensus was reached at the May 2013 KSCRT Meeting to reduce the system influent and air stripper effluent sampling frequencies to quarterly (Meeting Minute 1305-M10, Decision Item 1305-D27). The system was shut down on February 10, 2015, for expansion and modification and startup of the modified system began in May 2015, and full-scale treatment resumed on June 15, 2015. After resumption, quarterly influent and effluent sampling continued until the November 2017 increase in overall flow rate to 83 gpm, after which sampling of air stripper effluent was conducted monthly. The recovery wells installed in Layer 7 (RW17C, 18C, 19C, 20C) and Layers 7/8 (RW21D) are also sampled monthly, as opposed to quarterly with the rest of the recovery wells. Since installation of the Layer 7 recovery wells, the LPGAC effluent has been sampled on a monthly frequency as well.

Since the HCS came online in 2010, the boundaries of the deep and shallow capture zones have changed over time based on system expansion and optimization. The capture zones are continually optimized to ensure IM objectives are met and mass removal is maximized. Of note, HS 4 is no longer within the current HCS capture zone boundaries. This is because of the reduction of TCE concentrations in HS 4 over the years and the resulting optimization of the HCS pumping scheme. During this operational period, the 1-year capture zones covered about 7.8 acres (shallow) and 9.5 acres (deep).

2.3 YEAR 14 OPERATIONAL PERFORMANCE

This section presents operational performance of the HCS during the reporting period, which represents Year 14 of system operation. System influent totalizer data was recorded on a weekly basis and used to evaluate performance parameters such as treated volume. HCS operational data was recorded monthly to track long range performance of the system components. Table 2-1 presents the system operational data recorded during the reporting period.

System downtime is recorded for periods where the system is not operating due to planned and unplanned circumstances. System runtime (i.e., system availability) is then calculated relating the downtime to the total possible runtime of the system. Table 2-2 presents the system runtime data for Year 13. From April 1, 2023 to March 31, 2024, the system availability was 94 percent, a four percent increase from the Year 13 runtime. Minor downtime events occurred throughout the reporting period, which included planned maintenance and system repairs due to wear and tear. Significant maintenance activities are listed in Table 2-3 where the issue and resolution are specified for the affected process component.

2.4 YEAR 14 TREATMENT PERFORMANCE

System sampling results are discussed in this section. The treatment system monitoring plan is provided in Table 2-4. Samples are collected from the aqueous and vapor treatment processes of the HCS. Aqueous sampling consists of sampling the system influent (combined and from individual recovery wells), primary and secondary air stripper effluents, and LPGAC effluent for laboratory analysis of VOCs by United States Environmental Protection Agency (USEPA)

Method 8260D. Vapor sampling includes collection of samples of air stripper exhaust and CatOx scrubber exhaust by USEPA Method TO-15.

Laboratory analytical aqueous results are summarized in Tables 2-5, 2-6, 2-7, 2-8, and 2-11 for recovery well-specific influent, combined influent, primary air stripper effluent, secondary air stripper effluent, and LPGAC effluent, respectively. Destruction efficiencies of the CatOx were monitored via weekly photoionization detector (PID) readings and vapor process sampling. Influent and effluent CatOx laboratory analytical vapor results are summarized in Tables 2-9 and 2-10, respectively. Laboratory analytical reports are included in Appendix C. Note that aqueous system sample results presented in the data tables, figures, and following subsections include only the target COCs. During the operational period, there were several other VOCs detected in the aqueous system samples, such as acetone, chlorobenzene, xylenes, and toluene. Concentrations of non-target analytes were generally much lower than the concentrations of target COCs. There were also low-level non-target analytes detected in the air samples, which were considered in the emissions loading calculations as further discussed in Section 2.5.2. All analytical results are included in the laboratory reports in Appendix C.

2.4.1 Influent Results. During the reporting period, the influent from the individual recovery wells and the combined influent were sampled on a quarterly basis and analyzed for VOCs. The Layer 7 recovery wells (RW17C, 18C, 19C, 20C) and Layer 7/8 recovery well (RW21D) were sampled on a monthly basis for VOCs by USEPA Method 8260D. Individual recovery well influent data are presented in Table 2-5 and shown on Figure 2-5 (quarterly events only), and the combined influent data are presented in Table 2-6. The data trends are summarized in tables below which present the fourth quarterly TCE results for each reporting period.

2.4.1.1 <u>Combined Influent</u>. Samples of the combined influent are collected to evaluate mass recovery and system CVOC loading. Quarterly sampling of the combined influent was conducted on June 23, 2023, September 26, 2023, December 21, 2023, and March 19, 2024. Overall, influent TCE concentrations have decreased since full-scale system startup (January 2010) to Year 14 (March 2024) from 280,000 µg/L to 25,000 µg/L. Year 14 combined influent TCE concentrations ranged from 9,600 µg/L (September 2023) to 30,000 µg/L (June 2023). Year 14 results showed an increase in TCE compared to Year 13 where influent concentrations ranged

from 8,700 µg/L (September 2022) to 17,000 µg/L (April 2022). The higher influent concentrations this year was likely due to the recovery well extraction scheme change where four shallow (RW12, RW13A, RW14A and RW15A) and two deep (RW05B and RW16B) recovery wells exhibiting low influent TCE concentrations were turned off to focus extraction at recovery well RW21D. TCE concentrations from RW21D influent samples were significantly higher than the recovery wells that were turned off turned off (Table 2-5). The table below presents the fourth quarter combined influent results for TCE, cDCE, and VC for each reporting period since startup of the HCS.

Reporting Period	Date	TCE	cDCE	VC
Startup	1/25/2010	191,000	41,100	6,530
Prove-Out	3/20/2010	164,000	40,100	6,460
Year 1	3/10/2011	67,100	16,800	1,600 I
Year 2	3/1/2012	59,800	9,670	1,100
Year 3	1/29/2013	45,600	7,820	939
Year 4	4/3/2014	45,000	6,570	5,510
Year 5	12/30/2014	31,800	4,370	399 I
Year 6	3/4/2016	18,400	9,040	1,110
Year 7	3/15/2017	17,000	6,510	833
Year 8	3/19/2018	16,100	3,730	551
Year 9	3/12/2019	15,600	3,990	684
Year 10	3/12/2020	13,300	2,160	236
Year 11	3/11/2021	12,100	2,450	476
Year 12	3/22/2022	12,000	3,900	360
Year 13	3/31/2023	12,000	3,900	400
Year 14	3/19/2024	25,000	5,100	360 U

Table shows primary COC concentrations (µg/L) at end of each reporting period.
U – Not detected at the associated detection limit.
I – Report value is between method detection limit and quantitation limit.

2.4.1.2 <u>Shallow Recovery Wells – ESB Area</u>. The fourth quarter TCE results for the three original shallow recovery wells in the ESB area are summarized in the table below.

Reporting Period	Date	RW01A	RW02A	RW03A
Startup	1/20/2010	240,000	280,000	41,000
Year 1	5/18/2011	46,800	50,400	2,940
Year 2	2/2/2012	85,000	42,500	427
Year 3	3/11/2013	91,900	39,000	79.5 I
Year 4	4/3/2014	91,800	33,600	60 U
Year 5	12/30/2014	60,200	26,600	371
Year 6	3/4/2016	81,600	35,000	7,150
Year 7	3/15/2017	71,900	27,200	16,300
Year 8	3/19/2018	66,000	17,900	186
Year 9	3/12/2019	58,100	21,600	825
Year 10	3/12/2020	36,800	11,800	262
Year 11	3/11/2021	45,400	14,900	0.35 U
Year 12	3/22/2022	35,000	36,000	34,000
Year 13	3/31/2023	21,000	15,000	6,100
Year 14	3/19/2024	16,000	9,800	1,600 J3

Table shows TCE concentrations (µg/L) at end of each reporting period.
U – Not detected at associated detection limit.
I – Report value is between method detection limit and quantitation limit.
J3 – Estimated value; value may not be accurate; spike recovery or relative percentage difference outside of criteria.

In Year 14, quarterly influent TCE concentrations from the shallow recovery wells in the ESB area were relatively stable when compared to fluctuations experienced in previous reporting periods. Additionally, RW01A, RW02A, and RW03A experienced a decrease in TCE when comparing Year 14 to Year 13 fourth quarter results, as shown in the table above.

Historically, the ESB area shallow recovery wells have had the highest TCE concentrations out of all the operating shallow recovery wells. TCE results from Year 14 at RW01A, RW02A, and RW03A indicate the recovery wells are working as intended and are effectively removing mass within the ESB area shallow capture zone.

2.4.1.3 <u>Shallow Recovery Wells – Outside ESB Area</u>. Results for recovery wells near HS 4 (RW13A, RW14A, and RW15A) are discussed separately from the other four wells (RW09A, RW10A, RW11A, and RW12A) on the eastern side of the HS 3. TCE concentrations for RW09A, RW10A, RW11A, and RW12A are summarized in the table below. RW10A and RW11A were turned off in Year 10 and RW12A was turned off in Year 13 to focus groundwater extraction in areas experiencing higher concentrations. The recovery wells turned off had

consistent TCE results below the IM objective warranting removing them from the extraction scheme. Currently RW09A remains in operation in the area northeast of the DSZ.

Reporting Period	Date	RW09A	RW10A	RW11A	RW12A
Pre-startup	5/27/2015	5,500	3 U	400 U	100 U
Startup	6/4/2015	62,100	67 U	400 U	17,800
Year 6	3/4/2016	8,610	11.6 I	5.4 U	1,200
Year 7	3/15/2017	158	29.2 I	29.6	346
Year 8	3/19/2018	108 I	38.9	33	164 I
Year 9	3/12/2019	36.6 I	24.6	18.6 I	129 I
Year 10	3/20/2020	17 U	NS	NS	6.9 U
Year 11	3/11/2021	35 U	NS	NS	129
Year 12	3/22/2022	44 U	NS	NS	44 U
Year 13	3/31/2023	40 U	NS	NS	40 U(1)
Year 14	3/19/2024	22 U	NS	NS	NS

Table shows TCE concentrations (µg/L) at end of each reporting period.
(1) – Result is from 12/13/2022. RW12A turned off in February 2023.
U – Not detected at associated detection limit.
I – Report value is between method detection limit and quantitation limit.
NS – Not sampled due to recovery well taken offline.

Historical TCE concentrations for RW13A, RW14A, and RW15A are summarized in the table below for reference. Similar to recovery wells RW10A-12A, recovery wells RW13A-15A were turned off in Year 13 because of consistent TCE results less than the IM objective to optimize the system and focus groundwater extraction in areas experiencing higher concentrations. It is noted that elevated non-detect values for TCE in these wells were likely due to sample dilutions from high concentrations of cDCE and VC remaining in these wells and does not necessarily indicate the absence of TCE.

Reporting Period	Date	RW13A	RW14A	RW15A
Pre-startup	5/27/2015	50 U	67 U	470
Startup	6/4/2015	5,000	400 U	3,700
Year 6	3/4/2016	150	14 U	83.7
Year 7	3/15/2017	35 U	19.4 I	35 U
Year 8	3/19/2018	34.9	32.7 I	56.5 I
Year 9	3/12/2019	21.3 I	25.6 I	35 U
Year 10	3/12/2020	35 U	35 U	17 U
Year 11	3/11/2021	35 U	59 I	17 U
Year 12	3/22/2022	89 U	44 U	22 U
Year 13(1)	12/13/2022	40 U	40 U	16 U
Year 14	NS	NS	NS	NS

Table shows TCE concentrations (µg/L) at end of each reporting period.
(1) – RW13A, RW14A, and RW15A were all turned off in February 2023.
U – Not detected at associated detection limit.
I – Report value is between method detection limit and quantitation limit.
NS – Not sampled due to recovery well taken offline.

2.4.1.4 Deep Recovery Wells – Inside ESB Area. TCE data for deep recovery wells in the ESB area are summarized in the table below.

Reporting Period	Date	RW01B	RW02B	RW03B
Startup	1/20/2010	130,000	940,000	16,000
Year 1	5/18/2011	186,000	152,000	4,840
Year 2	2/2/2012	176,000	126,000	3,210
Year 3	3/11/2013	73,800	66,300	2,220
Year 4	4/3/2014	62,400	59,900	2,140
Year 5	12/30/2014	42,500	72,100	2,520
Year 6	3/4/2016	38,500	35,100	2,270
Year 7	3/15/2017	42,600	33,800	2,370
Year 8	3/19/2018	20,300	34,700	1,850
Year 9	3/12/2019	19,600	38,900	2,320
Year 10	3/12/2020	12,700	22,100	5,470
Year 11	3/11/2021	20,700	20,200	8,960
Year 12	3/22/2022	6,700	19,000	4,700
Year 13	3/31/2023	10,000	20,000	11,000
Year 14	3/19/2024	15,000	21,000	9,300

Table shows TCE concentrations (µg/L) at end of each reporting period.

The TCE concentrations at RW01B, RW02B, and RW03B have decreased significantly since startup. However, the Year 14 fourth quarter TCE results show that RW01B and RW02B

increased since Year 13. It appears TCE concentrations in RW01B have not returned to Year 12 levels since being turned off for the pilot study in Year 12, with concentrations having increased for two consecutive years. TCE recovery at RW03B has returned to similar concentrations since being turned off for the pilot study. In contrast, RW02B was not turned off for the pilot study and while there was a slight decrease, concentrations have been relatively stable since Year 11.

In summary, the recovery wells that were temporarily shut off for the pilot study have (RW03B) returned to Year 12 levels or appear to be (RW01B) returning to levels observed before the pilot study. RW02B which was not turned off for the pilot study continued to have relatively similar concentrations to the prior four years. TCE results from Year 14 at RW01B, RW02B and RW03B indicate the recovery wells are working as intended and are effectively removing the mass within their area of hydraulic influence.

2.4.1.5 Deep Recovery Wells – Outside Contaminant Source Area. The table below summarizes TCE concentrations in deep recovery wells outside of the source area. These recovery wells remained off during this reporting period. RW04B and RW06B were turned off after Year 9 of operation, and RW05B and RW16B were turned off during Year 13. Consistent TCE detections below the IM objective warranted shutting these recovery wells off to focus extraction in areas with higher concentrations. The table below summarizes historical TCE results from deep recovery wells outside of the source area.

Reporting Period	Date	RW04B	RW05B	RW06B	RW16B
Startup	1/20/2010	250,000	250,000	270,000	NP
Year 1	5/18/2011	43,200	77,700	26,600	NP
Year 2	2/2/2012	16,100	57,000	9,320	NP
Year 3	3/11/2013	2,640	47,300	1,360	NP
Year 4	4/3/2014	517	9,050	455	NP
Year 5	12/30/2014	331	2,860	NA	NP
Year 6	3/4/2016	39.9	456	52	2,880
Year 7	3/15/2017	84.5	544	91	1,540
Year 8	3/19/2018	75.7	178	157	497
Year 9	3/12/2019	76.5	108	42.7	159
Year 10	3/12/2020	NS	18.9	NS	65
Year 11	3/11/2021	NS	6.7	NS	35
Year 12	3/22/2022	NS	6.6	NS	22
Year 13	12/13/2022	NS	2.1 I(1)	NS	4.7(1)
Year 14	3/19/2024	NS	NS	NS	NS

Table shows TCE concentrations (µg/L) at end of each reporting period.
(1) –Well turned off in February 2023.
I – Report value is between method detection limit and quantitation limit.
NA – Not analyzed (deactivated in November 2013 and restarted in June 2015).
NP – Well was not present.
NS – Not sampled due to recovery well taken offline.

2.4.1.6 <u>Layers 7 and 7/8 Recovery Wells</u>. Five recovery wells are currently operating in the TCE source zone in Layers 7 and 7/8, and the fourth quarter results are summarized in the table below.

As shown in the table below, when comparing Year 14 to Year 13 fourth quarter results, TCE concentrations decreased at RW17C, RW19C, RW20C and RW21D while TCE concentrations increased at RW18C. Because large concentration fluctuations are common in Layer 7 recovery well samples from month to month, the average concentration over the reporting period was calculated and compared with the average concentrations from Year 13. Using average concentrations, the results for RW17C (210,500 µg/L in Year 13 and 144,583 µg/L in Year 14), RW19C (388,205 µg/L in Year 13 and 252,500 µg/L in Year 14), and RW 20C (184,382 µg/L in Year 13 and 16,458 µg/L in Year 14) aligned with the fourth quarter results that indicated a decrease in TCE. However, the average concentration comparison for RW18C (208,027 µg/L in Year 13 and 103,111 µg/L in Year 14) also indicates a decrease in TCE. Two months prior to the last influent sample collected at RW18C, the recovery well pump had been inoperable allowing

concentrations to rebound likely causing the increase observed when compared to results from previous months in the reporting period.

Unlike RW17C through RW20C, RW21D began operating towards the end of Year 13 and only three months of data was collected; therefore, the average concentration analysis was not performed. Despite this, concentration fluctuations observed at RW21D were minor this year, and it is evident from the monthly sampling results that TCE concentrations are decreasing.

The Layers 7 and 7/8 recovery wells continue to extract the highest concentrations of TCE and will continue to be monitored and the system optimized to attain maximum TCE extraction and reduction.

Reporting Period	Date	RW17C	RW18C	RW19C	RW20C	RW21D
Start-up	8/23/2019	475,000	NP	NP	NP	NP
Year 10	3/12/2020	489,000	NP	NP	NP	NP
Year 11	3/11/2021	429,000	556,000	959,000	593,000	NP
Year 12	3/22/2022	130,000	240,000	470,000	98,000	NP
Year 13	3/31/2023	250,000	270,000	360,000	41,000	42,000
Year 14	3/19/2024	150,000	410,000	210,000	3,200	9,200

Table shows TCE concentrations (µg/L) at end of each reporting period.
NP – Well was not present.

2.4.2 Air Stripper Treatment Results. Air stripper samples are taken on a monthly basis from the effluent at the aqueous discharge of each air stripper and analyzed for VOCs by USEPA Method 8260D. Primary and secondary air stripper effluent data are presented in Tables 2-7 and 2-8, respectively. During Year 14, effluent results from the secondary air stripper had TCE detections greater than its GCTL in July 2023 and January through March 2024. The GCTL exceedance in July 2023 (5.3 µg/L) was anomalous but the consistent exceedances from January to March 2024 were identified to be caused by drilling activities. During this time frame, additional Layer 7 recovery wells were being installed and the IDW generated was pumped back into the system for treatment, per the IDW protocols for LC34. During the monthly air stripper cleanings, silt accumulation was identified in both the primary and secondary strippers caused by the IDW being introduced downstream of the bag filters. As a result, the sediment introduced with the IDW likely reduced the destruction efficiency of the air strippers. Recovery well

installation activities were completed in December 2023 and will be discussed in a future PMR. Results from the subsequent monthly sampling event indicate the issue was resolved; TCE was not detected in the secondary air stripper effluent.

2.4.3 LPGAC Treatment Results. The LPGAC vessels remained online during the entire reporting period to ensure discharge standards were met. The LPGAC effluent data are presented in Table 2-11. There were no detections in any of the monthly effluent samples collected during the reporting period.

2.4.4 Air Stripper Offgas Results. Vapor samples were collected for laboratory analysis on December 21, 2023 from the CatOx influent (combined exhaust from both air strippers) and effluent. Laboratory results indicate that emissions from the CatOx have been consistently less than Hazardous Air Pollutant (HAP) requirements specified in the KSC Title V Air Permit for Remedial Activities, as further discussed in Section 2.5.2.2. Annual air sampling results for CatOx influent and effluent are presented in Tables 2-9 and 2-10, respectively. The results of offgas treatment performance calculations are provided in Table 2-12. The vapor sampling results are further discussed in Section 2.5.2.2 under the HC IM evaluation.

2.5 HC IM OPERATION EVALUATION

The evaluations discussed in this section were completed to verify that the HC IM objectives are being achieved based on data from this reporting period. The evaluations include proper functioning of system components, performance of the water and vapor treatment processes, and total volume and mass recovery.

2.5.1 HC Evaluation. This section presents an overview of the current recovery well scheme and presents the volume and mass recovery data.

A hydraulic capture study was conducted from December 20, 2010, through January 5, 2011, to evaluate the efficacy of hydraulic containment in the shallow and deep zones of the surficial aquifer at LC34. The results of the study determined that the HC IM objective for hydraulic containment was achieved. Results and conclusions of the hydraulic capture study were provided in Appendix D of the 2010 LC34 Annual Groundwater Monitoring and Interim Measure

Performance Report (NASA, 2011b). The hydraulic influence of pumping rate optimization at RW01B, RW02B, RW03B, and RW06B was modeled in 2013, and the modified pumping rates were expected to increase containment relative to existing site conditions. Based on the MIP and HPT study performed in 2013, seven new shallow recovery wells, RW09A through RW015A, were installed in HSs 3 and 4, and one new deep recovery well, RW016B, was installed in HS 2 to further improve plume containment and contaminant removal.

Performance sampling of monitoring wells in the DSZ was suspended beginning in Year 8 of operation based on significant differences between maximum TCE concentrations in recovery well influent and samples collected from the performance monitoring well network. Monitoring well results were consistently lower than influent results. In lieu of sampling monitoring wells to evaluate the system's performance, DPT performance monitoring was initiated in 2017 to provide a high-resolution sampling approach. In 2018, the annual DPT results showed an increase in the maximum TCE concentration from 2017, which indicated a significant amount of remaining TCE mass in the 50 to 80 feet bls zone. The TCE concentrations in this area were investigated as part the 2018-2019 DSZ Site Characterization. As part of this effort, pumping tests were conducted to determine the feasibility of extracting mass from deeper layers in the area. As a result, RW17C (screened from 80 to 95 feet bls) was installed with the intent of operating as a pilot study to determine mass removal over time. Based on the results of RW17C, three additional Layer 7 recovery wells (RW18C, RW19C, and RW20C) were installed in January 2021. The Layer 7/8 recovery well RW21D, screened 86-106 feet bls, was installed in December 2023, and is located south of Layer 7 monitoring well IW0162. Installation of RW21D was prompted by an increase of TCE concentrations in IW0162 beginning in December 2021. RW21D is located in the area of historical DPT location DPT0645, which had a TCE concentration of 521,000 µg/L in the 98 feet bls interval during the 2019 Site Characterization.

Annual DPT sampling continues to be conducted to evaluate the performance of the HCS and monitoring well sampling in Layer 7 and Layer 8 is also conducted on an annual basis. Results from these sampling events are further discussed in Section 2.7.

2.5.2 System Evaluation. The operation of major treatment components and treatment performance are discussed in this section.

2.5.2.1 Evaluation of Major System Components. The following provides an overview of the current conditions and maintenance conducted during this reporting period of the major system process components:

- **Recovery Wells** – Recovery wells are performing at the intended groundwater recovery rates. The flow totalizers were cleaned to ensure accurate readings. Of the 22 total recovery wells that have been installed over the course of HCS operation, 13 recovery wells operated in Year 14: four shallow (RW01A, RW02A, RW03A, and RW09A), three deep (RW01B, RW02B, and RW03B), five Layer 7 (RW17C, RW18C, RW18C, RW19C, and RW20C) and one Layer 7/8 (RW21D). Future activities for the operating recovery wells include normal maintenance and inspection.

- **Groundwater Recovery Pumps** – The submersible pump heads have operated effectively since initial startup, although intermittent pump head or motor replacement is required due to mechanical and chemical degradation over time. Recovery wells RW17C, RW18C, RW19C, and RW20C operate with submersible pneumatic pumps designed with more chemical resistance. Recovery well RW21D operates with a 240-volt electrical submersible pump. No evidence of sediment, mineral, or biological pump head fouling has been observed in the shallow and deep recovery pumps. Sediment buildup in the Layer 7 (fine silty sand) recovery pump heads was observed, and the pumps were pulled and cleaned, as needed. Future activities include continued monitoring conditions of pumps and normal maintenance.

- **Filtration System** – There are two influent bag filters upstream of the equalization tank and two bag filters upstream of the injection wells. The influent bag filters are replaced approximately weekly, and the bag filters upstream of the injection wells are replaced approximately monthly. With the addition of Layer 7 and Layer 7/8 recovery wells (RW17C, RW18C, RW19C, RW20C, and RW21D), an influx of clay/fine particulates was observed that required more bag filter changeouts on the influent side; otherwise, there was no impact on the system during this reporting period. Future activities include continuing the biocide program and the installation and startup of an automated backwash filtration system.

- **Equalization Tank** – No issues were encountered with the equalization tank this reporting period. Future activities include normal maintenance.

- **Air Strippers** – Factors influencing treatment efficiency, such as biofouling, are controlled to the maximum extent possible to maintain removal efficiencies. The trays were washed monthly to remove solids. Continued operation of two air strippers in series is necessary to ensure that discharge compliance is maintained. Future activities include normal maintenance.

- **Blower** – The blower operated normally until November 2022 when the variable frequency drive (VFD) failed. As a result, the blower was wired to bypass the VFD to where the HMI controls the on/off command but does not adjust speed based on a setpoint. The blower now operates at 100 percent while on and has operated normally using the bypass. A manual damper was installed to control air flow and is adjusted as needed to maintain air stripper differential pressure; adjusted from 0 to 30 percent closed where 30 percent closed is after monthly air stripper cleaning and 0 percent closed is approaching cleaning time. No issues were encountered during this reporting period and normal conditions have been observed since the change. Future activities include normal maintenance.

- **Transfer Pumps** – No issues were encountered during this reporting period. Future activities include normal maintenance.

- **Moisture Separator** – The original moisture separator was replaced with a 1,650-gallon holding tank from the decommissioned Components Cleaning Facility groundwater treatment system. The holding tank was modified to operate as a cyclonic moisture separator and is used to reduce friction losses and increase liquid droplet removal efficiency following installation of the new air stripper units in 2015. No issues were encountered during this reporting period. Future activities include normal maintenance.

- **LPGAC** – The LPGAC vessels have operated since February 2021 following installation of the Layer 7 recovery wells and have remained online through the entire reporting period. No issues were encountered with the LPGAC vessels. The LPGAC effluent is

sampled to monitor concentrations of COCs prior to discharge. Secondary treatment via LPGAC has resulted in no discharge exceedances to the infiltration gallery or injection wells during the system's operational period. Future activities include normal maintenance during operation of the vessels and replacing process lines due to weathering.

- **Catalytic Oxidation Unit** – During this reporting period, the CatOx operated as expected with normal maintenance and minor repairs. In January 2024, intermittent interference due to a faulty wire connection was observed causing fluctuations in temperature readings. After the terminals were cleaned and the wire was reconnected, the issue was resolved. In February 2024, a thermocouple in the heater was replaced and a wire connection re-made to a controller in the electrical panel. Future activities include continued maintenance of heater elements and additional insulation every six months with the heater.

- **Quench Tower** – The quench tower operated as normal during this reporting period. In June 2023, a slight leak was noticed from the potable water influent piping and the polyvinyl chloride (PVC) connection was replaced three days later during normal system shutdown. Future activities include normal maintenance and inspection for corrosion/material degradation.

- **Scrubber** – The scrubber maintained normal operation during this reporting period. In September 2023, the re-circulation pump started making a grinding sound during operation, indicting the bearings may seize up. In September during normal system shut down, the re-circulation pump was replaced, and normal operation was observed for the remainder of the reporting period. Future activities include normal maintenance and visual inspection.

- **Injection Wells** – During this reporting period, the injection well flow totalizers were cleaned to ensure accurate readings. No other issues were encountered; future activities include normal maintenance. If the injection pressure exceeds 5 pounds per square inch gauge (psig) at the system manifold, the need for injection well maintenance is evaluated.

- **Infiltration Gallery** – No issues were encountered with the infiltration gallery during this reporting period. Future activities include normal maintenance and monitoring which includes quarterly inspections to ensure that discharge does not result in surface water accumulation. No evidence of surface water has been observed from infiltration gallery discharges.

2.5.2.2 Treatment Performance Evaluation. Evaluation of the water and vapor treatment processes is conducted to ensure the HC IM objectives are being achieved. Below are evaluations for both processes for the data collected during this reporting period.

- **Aqueous Treatment** – Treatment of the aqueous process stream has resulted in no discharge exceedances (CVOC concentrations less than GCTLs), and overall treatment performance has been consistent. Overall, the efficiency of the aqueous treatment process is nearly 100 percent. The average removal efficiency of the strippers continues to be greater than 99.9 percent. The LPGAC, which has been online since February 2021, has provided an effective polishing step for aqueous treatment by reducing CVOC concentrations to less than GCTLs or below laboratory detection limits.

- **Offgas Treatment** – Treatment of offgas from the air stripper has resulted in total HAP and individual HAP emissions less than the limits in the KSC Title V Operating Air Permit. Based on the most recent sample collected on December 21, 2023, offgas treatment efficiencies for TCE, cDCE, and VC were greater than 99.9 percent. The same set of data was used to evaluate emissions loading. Based on the annual sample, the individual HAP emission rate for TCE was 0.0050 pounds per day. This value is less than the KSC Title V permit requirements for individual HAP emissions of less than 2.7 pounds per day (1,000 pounds per year). The total HAP emission rate for all VOCs was 0.0063 pounds per day, which is less than the Title V permit requirement of 6.8 pounds per day (2,500 pounds per year). The total HAP emission rate value includes all the COCs even though cDCE and tDCE are not HAPs, and each analyte that had a result above its respective detection limit to be conservative.

2.5.2.3 Volume and Mass Recovery. As of March 31, 2024, a total of 344,849,634 gallons of groundwater containing 94,656 pounds of CVOCs have been removed by the HCS. Influent concentrations of TCE have decreased since startup from approximately 280,000 µg/L (January 2010) to 25,000 µg/L (March 2024), as shown in Table 2-6. During the operational period covered under this report, approximately 31,176,393 gallons were recovered containing approximately 6,319 pounds of CVOC mass. Groundwater recovery volumes and CVOC mass recoveries are summarized in Table 2-13, with full list included in Appendix D.

2.6 HCS PERFORMANCE MONITORING FIELD ACTIVITIES

To assess the groundwater conditions in the DSZ and evaluate performance of the HCS, annual performance monitoring was conducted at nine DPT boring locations and 11 monitoring well locations in and around the source area. All DPT and monitoring well sampling was conducted in accordance with applicable portions of the NASA Sampling and Analysis Plan (SAP) for the RCRA Corrective Action Program at KSC (NASA, 2017a) and FDEP Standard Operating Procedures (SOPs) (FDEP, 2017).

In December 2023, groundwater samples were collected from one monitoring well in Layer 7 (IW0042D2) and 10 monitoring wells in Layer 8 (IW0001D2, IW0043D2, IW0044D2, IW0045D2, IW0160, IW0161, IW0162, IW0163, IW0164, and IW0165). Peristaltic pumps were used for the purging of wells prior to sampling, and samples were collected using the low-flow purge technique. After collection, groundwater samples were shipped under proper chain-of-custody protocols to Eurofins Environmental Testing Southeast, LLC in Altamonte Springs, Florida, for analysis of VOCs by USEPA Method 8260D.

In January 2024, samples were collected from nine DPT boring locations (DPT593 to DPT601). At each boring location, the upper 5 feet of soil was excavated using a stainless-steel hand auger to verify the absence of underground utilities. Groundwater grab samples were collected by DPT methods via a 4-foot-long stainless-steel retractable screen. Samples were collected at 5-foot intervals from 8 to 98 feet bls, corresponding to the midpoints of the 4-foot screens, via a peristaltic pump through HDPE tubing terminating at the midpoint of the well screen. Typically, a total of 171 samples are collected annually; however, during the January 2024 event, the 83-

foot sample at DPT599 was inadvertently not collected; therefore, a total of 170 DPT samples were collected for laboratory analysis during this reporting period. The DPT samples were delivered under chain-of-custody to Eurofins Environmental Testing Southeast, LLC, in Altamonte Springs, Florida, for analysis of VOCs by USEPA Method 8260D. Note, samples were collected from the same nine locations and depth intervals as the previous annual DPT sampling events since DPT sampling began in 2019.

Groundwater sampling logs and field documentation are provided in Appendix B. Laboratory analytical reports are provided in Appendix C. The following section discusses the DPT and monitoring well analytical results. All analytical results were reviewed by a chemist and data quality manager and were found to have been generated in compliance with good analytical practices. Note that the results presented in the data tables, figures, and following subsections include only the target COCs. During the sampling event, there were several other VOCs detected in the HCS performance monitoring samples, such as low-level detections of 1,1-dichloroethene, carbon disulfide, 1,1,2-trichlorotrifluoroethane, 2-butanone, and chloroethane in several of the annual DPT samples. These detections of non-target analytes were generally less than GCTLs and less than concentrations of target COCs. All analytical results are included in the laboratory analytical reports in Appendix C.

2.7 HCS PERFORMANCE MONITORING RESULTS

2.7.1 DPT – Concentration Results. A summary of the analytical results for the DPT groundwater samples collected in January 2024 is provided in Table 2-14. Figure 2-6 presents the DPT groundwater results for TCE, cDCE, and VC. The TCE results shaded in yellow exceed 11,000 µg/L (1-percent solubility of TCE) and is where potential DNAPL is suspected to be present in relation to the DSZ boundary (the area in which the HCS treatment is focused). TCE concentrations greater than 11,000 µg/L were detected at eight of the nine DPT locations at depths ranging from 28 to 98 feet bls.

For discussion purposes, the DPT depth intervals are being compared to the shallow, deep, and Layer 7 capture zones of the HCS. These depth intervals correlate with the screened intervals of the recovery wells. The shallow capture zone of the HCS is from 15 to 45 feet bls and the deep

capture zone is from 50 to 80 feet bls; therefore, the DPT depth intervals between 8 feet bls and 43 feet bls correlate with the shallow capture zone, and the depth intervals between 53 feet bls and 78 feet bls correlate with the deep capture zone. The 48 feet bls depth interval (DPT sample screened 46 to 50 feet bls) is between the shallow and deep capture zones and represents Layer 4, which is a fine-grained layer. This layer has been considered a shallow confining unit; however, results of re-characterization showing concentrations of CVOCs below Layer 4 suggest this layer has semi-confining properties. The Layer 7 DPT depth interval is between 80 and 95 feet bls, which correlates to depths of recovery wells RW17C, RW18C, RW19C, and RW20C. The 98 feet bls depth interval is below the Layer 7 capture zone, but correlates with the depth of RW21D, screened 86 to 106 feet bls.

In the shallow capture zone (between 15 and 45 feet bls) the maximum TCE concentration in January 2024 was 510,000 µg/L in the 38 feet bls interval at DPT599, located in the south-central portion of the DSZ. This TCE concentration was a significant decrease from the previous year (December 2022) and the first year of DPT sampling (November 2017) concentrations of 1,400,000 µg/L and 1,030,000 µg/L, respectively. Since November 2017, the 28, 33, 38, and 43 feet bls depth intervals at DPT599 have continually had TCE concentrations greater than 11,000 µg/L. In addition to DPT599, three other DPT locations in the northeast and central portions of the DSZ (DPT593, DPT594, and DPT597) had a TCE result greater than 11,000 µg/L, all in the 43 feet bls sample depth.

In the deep capture zone (between 53 and 78 feet bls), the maximum TCE concentration in January 2024 was 1,600,000 µg/L in the 53 feet bls sample at DPT594, which is directly below the Layer 4 semi-confining layer. This result was also the maximum overall detection during the January 2024 event. TCE concentrations at this location have remained stable since the 2019 concentration of 1,580,000 µg/L. In addition to DPT594, located in the north central portion of the DSZ, five other DPT locations in the central and east portion of the DSZ (DPT593, DPT596,DPT597, and DPT599), and one location in the west-central portion (DPT598) had TCE results greater than 11,000 µg/L at varying sample depths within the deep capture zone.

In the depth interval between the shallow and deep capture zones (Layer 4 from 45 to 50 feet bls) the January 2024 maximum TCE concentration was 1,300,000 µg/L at DPT596, located in the

east central portion of the DSZ. Five other DPT locations (DPT593, DPT594, DPT597, DPT600, and DPT601) had TCE results at the 48 feet bls sample depth greater than 11,000 µg/L. The TCE concentration at DPT599 was significantly lower than 11,000 µg/L, which is a significant decrease from the previous event in December 2022 where the 48 feet bls sample at DPT599 was the overall maximum detection (1,800,000 µg/L). TCE was not detected in the 48 feet bls sample at DPT595 and DPT598, but both had elevated non-detect values.

In the Layer 7 capture zone (83 to 93 feet bls), the maximum TCE concentration was recorded at DPT598 in the 83 feet bls depth interval with a result of 530,000 µg/L, just below the deep capture zone. At this location, in the east central portion of the DSZ, and sample depth, concentrations have increased since 2017 with results ranging from 2,500 µg/L in 2017 to the current concentration.

Below Layer 7 (95 to 100 feet bls), the maximum TCE concentration was 110,000 µg/L at DPT598 in the 98 feet bls sample depth. Sampling the 98 feet bls interval at all locations began in 2020 and results at this location have increased from 66,000 µg/L in 2020 to the current concentration. Two other locations had TCE concentrations greater than 11,000 µg/L; DPT594 had a concentration of 34,000 µg/L, and DPT597 had a concentration of 66,000 µg/L. The January 2024 maximum result for this depth interval is a significant decrease compared to the overall maximum of 2,630,000 µg/L reported at DPT954 in November 2021 prior to installation of RW0021D, screened below layer 7 from 86 to 106 feet bls.

2.7.2 DPT – Percent TCE Composition. The table below shows the DPT performance sampling results as average percent composition for each year. The capture zones are specified for the sample depths that are within the recovery well screen intervals. Note, for the 2023 reporting year, the samples were collected in January 2024 and are represented as 2023 for discussion purposes and in the table below. In 2023, the largest portion of the TCE contamination (25.1 percent) was observed just below Layer 4 (semi-confining layer) at 53 feet bls, the upper most interval within the deep capture zone. Historically, Layer 4 has exhibited the highest percentage of TCE, with exceptions in 2018 and 2021 where the highest percent TCE was in the deep capture zone at 78 feet bls and 58 feet bls, respectively. Although the highest average percent composition was not in Layer 4 during this 2023 operational period, the percent

TCE concentrations observed between the depths of 48 and 58 feet bls continue to show that most mass is located within Layer 4 and the upper portion of the deep capture zone. The TCE composition in other depths within the shallow and deep capture zone remain relatively stable. At 78 feet bls, the TCE composition remains relatively stable at 14.4 percent still indicating stored mass at the interval immediately above the Layer 7 fine-grained unit.

	Depth	2017	2018	2019	2020	2021	2022	2023
	8	0.0 %	0.0 %	0.0 %	0.0 %	0.1 %	0.1 %	0.0%
	13	0.0 %	0.0 %	0.0 %	0.0 %	0.3 %	0.2 %	0.0%
Shallow	18	0.0 %	0.0 %	0.0 %	0.0 %	0.6 %	0.0 %	0.0%
	23	0.1 %	0.4 %	0.0 %	0.0 %	1.2 %	0.3 %	0.0%
	28	4.7 %	3.3 %	0.5 %	0.2 %	0.8 %	2.0 %	0.3%
	33	6.0 %	4.9 %	2.7 %	0.6 %	1.0 %	3.2 %	2.6%
	38	9.6 %	7.5 %	3.6 %	5.2 %	2.5 %	7.8 %	4.2%
	43	9.0 %	9.7 %	12.3 %	8.8 %	9.2 %	7.8 %	1.4%
	48	**22.7 %**	19.9 %	**24.3 %**	**32.3 %**	14.2 %	**30.0 %**	21.8%
Deep	53	18.1 %	4.8 %	17.9 %	19.7 %	12.2 %	18.4 %	**25.1%**
	58	10.9 %	7.1 %	14.6 %	14.4 %	**35.6 %**	11.0 %	15.8%
	63	1.5 %	3.4 %	5.2 %	0.3 %	2.3 %	1.5 %	2.9%
	68	0.2 %	0.2 %	0.5 %	0.1 %	0.1 %	0.0 %	1.3%
	73	2.3 %	1.4 %	2.0 %	0.3 %	0.1 %	0.4 %	0.6%
	78	13.9 %	**36.5 %**	14.8 %	17.1 %	11.3 %	15.0 %	14.4%
Layer7	83	1.0 %	0.5 %	1.7 %	0.3 %	1.6 %	1.2 %	5.5%
	88	NS	0.2 %	NS	0.1 %	0.3 %	0.2 %	0.9%
	93	NS	0.1 %	NS	0.2 %	0.6 %	0.5 %	1.6%
	98	NS	0.2 %	NS	0.4 %	6.0 %	0.3 %	1.9%

Table shows average TCE composition as percentages for each annual DPT event.
TCE composition determined by averaging the TCE concentrations for each interval and dividing by the total concentration for that year.
Sampling occurred in January 2024 is shown as 2023 reporting year.
Bold indicates the depth interval with highest percent TCE composition.
NS – Not Sampled

2.7.3 DPT – Total TCE Concentration Results. The table below shows total TCE concentration results over time for the capture zones. The values are calculated by summing the individual DPT concentrations from within each zone and are presented in this section in milligrams per liter (mg/L) because of the magnitude of the concentrations.

Zone	2017	2018	2019	2020	2021	2022	2023
Shallow Capture Zone (15 – 45 feet bls)	5,914	3,786	1,990	2,701	6,336	3,573	1,055
Deep Capture Zone (50 – 80 feet bls)	8,764	7,856	5,741	9,373	28,044	8,543	7,912
Layer 7 Capture Zone (80 – 95 feet bls)	159	88	182	104	1,147	357	1,012
Below Layer 7 (95 – 100 feet bls)	NS	NS	NS	NA	NA	52	219
All Capture Zones	14,839	11,731	7,914	12,179	35,529	12,473	10,198

Table shows total (sum of) TCE concentrations (mg/L) for all DPT locations and intervals within capture zones.
In 2020, TCE concentrations in Layer 7 included additional deeper intervals that were added to subsequent reporting periods. The Layer 7 capture zone became operational in August 2019 with installation of RW17C and subsequent installation of four additional Layer 7 recovery wells in January 2021.
In January 2023, the capture zone was extended below Layer 7 with the installation of RW21D.
NA – Not applicable
NS – Not sampled

In the shallow capture zone, the total TCE concentration in the has decreased each year. In recent years. from 2021 to 2022, the total TCE concentration decreased by 43.6 percent (a reduction of 2,763 mg/L) and from 2022 to 2023, the total TCE concentration decreased by 70 percent (a concentration reduction of 2,518 mg/L). During the reporting period covered under this report, the total concentration of TCE in the shallow capture zone is the lowest since DPT sampling began in 2017. Of the nine DPT locations, the individual total concentration of TCE decreased at six locations (DPT594, DPT595, DPT597, DPT598, DPT599, and DPT600) and increased at three locations (DPT593, DPT596, and DPT601) since the previous event in 2022. The greatest decrease in the shallow capture zone occurred at location DPT599, where total TCE decreased from 2,463 mg/L in 2022 to 897 mg/L in 2023, an overall decrease of 64 percent. There were no significant increases in the shallow zone DPT locations compared to 2022; the greatest increase in the shallow capture zone was at DPT593 with an increase from 65.9 mg/L to 110 mg/L.

In the deep capture zone, total TCE concentrations have also exhibited a decrease over the past two years. Between 2021 and 2022, the total TCE decreased by 69.5 percent (concentration reduction of 19,501 mg/L) and between 2022 and 2023, the total TCE concentration decreased by 7.4 percent (concentration reduction of 631 mg/L). The total TCE concentration in the deep

capture zone has been stable since 2017, with the exception of 2021, when the total TCE concentration was 28,044 mg/L. Of the nine DPT locations, the total TCE concentrations at six locations (DPT593, DPT597, DPT598, DPT599, DPT600, and DPT601) in the deep capture zone decreased and at three locations (DPT594, DPT595, and DPT596) the concentration increased when compared to 2022. The greatest decrease occurred at location DPT597, where total TCE decreased from 3,662 mg/L in 2022 to 1,765 mg/L in 2023, an overall decrease of 51.8 percent. In the deep capture zone, the greatest concentration increase occurred at DPT594, from 2,044 mg/L to 3,957 mg/L, an increase of 93.6 percent.

In the Layer 7 capture zone, total TCE concentrations in 2023 increased compared to the previous year. In 2023, the total TCE concentration was 925 mg/L, greater than the 2022 value of 357 mg/L. The location with the greatest increase was DPT598 with an increase from 150 mg/L in 2022 to 591 mg/L in 2023, with increases also apparent in DPT593, DPT594, and DPT597. The remaining locations had decreasing concentrations. The largest proportion of contamination in Layer 7 is located in the 83 feet bls interval; however, the total TCE concentrations are relatively low when compared to the other capture zones. Below Layer 7, concentrations of TCE were observed in the 98 feet bls interval at DPT598 (110 mg/L). The trends above and below Layer 7 indicate potential mass storage surrounding the Layer 7 capture zone.

In summary, the 2023 DPT sampling event showed that the total TCE concentrations in the shallow and deep capture zones continued to decrease for the second consecutive year with 2023 being the lowest total concentrations observed in both capture zones. In the Layer 7 capture zone, the total TCE concentration increased since 2022, but the increase is likely attributed to the recovery well extraction scheme optimization beginning in February 2023 when four shallow recovery wells (RW12-15A) and two deep recovery wells (RW5B and RW16B) were turned off and the Layer 7/8 recovery well (RW21D) started operating. Total TCE concentrations in Layer 7 this year were similar to results experienced during the pilot study (2021) where a similar extraction scheme was temporarily implemented.

2.7.4 DPT – Total cDCE and VC Concentration Results. DPT results from previous years show that the total concentrations of cDCE and VC generally follow similar trends to those

observed for TCE with respect to each capture zone. During the 2023 operational period, however, the total concentrations for both analytes exhibited increasing trends compared to TCE concentrations, which generally decreased in the shallow and deep capture zones since 2022. The increase in groundwater extraction from Layer 7 likely affected the total concentrations of cDCE and VC.

In the shallow capture zone (15 to 45 feet bls) the maximum cDCE concentration was 160,000 µg/L in DPT599 at 43 feet bls, and the maximum VC concentration was 51,000 µg/L in DPT593 at 43 feet bls. Total concentrations of cDCE and VC in the shallow capture zone were 724,122 µg/L and 214,855 µg/L, respectively. The total cDCE concentration decreased and the total VC concentration increased in the shallow zone compared to 2022.

In the deep capture zone (between 50 and 80 feet bls) the maximum cDCE and VC concentrations were 270,000 µg/L in DPT596 at 58 feet bls and 26,000 µg/L also in DPT596 at the 58 feet bls sample depth, respectively. Total concentrations of cDCE and VC in the deep capture zone were 1,189,659 µg/L and 159,674 µg/L, respectively. While the total TCE concentration in the deep capture zone exhibited a decrease, both cDCE and VC experienced an increase compared to 2022.

In the Layer 7 capture zone (80 to 95 feet bls) the maximum cDCE and VC concentrations were 25,000 µg/L in DPT598 at 88 feet bls and 3,600 µg/L in DPT598 at 83 feet bls, respectively. The total concentrations of cDCE and VC in the Layer 7 capture zone were 78,659 µg/L and 9,410 µg/L, respectively. Both cDCE and VC exhibited an increase in the Layer 7 capture zone compared to 2022, similar to the trend in total TCE concentration.

Below the Layer 7 capture zone (95 to 100 feet bls) the maximum cDCE and VC concentrations were 25,000 µg/L and 1,400 µg/L, respectively, both in DPT598 at 98 feet. The total concentrations of cDCE and VC below the Layer 7 capture zone were 27,476 µg/L and 2,558 µg/L, respectively. Both the cDCE and VC total concentrations were greater than the 2022 total concentrations of 36,088 µg/L and 402 µg/L, respectively. The cDCE and VC concentration trends are similar to the TCE trends observed in the depth interval below Layer 7.

2.7.5 Evaluation of Performance Monitoring Using DPT. Concentrations of TCE, cDCE, and VC in DPT groundwater samples collected in December 2023 are still significantly greater than concentrations last observed in performance monitoring well samples collected in December 2016 (prior to implementing performance monitoring via DPT). In December 2016, the maximum TCE concentration was 22,700 µg/L at IW0121, screened from 38 to 43 feet bls. This well was located near DPT597, which by comparison has exhibited high TCE concentrations each year in the 38 and 43 feet bls depth intervals, most notably in 2021 when the TCE concentrations were 122,000 µg/L at 38 feet bls and 1,260,000 µg/L at 43 feet bls. This indicates that the high resolution DPT approach to performance monitoring is continuing to provide a more accurate picture of current conditions in the aquifer and a better indication of where high mass storage remains.

2.7.6 DPT Performance Monitoring and Recovery Well Results Comparison. The individual recovery well influent sample results are shown on Figure 2-5 and included in Table 2-5. The individual recovery well results indicate that the recovery wells continue to adequately capture contamination. The influent from each operating shallow and deep recovery well is sampled quarterly to evaluate HCS operational performance, as discussed in Section 2.4. The recovery wells in Layers 7 and 7/8 are sampled monthly to monitor continued high concentrations experienced at these depths. For comparison purposes, in the discussion below, the January 2024 DPT results (Table 2-14) are being compared to the December 2023 shallow and deep recovery well results because the sample dates are closest to each other. The nine DPT locations are in a grid formation within the DSZ, and the discussion below presents a spatial comparison of the DPT results to the nearest recovery wells in each capture zone.

In the northwestern portion of the DSZ, locations DPT595 and DPT598 are near recovery wells RW02A, RW02B, and RW19C. In the shallow capture zone, TCE had low-level detections in DPT595 with a maximum detection of 26 µg/L in the 28 feet bls sample. At DPT598, TCE was non-detect or less than the GCTL. It is noted, however, that elevated non-detect values for TCE were observed in both DPT samples. In comparison, the December 2023 concentration was 9,300 µg/L at RW02A, greater than the DPT results at this interval. In the deep capture zone, the maximum TCE concentrations were 5,200 µg/L in the 78 feet bls sample depth at DPT595 and

440,000 µg/L in the 78 feet bls sample depth at DPT598. The maximum TCE detection was greater than the December 2023 concentration of 27,000 µg/L at RW02B. In the deeper zone, the recovery wells in the northwest portion of the DSZ had TCE results of 160,000 µg/L (RW17C) and 210,000 µg/L (RW19C). These wells are screened from 80 to 95 feet bls and were designed to capture contamination below the deep zone (greater than 80 feet). The TCE results for this depth zone at 83 to 93 feet bls at DPT595 were low-level detections, and the highest TCE result at DPT598 was 530,000 µg/L at the 83 feet bls interval.

In the northeastern portion of the DSZ, the locations of DPT593 and DPT594 are near recovery wells RW03A, RW03B, RW20C, and RW21D. In the shallow capture zone, at DPT593, the TCE concentration of 110,000 µg/L at 43 feet bls was the maximum result in December 2023. The highest shallow zone result at DPT594 was 21,000 µg/L in the 43 feet bls interval, which was a reduction from the December 2022 maximum of 61,000 µg/L at this location. The TCE concentration in December 2023 for RW03A was 2,300 µg/L. The maximum TCE concentrations for the deep capture zone were 180,000 µg/L at DPT593 in the 58 feet bls interval and 1,600,000 µg/L at DPT594 in the 53 feet bls interval. The TCE concentration at RW03B in March 2024 was 9,300 µg/L. Note during the third quarterly event in December 2023 at this well there was an issue with the pump controller and a sample was not collected. The maximum TCE concentrations at DPT593 and DPT594 for the deeper zone were 31,000 µg/L (88 feet bls) and 88,000 µg/L (93 feet bls), respectively. The TCE concentration at RW20C for December 2023 was 12,000 µg/L. For the Layer 7 capture zone (86 to 106 feet bls), the maximum TCE concentrations at DPT593 and DPT594 were 7,100 µg/L and 34,000 µg/L, respectively. The TCE concentration at RW21D in December 2023 was 12,000 µg/L, after about a year of operation. The maximum TCE results in the DPT samples continued to be greater in the northeastern locations than the northwestern locations for both the shallow and deep capture zones.

In the southern portion of the DSZ, the maximum TCE concentration from DPT locations DPT596, DPT597, DPT599, DPT600, and DPT601 in the shallow zone was 510,000 µg/L at DPT599 at 38 feet bls compared to the nearby recovery well RW01A, which had TCE concentration of 17,000 µg/L. The maximum TCE concentration at the DPTs in the deep zone

was 700,000 µg/L at 58 feet bls (DPT597) compared to the nearest recovery well RW01B, which had TCE concentration of 13,000 µg/L. The maximum TCE concentration at the DPTs in the deeper capture zone was 100,000 µg/L at 83 feet bls (DPT597) compared to the nearby recovery well RW18C, which had a TCE concentration of 73,000 µg/L in December 2023; however, this well had a higher concentration in March 2024 (410,000 µg/L) compared to the 3rd quarterly result. For the locations in the southern portion of the DSZ, the maximum TCE results in the DPT samples were generally greater than the well results in both the shallow and deep capture zones.

In summary, the shallow, deep, and Layer 7 capture zones are represented by higher DPT concentrations compared to concentrations observed in the nearby recovery wells. However, this comparison is more of a qualitative analysis as recovery wells capture a larger interval (30 feet in shallow and deep) compared to DPT results from a specific DPT interval. Overall, the TCE mass within the shallow and deep zones decreased compared to the 2022 operational period. Expansion of the HCS and addition of new recovery wells is ongoing and will continue to be evaluated as the groundwater recovery scheme is optimized. Details of the expansion and optimization will be provided in future PMRs.

2.7.7 Layer 7 and Layer 8 Monitoring Well Results. Currently, 11 monitoring wells are sampled in Layers 7 and 8 to monitor potential vertical migration of TCE in the DSZ area. IW0042D2 in Layer 7 and IW0001D2, IW0043D2, IW0045D2, IW0160, IW0161, IW0163, and IW0164 in Layer 8 were sampled in December 2023 as a part of the annual sampling plan. Additional sampling on a biweekly basis was conducted at Layer 8 wells IW0044D2, IW0162, and IW0165, throughout the reporting period to monitor increased concentrations observed in Layer 8 and to monitor the potential influence of recovery well RW21D. Additional sampling was also conducted at IW0001D2 and IW0161 in October 2023 to evaluate the northeastern and southeastern boundaries of the DSZ, based on a discussion during the October 2023 KSCRT meeting. Sampling results for Layer 7 and 8 monitoring wells are included in Table 2-15 and shown on Figure 2-7.

Of the six wells sampled only in December 2023, results continue to exhibit no detections except for IW0045D2, which had a GCTL exceedance of cDCE (140 µg/L). This well is located on the

southwestern portion of the DSZ along the fluctuating edge of the HCP. Also in this area, the Layer 7 well IW0042D2 had a slight detection of cDCE (0.73 µg/L). Well IW0043D2, which historically had low-level cDCE and VC detections was non-detect for both analytes in December 2023.

Wells IW001D2 and IW0161 had an additional sample collected in October 2023 prior to the annual event in December 2023. There were no detections in the samples collected in October or December. Well IW0165, located along the western edge of the DSZ, had biweekly sampling beginning in March 2023 and continuing until the December 2023 annual event. There were no detections in the biweekly samples. Well IW044D2, located in the central portion of the DSZ near RW0021D, also began biweekly sampling in March 2023 when high concentrations of TCE (360 µg/L) and cDCE (930 µg/L) were first detected. High concentrations of COCs continued throughout the monitoring period with maximum detections of TCE (190,000 µg/L), cDCE (20,000 µg/L), and VC (1,400 µg/L) in September 2023. Since the peak concentrations during the September 2023 event, TCE, cDCE, and VC concentrations have decreased to 660 µg/L, 1,400 µg/L, and 150 µg/L, respectively, at the end of the operational period in March 2023. The increased concentrations in this well are likely due to the influence of RW0021D. Well IW0162 continued a biweekly sampling schedule which had been implemented during the previous operational period (April 2022 – March 2023) to monitor increased concentrations of TCE. During the operational period covered under this report, the maximum concentrations of TCE (15,000 µg/L) and cDCE (1,700 µg/L) were detected in March 2023, but by September 2023 concentrations of both COCs were less than GCTLs, and biweekly sampling was discontinued in February 2024.

Overall, the Layer 7 and 8 monitoring well results indicate that these wells are positioned appropriately to monitor the boundaries of the source area and that recovery well RW021D (screened 86-106 feet bls) is influencing hydraulic control and contaminant capture as planned. Annual sampling of the Layer 7 and 8 monitoring wells will continue to be conducted to evaluate potential migration of contaminants in the DSZ area and performance of RW21D, with continued biweekly sampling at IW044D2 and other wells as needed based on results. As of the date of this

report, expansion of the HCS is ongoing with installation of additional recovery wells in Layer 7, as recommended in the RAE (Alternative DSZ-1 [Meeting Minute 2302-M04, Decision D01]).

Table 2-1. Hydraulic Containment System Operational Data - Year 14

Parameter	Date	4/14/2023	5/5/2023	6/8/2023	7/7/2023	8/3/2023	9/7/2023	10/5/2023	11/3/2023	12/7/2023	1/4/2024	2/1/2024	3/1/2024
	Time	8:30	13:00	18:00	19:00	13:00	15:30	9:00	12:00	14:30	16:00	15:00	13:30
Vapor Process System Monitoring													
CatOx High Temperature	°F	730	730	730	730	730	730	730	730	730	730	730	730
CatOx Main Temperature	°F	760	760	760	760	760	760	760	760	760	760	760	760
Quench Tower Temperature	°F	112	112	112	112	112	112	112	112	112	112	112	112
Photoionization Detector Air Sample	ppm_v	79	79	79	79	79	79	79	79	79	79	79	79
Photoionization Detector Air Sample	ppm_v	0	0	0	0	0	0	0	0	0	0	0	0
Differential Pressure, Average. Pitot Tube	in. w.c.	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Pressure, Air Stripper 2 Inlet	in. w.c.	27	27	27	27	27	27	27	27	27	27	27	27
Pressure, Air Stripper 1 Inlet	in. w.c.	47	47	47	47	47	47	47	47	47	47	47	47
Pressure, Air Stripper 2 Outlet	in. w.c.	12	12	12	12	12	12	12	12	12	12	12	12
Pressure, CatOx Inlet	in. w.c.	8	8	8	8	8	8	8	8	8	8	8	8
Differential Pressure Air Stripper 1	in. w.c.	17	17	17	17	17	17	17	17	17	17	17	17
Differential Pressure Air Stripper 2	in. w.c.	24	24	24	24	24	24	24	24	24	24	24	24
Air Stripper Blower Speed	hertz	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Groundwater Process System Monitoring													
Air Stripper 1 Transfer Pump	hertz	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5
Air Stripper 2 Transfer Pump	hertz	60	60	60	60	60	60	60	60	60	60	60	60
Inlet #1 Totalizer	gal	97,179,245	97,425,487	97,907,781	98,262,680	98,585,858	98,930,016	99,219,022	99,758,815	100,465,200	100,987,114	101,410,710	101,768,238
Inlet #1 Flow	gpm	20	20	20	20	20	20	20	20	20	20	20	20
Inlet #2 Totalizer	gal	217,717,388	219,443,664	222,202,222	224,253,600	226,480,851	229,487,123	231,185,693	233,037,239	235,267,970	236,838,950	238,689,533	240,213,424
Inlet #2 Flow	gpm	60	60	60	60	60	60	60	60	60	60	60	60
Equilibrium Tank Pump Totalizer	gal	59,845,818	61,818,336	65,059,188	67,465,465	70,015,894	73,366,324	75,353,900	77,745,239	80,682,355	82,775,249	85,049,428	86,930,847
Equilibrium Tank Pump Flow Rate	gpm	79	79	79	79	79	79	79	79	79	79	79	79
Moisture Separator Totalizer	gal	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087	1,087
Air Stripper Pump 1 Pressure	psi	60	60	60	60	60	60	60	60	60	60	60	60
Air Stripper Pump 2 Pressure	psi	15	15	15	15	15	15	15	15	15	15	15	15
Pressure, Carbon Influent	psi	35	35	35	35	35	35	35	35	35	35	35	35
Pressure, Carbon Effluent	psi	25	25	25	25	25	25	25	25	25	25	25	25
Air Stripper 1 Flow Rate	gpm	103	103	103	103	103	103	103	103	103	103	103	103
Air Stripper 2 Flow Rate	gpm	90	90	90	90	90	90	90	90	90	90	90	90
Quench Tower/Scrubber Monitoring													
Supply Pressure	psi	60	60	60	60	60	60	60	60	60	60	60	60
Quench Flow	gpm	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Dilution Flow	gpm	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Recirculation Pump Flow	gpm	26	26	26	26	26	26	26	26	26	26	26	26
Chemical Feed Stroke	%	40	40	40	40	40	40	40	40	40	40	40	40
Recirculation Pump Pressure	psig	15	15	15	15	15	15	15	15	15	15	15	15
Discharge Pressure	psig	18	18	18	18	18	18	18	18	18	18	18	18
Calculated Values													
Total Input	gal	314,896,633	316,869,151	320,110,003	322,516,280	325,066,709	328,417,139	330,404,715	332,796,054	335,733,170	337,826,064	340,100,243	341,981,662
Flow Meter Extraction Rate	gpm	80	80	80	80	80	80	80	80	80	80	80	80
Average Extraction Rate	gpm	62	65	66	58	66	66	50	58	60	52	56	45
Air Flow, Average. Pitot Tube	scfm	591	591	591	591	591	591	591	591	591	591	591	591

Notes:

- Reported system readings were condensed from weekly to monthly to reduce excessive repetitive data.
- Inspections performed weekly at minimum to ensure normal operation.
- After 11/21/2022, the blower's variable frequency drive was bypassed which resulted in air stripper blower speed recordings being suspended. Blower continually operates at 100% now.

°F = Degrees Fahrenheit
gal = Gallons
gpm = Gallons per minute
hertz = Hertz
in. w.c. = Inches of water column
ppmv = Parts per million by volume
psi = Pounds per square inch
psig = Pounds per square inch gauge
scfm = Standard cubic feet per minute
NA = Not Applicable

Table 2-2. Hydraulic Containment System Runtime Summary

Year	Month	Days In Month	Days System Down	Run Time	Downtime Contributing Factor
2023	April	30	0.25	99%	Routine system cleaning
	May	31	0.25	99%	Routine system cleaning
	June	30	4.25	86%	Routine system cleaning; replaced quench cooling water piping
	July	31	0.25	99%	Routine system cleaning
	August	31	2.25	93%	Routine system cleaning; replaced scrubber float
	September	30	2.50	92%	Routine system cleaning; replaced scrubber float
	October	31	0.25	99%	Routine system cleaning
	November	30	0.25	99%	Routine system cleaning
	December	31	3.50	89%	Routine system cleaning; minor shutdown to begin bag filter upgrade
2024	January	31	3.35	89%	Routine system cleaning; troubleshoot thermocouple sensor
	February	28	5.60	81%	Routine system cleaning; troubleshoot thermocouple sensor; PLC controller replaced (lightning strike)
	March	31	0.50	98%	Routine system cleaning
Total		**365**	**23.20**	**94%**	

Notes:
Runtime indicated is from April 1, 2023 to March 31, 2024

Table 2-3. Hydraulic Containment System Issues and Resolutions

System Component	Issue	Issue Date	Resolution	Resolution Date
Quench Tower	Minor leak from potable water influent piping	6/13/2023	PVC connections replaced	6/16/2023
Scrubber	Float switch assembly contacts failed	8/16/2023	Replaced float switch assembly	8/17/2023
Recovery Well (RW03B)	Pump motor and controller in the fault failed	9/15/2023	Replaced pump motor and controller; supply chain issues caused the significant time interval between issue and resolution date	1/4/2024
Scrubber	Recirculation pump bearings seizing	9/15/2023	Replaced recirculation pump	9/17/2023
Control Panel	Lightning struck system and shorted two logic cards in the Programmable Logic Controller	2/5/2024	Replaced both logic cards	2/9/2024
Catalytic Oxidizer	Thermocouple in the catox heater had intermittent glitches causing fluctuations in temperature readings; bad wire connections to controller in electrical panel.	1/26/2024	Thermocouple was replaced and wire connection re-made	2/19/2024

Table 2-4. Hydraulic Containment System Performance Monitoring Plan

Sampling Location	Analysis	Frequency	Analytes
			CVOCs
Aqueous System Sampling			
Combined Influent	USEPA Method 8260D	Quarterly	✔
AS1 Effluent	USEPA Method 8260D	Monthly	✔
AS2 Effluent	USEPA Method 8260D	Monthly	✔
LPGAC Effluent	USEPA Method 8260D	Monthly	✔
Recovery Wells	USEPA Method 8260D	Quarterly(1)	✔
Vapor System Sampling			
AS Exhaust	USEPA Method TO-15	Annually	✔
	Draeger Tube/PID	Monthly	✔
CatOx Exhaust	USEPA Method TO-15	Annually	✔
	Draeger Tube/PID	Monthly	✔

Notes:

(1) Layer 7 recovery wells (RW17C, 18C, 19C, 20C and 21D [Layer7/8]) were sampled monthly during the reporting period.

AS1 = Secondary air stripper
AS2 = Primary air stripper
CatOx = Catalytic oxidizer
CVOCs = Chlorinated volatile organic compounds
LPGAC = Liquid-phase granular activated carbon
PID = Photoionization detector
RW = Recovery well
USEPA = United States Environmental Protection Agency

Table 2-5. Individual Recovery Well Influent Data

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0001A	8-Dec-09	**140,000**	**110,000**	10,000 U	**12,000**
	18-Dec-09	**226,000**	**111,000**	1,000 U	**14,300**
	21-Dec-09	**230,000**	**139,000**	670 U	**15,600**
	20-Jan-10	**240,000**	**98,000**	10,000 U	10,000 U
	23-Jun-10	**61,000**	**42,900**	340 U	**6,390**
	22-Nov-10	**29,200**	**82,100**	**379 I**	**4,750**
	21-Feb-11	**35,700**	**62,700**	350 U	**4,260**
	18-May-11	**46,800**	**61,300**	350 U	**4,770**
	10-Aug-11	**56,800**	**50,700**	350 U	**3,750**
	10-Nov-11	**64,900**	**34,000**	700 U	**2,310**
	2-Feb-12	**85,000**	**29,500**	**245**	**2,260**
	4-Apr-12	**86,600**	**32,300**	350 U	**2,360**
	26-Jul-12	**99,000**	**22,900**	**169**	**1,370**
	26-Nov-12	**94,700**	**20,500**	**218**	**847**
	11-Mar-13	**91,900**	**21,100**	**238 I**	**860 I**
	27-Sep-13	**100,000**	**18,200**	**213**	**783**
	31-Dec-13	**49,400**	**11,200**	**203**	**621**
	3-Apr-14	**91,800**	**19,500**	340 U	**685 I**
	26-Jun-14	**89,900**	**13,900**	340 U	**769 I**
	30-Sep-14	**84,600**	**14,000**	340 U	**558 I**
	30-Dec-14	**60,200**	**12,000**	**197 I**	**565**
	27-May-15	**36,100**	**25,700**	**970**	**7,300**
	4-Jun-15	**133,000**	**31,700**	**510**	**1,400**
	5-Jun-15	**154,000 J**	**31,200**	**470**	**1,000**
	13-Jul-15	**91,400**	**15,900**	**256**	**554**
	30-Sep-15	**58,500**	**11,100**	**184 I**	**381**
	17-Dec-15	**83,300**	**16,600**	**264 I**	**652**
	4-Mar-16	**81,600**	**14,500**	330 U	**857 I**
	22-Jun-16	**70,600**	**13,200**	170 U	**561**
	22-Sep-16	**67,400**	**12,700**	330 U	**512 I**
	16-Dec-16	**69,600**	**13,500**	330 U	**637 I**
	18-Jan-17	**49,400**	**14,800**	**255 I**	**712**
	15-Mar-17	**71,900**	**13,000**	**235 I**	**587**
	4-May-17	**62,400**	**14,000**	**247**	**684**
	20-Sep-17	**76,300**	**12,900**	220 U	**739 I**
	13-Dec-17	**65,500**	**13,700**	**219 I**	**539**
	19-Mar-18	**66,000**	**13,200**	**228 I**	**687 I**
	27-Jun-18	**59,200**	**11,100**	**163 I**	**563**
	20-Sep-18	**53,700**	**12,600**	**228 I**	**583**
	12-Dec-18	**49,200**	**10,300**	110 U	**501**
	12-Mar-19	**58,100**	**11,100**	220 U	**861 I**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0001A	12-Jun-19	**50,000**	**9,590**	**158 I**	**510**
	30-Sep-19	**54,000**	**9,660**	220 U	410 U
	17-Dec-19	**46,000**	**9,380**	**160**	**625**
	12-Mar-20	**36,800**	**6,540**	110 U	**390 I**
	8-Jun-20	**41,700**	**7,830**	**170 I**	**504**
	16-Sep-20	**41,500**	**6,480**	110 U	**522**
	11-Jan-21	**42,600**	**7,270**	**146 I**	**514**
	11-Mar-21	**45,400**	**8,500**	**206 I**	**582**
	23-Jun-21	**45,900 Q**	**6,420**	55 U	**495**
	14-Sep-21	NS	NS	NS	NS
	14-Dec-21	NS	NS	NS	NS
	22-Mar-22	**35,000**	**17,000**	**310 I**	**630**
	28-Jun-22	**24,000**	**14,000**	**360 I**	**790 I**
	8-Sep-22	**17,000**	**12,000**	**260 I**	**850**
	13-Dec-22	**25,000**	**12,000**	**290**	**1,000**
	31-Mar-23	**21,000**	**15,000**	**270**	**1,400**
	23-Jun-23	**13,000**	**15,000**	**180 I**	**1,600 J3**
	26-Sep-23	**16,000**	**10,000**	**190 I**	**1,000**
	21-Dec-23	**17,000**	**9,400**	**210**	**1,100**
	19-Mar-24	**16,000**	**11,000**	180 U	**1,200**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0001B	8-Dec-09	**87,000**	**23,000**	10,000 U	10,000 U
	18-Dec-09	**94,100**	**10,300**	1,000 U	1,000 U
	21-Dec-09	**13,100**	**12,600**	500 U	500 U
	20-Jan-10	**130,000**	**10,000**	10,000 U	10,000 U
	23-Jun-10	**180,000**	**7,330**	340 U	280 U
	22-Nov-10	**200,000**	**6,610**	880 U	550 U
	21-Feb-11	**198,000**	**5,950**	350 U	220 U
	18-May-11	**186,000**	**5,410**	1,800 U	1,100 U
	10-Aug-11	**212,000**	**7,050**	880 U	550 U
	10-Nov-11	**177,000**	**7,400**	1,800 U	1,100 U
	2-Feb-12	**176,000**	**6,550**	70 U	44 U
	4-Apr-12	**122,000**	**6,460**	350 U	220 U
	26-Jul-12	**112,000**	**6,760**	180 U	110 U
	26-Nov-12	**70,800**	**8,400**	110 U	220 U
	11-Mar-13	**73,800**	**5,160**	230 U	440 U
	27-Sep-13	**69,400**	**5,220**	230 U	440 U
	20-Nov-13	**59,500**	**3,710**	230 U	440 U
	31-Dec-13	**57,200**	**4,880**	170 U	**213 I**
	3-Apr-14	**62,400**	**4,820**	340 U	330 U
	26-Jun-14	**31,100**	**1,910**	170 U	160 U
	30-Sep-14	**48,700**	**4,200**	170 U	160 U
	30-Dec-14	**42,500**	**3,970**	170 U	160 U
	27-May-15	**23,700**	**14,100**	**620**	**530**
	4-Jun-15	**105,100**	**12,200**	400 U	400 U
	5-Jun-15	**51,500**	**7,200**	400 U	400 U
	13-Jul-15	**48,600**	**3,900**	**46.9 I**	**143 I**
	30-Sep-15	**48,700**	**1,870**	**29.1 I**	**54.2 I**
	17-Dec-15	**45,900**	**3,660**	52 U	**145 I**
	4-Mar-16	**38,500**	**2,950**	170 U	160 U
	22-Jun-16	**30,900**	**3,210**	170 U	160 U
	22-Sep-16	**31,300**	**3,070**	83 U	**130 I**
	16-Dec-16	**38,200**	**3,060**	170 U	**170 I**
	17-Jan-17	**20,400**	**1,230**	44 U	82 U
	15-Mar-17	**42,600**	**2,770**	110 U	200 U
	4-May-17	**38,400**	**2,920**	**38 I**	**143**
	20-Sep-17	**32,100**	**2,360**	55 U	**155 I**
	13-Dec-17	**22,600**	**2,260**	44 U	**111 I**
	19-Mar-18	**20,300**	**1,900**	55 U	**107 I**
	27-Jun-18	**17,500**	**1,760**	55 U	**103 I**
	20-Sep-18	**17,200**	**2,300**	44 U	**100 I**
	12-Dec-18	**17,400**	**2,180**	55 U	**122 I**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0001B	12-Mar-19	**19,600**	**2,120**	55 U	**118 I**
	12-Jun-19	**20,700**	**2,480**	55 U	100 U
	30-Sep-19	**18,900**	**2,020**	55 U	100 U
	17-Dec-19	**18,100**	**1,910**	44 U	82 U
	12-Mar-20	**12,700**	**1,260**	44 U	82 U
	8-Jun-20	**16,200**	**1,860**	44 U	82 U
	16-Sep-20	**17,300**	**1,550**	55 U	100 U
	11-Jan-21	**30,100**	**3,000**	110 U	200 U
	11-Mar-21	**20,700**	**2,170**	55 U	**113 I**
	23-Jun-21	**44,300 Q**	**3,460**	55 U	**155**
	14-Sep-21	NS	NS	NS	NS
	14-Dec-21	NS	NS	NS	NS
	22-Mar-22	**6,700**	**2,100**	73 U	**96 I**
	28-Jun-22	**10,000**	**3,400**	73 U	**92 I**
	8-Sep-22	**8,900**	**2,700**	73 U	**100 I**
	13-Dec-22	**13,000**	**3,300**	95 U	**160 I**
	31-Mar-23	**10,000**	**4,000**	190 U	**210 I**
	23-Jun-23	**9,700**	**3,400**	68 U	**260 J3**
	26-Sep-23	**11,000**	**3,100**	**51 I**	**220**
	21-Dec-23	**13,000**	**5,100**	73 U	**260**
	19-Mar-24	**15,000**	**5,600**	180 U	**330**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0002A	8-Dec-09	**230,000**	**150,000**	10,000 U	10,000 U
	18-Dec-09	**267,000**	**183,000**	2,000 U	**19,900**
	21-Dec-09	**263,000**	**187,000**	**1,800**	**31,200**
	20-Jan-10	**280,000**	**170,000**	10,000 U	**24,000**
	23-Jun-10	**82,500**	**41,800**	**390 I**	**13,400**
	22-Nov-10	**58,500**	**34,000**	**438 I**	**7,250**
	21-Feb-11	**3,630**	**63,300**	**456 I**	**5,850**
	18-May-11	**50,400**	**23,800**	**345 I**	**6,200**
	10-Aug-11	**48,500**	**21,500**	**349 I**	**5,020**
	10-Nov-11	**40,500**	**18,100**	350 U	**3,680**
	2-Feb-12	**42,500**	**16,400**	**352 I**	**4,010**
	4-Apr-12	**49,000**	**17,600**	**358 I**	**4,360**
	26-Jul-12	**38,500**	**11,400**	**256**	**3,340**
	26-Nov-12	**39,000**	**11,300**	**304**	**2,810**
	11-Mar-13	**39,000**	**10,400**	110 U	220 U
	27-Sep-13	**35,800**	**9,120**	**198 I**	**2,700**
	31-Dec-13	**33,400**	**7,720**	**188 I**	**2,380**
	3-Apr-14	**33,600**	**7,300**	170 U	**2,070**
	26-Jun-14	**33,100**	**6,990**	**199 I**	**2,190**
	30-Sep-14	**28,200**	**6,100**	**171 I**	**1,590**
	30-Dec-14	**26,600**	**5,030**	170 U	**1,390**
	27-May-15	**16,700**	**12,000**	**570**	**3,600**
	4-Jun-15	**39,900**	**12,100**	**380**	**2,600**
	5-Jun-15	**66,900**	**15,200**	**470**	**3,300**
	13-Jul-15	**39,600**	**7,270**	**229**	**2,060**
	30-Sep-15	**29,900**	**5,920**	**165 I**	**1,420**
	17-Dec-15	**32,600**	**6,430**	**168 I**	**1,610**
	4-Mar-16	**35,000**	**7,510**	**196 I**	**1,590**
	22-Jun-16	**38,200**	**6,960**	**189 I**	**1,890**
	22-Sep-16	**27,200**	**5,230**	**134 I**	**1,370**
	16-Dec-16	**29,600**	**5,500**	170 U	**1,520**
	15-Mar-17	**27,200**	**4,950**	**148 I**	**1,370**
	4-May-17	**29,900**	**5,480**	**140**	**1,830**
	20-Sep-17	**18,400**	**4,130**	**148 I**	**1,520**
	13-Dec-17	**15,600**	**3,820**	**124**	**1,020**
	19-Mar-18	**17,900**	**3,890**	**162 I**	**1,360**
	27-Jun-18	**11,700**	**2,310**	**88.8 I**	**772**
	20-Sep-18	**18,400**	**3,410**	**166 I**	**1,130**
	12-Dec-18	**19,600**	**3,580**	**178 I**	**1,280**
	12-Mar-19	**21,600**	**3,050**	**151 I**	**1,450**
	12-Jun-19	**17,300**	**2,520**	**102 I**	**901**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0002A	30-Sep-19	**16,700**	**2,130**	**97.1 I**	**854**
	17-Dec-19	**16,500**	**2,120**	**94.3**	**1,150**
	12-Mar-20	**11,800**	**1,450**	**47.3 I**	**712**
	8-Jun-20	**13,600**	**1,570**	**73.9 I**	**845**
	16-Sep-20	**12,300**	**1,170**	55 U	**770**
	11-Jan-21	**15,300**	**1,650**	**86.5 I**	**867**
	11-Mar-21	**14,900**	**1,590**	**75.8 I**	**919**
	23-Jun-21	**12,900**	**1,220**	44.0 U	**816**
	14-Sep-21	**30,000**	**3,100**	360 U	**850 I**
	14-Dec-21	**45,000**	**7,700**	360 U	**820 I**
	22-Mar-22	**36,000**	**13,000**	360 U	**1,100 I**
	28-Jun-22	**17,000**	**10,000**	360 U	**640 I**
	8-Sep-22	**11,000**	**8,500**	**99 I**	**500**
	13-Dec-22	**23,000**	**6,200**	190 U	**730**
	31-Mar-23	**15,000**	**7,900**	**210**	**970**
	23-Jun-23	**8,300**	**4,700**	**140 I**	**730 J3**
	26-Sep-23	**7,800**	**2,600**	**69 I**	**370**
	21-Dec-23	**9,300**	**2,600**	73 U	**430**
	19-Mar-24	**9,800**	**2,600**	150 U	**510**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0002B	8-Dec-09	**660,000**	**17,000**	10,000 U	10,000 U
	18-Dec-09	**803,000**	**17,700**	5,000 U	5,000 U
	21-Dec-09	**946,000**	**21,900**	3,300 U	3,300 U
	20-Jan-10	**940,000**	**14,000**	10,000 U	10,000 U
	23-Jun-10	**363,000**	**7,780**	340 U	280 U
	22-Nov-10	**248,000**	**4,760 I**	1,800 U	1,100 U
	21-Feb-11	**203,000**	**3,670**	180 U	**141 I**
	18-May-11	**152,000**	**2,860**	700 U	440 U
	10-Aug-11	**138,000**	**2,950**	700 U	440 U
	10-Nov-11	**102,000**	**2,740**	880 U	550 U
	2-Feb-12	**126,000**	**3,130**	350 U	220 U
	4-Apr-12	**91,400**	**2,470**	350 U	220 U
	26-Jul-12	**94,000**	**2,270**	180 U	110 U
	26-Nov-12	**78,100**	**2,690**	110 U	220 U
	11-Mar-13	**66,300**	**2,860**	230 U	440 U
	27-Sep-13	**75,900**	**2,950**	230 U	440 U
	20-Nov-13	**64,900**	**2,230**	230 U	440 U
	31-Dec-13	**62,800**	**2,460**	170 U	**213 I**
	3-Apr-14	**59,900**	**1,820**	340 U	330 U
	26-Jun-14	**68,700**	**2,510**	340 U	330 U
	30-Sep-14	**57,600**	**2,150**	340 U	330 U
	30-Dec-14	**72,100**	**2,470**	170 U	**235 I**
	27-May-15	**35,200**	**11,200**	**410**	**770**
	4-Jun-15	**78,600**	**6,100**	400 U	400 U
	5-Jun-15	**66,800**	**4,500**	**79**	**260**
	13-Jul-15	**43,300**	**1,980**	42 U	**213**
	30-Sep-15	**35,800**	**1,730**	42 U	**190 I**
	17-Dec-15	**48,000**	**1,960**	100 U	**174 I**
	4-Mar-16	**35,100**	**1,790**	170 U	160 U
	22-Jun-16	**39,100**	**1,760**	170 U	160 U
	22-Sep-16	**35,300**	**1,390**	83 U	79 U
	16-Dec-16	**45,100**	**1,690**	170 U	**167 I**
	15-Mar-17	**33,800**	**1,140**	110 U	200 U
	4-May-17	**42,200**	**1,230**	22 U	**169**
	20-Sep-17	**32,100**	**1,710**	55 U	**191 I**
	13-Dec-17	**38,900**	**1,820**	44 U	**201**
	19-Mar-18	**34,700**	**1,910**	110 U	**282 I**
	27-Jun-18	**30,400**	**1,600**	110 U	200 U
	20-Sep-18	**31,800**	**2,070**	55 U	**251**
	12-Dec-18	**28,900**	**1,840**	110 U	220 U
	12-Mar-19	**38,900**	**1,900**	110 U	**378 I**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0002B	12-Jun-19	**31,900**	**1,880**	55 U	**238 I**
	30-Sep-19	**25,700**	**1,450**	110 U	200 U
	17-Dec-19	**24,200**	**1,540**	44 U	**303**
	12-Mar-20	**22,100**	**1,190**	55 U	**235 I**
	8-Jun-20	**20,700**	**1,350**	44 U	**332**
	16-Sep-20	**20,200**	**1,050**	55 U	**323**
	12-Nov-20	**5,820**	**704**	0.22 U	**182**
	11-Jan-21	**4,320**	**1,520**	**30.9 I**	**211**
	11-Mar-21	**20,200**	**1,280**	55 U	**389**
	23-Jun-21	**17,800**	**1,250**	44 U	**810**
	14-Sep-21	**29,000**	**2,100**	360 U	**520 I**
	14-Dec-21	**27,000**	**2,300**	360 U	**360 I**
	22-Mar-22	**19,000**	**1,700**	150 U	**250 I**
	28-Jun-22	**16,000**	**1,900**	180 U	**330 I**
	8-Sep-22	**16,000**	**1,800**	150 U	**330 I**
	13-Dec-22	**20,000**	**2,200**	190 U	**430**
	31-Mar-23	**20,000**	**2,600**	240 U	**530**
	23-Jun-23	**13,000**	**2,100**	85 U	**530 J3**
	26-Sep-23	**16,000**	**2,100**	68 U	**430**
	21-Dec-23	**27,000**	**4,100**	370 U	**790**
	19-Mar-24	**21,000**	**3,300**	370 U	**670**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0003A	14-Dec-09	10,000 U	5,500	10,000 U	28,000
	18-Dec-09	7,500	22,830	1,000 U	23,600
	21-Dec-09	8,700	38,000	670	18,000
	21-Dec-09	8,900	37,600	660	17,800
	20-Jan-10	41,000	12,000	10,000 U	10,000 U
	23-Jun-10	20,500	36,200	400	7,280
	22-Nov-10	3,830	45,900	453 I	4,130
	21-Feb-11	3,520	40,300	440 I	4,050
	18-May-11	2,940	28,100	302 I	3,690
	10-Aug-11	1,430	26,800	350	3,520
	10-Nov-11	284 I	24,800	237 I	2,870
	2-Feb-12	427	26,700	303	3,410
	4-Apr-12	972	22,800	261	3,660
	26-Jul-12	65 U	17,500	88 U	3,500
	26-Nov-12	4,520	12,900	295	3,050
	11-Mar-13	79.5 I	16,800	266	2,980
	27-Sep-13	79 U	14,600	180 I	3,040
	31-Dec-13	60 U	15,100	225	3,910
	3-Apr-14	60 U	14,400	195 I	2,880
	26-Jun-14	2,100	888	9 U	74
	30-Sep-14	144 I	10,700	170 I	1,890
	30-Dec-14	371	11,400	179 I	2,160
	27-May-15	2,700	12,500	440	8,900
	4-Jun-15	20,200	23,000	390	9,400
	5-Jun-15	26,300	25,600	430	8,800
	13-Jul-15	5,140	34,300	331	6,670
	30-Sep-15	5,820	24,700	288	4,500
	17-Dec-15	18,500	27,700	336	5,030
	4-Mar-16	7,150	23,100	347	3,200
	22-Jun-16	15,300	15,500	241 I	4,020
	22-Sep-16	10,000	17,100	204	2,680
	16-Dec-16	7 U	417	90.3	2,990
	15-Mar-17	16,300	15,000	229	2,520
	4-May-17	19,300	14,700	170	3,060
	20-Sep-17	4,380	2,590	63.5	875
	13-Dec-17	3,390	2,850	46.9	557
	19-Mar-18	186	300	50.2	63.6
	27-Jun-18	822	2,950	52.1	439
	20-Sep-18	693	2,410	50.8	447

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0003A	12-Dec-18	**600**	**2,380**	**42.0**	**381**
	12-Mar-19	**825**	**2,390**	**45.4**	**597**
	12-Jun-19	**779**	**2,420**	**45.3**	**518**
	30-Sep-19	**697**	**2,230**	**35.9**	**356**
	17-Dec-19	**194**	**2,330**	**38.1**	**488**
	12-Mar-20	**262**	**1,610**	**35.7**	**341**
	8-Jun-20	**168**	**1,780**	**36.8**	**478**
	16-Sep-20	**172**	**1,640**	**24.1 I**	**459**
	11-Jan-21	**215**	**1,970**	**29.7**	**403**
	11-Mar-21	0.35 U	**3.8**	**14.8**	**5.0**
	23-Jun-21	**105**	**1,740**	27.2 U	**396**
	14-Sep-21	NS	NS	NS	NS
	14-Dec-21	NS	NS	NS	NS
	22-Mar-22	**34,000**	**9,700**	360 U	**520 I**
	28-Jun-22	**19,000**	**7,800**	360 U	**580 I**
	8-Sep-22	**9,100**	**4,800**	73 U	**400**
	13-Dec-22	**18,000**	**6,600**	190 U	**670**
	31-Mar-23	**6,100**	**3,500**	95 U	**390**
	23-Jun-23	**3,900**	**2,800**	**67 I**	**550 J3**
	26-Sep-23	**1,700**	**1,400**	**33**	**170**
	21-Dec-23	**2,300**	**2,100**	**41 I**	**410**
	19-Mar-24	**1,600 J3**	**2,300 J3**	18 U	**360**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0003B	8-Dec-09	**11,000**	10,000 U	10,000 U	10,000 U
	18-Dec-09	**7,700**	**1,700**	400 U	400 U
	21-Dec-09	**5,800**	**1,500**	100 U	100 U
	20-Jan-10	**16,000**	**1,700**	100 U	100 U
	23-Jun-10	**4,370**	**810**	17 U	14 U
	22-Nov-10	**6,420**	**1,160**	35 U	22 U
	21-Feb-11	**6,540**	**1,140**	**9 I**	**8 I**
	18-May-11	**4,840**	**900**	35 U	22 U
	10-Aug-11	**4,810**	**895**	18 U	**15 I**
	10-Nov-11	**69,800**	**14,800**	700 U	440 U
	2-Feb-12	**3,210**	**741**	18 U	**35 I**
	4-Apr-12	**3,020**	**735**	18 U	**45 I**
	26-Jul-12	**2,560**	**596**	7 U	**35**
	26-Nov-12	**1,820**	**574**	**6**	**24**
	11-Mar-13	**2,220**	**792**	6 U	**47**
	27-Sep-13	**2,530**	**925**	11 U	**68**
	20-Nov-13	**2,480**	**826**	11 U	**69**
	31-Dec-13	**2,090**	**903**	**6.3**	**66**
	3-Apr-14	**2,140**	**1,030**	9 U	**70**
	26-Jun-14	**1,440**	**18,300**	**251**	**4,060**
	30-Sep-14	**2,820**	**1,200**	17 U	**89**
	30-Dec-14	**2,520**	**1,280**	17 U	**121**
	27-May-15	**630**	**2,600**	**80**	**250**
	4-Jun-15	**1,600**	**950**	**18**	**140**
	5-Jun-15	**2,300**	**1,400**	40 U	**230**
	13-Jul-15	**2,200**	**986**	**9.1 I**	**74**
	30-Sep-15	**2,170**	**1,060**	**15 I**	**71**
	17-Dec-15	**2,170**	**1,030**	**8.6 I**	**57**
	4-Mar-16	**2,270**	**1,040**	**8.9 I**	**57**
	22-Jun-16	**1,890**	**1,050**	**10 I**	**77**
	22-Sep-16	**2,310**	**1,150**	**10 I**	**70**
	16-Dec-16	**1,550**	**888**	8 U	**67**
	15-Mar-17	**2,370**	**910**	**11**	**57**
	4-May-17	**1,930**	**912**	**6.6 I**	**70**
	20-Sep-17	**1,560**	**940**	**9.4 I**	**90**
	13-Dec-17	**1,740**	**1,200**	**8.6 I**	**123**
	19-Mar-18	**1,850**	**1,200**	**21**	**126**
	27-Jun-18	**1,960**	**1,080**	**8.2 I**	**87**
	20-Sep-18	**2,450**	**1,440**	5.5 U	**120**
	12-Dec-18	**2,070**	**1,180**	**6.1 I**	**91**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0003B	12-Mar-19	**2,320**	**1,770**	**13 I**	**235**
	12-Jun-19	**1,520**	**615**	**5.3**	**65**
	30-Sep-19	**6,490**	**1,380**	22 U	**91 I**
	17-Dec-19	**6,430**	**1,420**	**17**	**123**
	12-Mar-20	**5,470**	**1,140**	22 U	**105**
	8-Jun-20	**6,210**	**1,290**	22 U	**139**
	16-Sep-20	**6,570**	**1,160**	22 U	**171**
	11-Jan-21	**13,400**	**1,490**	44 U	**357**
	11-Mar-21	**8,960**	**1,570**	22 U	**194**
	23-Jun-21	**11,400**	**1,510**	44 U	**288**
	14-Sep-21	NS	NS	NS	NS
	14-Dec-21	NS	NS	NS	NS
	22-Mar-22	**4,700**	**1,800**	36 U	**150**
	28-Jun-22	**7,800**	**1,900**	36 U	**160**
	8-Sep-22	**7,900**	**1,300**	73 U	**210 I**
	13-Dec-22	**13,000**	**2,000**	95 U	**250**
	31-Mar-23	**11,000**	**2,600**	190 U	**340 I**
	23-Jun-23	**9,600**	**2,600**	68 U	**400 J3**
	Sep-23	NS	NS	NS	NS
	Dec-23	NS	NS	NS	NS
	19-Mar-24	**9,300**	**3,000**	150 U	**360**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0004B (Off)	8-Dec-09	**200,000**	**20,000**	10,000 U	10,000 U
	18-Dec-09	**239,000**	**22,700**	5,000 U	5,000 U
	21-Dec-09	**230,000**	**25,000**	1,000 U	1,000 U
	20-Jan-10	**250,000**	**23,000**	10,000 U	10,000 U
	23-Jun-10	**102,000**	**9,220**	170 U	140 U
	22-Nov-10	**82,300**	**6,940**	350 U	220 U
	21-Feb-11	**54,100**	**4,660**	350 U	220 U
	18-May-11	**43,200**	**3,680**	350 U	220 U
	10-Aug-11	**34,400**	**2,790**	180 U	110 U
	10-Nov-11	**12,000**	**1,320**	180 U	110 U
	2-Feb-12	**16,100**	**1,330**	70 U	44 U
	4-Apr-12	**10,000**	**969**	35 U	22 U
	26-Jul-12	**6,210**	**568**	18 U	11 U
	26-Nov-12	**4,400**	**607**	11 U	22 U
	11-Mar-13	**2,640**	**370**	11 U	22 U
	27-Sep-13	**1,100**	**174**	5 U	9 U
	31-Dec-13	**643**	**110**	3 U	3 U
	3-Apr-14	**517**	**105**	3 U	3 U
	26-Jun-14	**697**	**119**	7 U	7 U
	30-Sep-14	**365**	**83**	**3.8 I**	2 U
	30-Dec-14	**331**	**90**	**3.7 I**	2 U
	27-May-15	**77**	**130**	**9.0**	**18**
	4-Jun-15	**270**	**120**	**7.0**	3 U
	5-Jun-15	**320**	**130**	**8.0**	3 U
	13-Jul-15	**128**	**65.2**	**3.9**	**0.52 I**
	30-Sep-15	**56.3**	**30.8**	**2.1**	0.25 U
	17-Dec-15	**51.9**	**34**	**2.5**	**0.29 I**
	4-Mar-16	**39.9**	**31.8**	**2.3**	**0.53 I**
	22-Jun-16	**28.7**	**28.7**	**2.5**	**0.81 I**
	22-Sep-16	**18.2**	**21.6**	**1.9**	0.3 U
	16-Dec-16	**21.8**	**26.4**	**1.9**	**0.43 I**
	15-Mar-17	**84.5**	**43.9**	**1.6**	**4.9**
	4-May-17	**165**	**47.6**	**1.7 I**	**5.2**
	20-Sep-17	**113**	**45.6**	**2.1**	**3.5**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0004B (Off)	13-Dec-17	**109**	**33.2**	**1.7**	**3.7**
	19-Mar-18	**75.7**	**58.7**	**1.9**	**9.4**
	27-Jun-18	**89.3**	**28**	**1.2**	**8.6**
	20-Sep-18	**2.5**	**38.8**	**1.6**	**9.3**
	12-Dec-18	**123**	**33.2**	**1.4**	**5.5**
	12-Mar-19	**76.5**	**42.9**	**1.7**	**10.5**
	12-Jun-19	**275**	**59.2**	**1.9**	**9.4**
	30-Sep-19	**497**	**24.5**	1 U	2 U

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0005B (Off)	8-Dec-09	**200,000**	**19,000**	10,000 U	10,000 U
	18-Dec-09	**226,000**	**20,000**	5,000 U	5,000 U
	21-Dec-09	**259,000**	**23,500**	1,000 U	1,000 U
	20-Jan-10	**250,000**	**21,000**	10,000 U	10,000 U
	23-Jun-10	**142,000**	**11,800**	340 U	280 U
	22-Nov-10	**113,000**	**8,340**	700 U	440 U
	21-Feb-11	**86,400**	**6,770**	350 U	220 U
	18-May-11	**77,700**	**5,670**	700 U	440 U
	10-Aug-11	**70,700**	**5,140**	350 U	220 U
	10-Nov-11	**58,500**	**4,910**	700 U	440 U
	2-Feb-12	**57,000**	**4,210**	350 U	220 U
	4-Apr-12	**59,500**	**4,830**	180 U	110 U
	26-Jul-12	**53,200**	**4,870**	88 U	55 U
	26-Nov-12	**49,700**	**3,360**	57 U	110 U
	11-Mar-13	**47,300**	**4,750**	**194 I**	220 U
	27-Sep-13	**23,600**	**2,720**	57 U	110 U
	31-Dec-13	**14,500**	**1,890**	86 U	81 U
	3-Apr-14	**9,050**	**1,290**	34 U	33 U
	26-Jun-14	**2,070**	**393**	17 U	16 U
	30-Sep-14	**3,890**	**748**	**17 I**	16 U
	30-Dec-14	**2,860**	**678**	**23 I**	16 U
	27-May-15	**3,800**	**1,800**	**89**	**110**
	4-Jun-15	**3,800**	**1,200**	**47**	40 U
	5-Jun-15	**3,200**	**920**	40 U	40 U
	13-Jul-15	**1,070**	**311**	**18.7 I**	5.0 U
	30-Sep-15	**651**	**269**	**14.4**	2.5 U
	17-Dec-15	**533**	**265**	**16.9**	**3.7**
	4-Mar-16	**456**	**284**	**17.6**	**5.0**
	22-Jun-16	**359**	**233**	**21.3**	**4.3 I**
	22-Sep-16	**385**	**230**	**19.6**	**5.3**
	11-Jan-17	**333**	**251**	**18.1**	**4.3 I**
	15-Mar-17	**544**	**331**	**21.9**	**8.4**
	4-May-17	**519**	**245**	**14.0**	**8.8 I**
	20-Sep-17	**321**	**222**	**17.1**	**9.3**
	13-Dec-17	**301**	**207**	**20.3**	**5.9**
	19-Mar-18	**178**	**254**	**16.6**	**7.1**
	27-Jun-18	**183**	**163**	**12.1**	**5.7**
	20-Sep-18	**75.8**	**169**	**10.5**	**5.7**
	12-Dec-18	**110**	**166**	**9.4**	**4.9**
	12-Mar-19	**108**	**135**	**8.5**	**7.7**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0005B (Off)	12-Jun-19	**335**	**149**	**8.5**	**8.7**
	30-Sep-19	**483**	**151**	**7.3**	**9.0**
	17-Dec-19	**18.4**	**124**	**6.9**	**9.3**
	12-Mar-20	**18.9**	**136**	**6.5**	**9.9**
	8-Jun-20	**13.5**	**121**	**6.2**	**11.1**
	16-Sep-20	**11.5**	**103**	**6.8**	**17.3**
	11-Jan-21	**5.8**	**120**	**6.8**	**11.5**
	11-Mar-21	**6.7**	**134**	**6.1**	**17.5**
	23-Jun-21	**50.9**	**1,370**	**64.7**	**183**
	14-Sep-21	**11**	**91**	**5.5**	**14**
	14-Dec-21	**6.8**	**76**	**5.0**	**15**
	22-Mar-22	**6.6**	**91**	**3.5**	**24**
	28-Jun-22	**5.3**	**130**	**4.3**	**48**
	8-Sep-22	**5.8**	**110**	**3.5**	**37**
	13-Dec-22	**2.1 I**	**140**	**4.9**	**58**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0006B (Off)	8-Dec-09	**220,000**	**28,000**	10,000 U	10,000 U
	18-Dec-09	**210,000**	**25,700**	5,000 U	5,000 U
	21-Dec-09	**254,000**	**31,200**	1,000 U	1,000 U
	20-Jan-10	**270,000**	**29,000**	10,000 U	10,000 U
	23-Jun-10	**98,700**	**16,000**	340 U	280 U
	22-Nov-10	**72,400**	**9,580**	350 U	220 U
	21-Feb-11	**43,400**	**6,350**	180 U	110 U
	18-May-11	**26,600**	**3,470**	180 U	110 U
	10-Aug-11	**19,700**	**2,570**	7 U	4 U
	10-Nov-11	**13,000**	**1,830**	180 U	110 U
	2-Feb-12	**9,320**	**1,200**	35 U	22 U
	4-Apr-12	**7,060**	**851**	35 U	22 U
	26-Jul-12	**4,610**	**552**	18 U	11 U
	26-Nov-12	**3,380**	**583**	11 U	22 U
	11-Mar-13	**1,360**	**275**	5 U	9 U
	27-Sep-13	**477**	**125**	**2.3 I**	2 U
	20-Nov-13	**455**	**119**	**3.1**	**0.6 I**
	27-May-15	**52**	**150**	**16**	**28**
	4-Jun-15	**65**	**120**	**12**	**5.0**
	5-Jun-15	**100**	**130**	**14**	**5.0**
	13-Jul-15	**109**	**89**	**6.3**	**1.6**
	30-Sep-15	**76**	**66**	**3.9**	**0.7 I**
	17-Dec-15	**54**	**44**	**3.1**	**0.5 I**
	4-Mar-16	**52**	**51**	**3.8**	**1.0**
	22-Jun-16	**70**	**62**	**4.4**	**0.6 I**
	22-Sep-16	**68**	**61**	**3.8**	**0.5 I**
	16-Dec-16	**71**	**68**	**3.7**	**0.7 I**
	15-Mar-17	**91**	**68**	**3.7**	**3.0**
	4-May-17	**155**	**59**	**2.8**	**3.0**
	20-Sep-17	**112**	**77**	**4.7**	**3.5**
	13-Dec-17	**104**	**41**	**2.4**	**2.1**
	19-Mar-18	**157**	**53**	**2.4**	**3.6**
	27-Jun-18	**93**	**43**	**2.2**	**1.9**
	20-Sep-18	**8.5**	**67**	**2.7**	**9.4**
	12-Dec-18	**63.8**	**32.6**	**1.8**	**1.8**
	12-Mar-19	**42.7**	**36.8**	**1.9**	**2.8**
	12-Jun-19	**204**	**47**	**2.3**	**3.7**
	30-Sep-19	**240**	**20**	1 U	1 U
	17-Dec-19	NS	NS	NS	NS
	12-Mar-20	NS	NS	NS	NS

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0009A	27-May-15	5,500	32,700	790	3,800
	4-Jun-15	62,100	75,000	1,200	4,300
	5-Jun-15	66,400	74,000	1,200	4,700
	13-Jul-15	24,700	54,100	698	4,620
	30-Sep-15	17,300	29,000	586	2,050
	17-Dec-15	14,500	25,500	527	2,430
	4-Mar-16	8,610	21,800	427	2,400
	22-Jun-16	3,300	17,600	352	3,070
	22-Sep-16	1,160	13,600	221	1,850
	16-Dec-16	393	14,900	188 I	2,190
	15-Mar-17	158	12,100	211	1,890
	4-May-17	111	9,370	179	2,510
	20-Sep-17	100	9,990	206	2,780
	13-Dec-17	55.2	9,990	148	1,780
	19-Mar-18	108 I	8,440	158 I	2,020
	27-Jun-18	79.7	6,990	120	1,490
	20-Sep-18	35 U	7,290	22 U	1,730
	12-Dec-18	35 U	6,270	133	1,600
	12-Mar-19	36.6 I	6,510	118	1,970
	12-Jun-19	184	4,920	108	1,730
	30-Sep-19	443	4,930	90.4	1,400
	17-Dec-19	26.1 I	4,770	98.7	1,850
	12-Mar-20	17 U	3,800	68.5	1,610
	8-Jun-20	17 U	4,300	92.6	1,700
	16-Sep-20	17 U	3,890	78.4	2,050
	11-Jan-21	17 U	4,360	89.5	1,610
	11-Mar-21	35 U	4,970	106	2,030
	23-Jun-21	17 U	4,360	76.8	1,570
	14-Sep-21	91 I	4,200	86 I	1,400
	14-Dec-21	44 U	4,400	94 I	1,500
	22-Mar-22	44 U	3,300	74 I	1,600
	28-Jun-22	44 U	3,200	68 I	1,400
	8-Sep-22	44 U	2,700	70 I	1,700
	13-Dec-22	20 U	2,800	95	1,700
	31-Mar-23	40 U	3,200	88	2,000
	23-Jun-23	500	2,500	58	1,900 J3
	26-Sep-23	16 I	1,800	52	1,100
	21-Dec-23	22 U	2,200	72	2,200
	19-Mar-24	22 U	2,300	46	1,600

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0010A (Off)	27-May-15	3 U	**400**	**11**	**280**
	4-Jun-15	67 U	**9,700**	**370**	**1,200**
	5-Jun-15	100 U	**8,100**	**320**	**820**
	13-Jul-15	**69**	**3,700**	**158**	**910**
	30-Sep-15	**12.5**	**3,010**	**170**	**1,440**
	17-Dec-15	**18.3 I**	**4,280**	**233**	**1,580**
	4-Mar-16	**11.6 I**	**4,930**	**261**	**1,410**
	22-Jun-16	14 U	**4,080**	**225**	**1,530**
	22-Sep-16	14 U	**3,450**	**172**	**1,060**
	16-Dec-16	14 U	**3,450**	**150**	**1,220**
	15-Mar-17	**29.2 I**	**2,670**	**147**	**1,020**
	4-May-17	**64.4**	**2,720**	**127**	**1,430**
	20-Sep-17	**51.1**	**2,100**	**113**	**1,060**
	13-Dec-17	**42.3**	**1,950**	**98.9**	**978**
	19-Mar-18	**38.9**	**1,970**	**105**	**1,000**
	27-Jun-18	**66.0**	**1,360**	**75.4**	**692**
	20-Sep-18	6.9 U	**1,520**	**95.2**	**802**
	12-Dec-18	**39.5**	**1,210**	**65.6**	**639**
	12-Mar-19	**24.6**	**1,420**	**57.6**	**837**
	12-Jun-19	**150**	**1,310**	**69.2**	**905**
	1-Sep-19	**324**	**95.4**	**54.1**	**1,500**
	23-Jun-21	NS	NS	NS	NS
	14-Sep-21	8.9 U	**1,200**	**53**	**770**
	14-Dec-21	18 U	**1,400**	**55**	**730**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0011A (Off)	27-May-15	400 U	**23,500**	**970**	**2,300**
	4-Jun-15	400 U	**31,500**	**790**	**2,600**
	5-Jun-15	**250**	**26,300**	**690**	**2,200**
	13-Jul-15	5 U	**4,240**	**128**	**641**
	30-Sep-15	11 U	**2,410**	**58.6**	**708**
	17-Dec-15	5 U	**2,930**	**74.5**	**823**
	4-Mar-16	5 U	**3,150**	**74.7**	**724**
	22-Jun-16	14 U	**2,640**	**67.3**	**857**
	22-Sep-16	3 U	**2,380**	**53.2**	**573**
	16-Dec-16	14 U	**2,340**	**44.4 I**	**728**
	15-Mar-17	**29.6**	**2,060**	**56.7**	**659**
	4-May-17	**54.4**	**1,830**	**30.1**	**1,010**
	20-Sep-17	**80.3**	**1,960**	**38.4**	**822**
	13-Dec-17	**36.5**	**1,910**	**39.2**	**744**
	19-Mar-18	**33.0**	**1,730**	**50.8**	**589**
	27-Jun-18	**34.7**	**1,500**	**31.6**	**548**
	20-Sep-18	7 U	**1,840**	**49.8**	**651**
	12-Dec-18	**28.8**	**1,400**	**26.8**	**516**
	12-Mar-19	**18.6 I**	**1,870**	**33.7**	**812**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0012A (Off)	27-May-15	100 U	7,200	160	3,900
	4-Jun-15	17,800	80,100	2,700	5,300
	5-Jun-15	35,000	103,000	3,700	5,400
	13-Jul-15	7,270	45,000	1,220	3,490
	30-Sep-15	99.3 I	22,000	733	1,870
	17-Dec-15	1,980	22,100	616	1,730
	4-Mar-16	1,200	21,500	538	1,480
	22-Jun-16	794	18,600	416	1,540
	22-Sep-16	709	16,900	305	1,120
	16-Dec-16	883	18,600	278	1,380
	15-Mar-17	346	16,100	328	1,340
	4-May-17	358	17,600	248	1,300
	20-Sep-17	838	14,700	264	1,330
	13-Dec-17	231	18,300	281	1,400
	19-Mar-18	164 I	15,700	297	1,470
	27-Jun-18	167 I	14,000	253	1,250
	20-Sep-18	86 U	15,000	288	1,330
	12-Dec-18	69 U	13,400	284	1,170
	12-Mar-19	129 I	14,400	239	1,430
	12-Jun-19	219	13,500	224	1,190
	30-Sep-19	340	11,100	192 I	1,310
	17-Dec-19	111 I	10,300	204	1,870
	12-Mar-20	6.9 U	1,200	54.5 I	1,250
	8-Jun-20	35 U	9,020	183	1,510
	16-Sep-20	35 U	7,790	136	1,650
	11-Jan-21	435	9,840	170	1,800
	11-Mar-21	129	8,310	158	1,720
	23-Jun-21	35 U	6,230	95.5	1,610
	14-Sep-21	44 U	5,200	140	1,100
	14-Dec-21	44 U	4,300	99 I	810
	22-Mar-22	44 U	4,800	130	1,500
	28-Jun-22	44 U	4,200	96 I	1,200
	8-Sep-22	44 U	3,100	78 I	1,300
	13-Dec-22	40 U	3,400	100	1,200

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0013A (Off)	27-May-15	50 U	**5,200**	**150**	**5,700**
	4-Jun-15	**5,000**	**40,000**	**770**	**5,300**
	5-Jun-15	**3,900**	**49,500**	**980**	**5,000**
	13-Jul-15	**710**	**14,000**	**254**	**2,750**
	30-Sep-15	**763**	**19,000**	**347**	**2,190**
	17-Dec-15	**348**	**7,520**	**166**	**1,080**
	4-Mar-16	**150**	**6,850**	**148**	**1,000**
	22-Jun-16	**85.3 I**	**5,020**	**117**	**1,190**
	22-Sep-16	14 U	**4,360**	**87.5**	**863**
	16-Dec-16	14 U	**5,140**	**88.5**	**1,190**
	15-Mar-17	35 U	**4,750**	**106**	**1,120**
	4-May-17	**28.8 I**	**4,360**	**80**	**1,420**
	20-Sep-17	**32.0 I**	**4,030**	**78**	**1,200**
	13-Dec-17	**38.2**	**5,050**	**82**	**1,090**
	19-Mar-18	**34.9**	**2,620**	**100**	**1,390**
	27-Jun-18	**45.6 I**	**4,430**	**72.5**	**1,040**
	20-Sep-18	35 U	**5,280**	**90.4 I**	**1,160**
	12-Dec-18	**27.3 I**	**4,410**	**76.9**	**911**
	12-Mar-19	**21.3 I**	**6,120**	**98.2**	**1,520**
	12-Jun-19	**126**	**4,820**	**79.7**	**1,140**
	30-Sep-19	**266**	**6,610**	**101**	**1,410**
	17-Dec-19	35 U	**7,220**	**116**	**1,820**
	12-Mar-20	35 U	**5,390**	**102**	**1,220**
	8-Jun-20	35 U	**6,380**	**104**	**1,640**
	16-Sep-20	35 U	**5,870**	**77.5 I**	**1,820**
	11-Jan-21	**36.8 I**	**7,510**	**113**	**1,780**
	11-Mar-21	35 U	**8,430**	**123**	**2,050**
	23-Jun-21	69 U	**7,470**	**104 I**	**1,870**
	14-Sep-21	**54 I**	**5,900**	**100 I**	**1,300**
	14-Dec-21	89 U	**7,000**	**130 I**	**1,600**
	22-Mar-22	89 U	**7,400**	**120 I**	**2,100**
	28-Jun-22	89 U	**7,200**	**120 I**	**1,700**
	8-Sep-22	**2,100**	**5,400**	**85 I**	**1,400**
	13-Dec-22	40 U	**5,800**	**130**	**1,700**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0014A (Off)	27-May-15	67 U	5,100	220	6,600
	4-Jun-15	400 U	45,500	960	2,900
	5-Jun-15	400 U	82,200	1,700	4,900
	13-Jul-15	58.8	9,650	245	1,000
	30-Sep-15	384	4,920	122	579
	15-Jan-16	14 U	4,310	116	617
	4-Mar-16	14 U	3,710	116	574
	22-Jun-16	14 U	3,410	92.8	726
	22-Sep-16	14 U	2,930	68.5	449
	16-Dec-16	14 U	3,710	70.3	653
	15-Mar-17	19.4 I	3,060	75.2	625
	4-May-17	33.9 I	3,650	65.0	916
	20-Sep-17	65.9	2,580	56.4	598
	13-Dec-17	28.4	3,420	60.2	656
	19-Mar-18	32.7 I	4,330	73.2	829
	27-Jun-18	31.3 I	4,600	65	665
	20-Sep-18	35 U	6,150	99 I	986
	12-Dec-18	17 U	8,010	107	1,090
	12-Mar-19	25.6 I	9,660	128	1,830
	12-Jun-19	78.6	8,280	134	1,590
	30-Sep-19	208	9,600	125	1,430
	17-Dec-19	35 U	8,900	164	2,040
	12-Mar-20	35 U	7,720	147	1,350
	8-Jun-20	35 U	8,600	143	1,700
	16-Sep-20	35 U	7,170	106	1,790
	11-Jan-21	35 U	8,460	142	1,700
	11-Mar-21	59.0 I	9,020	152	1,930
	23-Jun-21	35 U	6,980	124	1,620
	14-Sep-21	44 U	5,200	110 I	1,200
	14-Dec-21	44 U	3,900	82 I	850
	22-Mar-22	44 U	3,800	86 I	1,200
	28-Jun-22	44 U	4,300	86 I	1,200
	8-Sep-22	44 U	3,400	78 I	1,100
	13-Dec-22	40 U	3,500	100	1,200

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0015A (Off)	27-May-15	**470**	**29,200**	**1,000**	**2,900**
	4-Jun-15	**3,700**	**62,100**	**1,400**	**3,200**
	5-Jun-15	**4,000**	**67,800**	**1,500**	**3,400**
	13-Jul-15	**538**	**9,240**	**248**	**768**
	30-Sep-15	**182**	**6,380**	**140**	**321**
	17-Dec-15	**136**	**6,350**	**139**	**299**
	4-Mar-16	**83.7**	**6,550**	**121**	**266**
	22-Jun-16	**34.8 I**	**6,310**	**122**	**407**
	22-Sep-16	**14.4 I**	**6,380**	**97.1**	**309**
	16-Dec-16	27 U	**8,200**	**105**	**455**
	15-Mar-17	35 U	**6,930**	**118**	**469**
	4-May-17	35 U	**8,010**	**100 I**	**696**
	20-Sep-17	**63.5**	**6,930**	**108**	**657**
	13-Dec-17	17 U	**7,760**	**116**	**674**
	19-Mar-18	**56.5 I**	**7,210**	**122**	**795**
	27-Jun-18	35 U	**6,510**	**110**	**690**
	20-Sep-18	35 U	**6,040**	**111**	**761**
	12-Dec-18	35 U	**5,080**	**94.8 I**	**723**
	12-Mar-19	35 U	**5,340**	**81.8 I**	**936**
	12-Jun-19	**52.5**	**3,960**	**76.6**	**718**
	30-Sep-19	**151**	**4,220**	**68.5**	**771**
	17-Dec-19	17 U	**4,110**	**85.8**	**821**
	12-Mar-20	17 U	**3,070**	**69.7**	**665**
	8-Jun-20	17 U	**3,250**	**61.5**	**758**
	16-Sep-20	17 U	**2,890**	**44.3 I**	**820**
	11-Jan-21	17 U	**3,070**	**52.8**	**664**
	11-Mar-21	17 U	**3,270**	**57.9**	**683**
	23-Jun-21	17 U	**2,510**	**41.2 I**	**553**
	14-Sep-21	22 U	**2,400**	**46 I**	**590**
	14-Dec-21	22 U	**2,000**	**44 I**	**440**
	22-Mar-22	22 U	**1,700**	**36 I**	**520**
	28-Jun-22	22 U	**1,800**	**39 I**	**510**
	8-Sep-22	18 U	**1,300**	**27 I**	**410**
	13-Dec-22	16 U	**1,600**	**39**	**580**

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0016B (Off)	27-May-15	5,300	8,000	570	8,700
	4-Jun-15	79,400	15,800	400 U	1,000
	5-Jun-15	67,000	13,400	500 U	680
	13-Jul-15	14,300	2,440	50.9 I	61.8 I
	30-Sep-15	6,920	1,650	52.9	53.7
	17-Dec-15	3,770	1,310	45.2	51.5
	4-Mar-16	2,880	1,320	45.7	66.8
	22-Jun-16	1,780	985	42.8	57.9
	22-Sep-16	1,950	1,060	41.1	56.6
	16-Dec-16	1,790	1,190	38.6	79.3
	15-Mar-17	1,540	1,090	45.2	84.0
	4-May-17	1,400	958	30.1	93.7
	20-Sep-17	1,110	977	40.3	75.7
	13-Dec-17	768	1,240	36.0	115
	19-Mar-18	497	927	37.2	108
	27-Jun-18	332	957	27.5	105
	20-Sep-18	462	1,560	44.2	243
	12-Dec-18	229	578	18.7	67.4
	12-Mar-19	159	660	15.0	107
	12-Jun-19	168	698	21.1	123
	30-Sep-19	1,940	705	18.1	100
	17-Dec-19	114	632	19.4	137
	12-Mar-20	65	458	14.0	95.8
	8-Jun-20	50.4	490	14.6	127
	16-Sep-20	38.7	345	10.5	107
	11-Jan-21	41.7	403	12.5	103
	11-Mar-21	34.9	495	13.1	149
	23-Jun-21	18.1	355	10.2	105
	14-Sep-21	25	230	7.8	39
	14-Dec-21	340	220	6.6	20
	22-Mar-22	22	190	7.1	36
	28-Jun-22	8.9	160	5.9 I	40
	8-Sep-22	11	150	4.9 I	46
	13-Dec-22	4.7 I	170	6.8	99

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0017C	23-Aug-19	**475,000**	**25,200**	220 U	410 U
	30-Sep-19	**1,160,000**	**20,100**	4,400 U	8,200 U
	17-Dec-19	**585,000**	**14,700**	220 U	410 U
	16-Jan-20	**488,000**	**14,200**	220 U	410 U
	19-Feb-20	**474,000**	**10,900**	440 U	820 U
	12-Mar-20	**489,000**	**11,900**	440 U	820 U
	7-Apr-20	**603,000**	**13,100**	1,100 U	2,000 U
	14-May-20	**411,000**	**11,300**	1,100 U	2,000 U
	8-Jun-20	**425,000**	**12,800**	**83.2 I**	100 U
	14-Jul-20	**398,000**	**9,650**	110 U	200 U
	11-Aug-20	**395,000**	**9,900**	220 U	410 U
	16-Sep-20	**417,000**	**9,120**	440 U	820 U
	22-Oct-20	**472,000**	**11,100**	1,100 U	2,000 U
	12-Nov-20	**394,000**	**11,500**	110 U	200 U
	11-Jan-21	**409,000**	**16,600**	110 U	200 U
	22-Feb-21	**433,000**	**13,600**	440 U	820 U
	11-Mar-21	**429,000**	**9,390**	1,100 U	2,000 U
	22-Apr-21	**307,000**	**8,330**	220 U	410 U
	19-May-21	**245,000**	**5,180**	1,100 U	2,000 U
	23-Jun-21	**307,000**	**4,790 I**	1,100 U	2,000 U
	22-Jul-21	**228,000**	**5,850**	44 U	82 U
	24-Aug-21	**293,000**	**6,300**	55 U	100 U
	14-Sep-21	**190,000**	**6,500**	730 U	710 U
	7-Oct-21	**240,000**	**11,000**	1,500 U	1,400 U
	11-Nov-21	**210,000**	**7,300**	1,800 U	1,800 U
	14-Dec-21	**130,000**	**3,700 I**	1,800 U	1,800 U
	17-Jan-22	**120,000**	**4,100 I**	1,800 U	1,800 U
	14-Feb-22	**120,000**	**4,000 I**	1,800 U	1,800 U
	22-Mar-22	**130,000**	**4,400 I**	1,800 U	1,800 U
	19-Apr-22	**110,000**	**3,200 I**	1,500 U	1,400 U
	31-May-22	**180,000**	**8,500**	730 U	710 U
	28-Jun-22	**79,000**	**3,300 I**	1,500 U	1,400 U
	22-Jul-22	**96,000**	**4,500 I**	1,500 U	1,400 U
	16-Aug-22	**260,000**	**3,600**	730 U	710 U
	8-Sep-22	**400,000**	**5,200 I**	3,600 U	3,600 U
	26-Oct-22	**270,000**	**3,900**	950 U	640 U
	Nov-22	NS	NS	NS	NS
	13-Dec-22	**580**	**3,100**	**80**	**900**
	31-Jan-23	**360,000**	**7,000**	4,700 U	3,200 U
	21-Feb-23	**100,000**	**1,100**	19 U	13 U
	31-Mar-23	**250,000**	**6,000**	1,900 U	1,300 U

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0017C	14-Apr-23	**200,000**	**4,700**	1,000 U	1,000 U
	31-May-23	**190,000**	**5,700**	1,900 U	1,300 U
	23-Jun-23	**160,000**	**6,100**	680 U	800 UJ3
	31-Jul-23	**180,000**	**5,800**	500 U	500 U
	28-Aug-23	**220,000**	**10,000**	680 U	800 U
	26-Sep-23	**14,000**	**7,600**	**100**	**220**
	23-Oct-23	**160,000**	**5,500**	**73**	**170**
	27-Nov-23	**140,000**	**4,700**	1,500 U	1,400 U
	21-Dec-23	**160,000**	**4,600**	1,500 U	1,400 U
	29-Jan-24	**21,000**	**2,500 J3**	370 U	360 U
	23-Feb-24	**140,000**	**4,800**	150 U	140 U
	19-Mar-24	**150,000**	**4,200**	150 U	140 U

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0018C	22-Feb-21	**289,000**	**5,330**	440 U	820 U
	11-Mar-21	**556,000**	**11,200**	1,100 U	2,000 U
	22-Apr-21	**360,000**	2,800 U	2,200 U	4,100 U
	19-May-21	**269,000**	**2,870 I**	1,100 U	2,000 U
	23-Jun-21	**163,000**	1,400 U	1,100 U	2,000 U
	22-Jul-21	**239,000**	**2,850**	44 U	82 U
	24-Aug-21	**90,300**	**2,110**	440 U	820 U
	14-Sep-21	**96,000**	**3,500**	730 U	710 U
	7-Oct-21	**89,000**	**4,700**	730 U	710 U
	11-Nov-21	**560,000**	**4,100 I**	1,500 U	1,400 U
	14-Dec-21	**510,000**	**3,100 I**	1,500 U	1,400 U
	17-Jan-22	**530,000**	**7,600 I**	7,300 U	7,100 U
	14-Feb-22	**290,000**	**5,500 I**	7,300 U	7,100 U
	22-Mar-22	**240,000**	**5,800 I**	3,600 U	3,600 U
	19-Apr-22	**170,000**	2,600 U	3,600 U	3,600 U
	31-May-22	**25,000**	**350 I**	150 U	140 U
	28-Jun-22	**72,000**	**3,300**	730 U	710 U
	22-Jul-22	**230,000**	**4,200 I**	1,500 U	1,400 U
	16-Aug-22	**230,000**	**3,400 I**	1,800 U	1,800 U
	8-Sep-22	**250,000**	**5,500 I**	1,800 U	1,800 U
	26-Oct-22	**480,000**	**4,700**	1,900 U	1,300 U
	Nov-22	NS	NS	NS	NS
	13-Dec-22	**1,300**	**3,100**	**76**	**910**
	31-Jan-23	**320,000**	**5,800**	4,700 U	3,200 U
	21-Feb-23	**240,000**	**2,600**	950 U	640 U
	31-Mar-23	**270,000**	**5,300**	190 U	130 U
	14-Apr-23	**140,000**	**3,300**	1,000 U	1,000 U
	31-May-23	**190,000**	**3,700**	1,900 U	1,300 U
	23-Jun-23	**35,000**	**17,000**	680 U	800 UJ3
	31-Jul-23	**15,000**	**15,000**	100 U	100 U
	28-Aug-23	**12,000**	**13,000**	85 U	100 U
	Sep-23	NS	NS	NS	NS
	25-Oct-23	**41,000**	**2,600**	68 U	80 U
	27-Nov-23	**12,000**	**4,900**	180 U	180 U
	21-Dec-23	**73,000**	**5,300**	730 U	710 U
	Jan-24	NS	NS	NS	NS
	Feb-24	NS	NS	NS	NS
	19-Mar-24	**410,000**	2,700 U	3,700 U	3,600 U

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0019C	22-Feb-21	**354,000**	**14,300**	440 U	820 U
	11-Mar-21	**959,000**	**12,900**	1,100 U	2,000 U
	22-Apr-21	**791,000**	**18,700**	220 U	410 U
	19-May-21	**742,000**	**11,800**	2,200 U	4,100 U
	23-Jun-21	**827,000 Q**	**6,830**	220 U	410 U
	22-Jul-21	**243,000**	**5,660**	**42.6 I**	**80.7 I**
	24-Aug-21	**545,000**	**5,260 I**	2200 U	4100 U
	14-Sep-21	**650,000**	**5,900**	1500 U	1400 U
	7-Oct-21	**430,000**	5,300 U	7300 U	7100 U
	11-Nov-21	**510,000**	**5,900 I**	7300 U	7100 U
	14-Dec-21	**550,000**	**5,700 I**	7300 U	7100 U
	17-Jan-22	**550,000**	**7,200 I**	7300 U	7100 U
	14-Feb-22	**530,000**	**7,800 I**	7,300 U	7,100 U
	22-Mar-22	**470,000**	5,300 U	7,300 U	7,100 U
	19-Apr-22	**410,000**	5,300 U	7,300 U	7,100 U
	31-May-22	**600,000**	**7,200**	1,500 U	1,400 U
	28-Jun-22	**420,000**	5,300 U	7,300 U	7,100 U
	22-Jul-22	**420,000**	**4,600 I**	3,600 U	3,600 U
	16-Aug-22	**450,000**	**3,600 I**	3,600 U	3,600 U
	8-Sep-22	**490,000**	**6,300 I**	3,600 U	3,600 U
	26-Oct-22	**400,000**	**5,500**	1,900 U	1,300 U
	Nov-22	NS	NS	NS	NS
	13-Dec-22	**250**	**2,800**	**78**	**1,100**
	31-Jan-23	**400,000**	**4,700 I**	4,700 U	3,200 U
	21-Feb-23	**320,000**	**4,300**	950 U	640 U
	31-Mar-23	**360,000**	**9,100**	1,900 U	1,300 U
	14-Apr-23	**260,000**	**6,700**	1,300 U	1,300 U
	31-May-23	**340,000**	**4,000**	1,900 U	1,300 U
	23-Jun-23	**260,000**	**4,500**	850 U	1,000 UJ3
	31-Jul-23	**320,000**	**3,300**	1,000 U	1,000 U
	28-Aug-23	**250,000**	**4,400**	850 U	1,000 U
	26-Sep-23	**110,000**	**3,500**	340 U	400 UJ3
	25-Oct-23	**260,000**	**2,300**	85 U	100 U
	27-Nov-23	**280,000**	**4,500 I**	3,700 U	3,600 U
	21-Dec-23	**210,000**	**3,900**	1,800 U	1,800 U
	29-Jan-24	**290,000**	**6,100**	290 U	280 U
	23-Feb-24	**240,000**	**3,900**	370 U	360 U
	19-Mar-24	**210,000**	**3,400**	1,800 U	1,800 U

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0020C	22-Feb-21	**512,000**	**16,800**	440 U	820 U
	11-Mar-21	**593,000**	**9,120**	2,200 U	4,100 U
	22-Apr-21	**230,000**	**7,600**	220 U	410 U
	19-May-21	**223,000**	**6,220**	550 U	1,000 U
	23-Jun-21	**221,000**	**3,970**	550 U	1,000 U
	22-Jul-21	**273,000 L**	**4,320**	**39.2 I**	**114**
	24-Aug-21	**126,000**	**7,370**	550 U	1,000 U
	14-Sep-21	**160,000**	**5,100**	730 U	710 U
	7-Oct-21	**270,000**	**6,600**	1500 U	1,400 U
	11-Nov-21	**370,000**	**5,400 I**	3600 U	3,600 U
	14-Dec-21	**410,000**	**4,000 I**	3600 U	3,600 U
	17-Jan-22	**360,000**	**4,400 I**	3600 U	3,600 U
	14-Feb-22	**170,000**	**7,200 I**	3,600 U	3,600 U
	22-Mar-22	**98,000**	**8,100**	730 U	710 U
	19-Apr-22	**160,000**	**3,900**	730 U	710 U
	31-May-22	**220,000**	**11,000**	730 U	710 U
	28-Jun-22	**240,000**	**3,900 I**	1,800 U	1,800 U
	22-Jul-22	**170,000**	**4,800 I**	1,800 U	1,800 U
	16-Aug-22	**150,000**	**2,900 I**	1,800 U	1,800 U
	8-Sep-22	**630,000**	**6,200**	1,800 U	1,800 U
	26-Oct-22	**61,000**	**3,500**	95 U	**77 I**
	Nov-22	NS	NS	NS	NS
	13-Dec-22	**4,200**	**3,300**	**59**	**870**
	31-Jan-23	**260,000**	**7,800**	2,400 U	1,600 U
	21-Feb-23	**92,000**	**1,600**	190 U	130 U
	31-Mar-23	**41,000**	**1,300**	470 U	320 U
	14-Apr-23	**30,000**	**860**	100 U	100 U
	31-May-23	**32,000**	**1,000**	470 U	320 U
	23-Jun-23	**23,000**	**850**	68 U	80 UJ3
	31-Jul-23	**10,000**	**460**	50 U	**77 I**
	28-Aug-23	**16,000**	**840**	85 U	100 U
	26-Sep-23	**39,000**	**2,800**	170 U	200 UJ3
	25-Oct-23	**4,000**	**390**	17 U	**26 I**
	27-Nov-23	**13,000**	**700**	150 U	140 U
	21-Dec-23	**12,000**	**980**	150 U	140 U
	29-Jan-24	**11,000**	**1,600**	290 U	280 U
	23-Feb-24	**4,300**	**680**	**17**	**30**
	19-Mar-24	**3,200**	**630**	73 U	71 U

Table 2-5. Individual Recovery Well Influent Data (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
RW0021D	31-Jan-23	**2,100**	**47**	19 U	13 U
	21-Feb-23	**150,000**	710 U	950 U	640 U
	31-Mar-23	**42,000**	**570**	470 U	320 U
	14-Apr-23	**19,000**	**350**	100 U	100 U
	30-May-23	**31,000**	**1,400**	470 U	320 U
	22-Jun-23	**31,000**	**2,400**	68 U	80 UJ3
	31-Jul-23	**30,000**	**2,300**	100 U	100 U
	28-Aug-23	**18,000**	**2,300**	85 U	100 U
	26-Sep-23	**15,000**	**2,400**	68 U	80 UJ3
	25-Oct-23	**9,300**	**1,600**	17 U	20 U
	27-Nov-23	**8,200**	**3,900**	150 U	140 U
	21-Dec-23	**12,000**	**3,300**	150 U	140 U
	29-Jan-24	**4,700**	**4,000**	150 U	140 U
	23-Feb-24	**12,000**	**2,600**	150 U	140 U
	19-Mar-24	**9,200**	**3,800**	150 U	140 U

Notes:
- Concentrations in µg/L
- In November 2022 the Layer 7 RWs were not sampled because the system was down
- RW05B, 012A, 013A, 014A, 015A, and 016B were turned off in February 2023
- In October 2023, results for LPGAC and recovery well 21D were likely switched; results on Table 2-5 and Table 2-11 reversed from lab report.
- During the quarterly events in September and December 2023, RW003B was not sampled due to pump controller issues.
- RWs designated with "A" are screened from 15 to 40 ft bls; RWs designated with "B" are screened from 50 to 80 ft bls; RWs designated with "C" 'are screened from 80 to 95 ft bls; and RW designated with "D" is screened
- Bolding indicates a concentration greater than the MDL but less than the NADC
- Shading indicates a concentration exceeding the NADC: TCE = 300 µg/L, cDCE = 700 µg/L, tDCE = 1,000 µg/L, and VC = 100 µg/L.

NADC = Natural Attenuation Default Concentration
NS = Not Sampled
MDL = Method detection limit
RW = Recovery well
TCE = Trichloroethene
cDCE = cis-1,2-Dichloroethene
tDCE = trans-1,2-Dichloroethene
VC = Vinyl chloride
I = Reported value is between the MDL and practical quantitation limit
J = Estimated value
J3 = Estimated value; value may not be accurate. Spike recovery or relative percent difference outside of criteria
L = Indicates value exceeds calibration range
LPGAC = Liquid-phase granular activated carbon
Q = Sample exceeded the accepted holding time
U = Not detected at MDL (associated value)

Table 2-6. Hydraulic Containment System Combined Influent Data

Sample Date	TCE	cDCE	tDCE	VC
8-Dec-09	**290,000**	**9,200**	10,000 U	10,000 U
8-Dec-09	**280,000**	**69,000**	10,000 U	10,000 U
8-Dec-09	**160,000**	**3,500**	10,000 U	10,000 U
9-Dec-09	**210,000**	**26,000**	10,000 U	10,000 U
9-Dec-09	**270,000**	**44,000**	10,000 U	10,000 U
10-Dec-09	**290,000**	**3,200**	10,000 U	10,000 U
11-Dec-09	**200,000**	**32,000**	10,000 U	10,000 U
14-Dec-09	**200,000**	**32,000**	10,000 U	10,000 U
14-Dec-09	**230,000**	**39,000**	10,000 U	10,000 U
15-Dec-09	**240,000**	**43,000**	10,000 U	10,000 U
18-Dec-09	**191,000**	**33,700**	500 U	**4,700**
18-Dec-09	**219,000**	**42,300**	670 U	**5,900**
18-Dec-09	**189,000 J**	**40,300 J**	**290**	**5,600**
18-Dec-09	**228,000**	**44,600**	670 U	**6,000**
18-Dec-09	**247,000**	**48,100**	670 U	**6,600**
18-Dec-09	**232,000**	**45,200**	670 U	**6,000**
18-Dec-09	**219,000**	**44,300**	670 U	**5,800**
18-Dec-09	**232,000**	**46,500**	670 U	**6,000**
18-Dec-09	**244,000**	**48,900**	670 U	**6,300**
18-Dec-09	**230,000**	**46,200**	670 U	**6,000**
18-Dec-09	**243,000**	**47,800**	670 U	**5,900**
19-Dec-09	**230,000**	**45,700**	670 U	**5,500**
19-Dec-09	**223,000**	**44,300**	670 U	**5,200**
19-Dec-09	**239,000**	**46,800**	670 U	**5,900**
19-Dec-09	**264,000**	**49,800**	670 U	**6,200**
19-Dec-09	**226,000**	**45,100**	500 U	**5,500**
19-Dec-09	**239,000**	**46,800**	670 U	**5,800**
19-Dec-09	**251,000**	**50,000**	670 U	**6,200**
19-Dec-09	**246,000**	**49,300**	670 U	**6,000**
19-Dec-09	**232,000**	**47,900**	670 U	**5,900**
19-Dec-09	**252,000**	**50,100**	670 U	**6,300**
19-Dec-09	**255,000**	**49,900**	670 U	**6,400**
19-Dec-09	**245,000**	**46,500**	670 U	**6,000**
20-Dec-09	**233,000**	**44,700**	670 U	**5,900**
20-Dec-09	**241,000**	**47,000**	670 U	**5,700**
20-Dec-09	**256,000**	**49,900**	670 U	**6,500**
20-Dec-09	**214,000**	**42,100**	670 U	**5,100**
20-Dec-09	**252,000**	**52,800**	670 U	**5,900**
20-Dec-09	**253,000**	**51,500**	670 U	**6,200**
20-Dec-09	**258,000**	**53,200**	670 U	**6,400**
20-Dec-09	**249,000**	**51,300**	670 U	**6,000**
20-Dec-09	**242,000**	**50,500**	670 U	**5,800**
20-Dec-09	**263,000**	**53,400**	670 U	**6,200**

Table 2-6. Hydraulic Containment System Combined Influent Data (continued)

Sample Date	TCE	cDCE	tDCE	VC
20-Dec-09	**265,000**	**53,400**	670 U	**6,600**
20-Dec-09	**262,000**	**52,400**	670 U	**6,600**
20-Dec-09	**238,000**	**49,600**	670 U	**6,400**
20-Dec-09	**238,000**	**49,900**	670 U	**6,100**
21-Dec-09	**235,000**	**48,900**	670 U	**6,200**
21-Dec-09	**264,000**	**54,000**	670 U	**6,900**
21-Dec-09	**243,000**	**53,900**	670 U	**6,300**
21-Dec-09	**241,000**	**53,700**	670 U	**6,200**
21-Dec-09	**251,000**	**53,900**	670 U	**6,600**
21-Dec-09	**251,000**	**53,600**	670 U	**6,600**
21-Dec-09	**255,000**	**54,600**	670 U	**6,700**
21-Dec-09	**254,000**	**53,900**	670 U	**6,300**
21-Dec-09	**266,000**	**53,600**	670 U	**6,700**
21-Dec-09	**272,000**	**58,200**	670 U	**7,400**
18-Jan-10	**160,000**	**37,000**	10,000 U	10,000 U
18-Jan-10	**180,000**	**40,000**	10,000 U	10,000 U
19-Jan-10	**230,000**	**40,000**	10,000 U	10,000 U
19-Jan-10	**490,000**	**91,000**	10,000 U	**15,000**
19-Jan-10	**230,000**	**42,000**	10,000 U	10,000 U
19-Jan-10	**270,000**	**41,000**	10,000 U	10,000 U
19-Jan-10	**570,000**	**82,000**	10,000 U	10,000 U
19-Jan-10	**160,000**	**20,000**	10,000 U	10,000 U
19-Jan-10	**410,000**	**64,000**	10,000 U	10,000 U
19-Jan-10	**280,000**	**37,000**	10,000 U	10,000 U
20-Jan-10	**290,000**	**44,000**	10,000 U	10,000 U
20-Jan-10	**270,000**	**38,000**	10,000 U	10,000 U
20-Jan-10	**270,000**	**39,000**	10,000 U	10,000 U
20-Jan-10	**270,000**	**40,000**	10,000 U	10,000 U
20-Jan-10	**290,000**	**39,000**	10,000 U	10,000 U
20-Jan-10	**260,000**	**42,000**	10,000 U	10,000 U
20-Jan-10	**280,000**	**37,000**	10,000 U	10,000 U
20-Jan-10	**280,000**	**42,000**	10,000 U	10,000 U
20-Jan-10	**270,000**	**39,000**	10,000 U	10,000 U
20-Jan-10	**290,000**	**43,000**	10,000 U	10,000 U
20-Jan-10	**290,000**	**40,000**	10,000 U	10,000 U
20-Jan-10	**360,000**	**53,000**	10,000 U	10,000 U
20-Jan-10	**280,000**	**40,000**	10,000 U	10,000 U
21-Jan-10	**250,000**	**30,000**	10,000 U	10,000 U
21-Jan-10	**250,000**	**32,000**	10,000 U	10,000 U
22-Jan-10	**250,000**	**33,000**	10,000 U	10,000 U
22-Jan-10	**320,000**	**45,000**	10,000 U	10,000 U
22-Jan-10	**250,000**	**34,000**	10,000 U	10,000 U
22-Jan-10	**290,000**	**36,000**	10,000 U	10,000 U

Table 2-6. Hydraulic Containment System Combined Influent Data (continued)

Sample Date	TCE	cDCE	tDCE	VC
22-Jan-10	**270,000**	**34,000**	10,000 U	10,000 U
23-Jan-10	**270,000**	**41,000**	10,000 U	10,000 U
23-Jan-10	**300,000**	**42,000**	10,000 U	10,000 U
23-Jan-10	**290,000**	**40,000**	10,000 U	10,000 U
23-Jan-10	**310,000**	**48,000**	10,000 U	10,000 U
23-Jan-10	**280,000**	**40,000**	10,000 U	10,000 U
24-Jan-10	**300,000**	**40,000**	10,000 U	10,000 U
25-Jan-10	**191,000**	**41,100**	340 U	**6,530**
26-Jan-10	**186,000**	**41,600**	680 U	**6,250**
27-Jan-10	**193,000**	**44,000**	**376 I**	**5,880**
5-Feb-10	**202,000**	**38,500**	**311 I**	**5,580**
5-Feb-10	**195,000**	**37,400**	**290 I**	**5,330**
6-Feb-10	**200,000**	**36,900**	**284 I**	**5,300**
7-Feb-10	**194,000**	**38,000**	850 U	**6,550**
8-Feb-10	**192,000**	**40,800**	340 U	**6,290**
10-Feb-10	**189,000**	**42,000**	340 U	**6,990**
11-Feb-10	**188,000**	**34,100**	1,700 U	**5,630**
16-Feb-10	**246,000**	**44,200**	850 U	**7,330**
17-Feb-10	**185,000**	**33,400**	850 U	**5,350**
18-Feb-10	**191,000**	**34,600**	850 U	**5,650**
19-Feb-10	**178,000**	**32,300**	1,700 U	**5,770**
20-Feb-10	**176,000**	**32,000**	1,700 U	**5,820**
21-Feb-10	**169,000**	**28,400**	1,700 U	**5,540**
25-Feb-10	**160,000**	**34,500**	680 U	**6,260**
26-Feb-10	**159,000**	**39,300**	680 U	**5,090**
27-Feb-10	**159,000**	**37,100**	680 U	**6,090**
28-Feb-10	**154,000**	**36,200**	680 U	**6,510**
1-Mar-10	**156,000**	**38,100**	680 U	**6,250**
10-Mar-10	**164,000**	**40,100**	340 U	**6,460**
11-Mar-10	**166,000**	**36,500**	**232 I**	**5,190**
12-Mar-10	**160,000**	**39,200**	340 U	**6,470**
13-Mar-10	**83,700**	**19,300**	340 U	**3,300**
14-Mar-10	**79,400**	**19,200**	340 U	**3,050**
18-Mar-10	**151,000**	**35,800**	850 U	**6,270**
19-Mar-10	**148,000**	**37,300**	850 U	**5,890**
20-Mar-10	**153,000**	**41,500**	850 U	**5,980**
21-Mar-10	**157,000**	**44,700**	850 U	**7,630**
22-Mar-10	**144,000**	**41,100**	850 U	**6,010**
23-Mar-10	**129,000**	**40,200**	850 U	**5,340**
24-Mar-10	**137,000**	**40,900**	340 U	**5,320**
25-Mar-10	**123,000**	**38,200**	340 U	**5,100**
31-Mar-10	**124,000**	**37,000**	680 U	**4,780**
7-Apr-10	**132,000**	**34,400**	340 U	**5,090**

Table 2-6. Hydraulic Containment System Combined Influent Data (continued)

Sample Date	TCE	cDCE	tDCE	VC
14-Apr-10	**119,000**	**31,000**	680 U	**4,190**
5-May-10	**128,000**	**34,200**	340 U	**4,060**
19-May-10	**113,000**	**33,700**	**200 I**	**3,540**
26-May-10	**116,000**	**26,900**	680 U	**3,370**
2-Jun-10	**105,000**	**26,400**	680 U	**3,480**
16-Jun-10	**94,500**	**21,000**	680 U	**2,750**
23-Jun-10	**96,900**	**23,200**	340 U	**4,660**
1-Jul-10	**103,000**	**26,300**	680 U	**2,600**
7-Jul-10	**107,000**	**27,600**	680 U	**3,040**
11-Aug-10	**130,000**	**12,600**	850 U	**1,080 I**
18-Aug-10	**115,000**	**13,500**	680 U	560 U
25-Aug-10	**116,000**	**10,400**	850 U	700 U
1-Sep-10	**127,000**	**15,800**	680 U	**911 I**
8-Sep-10	**96,700**	**12,900**	340 U	**765 I**
15-Sep-10	**98,400**	**21,000**	170 U	**2,800**
22-Sep-10	**92,500**	**23,300**	340 U	**2,260**
27-Oct-10	**87,400**	**17,900**	700 U	**2,810**
22-Nov-10	**83,900**	**24,300**	350 U	**1,830**
29-Dec-10	**69,800**	**16,700**	350 U	**2,290**
26-Jan-11	**68,700**	**14,200**	350 U	**1,910**
21-Feb-11	**69,900**	**18,400**	180 U	**981**
10-Mar-11	**67,100**	**16,800**	700 U	**1,600 I**
14-Apr-11	**71,600**	**18,600**	180 U	**1,490**
18-May-11	**65,000**	**14,600**	350 U	**1,500**
8-Jun-11	**63,800**	**15,500**	350 U	**1,430**
13-Jul-11	**57,900**	**14,400**	700 U	**1,460 I**
10-Aug-11	**59,500**	**15,300**	180 U	**1,360**
14-Sep-11	**59,000**	**12,800**	350 U	**1,330**
10-Oct-11	**54,400**	**12,300**	350 U	**1,180**
10-Nov-11	**51,200**	**10,800**	700 U	**863 I**
15-Dec-11	**65,000**	**8,030**	350 U	220 U
20-Jan-12	**63,000**	**11,000**	350 U	**1,340**
2-Feb-12	**61,000**	**9,740**	**101**	**964**
1-Mar-12	**59,800**	**9,670**	**87 I**	**1,100**
4-Apr-12	**65,100**	**9,080**	350 U	**1,180**
17-May-12	**60,000**	**9,240**	**108**	**1,080**
14-Jun-12	**54,000**	**8,140**	180 U	**727**
26-Jul-12	**50,800**	**6,980**	180 U	**763**
14-Sep-12	**53,500**	**8,150**	350 U	**563 I**
5-Oct-12	**54,200**	**7,620**	46 U	**856**
26-Nov-12	**44,200**	**6,020**	**86 I**	**611**
29-Jan-13	**45,600**	**7,820**	**116 I**	**939**
11-Mar-13[(1)]	**17,100**	**3,080**	46 U	**304**

Table 2-6. Hydraulic Containment System Combined Influent Data (continued)

Sample Date	TCE	cDCE	tDCE	VC
1-Apr-13[(1)]	39,500	6,900	100 U	880
8-May-13	38,300	7,310	102 I	577
30-May-13	39,100	6,260	73 I	602
26-Jun-13	35,100	5,620	67 I	695
27-Sep-13	41,600	6,200	46 U	718
31-Dec-13	26,700	5,050	92 I	579
3-Apr-14	45,000	6,570	170 U	5,510
26-Jun-14	29,500	6,350	115 I	913
30-Sep-14	31,600	4,350	170 U	365 I
30-Dec-14	31,800	4,370	170 U	399 I
27-May-15	8,500	9,000	350	3,000
27-May-15	7,900	11,300	420	3,800
3-Jun-15	16,800	22,200	430	2,700
3-Jun-15	24,300	21,700	420	2,100
3-Jun-15	23,800	20,200	400	2,100
4-Jun-15	27,300	15,300	310	1,600
4-Jun-15	22,600	21,500	430	2,100
4-Jun-15	18,300	22,800	460	2,100
4-Jun-15	25,300	26,100	560	2,200
4-Jun-15	21,900	26,000	570	2,300
5-Jun-15	20,600	26,000	570	2,100
5-Jun-15	23,100	28,400	680	2,400
5-Jun-15	26,600	27,100	650	2,100
5-Jun-15	28,500	28,800	680	2,400
6-Jun-15	23,000	29,500	660	2,300
6-Jun-15	22,100	28,600	650	2,200
7-Jun-15	16,000	16,000	434	1,930
8-Jun-15	22,900	14,300	337	1,470
9-Jun-15	94	57	2	6
10-Jun-15	23,200	14,100	52 U	1,400
11-Jun-15	23,200	14,900	325	1,850
12-Jun-15	23,400	14,700	310	1,870
13-Jun-15	24,700	14,300	320	1,820
14-Jun-15	21,300	15,300	325	2,110
18-Jun-15	21,000	12,900	331	1,580
25-Jun-15	14,900	12,300	293	1,520
13-Jul-15	18,900	8,880	223	925
13-Aug-15	17,900	10,500	236	1,030
10-Sep-15	20,800	10,100	234	1,040
30-Sep-15	20,300	8,280	154	808
17-Dec-15	21,100	10,100	182 I	1,210
4-Mar-16	18,400	9,040	148 I	1,110
22-Jun-16	16,200	6,740	118 I	904

Table 2-6. Hydraulic Containment System Combined Influent Data (continued)

Sample Date	TCE	cDCE	tDCE	VC
22-Sep-16	**16,300**	**7,120**	**119 I**	**814**
16-Dec-16	**17,700**	**6,170**	**98 I**	**706**
15-Mar-17	**17,000**	**6,510**	**122**	**833**
4-May-17	**7,660**	**8,010**	**143**	**1,050**
20-Sep-17	**16,700**	**4,340**	**66 I**	**720**
13-Dec-17	**15,900**	**4,250**	**75 I**	**504**
19-Mar-18	**16,100**	**3,730**	**77 I**	**551**
27-Jun-18	**13,500**	**3,350**	**65**	**499**
20-Sep-18	**15,300**	**3,930**	44 U	**536**
18-Jan-19	**13,300**	**3,500**	**72**	**470**
12-Mar-19	**15,600**	**3,990**	**74**	**684**
12-Jun-19	**10,300**	**2,940**	44 U	**476**
30-Sep-19	**31,400**	**4,230**	44 U	**446**
17-Dec-19	**20,100**	**3,010**	55 U	**463**
12-Mar-20	**13,300**	**2,160**	44 U	**236**
8-Jun-20	**10,700**	**2,380**	**46.6 I**	**241**
16-Sep-20	**16,200**	**2,360**	55 U	**477**
11-Jan-21[2]	**45,000**	**3,650**	110 U	**489 I**
11-Mar-21	**12,100**	**2,450**	**66.6 I**	**476**
23-Jun-21	**22,500**	**2,830**	55 U	**462**
14-Sep-21	**17,000**	**3,000**	180 U	**430 I**
14-Dec-21	**19,000**	**3,400**	180 U	**630**
22-Mar-22	**12,000**	**3,900**	73 U	**360**
19-Apr-22[3]	**17,000**	**4,300**	150 U	**470 I**
28-Jun-22	**10,000**	**3,700**	73 U	**320**
8-Sep-22	**8,700**	**3,200**	73 U	**330**
13-Dec-22	**10,000**	**2,700**	95 U	**350**
31-Mar-23	**12,000**	**3,900**	190 U	**400**
23-Jun-23	**30,000**	**6,700**	**120 I**	**610**

Table 2-6. Hydraulic Containment System Combined Influent Data (continued)

Sample Date	TCE	cDCE	tDCE	VC
26-Sep-23	**9,600**	**2,800**	34 U	**290**
21-Dec-23	**24,000**	**3,800**	150 U	**290**
19-Mar-24	**25,000**	**5,100**	370 U	360 U

Notes:

(1) Location resampled due to suspect result on March 11, 2013. The April 1, 2013 result was used for mass calculations.

(2) System was down in December due to Programmable Logic Controller replacement. Sampling pushed to January 2021.

(3) Additional sample collected in April 2022 for Year 13 baseline

Concentrations in micrograms per liter (µg/L)

Bolding indicates a concentration greater than the MDL but less than the GCTL

Shading indicates a concentration exceeding the GCTL: TCE = 3 µg/L, cDCE = 70 µg/L, tDCE = 100 µg/L, and VC = 1 µg/L

GCTL = Groundwater Cleanup Target Level
MDL = Method Detection Limit
TCE = Trichloroethene
cDCE = cis-1,2-Dichloroethene
tDCE = trans-1,2-Dichloroethene
VC = Vinyl chloride
U = Not detected at MDL (associated value)
J = Estimated concentration
I = Reported value is between MDL and practical quantitation limit

Table 2-7. Primary Air Stripper Effluent Data

Sample Date	TCE	cDCE	tDCE	VC
27-May-15	**270**	**510 J**	**19**	**50**
27-May-15	**320**	**1200**	**31**	**70**
3-Jun-15	**2**	**24**	1 U	1 U
3-Jun-15	**3**	**26**	1 U	1 U
3-Jun-15	**2**	**15**	1 U	1 U
4-Jun-15	**4**	**19**	1 U	1 U
4-Jun-15	**3**	**28**	1 U	1 U
4-Jun-15	**4**	**31**	1 U	1 U
4-Jun-15	**1**	**11**	1 U	1 U
4-Jun-15	1 U	1.0 U	1 U	1 U
5-Jun-15	1 U	**8.0**	1 U	1 U
5-Jun-15	1 U	**10**	1 U	1 U
5-Jun-15	1 U	**6.0**	1 U	1 U
5-Jun-15	**3**	**5.0**	1 U	1 U
6-Jun-15	1 U	**6.0**	1 U	1 U
6-Jun-15	1 U	**5.0**	1 U	1 U
7-Jun-15	**0.33 I**	**3.1**	0.21 U	0.25 U
8-Jun-15	**0.67 I**	**4.6**	0.21 U	0.25 U
9-Jun-15	**0.83 I**	**5.5**	0.21 U	0.25 U
10-Jun-15	**0.87 I**	**6.1**	0.21 U	0.25 U
11-Jun-15	**1.1**	**7.9**	0.21 U	0.25 U
12-Jun-15	**1.3**	**8.4**	0.21 U	0.25 U
13-Jun-15	**1.3**	**7.9**	0.21 U	0.25 U
14-Jun-15	**1.2**	**7.7**	0.21 U	0.25 U
18-Jun-15	**1.2**	**8.7**	0.21 U	0.25 U
25-Jun-15	**0.89 I**	**5.5**	0.21 U	0.25 U
13-Jul-15	**0.4 I**	**1.8**	0.21 U	0.25 U
13-Aug-15	**1.1**	**6.2**	0.21 U	0.25 U
10-Sep-15	**0.63 I**	**3.3**	0.21 U	0.25 U
30-Sep-15	**0.5 I**	**2.5**	0.21 U	0.25 U
17-Dec-15	**1.3**	**5.2**	0.21 U	0.25 U
4-Mar-16	**1.2**	**5.4**	0.33 U	0.31 U
22-Jun-16	**0.48 I**	**2.6**	0.33 U	0.31 U
22-Sep-16	**1.6**	**6.6**	0.33 U	0.31 U
16-Dec-16	**0.77 I**	**2.8**	0.33 U	0.31 U
15-Mar-17	**1.2**	**4.9**	0.22 U	0.41 U
4-May-17	**2.7**	**10.1**	0.22 U	0.41 U

Table 2-7. Primary Air Stripper Effluent Data (continued)

Sample Date	TCE	cDCE	tDCE	VC
20-Sep-17	**0.91 I**	**1.6**	0.22 U	0.41 U
15-Nov-17	**3.4**	**5.9**	0.22 U	0.41 U
13-Dec-17	**62.9**	**63.9**	**0.35 I**	0.41 U
25-Jan-18	**99.6**	**87.4**	**0.53 I**	0.41 U
27-Feb-18	**97.3**	**96.8**	**0.63 I**	**0.58 I**
19-Mar-18	**113**	**98.5**	**0.86 I**	0.82 U
26-Apr-18	**92.4**	**86.5**	**0.35 I**	0.41 U
30-May-18	**79.1**	**73.8**	**0.56 I**	0.41 U
27-Jun-18	**73.1**	**70**	**0.49 I**	0.41 U
19-Jul-18	**82.4**	**85.4**	**0.58 I**	**0.46 I**
13-Aug-18	**74.5**	**77.5**	**0.32 I**	0.32 U
20-Sep-18	**52.1**	**61.7**	**0.25 I**	0.25 U
29-Oct-18	**39.4**	**52.4**	**0.25 I**	0.25 U
21-Nov-18	**34.8**	**39.1**	0.22 U	0.41 U
12-Dec-18	**41.9**	**54**	0.22 U	0.41 U
14-Jan-19	**42.4**	**53.9**	0.22 U	0.41 U
28-Feb-19	**45.5**	**52.9**	0.22 U	0.72 U
12-Mar-19	**80**	**90.3**	**0.45 I**	0.41 U
22-Apr-19	**53.4**	**59.3**	0.22 U	0.41 U
30-May-19	**40**	**51**	0.22 U	0.41 U
12-Jun-19	**135**	**111**	**0.53 I**	**1.5**
9-Jul-19	**108**	**79.4**	**0.34 I**	0.41 U
27-Aug-19	**176**	**96.2**	0.44 U	**1.2 I**
30-Sep-19	**666**	**156**	**0.88 I**	**3.3**
17-Oct-19	**42.2**	**22.4**	0.22 U	0.41 U
5-Nov-19	**108**	**79**	**0.39 I**	**1.0**
17-Dec-19	**88.1**	**49**	**0.4 I**	**0.84**
16-Jan-20	**134**	**66**	0.44 U	0.82 U
19-Feb-20	**94.6**	**35.5**	0.22 U	**0.57 I**
12-Mar-20	**148**	**57.3**	0.44 U	0.82 U
7-Apr-20	**215**	**63**	0.55 U	1.0 U
14-May-20	**136**	**63.6**	0.44 U	0.82 U
8-Jun-20	**120**	**63.3**	**0.49 I**	0.82 U
1-Jul-20	**146**	**105**	**0.58 I**	**1.7 I**
11-Aug-20	**108**	**44.1**	0.44 U	**0.84 I**
16-Sep-20	**92.2**	**56.8**	0.22 U	**1.0**
22-Oct-20	**140**	**69**	0.55 U	**1.3 I**
12-Nov-20	**112**	**63.3**	0.44 U	**0.88 I**
1-Dec-20	NS	NS	NS	NS
11-Jan-21	**117**	**67.9**	**0.50 I**	**1.2 I**

Table 2-7. Primary Air Stripper Effluent Data (continued)

Sample Date	TCE	cDCE	tDCE	VC
22-Feb-21	**141,000**	**81,400**	**517 I**	**1,580 I**
11-Mar-21	**155**	**68.3**	0.44 U	**1.2 I**
22-Apr-21	**287**	**66.6**	1.1 U	2.0 U
19-May-21	**298**	**80.9**	1.1 U	2.0 U
23-Jun-21	**242**	**74.5**	1.1 U	2.0 U
22-Jul-21	**61.1**	**75.2**	0.22 U	**4.4**
24-Aug-21	**364**	**69.9**	**0.54 I**	**2.3**
14-Sep-21	**390**	**130**	1.8 U	**3.9 I**
7-Oct-21	**140**	**150**	1.5 U	**3.9 I**
11-Nov-21	**390**	**98**	1.8 U	**2.8 I**
14-Dec-21	**96**	**52**	0.73 U	**0.92 I**
17-Jan-22	**120**	**84**	0.73 U	**1.4 I**
14-Feb-22	**98**	**74**	0.73 U	**1.1 I**
22-Mar-22	**84**	**76**	0.73 U	**0.93 I**
19-Apr-22	**180**	**130**	0.73 U	**1.6 I**
31-May-22	**650**	**640**	7.3 U	**14 I**
28-Jun-22	**260**	**210**	**1.5 I**	**3.0**
22-Jul-22	**380**	**240**	3.6 U	**3.6 I**
16-Aug-22	**550**	**310**	3.6 U	**5.4 I**
8-Sep-22	**330**	**280**	**1.8 I**	**4.2 I**
26-Oct-22	**300**	**180**	**1.5**	**3.4**
Nov-22[1]	NS	NS	NS	NS
13-Dec-22	**86**	**55**	0.95 U	0.64 U
31-Jan-23	**140**	**82**	0.95 U	**1.1 I**
21-Feb-23	**140**	**71**	0.95 U	0.64 U
31-Mar-23	**43**	**44**	0.95 U	0.64 U
15-Apr-23	**64**	**47**	0.5 U	0.50 U
31-May-23	**160**	**84**	1.9 U	1.3 U
23-Jun-23	**130**	**75**	0.34 U	**1.0**
31-Jul-23	**100**	**57**	0.50 U	0.50 U
28-Aug-23	**150**	**110**	**0.83 I**	**0.89 I**
26-Sep-23	**75**	**57**	0.34 U	0.40 U J3
25-Oct-23	**170**	**75**	0.34 U	**0.44 I**
27-Nov-23	**170**	**66**	3.7 U	3.6 U
21-Dec-23	**210**	**120**	0.73 U	0.71 U

Table 2-7. Primary Air Stripper Effluent Data (continued)

Sample Date	TCE	cDCE	tDCE	VC
29-Jan-24	**320**	**210**	0.73 U	**1.9**
24-Feb-24	**420**	**270**	7.3 U	7.1 U
19-Mar-23	**390**	**250**	3.7 U	3.6 U

Notes:

Concentrations in µg/L.

(1) 1-Nov-22, system off due to electrical issue preventing monthly sampling.

Bolding indicates a concentration greater than the MDL but less than or equal to the GCTL

Shading indicates a concentration exceeding the GCTL: TCE = 3 µg/L, cDCE = 70 µg/L, tDCE = 100 µg/L, and VC = 1 µg/L.

GCTL = Groundwater Cleanup Target Level
MDL = Method Detection Limit
NS = Not sampled
TCE = Trichloroethene
cDCE = cis-1,2-Dichloroethene
tDCE = trans-1,2-Dichloroethene
VC = Vinyl chloride
I = Reported value is between MDL and practical quantitation limit
J3 = Estimated value; value may not be accurate. Spike recovery or relative percent difference outside of criteria
U = Not detected at or above MDL (associated value)

Table 2-8. Secondary Air Stripper Effluent Data

Sample Date	TCE	cDCE	tDCE	VC
27-May-15	**2**	**19**	1 U	1 U
3-Jun-15	1 U	**1**	1 U	1 U
3-Jun-15	1 U	1 U	1 U	1 U
3-Jun-15	1 U	1 U	1 U	1 U
4-Jun-15	1 U	1 U	1 U	1 U
4-Jun-15	**3**	**3**	1 U	1 U
4-Jun-15	1 U	1 U	1 U	1 U
4-Jun-15	1 U	**1**	1 U	1 U
4-Jun-15	**4**	**35**	1 U	1 U
5-Jun-15	**4**	**5**	1 U	1 U
5-Jun-15	1 U	1 U	1 U	1 U
5-Jun-15	1 U	1 U	1 U	1 U
5-Jun-15	1 U	1 U	1 U	1 U
6-Jun-15	1 U	1 U	1 U	1 U
6-Jun-15	1 U	1 U	1 U	1 U
7-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U
8-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U
9-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U
10-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U
11-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U
12-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U
13-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U
14-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U
18-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U
25-Jun-15	**0.43 I**	**0.42 I**	0.21 U	0.25 U
13-Jul-15	0.22 U	0.22 U	0.21 U	0.25 U
13-Aug-15	0.22 U	0.22 U	0.21 U	0.25 U
10-Sep-15	0.22 U	0.22 U	0.21 U	0.25 U
30-Sep-15	0.22 U	0.22 U	0.21 U	0.25 U
17-Dec-15	**0.26 I**	0.22 U	0.21 U	0.25 U
4-Mar-16	0.27 U	0.31 U	0.33 U	0.31 U
22-Jun-16	0.27 U	0.31 U	0.33 U	0.31 U
22-Sep-16	0.27 U	0.31 U	0.33 U	0.31 U
16-Dec-16	0.27 U	0.31 U	0.33 U	0.31 U
15-Mar-17	0.35 U	0.28 U	0.22 U	0.41 U
4-May-17	0.35 U	0.28 U	0.22 U	0.41 U
20-Sep-17	0.35 U	0.28 U	0.22 U	0.41 U
15-Nov-17	0.35 U	0.28 U	0.22 U	0.41 U
13-Dec-17	0.35 U	0.28 U	0.22 U	0.41 U

Table 2-8. Secondary Air Stripper Effluent Data (continued)

Sample Date	TCE	cDCE	tDCE	VC
25-Jan-18	0.35 U	**0.59 I**	0.22 U	0.59 U
27-Feb-18	0.35 U	**0.54 I**	0.22 U	0.54 U
19-Mar-18	**0.58**	**2.0**	0.22 U	0.58 U
26-Apr-18	0.35 U	0.28 U	0.22 U	0.31 U
30-May-18	0.35 U	**0.31 I**	0.22 U	0.42 U
27-Jun-18	0.35 U	**0.42 I**	0.22 U	0.41 U
19-Jul-18	0.35 U	**0.73 I**	0.22 U	0.41 U
13-Aug-18	0.35 U	**0.29 I**	0.22 U	0.41 U
20-Sep-18	0.35 U	**0.44 I**	0.22 U	0.41 U
29-Oct-18	0.35 U	0.28 U	0.22 U	0.41 U
21-Nov-18	0.35 U	**0.43 I**	0.22 U	0.41 U
12-Dec-18	0.35 U	0.28 U	0.22 U	0.41 U
14-Jan-19	0.35 U	0.28 U	0.22 U	0.41 U
28-Feb-19	0.22 U	**0.64 I**	0.22 U	0.41 U
12-Mar-19	0.35 U	**0.57 I**	0.22 U	0.41 U
22-Apr-19	0.35 U	0.28 U	0.21 U	0.41 U
30-May-19	0.35 U	0.28 U	0.22 U	0.41 U
12-Jun-19	0.35 U	**1.2**	0.22 U	0.41 U
9-Jul-19	0.35 U	**0.35 I**	0.22 U	0.41 U
27-Aug-19	**0.60 I**	**0.69 I**	0.22 U	0.41 U
30-Sep-19	**23.7**	**8.9**	0.22 U	0.41 U
17-Oct-19	**0.53 I**	**0.74 I**	0.22 U	0.41 U
5-Nov-19	**0.65 I**	0.28 U	0.22 U	0.41 U
17-Dec-19	**1.7**	**2.0**	0.22 U	0.41 U
16-Jan-20	**1.0**	**0.98 I**	0.22 U	0.41 U
19-Feb-20	**1.0**	0.63 I	0.22 U	0.41 U
12-Mar-20	**0.91 I**	**0.62 I**	0.22 U	0.41 U
7-Apr-20	**1.0**	**0.79 I**	0.22 U	0.41 U
14-May-20	**1.1**	**0.97 I**	0.22 U	0.41 U
8-Jun-20	**0.87 I**	**1.0**	0.22 U	0.41 U
14-Jul-20	**2.4**	**3.6**	0.22 U	0.41 U
11-Aug-20	**1.1**	**1.0**	0.22 U	0.41 U
16-Sep-20	**1.5**	**1.1**	0.22 U	0.41 U
22-Oct-20	**1.2**	**1.2**	0.22 U	0.41 U
12-Nov-20	**0.72 I**	**0.67 I**	0.22 U	0.41 U
1-Dec-20	NS	NS	NS	NS
11-Jan-21	**0.79 I**	**0.73 I**	0.22 U	0.41 U
22-Feb-21	**1.4**	**1.6**	0.22 U	0.41 U
11-Mar-21	**1.2**	**1.2**	0.22 U	0.41 U
22-Apr-21	**1.1**	**1.3**	0.22 U	0.41 U

Table 2-8. Secondary Air Stripper Effluent Data (continued)

Sample Date	TCE	cDCE	tDCE	VC
19-May-21	**1.8**	**1.1**	0.22 U	0.41 U
23-Jun-21	**1.6**	**1.0**	0.22 U	0.41 U
22-Jul-21	**0.97 I**	**3.6**	0.22 U	0.41 U
24-Aug-21	**2.2**	**1.8**	0.22 U	0.41 U
14-Sep-21	**6.0**	**1.6 I**	0.73 U	0.71 U
7-Oct-21	**1.9 I**	**4.9**	0.73 U	0.71 U
11-Nov-21	**4.0**	**2.3 I**	0.73 U	0.71 U
14-Dec-21	**1.2 I**	**0.58 I**	0.73 U	0.71 U
17-Jan-22	0.89 U	**1.3 I**	0.73 U	0.71 U
14-Feb-22	0.89 U	**0.74 I**	0.73 U	0.71 U
22-Mar-22	0.89 U	**1.1 I**	0.73 U	0.71 U
19-Apr-22	**1.9 I**	**2.7**	0.73 U	0.71 U
31-May-22	**8.1**	**38**	0.73 U	0.71 U
28-Jun-22	**4.6**	**8.7**	0.73 U	0.71 U
22-Jul-22	**5.4**	**6.9**	0.73 U	0.71 U
16-Aug-22	**12**	**12**	0.73 U	0.71 U
8-Sep-22	**5.8**	**11**	0.73 U	0.71 U
26-Oct-22	**1.6 I**	**2.6**	0.95 U	0.64 U
1-Nov-22[(1)]	NS	NS	NS	NS
13-Dec-22	0.79 U	**0.94 I**	0.95 U	0.64 U
31-Jan-23	0.79 U	**1.2**	0.95 U	0.64 U
21-Feb-23	0.79 U	**0.92 I**	0.95 U	0.64 U
31-Mar-23	0.79 U	0.71 U	0.95 U	0.64 U
14-Apr-23	0.15 U	**0.40 I**	0.50 U	0.50 U
31-May-23	0.79 U	0.71 U	0.95 U	0.64 U
23-Jun-23	0.20 U	**0.72 I**	0.34 U	0.40 U
31-Jul-23	**5.3**	**1.9**	0.50 U	0.50 U
28-Aug-23	**0.88 I**	**0.99 I**	0.34 U	0.40 U
26-Sep-23	0.20 U	**0.95 I**	0.34 U	0.40 U J3
25-Oct-23	**0.91 I**	**0.92 I**	0.34 U	0.40 U
27-Nov-23	**1.1**	**0.60 I**	0.73 U	0.71 U
21-Dec-23	**0.93 I**	**0.99 I**	0.73 U	0.71 U

Table 2-8. Secondary Air Stripper Effluent Data (continued)

Sample Date	TCE	cDCE	tDCE	VC
29-Jan-24	**5.9**	**7.7**	0.73 U	0.71 U
23-Feb-24	**9.3**	**13**	0.73 U	0.71 U
19-Mar-24	**13**	**16**	0.73 U	0.71 U

Notes:

Concentrations in micrograms per liter (µg/L)

(1) 1-Nov-2022, system off due to electrical issue preventing monthly sampling.

Bolding indicates a concentration greater than the MDL but less than or equal to the GCTL

Shading indicates a concentration exceeding the GCTL: TCE = 3 µg/L, cDCE = 70 µg/L, tDCE = 100 µg/L, and VC = 1 µg/L

GCTL = Groundwater Cleanup Target Level
MDL = Method Detection Limit
NS = Not sampled
TCE = Trichloroethene
tDCE = trans-1,2-Dichloroethene
cDCE = cis-1,2-Dichloroethene
VC = Vinyl chloride
I = Reported value is between MDL and practical quantitation limit
J3 = Estimated value; value may not be accurate. Spike recovery or relative percent difference outside of criteria
U = Not detected at or above MDL (associated value)

Table 2-9. Catalytic Oxidizer Influent Data

Sample Date	TCE	cDCE	tDCE	VC
9-Dec-09	1,890,000	296,000	1,870	22,300
21-Dec-09	1,330,000	293,000	2,980	36,600
20-Jan-10	1,260,000	196,000	3,810	29,100
20-Jan-10	1,490,000	234,000	4,440	34,300
20-Jan-10	2,170,000	312,000	6,220	46,300
21-Jan-10	935,000	160,000	3,150	24,200
1-Apr-10	564,000	137,000	3,690	26,300
6-May-10	332,000	79,700	908	11,800
11-Aug-10	978,000	86,000	416 I	2,910
15-Sep-10	453,000	87,600	523	8,510
22-Feb-11	554,000	101,000	412	4,470
29-Dec-11	381,000	57,900	662	3,400
20-Sep-12	182,000	33,700	563	3,170
31-Dec-13	227,000	36,400	444	3,580
30-Dec-14	181,000	42,000	634	6,750
17-Dec-15	204,000	117,000	1,920	10,700
4-May-17	293,000	128,000	3,700	13,800
13-Dec-17	254,000	69,000	1,190	8,540
12-Dec-18	226,000	63,800	1,110	6,950
17-Dec-19	201,000	26,400	416 I	4,350
22-Feb-21	95,700	36,800	912	4,860
20-Dec-21	230,000 V	65,000	1,800 U	14,000
17-Jan-23	120,000	32,000	600	4,800
21-Dec-23	230,000	38,000	360 J	2,500

Notes:

Concentrations in micrograms per cubic meter ($\mu g/m^3$)

TCE = Trichloroethene
cDCE = cis-1,2-Dichloroethene
tDCE = trans-1,2-Dichloroethene
VC = Vinyl chloride
I = Reported value is between method detection limit (MDL) and practical quantitation limit.
J = Estimated value
V = The analyte was detected in both the sample and the associated method blank
U = Not detected at MDL (associated value)

Table 2-10. Catalytic Oxidizer Effluent Data

Sample Date	TCE	cDCE	tDCE	VC
8-Dec-09	155,000	1,990	1,300	28 U
21-Dec-09	368,000	9,520	6,700	130 U
20-Jan-10	34,700	555	125	5.4 U
20-Jan-10	17,100	412	58 I	5.4 U
20-Jan-10	47,500	741	170	5.4 U
21-Jan-10	13,400	255	90	5.4 U
1-Apr-10	12,500	316	64 I	5.4 U
6-May-10	5,910	237	85	23
11-Aug-10	1.3 U	1.2 U	1.4 U	3,730
11-Aug-10	1.3 U	1.2 U	1.4 U	3,600
15-Sep-10	5,800	133	47	3.6 U
22-Feb-11	59	7.9	0.56 U	0.31 U
29-Dec-11	5160	44.4	15 I	1.6 U
20-Sep-12	2,250	48	13	1.1 U
31-Dec-13	24	0.11 U	0.059 U	0.043 U
30-Dec-14	1,050	84	14	13
17-Dec-15	5,640	480	75	35
4-May-17	10	4.4	0.1 U	0.097 U
13-Dec-17	305	16	2.8 I	1.4 I
12-Dec-18	40	1.6	0.029 U	0.056 U
17-Dec-19	142	15	0.32 U	1.6 I
22-Feb-21	247	18	2.0 I	2.1
20-Dec-21	940 V	21 I	9.5 I	8.9 U
17-Jan-23	7.3	3.0 I	0.79 U	0.83 U
21-Dec-23	93	12	3.0	1.4 U

Notes:

Concentrations in micrograms per cubic meter ($\mu g/m^3$)

TCE = Trichloroethene
cDCE = cis-1,2-Dichloroethene
tDCE = trans-1,2-Dichloroethene
VC = Vinyl chloride
I = Reported value is between method detection limit (MDL) and practical quantitation limit
V = The analyte was detected in both the sample and the associated method blank
U = Not detected at MDL (associated value)

Table 2-11. Liquid-Phase Granular Activated Carbon Effluent Data

Sample Date	TCE	cDCE	tDCE	VC
5-Feb-10	0.24 U	0.32 U	0.34 U	0.28 U
6-Feb-10	0.24 U	0.32 U	0.34 U	0.28 U
7-Feb-10	0.24 U	0.32 U	0.34 U	0.28 U
8-Feb-10	0.24 U	0.32 U	0.34 U	0.28 U
10-Feb-10	0.24 U	0.32 U	0.34 U	0.28 U
11-Feb-10	0.24 U	0.32 U	0.34 U	0.28 U
16-Feb-10	0.24 U	0.32 U	0.34 U	0.28 U
17-Feb-10	0.24 U	0.32 U	0.34 U	0.28 U
18-Feb-10	0.24 U	0.32 U	0.34 U	0.28 U
19-Feb-10	0.24 U	0.32 U	0.34 U	0.28 U
20-Feb-10	0.24 U	0.32 U	0.34 U	0.28 U
21-Feb-10	0.24 U	0.32 U	0.34 U	0.28 U
25-Feb-10	0.24 U	0.32 U	0.34 U	0.28 U
26-Feb-10	0.24 U	0.32 U	0.34 U	0.28 U
27-Feb-10	0.24 U	0.32 U	0.34 U	0.28 U
28-Feb-10	0.24 U	0.32 U	0.34 U	0.28 U
1-Mar-10	0.24 U	0.32 U	0.34 U	0.28 U
10-Mar-10	0.24 U	0.32 U	0.34 U	0.28 U
11-Mar-10	0.24 U	0.32 U	0.34 U	0.28 U
12-Mar-10	0.24 U	0.32 U	0.34 U	0.28 U
13-Mar-10	0.24 U	0.32 U	0.34 U	0.28 U
14-Mar-10	0.24 U	0.32 U	0.34 U	0.28 U
18-Mar-10	0.24 U	0.32 U	0.34 U	0.28 U
19-Mar-10	0.24 U	0.32 U	0.34 U	0.28 U
20-Mar-10	0.24 U	0.32 U	0.34 U	0.28 U
21-Mar-10	0.24 U	0.32 U	0.34 U	0.28 U
22-Mar-10	0.24 U	0.32 U	0.34 U	0.28 U
23-Mar-10	0.24 U	0.32 U	0.34 U	0.28 U
24-Mar-10	0.24 U	0.32 U	0.34 U	0.28 U
25-Mar-10	0.24 U	0.32 U	0.34 U	0.28 U
31-Mar-10	0.24 U	0.32 U	0.34 U	0.28 U
7-Apr-10	0.24 U	0.32 U	0.34 U	0.28 U
14-Apr-10	0.24 U	0.32 U	0.34 U	0.28 U
5-May-10	0.24 U	0.32 U	0.34 U	0.28 U
13-May-10	0.24 U	0.32 U	0.34 U	0.28 U
19-May-10	**0.4 I**	0.32 U	0.34 U	0.28 U
26-May-10	0.24 U	0.32 U	0.34 U	0.28 U
2-Jun-10	0.24 U	0.32 U	0.34 U	0.28 U

Table 2-11. Liquid-Phase Granular Activated Carbon Effluent Data (continued)

Sample Date	TCE		cDCE		tDCE		VC	
16-Jun-10	0.24	U	0.32	U	0.34	U	0.28	U
23-Jun-10	0.24	U	0.32	U	0.34	U	0.28	U
1-Jul-10	**0.33**	**I**	**0.45**	**I**	0.34	U	0.28	U
7-Jul-10	0.24	U	**0.45**	**I**	0.34	U	0.28	U
11-Aug-10	0.24	U	0.32	U	0.34	U	0.28	U
18-Aug-10	0.24	U	**0.46**	**I**	0.34	U	0.28	U
25-Aug-10	0.24	U	0.32	U	0.34	U	0.28	U
1-Sep-10	0.24	U	**0.42**	**I**	0.34	U	0.28	U
8-Sep-10	0.24	U	**0.54**	**I**	0.34	U	0.28	U
15-Sep-10	0.24	U	**0.56**	**I**	0.34	U	0.28	U
22-Sep-10	0.24	U	**0.75**	**I**	0.34	U	0.28	U
27-Oct-10	0.26	U	**0.71**	**I**	0.35	U	0.22	U
22-Nov-10	0.26	U	**0.9**	**I**	0.35	U	0.22	U
29-Dec-10	0.26	U	**0.56**	**I**	0.35	U	0.22	U
26-Jan-11	**0.72**	**I**	**0.89**	**I**	0.35	U	0.22	U
21-Feb-11	**0.57**	**I**	**0.91**	**I**	0.35	U	0.22	U
10-Mar-11	**0.64**	**I**	**0.84**	**I**	0.35	U	0.22	U
14-Apr-11	**0.97**	**I**	**0.9**	**I**	0.35	U	0.22	U
18-May-11	**1.1**		**1.4**		0.35	U	0.22	U
8-Jun-11	**1.9**		**3.1**		0.35	U	0.22	U
13-Jul-11	0.26	U	0.26	U	0.35	U	0.22	U
10-Aug-11	0.26	U	0.26	U	0.35	U	0.22	U
14-Sep-11	0.26	U	0.26	U	0.35	U	0.22	U
10-Oct-11	0.26	U	0.26	U	0.35	U	0.22	U
10-Nov-11	0.26	U	0.26	U	0.35	U	0.22	U
15-Dec-11	0.26	U	0.26	U	0.35	U	0.22	U
20-Jan-12	**0.68**	**I**	**0.34**	**I**	0.35	U	0.22	U
2-Feb-12	**0.46**	**I**	0.26	U	0.35	U	0.22	U
1-Mar-12	**0.4**	**I**	**0.43**	**I**	0.35	U	0.22	U
4-Apr-12	**0.39**	**I**	**0.43**	**I**	0.35	U	0.22	U
17-May-12	**0.64**	**I**	**0.41**	**I**	0.35	U	0.22	U
14-Jun-12	**0.38**	**I**	**0.41**	**I**	0.35	U	0.22	U
26-Jul-12	0.26	U	0.26	U	0.35	U	0.22	U
14-Sep-12	**0.28**	**I**	**0.36**	**I**	0.35	U	0.22	U
5-Oct-12	0.31	U	0.24	U	0.23	U	0.44	U
26-Nov-12	**1.2**		**0.54**	**I**	0.23	U	0.44	U
8-Feb-13	**0.53**	**I**	**0.41**	**I**	0.23	U	0.44	U
11-Mar-13	**0.47**	**I**	**0.39**	**I**	0.23	U	0.44	U

Table 2-11. Liquid-Phase Granular Activated Carbon Effluent Data (continued)

Sample Date	TCE	cDCE	tDCE	VC
8-May-13	0.31 U	**0.58 I**	0.23 U	0.44 U
30-May-13	**0.36 I**	**0.38 I**	0.23 U	0.44 U
26-Jun-13	**1.7**	0.24 U	0.23 U	0.44 U
28-Aug-13	**1.3**	**0.3 I**	0.23 U	0.44 U
27-Sep-13	0.31 U	0.24 U	0.23 U	0.44 U
30-Oct-13	**0.47 I**	0.24 U	0.23 U	0.44 U
20-Nov-13	**0.47 I**	0.24 U	0.23 U	0.44 U
31-Dec-13	0.3 U	0.33 U	0.34 U	0.33 U
3-Feb-14	**0.32 I**	0.33 U	0.34 U	0.33 U
20-Mar-14	0.3 U	0.33 U	0.34 U	0.33 U
3-Apr-14	0.3 U	0.33 U	0.34 U	0.33 U
26-Jun-14	0.3 U	**0.54 I**	0.34 U	0.33 U
29-Aug-14	0.3 U	**0.4 I**	0.34 U	0.33 U
30-Sep-14	**0.34 I**	**0.37 I**	0.34 U	0.33 U
30-Dec-14	0.3 U	0.33 U	0.34 U	0.33 U
4-Feb-15	0.22 U	0.22 U	0.21 U	0.25 U
3-Jun-15	1 U	1 U	1 U	1 U
3-Jun-15	1 U	1 U	1 U	1 U
3-Jun-15	1 U	1 U	1 U	1 U
4-Jun-15	1 U	1 U	1 U	1 U
4-Jun-15	1 U	1 U	1 U	1 U
4-Jun-15	1 U	1 U	1 U	1 U
4-Jun-15	1 U	1 U	1 U	1 U
4-Jun-15	1 U	1 U	1 U	1 U
5-Jun-15	1 U	1 U	1 U	1 U
5-Jun-15	1 U	1 U	1 U	1 U
5-Jun-15	1 U	1 U	1 U	1 U
5-Jun-15	1 U	1 U	1 U	1 U
6-Jun-15	1 U	1 U	1 U	1 U
6-Jun-15	1 U	1 U	1 U	1 U
7-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U
8-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U
9-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U
10-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U
11-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U
12-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U
13-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U
14-Jun-15	0.22 U	0.22 U	0.21 U	0.25 U

Table 2-11. Liquid-Phase Granular Activated Carbon Effluent Data (continued)

Sample Date	TCE		cDCE		tDCE		VC	
18-Jun-15	0.22	U	0.22	U	0.21	U	0.25	U
25-Jun-15	0.22	U	0.22	U	0.21	U	0.25	U
13-Jul-15	0.22	U	0.22	U	0.21	U	0.25	U
13-Aug-15	0.22	U	0.22	U	0.21	U	0.25	U
10-Sep-15	0.22	U	0.22	U	0.21	U	0.25	U
30-Sep-15	0.22	U	0.22	U	0.21	U	0.25	U
22-Oct-15	0.22	U	0.22	U	0.21	U	0.25	U
13-Nov-15	0.22	U	0.22	U	0.21	U	0.25	U
17-Dec-15	**0.82**	**I**	**0.5**	**I**	0.21	U	0.25	U
15-Jan-16	0.27	U	0.31	U	0.33	U	0.31	U
12-Feb-16	0.27	U	0.31	U	0.33	U	0.31	U
4-Mar-16	0.27	U	0.31	U	0.33	U	0.31	U
12-Apr-16	0.27	U	0.31	U	0.33	U	0.31	U
24-May-16	0.27	U	0.31	U	0.33	U	0.31	U
22-Jun-16	0.27	U	0.31	U	0.33	U	0.31	U
15-Jul-16	0.27	U	0.31	U	0.33	U	0.31	U
22-Aug-16	0.27	U	0.31	U	0.33	U	0.31	U
22-Sep-16	**1.1**		**0.5**	**I**	0.33	U	0.31	U
28-Oct-16	0.27	U	0.31	U	0.33	U	0.31	U
17-Nov-16	0.27	U	0.31	U	0.33	U	0.31	U
16-Dec-16	0.27	U	0.31	U	0.33	U	0.31	U
30-Jan-17	0.35	U	0.28	U	0.22	U	0.41	U
20-Feb-17	0.35	U	0.28	U	0.22	U	0.41	U
15-Mar-17	0.35	U	0.28	U	0.22	U	0.41	U
13-Apr-17	0.35	U	**0.47**	**I**	0.22	U	0.41	U
4-May-17	0.35	U	0.28	U	0.22	U	0.41	U
20-Sep-17	0.35	U	0.28	U	0.22	U	0.41	U
15-Nov-17	0.35	U	0.28	U	0.22	U	0.41	U
13-Dec-17	0.35	U	0.28	U	0.22	U	0.41	U
25-Jan-18	0.35	U	**0.6**	**I**	0.22	U	0.41	U
27-Feb-18	**0.41**	**I**	**0.57**	**I**	0.22	U	0.41	U
19-Mar-18	0.35	U	**1.1**		0.22	U	0.41	U
26-Apr-18	0.35	U	0.29	U	0.21	U	0.41	U
30-May-18	0.50	U	**0.54**	**I**	0.22	U	0.41	U
27-Jun-18	0.35	U	**0.46**	**I**	0.21	U	0.41	U
19-Jul-18	0.35	U	**0.49**	**I**	0.22	U	0.41	U
30-Sep-19	**3.0**		**0.92**	**I**	0.22	U	0.41	U
17-Oct-19	0.35	U	**0.28**	**U**	0.22	U	0.41	U
5-Nov-19	0.35	U	**0.28**	**U**	0.22	U	0.41	U

Table 2-11. Liquid-Phase Granular Activated Carbon Effluent Data (continued)

Sample Date	TCE	cDCE	tDCE	VC
17-Dec-19	**1.7**	**1.7**	0.22 U	0.41 U
22-Feb-21	0.35 U	0.28 U	0.22 U	0.41 U
11-Mar-21	0.35 U	0.28 U	0.22 U	0.41 U
22-Apr-21	**0.41 I**	**1.8**	0.22 U	0.41 U
19-May-21	0.35 U	0.28 U	0.22 U	0.41 U
23-Jun-21	0.35 U	0.28 U	0.22 U	0.41 U
22-Jul-21	0.35 U	0.28 U	0.22 U	0.41 U
24-Aug-21	0.35 U	0.28 U	0.22 U	0.41 U
14-Sep-21	0.89 U	0.53 U	0.73 U	0.71 U
7-Oct-21	0.89 U	0.53 U	0.73 U	0.71 U
10-Nov-21	0.89 U	0.53 U	0.73 U	0.71 U
14-Dec-21	0.89 U	0.53 U	0.73 U	0.71 U
17-Jan-22	0.89 U	0.53 U	0.73 U	0.71 U
14-Feb-22	0.89 U	0.53 U	0.73 U	0.71 U
22-Mar-22	0.89 U	0.53 U	0.73 U	0.71 U
19-Apr-22	0.89 U	0.53 U	0.73 U	0.71 U
31-May-22	0.89 U	0.53 U	0.73 U	0.71 U
28-Jun-22	0.89 U	0.53 U	0.73 U	0.71 U
22-Jul-22	0.89 U	0.53 U	0.73 U	0.71 U
16-Aug-22	0.89 U	0.53 U	0.73 U	0.71 U
8-Sep-22	0.89 U	0.53 U	0.73 U	0.71 U
26-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
Nov-22	NS	NS	NS	NS
13-Dec-22	0.79 U	0.71 U	0.95 U	0.64 U
31-Jan-23	0.79 U	0.71 U	0.95 U	0.64 U
21-Feb-23	0.79 U	0.71 U	0.95 U	0.64 U
31-Mar-23	0.79 U	0.71 U	0.95 U	0.64 U
14-Apr-23	0.15 U	0.20 U	0.50 U	0.50 U
31-May-23	0.79 U	0.71 U	0.95 U	0.64 U
23-Jun-23	0.20 U	0.25 U	0.34 U	0.40 U
31-Jul-23	0.15 U	0.20 U	0.50 U	0.50 U
28-Aug-23	0.20 U	0.25 U	0.34 U	0.40 U
26-Sep-23	0.20 U	**0.71 I**	0.34 U	0.40 U J3
25-Oct-23	**0.32 I**	**0.35 I**	0.34 U	0.40 U
27-Nov-23	0.89 U	**0.85 I**	0.73 U	0.71 U
21-Dec-23	0.89 U	0.53 U	0.73 U	0.71 U
29-Jan-24	0.89 U	0.53 U	0.73 U	0.71 U

Table 2-11. Liquid-Phase Granular Activated Carbon Effluent Data (continued)

Sample Date	TCE	cDCE	tDCE	VC
23-Feb-24	0.89 U	0.53 U	0.73 U	0.71 U
19-Mar-24	0.89 U	0.53 U	0.73 U	0.71 U

Note:

- LPGAC was taken offline in July 2018. It was reinstated in September 2019 through December 2019 during RW17C startup, then taken offline until February 2021.
- November 2022, LPGAC sample not collected due to system being down.
- Bolding indicates a concentration greater than the method detection limit (MDL) but less than the GCTL.
- Concentrations in µg/L.

TCE = Trichloroethene
cDCE = cis-1,2-Dichloroethene
tDCE = trans-1,2-Dichloroethene
VC = Vinyl chloride
I = Reported value between MDL and practical quantitation limit
J3 = Estimated value; value may not be accurate. Spike recovery or relative percent difference outside of criteria.
U = Not detected at or above MDL (associated value)
NS = Not sampled

Table 2-12. Catalytic Oxidizer Emission Loading and Destruction Efficiencies

Parameter	Influent			
	Result ($\mu g/m^3$)	Calculated Loading		
		(lb/day)	(lb/month)	(lb/year)
Acetone	**1,200 J**	**0.06**	**1.94**	**23.60**
Chlorobenzene	**210 J**	**0.01**	**0.34**	**4.13**
cis-1,2-Dichloroethene	**38,000**	**2.0**	**61**	**747**
Cyclohexane	190 U	0.01	0.15	1.87
Freon 12	360 U	0.01	0.29	3.54
m,p-Xylene	**100 J**	**0.01**	**0.16**	**0.00**
Toluene	**1,800**	**0.10**	**2.91**	**35.40**
trans-1,2-Dichloroethene	**360 J**	**0.02**	**0.58**	**7.08**
Trichloroethene	**230,000**	**12.4**	**372**	**4524**
Vinyl chloride	**2,500**	**0.13**	**4.0**	**49**

Parameter	Effluent				
	Result ($\mu g/m^3$)	Calculated Loading			Destruction Efficiency
		(lb/day)	(lb/month)	(lb/year)	
Acetone	4.3 U	1.2E-04	3.5E-03	0.04	99.82%
Chlorobenzene	0.62 U	1.7E-05	5.0E-04	0.01	99.85%
cis-1,2-Dichloroethene	**12**	**6.5E-04**	**0.02**	**0.24**	99.97%
Cyclohexane	**3.3**	**1.8E-04**	**0.01**	**0.06**	99.13%
Dichlorodifluoromethane	**2.0 J**	**1.1E-04**	**3.2E-03**	**0.04**	99.72%
m,p-Xylene	0.4 U	1.1E-05	3.2E-04	3.9E-03	99.80%
Toluene	0.61 U	1.6E-05	4.9E-04	0.01	99.98%
trans-1,2-Dichloroethene	**3.0**	**1.6E-04**	**4.8E-03**	**0.06**	99.17%
Trichloroethene	**93**	**5.0E-03**	**0.15**	**1.83**	99.96%
Vinyl chloride	1.4 U	3.8E-05	1.1E-03	0.01	99.97%

TCE and total VOC emission rates are 5.0E-03 and 6.3E-03 pound per day (lb/day), which are less than the daily HAP level of 2.7 and 6.8 lb/day, respectively.
Influent results show system loading for TCE is 12.4 lb/day and for total VOCs is 14.8 lb/day.
Notes:
- Loading calculated based on the operational flow rate of 600 standard cubic feet per minute.
- Table includes all analytes that were detected for influent and effluent samples (collected 12/21/2023); all other tested parameters are non-detect.
- Bolding indicates a detected parameter above the laboratory method detection limit (MDL).
- Analytes reported as U, 1/2 the MDL used for loading calculation

J = The reported value is between the laboratory MDL and the practical quantitation limit (PQL)
U = Value below the laboratory MDL
HAP = Hazardous Air Pollutant
lb = Pounds
$\mu g/m^3$ = Microgram per cubic meter
VOC = Volatile organic compound

Table 2-13. Mass and Volume Recovery Data

Year	Date	TCE (µg/L)	cDCE (µg/L)	tDCE (µg/L)	VC (µg/L)	Total Influent VOCs (µg/L)	Volume Recovered (gal)		VOC Mass Recovered (lb)	
							Annually	Cumulative	Annually	Cumulative
1	2/21/2011	69,900	18,400	180	981	89,461	10,384,456	11,540,001	10,782	13,196
2	3/1/2012	59,800	9,670	87	1,100	70,657	15,768,761	27,308,762	10,070	23,265
3	3/11/2013	39,500	6,900	100	880	47,380	17,316,773	44,625,535	8,805	32,071
4	4/3/2014	45,000	6,570	170	5,510	57,250	17,008,141	61,633,676	6,264	38,335
5	2/10/2015	31,800	4,370	170	339	36,679	13,145,739	74,779,415	4,323	42,657
6	3/4/2016	9,040	148	1,110	28,698	38,996	18,220,810	93,000,225	6,437	49,095
7	3/15/2017	17,000	6,510	122	833	24,465	29,003,352	122,003,577	6,299	55,394
8	3/19/2018	16,100	3,730	77	551	20,458	28,032,490	150,036,067	4,785	60,179
9	3/29/2019	15,600	3,990	74	684	20,348	40,014,072	190,050,139	6,284	66,464
10	3/26/2020	13,300	2,160	44	236	15,740	32,592,916	222,643,055	5,982	72,446
11	3/31/2021	12,100	2,450	67	476	15,093	30,358,082	253,001,137	6,293	78,738
12	3/31/2022	12,000	3,900	73	360	16,333	32,711,664	285,712,801	6,195	84,933
13	3/31/2023	12,000	3,900	190	400	16,490	27,960,440	313,673,241	3,404	88,337
14	3/31/2024	25,000	5,100	370	360	30,830	31,176,393	344,849,634	6,319	94,656

Notes:

- Contaminants of concern concentrations shown are results from the end of each reporting period.

TCE = Trichloroethene
cDCE = cis-1,2-Dichloroethene
tDCE = trans-1,2,-Dichloroethene
VC = Vinyl chloride
µg/L = Micrograms per liter
VOCs = Volatile organic compounds
gal = Gallons
lb = Pounds

Table 2-14. DPT Performance Groundwater Results

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0593	11/7/2017	8	LC34-DPT0593-008.0-20171107	1 U	1 U	1 U
		13	LC34-DPT0593-013.0-20171107	2	5	1 U
		18	LC34-DPT0593-018.0-20171107	**5**	35	**18**
		23	LC34-DPT0593-023.0-20171107	**25**	62	**24**
		28	LC34-DPT0593-028.0-20171107	**54**	62	**21**
		33	LC34-DPT0593-033.0-20171107	**59**	**460**	**180**
		38	LC34-DPT0593-038.0-20171107	**2,400**	**4,100**	**2,000**
		43	LC34-DPT0593-043.0-20171107	**216,000**	**67,200**	**107,000**
		48	LC34-DPT0593-048.0-20171107	**539,000**	**174,000**	**5,400**
		53	LC34-DPT0593-053.0-20171107	**479,000**	**165,000**	**4,100**
		58	LC34-DPT0593-058.0-20171107	**125,000**	**26,800**	2,000 U
		63	LC34-DPT0593-063.0-20171107	**1,600**	28	20 U
		68	LC34-DPT0593-068.0-20171107	**1,600**	23	10 U
		73	LC34-DPT0593-073.0-20171107	**3,800**	49	**6**
		78	LC34-DPT0593-078.0-20171107	**2,400**	**79**	10 U
		83	LC34-DPT0593-083.0-20171107	**4,400**	**100**	10 U
	11/5/2018	8	LC34-DPT0593-008.0-20181105	1 U	1 U	1 U
		13	LC34-DPT0593-013.0-20181105	1 U	1 U	1 U
		18	LC34-DPT0593-018.0-20181105	**11**	6	**3**
		23	LC34-DPT0593-023.0-20181105	**45**	26	**16**
		28	LC34-DPT0593-028.0-20181105	**1,200**	67	**63**
		33	LC34-DPT0593-033.0-20181105	**150**	**97**	**130**
		38	LC34-DPT0593-038.0-20181105	**2,100**	**2,200**	**5,700**
		43	LC34-DPT0593-043.0-20181105	**101,000 J**	**14,600**	**68,400 J**
		48	LC34-DPT0593-048.0-20181105	**75,300**	**180,000**	**1,000**
		53	LC34-DPT0593-053.0-20181105	**48,900**	**132,000**	**520**
		58	LC34-DPT0593-058.0-20181105	**2,900**	**17,100**	**430**
	11/6/2018	63	LC34-DPT0593-063.0-20181106	**17,500**	**490**	100 U
		68	LC34-DPT0593-068.0-20181106	**35**	10 U	10 U
		73	LC34-DPT0593-073.0-20181106	**520**	6	**2**
		78	LC34-DPT0593-078.0-20181106	**4,000**	**110**	20 U
		83	LC34-DPT0593-083.0-20181106	**17,600**	290 U	290 U
	11/18/2019	8	LC34-DPT0593-008.0-20191118	1 U	32	**200**
		13	LC34-DPT0593-013.0-20191118	2 U	16	**98**
		18	LC34-DPT0593-018.0-20191118	**6**	5	**30**
		23	LC34-DPT0593-023.0-20191118	**33**	9	**8**
		28	LC34-DPT0593-028.0-20191118	**140**	59	**44**
		33	LC34-DPT0593-033.0-20191118	**120**	**160**	**140**
		38	LC34-DPT0593-038.0-20191118	**2,000**	**4,700**	**8,300**
		43	LC34-DPT0593-043.0-20191118	**9,800**	**9,800**	**42,000 J**
		48	LC34-DPT0593-048.0-20191118	**316,000 J**	**28,900**	**24,800**
		53	LC34-DPT0593-053.0-20191118	**315,000**	**217,000**	**3,000**
		58	LC34-DPT0593-058.0-20191118	**34,900**	**37,700**	500 U
		63	LC34-DPT0593-063.0-20191118	**9**	11	2 U
		68	LC34-DPT0593-068.0-20191118	**790**	10 U	10 U
		73	LC34-DPT0593-073.0-20191118	**1,200**	11	10 U
		78	LC34-DPT0593-078.0-20191118	**270**	18	3 U
		83	LC34-DPT0593-083.0-20191118	**50**	20	2 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0593 (continued)	12/1/2020	8	LC34-DPT0593-008.0-20201201	0.47 J	47.4	**4.7**
		13	LC34-DPT0593-013.0-20201201	**11.2**	**425**	**177**
		18	LC34-DPT0593-018.0-20201201	**12.8**	**493**	**183**
		23	LC34-DPT0593-023.0-20201201	**29.2**	26.6	**62.3**
		28	LC34-DPT0593-028.0-20201201	**85.2**	10.2	**8.5**
		33	LC34-DPT0593-033.0-20201201	**68.5**	**96.8**	**75.2**
		38	LC34-DPT0593-038.0-20201201	**3,750**	**12,200**	**4,170**
		43	LC34-DPT0593-043.0-20201201	**27,900**	**27,600**	**73,800**
		48	LC34-DPT0593-048.0-20201201	**929,000**	**20,800**	**46,000**
		53	LC34-DPT0593-053.0-20201201	**441,000**	**217,000**	**5,170**
		58	LC34-DPT0593-058.0-20201201	**8,790**	**47,600**	**414**
		63	LC34-DPT0593-063.0-20201201	**48.9**	6.4	0.56 J
		68	LC34-DPT0593-068.0-20201201	**6.6**	0.61 J	0.23 U
		73	LC34-DPT0593-073.0-20201201	**145**	18.6	**2.4**
		78	LC34-DPT0593-078.0-20201201	**160**	9.8	0.23 J
		83	LC34-DPT0593-083.0-20201201	**23.6**	4.2	0.41 J
		88	LC34-DPT0593-088.0-20201201	**175**	5.5	0.63 J
		93	LC34-DPT0593-093.0-20201201	**3,960**	69	**16.1**
		98	LC34-DPT0593-098.0-20201201	**20.2**	4.2	0.36 J
	12/22/2021	8	LC34-DPT0593-008.0-20211222	**7,360**	**1,390**	41 U
		13	LC34-DPT0593-013.0-20211222	**21,600 J**	**1,600**	**222**
		18	LC34-DPT0593-018.0-20211222	**254 J**	**1,500**	**111**
		23	LC34-DPT0593-023.0-20211222	**625**	**706**	**437**
		28	LC34-DPT0593-028.0-20211222	**1,860**	28 U	**138**
		33	LC34-DPT0593-033.0-20211222	**32,700 J**	**252**	**456**
		38	LC34-DPT0593-038.0-20211222	**24,100 J**	**3,200**	**1,160**
		43	LC34-DPT0593-043.0-20211222	**61,700 J**	**48,900**	**64,600**
		48	LC34-DPT0593-048.0-20211222	**719,000**	28,000 U	41,000 U
		53	LC34-DPT0593-053.0-20211222	**170,000**	**222,000**	41,000 U
		58	LC34-DPT0593-058.0-20211222	**15,700**	**105,000**	**5,520**
		63	LC34-DPT0593-063.0-20211222	**899 J**	**262 J**	20 UJ
		68	LC34-DPT0593-068.0-20211222	**129 J**	35.3 J	4.1 UJ
		73	LC34-DPT0593-073.0-20211222	**135 J**	14.3 J	4.1 UJ
	12/23/2021	78	LC34-DPT0593-078.0-20211223	**57.9**	15.2	2 U
		83	LC34-DPT0593-083.0-20211223	**8,860 J**	59.9	**10.2**
		88	LC34-DPT0593-088.0-20211223	**961 J**	56.1	**3.9 J**
		93	LC34-DPT0593-093.0-20211223	**3,610 J**	**264**	**17.2**
		98	LC34-DPT0593-098.0-20211223	**737 J**	16.6 J	**4.8 J**
	12/14/2022	8	LC34-DPT0593-008.0-20221214	**700**	54	0.64 U
		13	LC34-DPT0593-013.0-20221214	**33**	24	**15**
		18	LC34-DPT0593-018.0-20221214	**1,000**	**1,200**	**170**
		23	LC34-DPT0593-023.0-20221214	**3,800**	**2,700**	**310**
		28	LC34-DPT0593-028.0-20221214	**1,800**	**620**	**390**
		33	LC34-DPT0593-033.0-20221214	**8,300**	**230**	**170**
	12/15/2022	38	LC34-DPT0593-038.0-20221215	**12,000**	**1,600**	**340**
		43	LC34-DPT0593-043.0-20221215	**38,000**	**7,900**	**22,000**
		48	LC34-DPT0593-048.0-20221215	**630,000**	**18,000**	**19,000**
		53	LC34-DPT0593-053.0-20221215	**350,000**	**110,000**	**12,000**
		58	LC34-DPT0593-058.0-20221215	**32,000**	**87,000**	**7,500**
		63	LC34-DPT0593-063.0-20221215	**150**	37	**4.3**
		68	LC34-DPT0593-068.0-20221215	**1,300**	35	6.4 U
		73	LC34-DPT0593-073.0-20221215	**13,000**	**2,300**	**59**
		78	LC34-DPT0593-078.0-20221215	**290**	14	3.2 U
		83	LC34-DPT0593-083.0-20221215	**680**	8.3	3.2 U
		88	LC34-DPT0593-088.0-20221215	**42,000**	**530**	130 U
	12/16/2022	93	LC34-DPT0593-093.0-20221216	**870**	**340**	6.4 U
		98	LC34-DPT0593-098.0-20221216	**97**	13	0.64 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0593 (continued)	1/18/2024	8	LC34-DPT0593-008.0-20240118	0.89 U	3.2	0.79 I
		13	LC34-DPT0593-013.0-20240118	0.89 U	0.80 I	0.71 U
		18	LC34-DPT0593-018.0-20240118	**5.8**	1.6	**3.4**
		23	LC34-DPT0593-023.0-20240118	**22**	50	**56**
		28	LC34-DPT0593-028.0-20240118	89 U	**4,200**	**490**
		33	LC34-DPT0593-033.0-20240118	**27**	**740**	**280**
		38	LC34-DPT0593-038.0-20240118	**130**	**3,800**	**290**
		43	LC34-DPT0593-043.0-20240118	**110,000**	**13,000**	**51,000**
		48	LC34-DPT0593-048.0-20240118	**480,000**	**14,000**	**31,000**
		53	LC34-DPT0593-053.0-20240118	**130,000**	**85,000**	**14,000**
		58	LC34-DPT0593-058.0-20240118	**180,000**	**160,000**	**15,000**
		63	LC34-DPT0593-063.0-20240118	**9,400**	**1,500**	**340**
		68	LC34-DPT0593-068.0-20240118	**47,000**	**2,800**	360 U
		73	LC34-DPT0593-073.0-20240118	**2,500**	34	18 U
		78	LC34-DPT0593-078.0-20240118	**360**	34	3.6 U
		83	LC34-DPT0593-083.0-20240119	**30,000**	**1,400**	**250**
	1/19/2024	88	LC34-DPT0593-088.0-20240119	**31,000**	270 U	360 U
		93	LC34-DPT0593-093.0-20240119	**26,000**	**2,200**	360 U
		98	LC34-DPT0593-098.0-20240119	**7,100**	**230**	71 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0594	11/7/2017	8	LC34-DPT0594-008.0-20171107	**24**	7	**13**
		13	LC34-DPT0594-013.0-20171107	**11**	27	**110**
		18	LC34-DPT0594-018.0-20171107	**8**	38	**200**
		23	LC34-DPT0594-023.0-20171107	**6**	52	**240**
		28	LC34-DPT0594-028.0-20171107	**25**	2	**3**
		33	LC34-DPT0594-033.0-20171107	**12,500**	**3,100**	**160**
		38	LC34-DPT0594-038.0-20171107	**610,000**	**8,200**	1,000 U
		43	LC34-DPT0594-043.0-20171107	**836,000**	**134,000**	2,500 U
		48	LC34-DPT0594-048.0-20171107	**754,000**	**43,400**	3,300 U
	11/8/2017	53	LC34-DPT0594-053.0-20171108	**1,580,000**	**34,000**	3,300 U
		58	LC34-DPT0594-058.0-20171108	**549,000**	**43,000**	5,000 U
		63	LC34-DPT0594-063.0-20171108	**28,600 J**	**180**	10 U
		68	LC34-DPT0594-068.0-20171108	**17,100**	**1,200**	100 U
		73	LC34-DPT0594-073.0-20171108	**96,900**	**6,600**	100 U
		78	LC34-DPT0594-078.0-20171108	**431,000**	**26,500**	400 U
		83	LC34-DPT0594-083.0-20171108	**6,300**	**940**	2,000 U
	11/6/2018	8	LC34-DPT0594-008.0-20181106	1 U	2	1 U
		13	LC34-DPT0594-013.0-20181106	1 U	4	**29**
		18	LC34-DPT0594-018.0-20181106	3	6	**49**
		23	LC34-DPT0594-023.0-20181106	2	2	**11**
		28	LC34-DPT0594-028.0-20181106	**180**	2	**3**
		33	LC34-DPT0594-033.0-20181106	2	2	**2**
		38	LC34-DPT0594-038.0-20181106	**11,500**	**2,200**	200 U
		43	LC34-DPT0594-043.0-20181106	**781,000**	**30,200**	**360**
		48	LC34-DPT0594-048.0-20181106	**323,000 J**	**87,300**	**10,400**
		53	LC34-DPT0594-053.0-20181106	**42,000 J**	**69,000**	**4,500**
		58	LC34-DPT0594-058.0-20181106	**212,000**	**10,700**	1,000 U
		63	LC34-DPT0594-063.0-20181106	**3,300**	**320**	200 U
	11/7/2018	68	LC34-DPT0594-068.0-20181107	**16,500**	**860**	3 U
		73	LC34-DPT0594-073.0-20181107	**29,900**	**2,400**	200 U
		78	LC34-DPT0594-078.0-20181107	**278,000 J**	**14,400**	200 U
		83	LC34-DPT0594-083.0-20181107	**31,000**	**320**	100 U
	11/18/2019	8	LC34-DPT0594-008.0-20191118	2 U	16	**110**
		13	LC34-DPT0594-013.0-20191118	1	**140**	**220 J**
		18	LC34-DPT0594-018.0-20191118	2	26	**260 J**
		23	LC34-DPT0594-023.0-20191118	2	32	**240 J**
		28	LC34-DPT0594-028.0-20191118	2	12	**210**
		33	LC34-DPT0594-033.0-20191118	**14,200**	**840**	290 U
		38	LC34-DPT0594-038.0-20191118	**206,000 J**	**13,700**	**330**
		43	LC34-DPT0594-043.0-20191118	**414,000 J**	**33,900**	**840**
		48	LC34-DPT0594-048.0-20191118	**457,000 J**	**55,000**	**1,100**
		53	LC34-DPT0594-053.0-20191118	**813,000 J**	**37,600**	1,000 U
		58	LC34-DPT0594-058.0-20191118	**669,000 J**	**25,000**	**2,400**
		63	LC34-DPT0594-063.0-20191118	**17,900**	**410**	**1,300**
		68	LC34-DPT0594-068.0-20191118	**27,800**	**600**	100 U
	11/19/2019	73	LC34-DPT0594-073.0-20191119	**177,000**	**4,500**	1,000 U
		78	LC34-DPT0594-078.0-20191119	**594,000 J**	**20,000**	1,000 U
		83	LC34-DPT0594-083.0-20191119	**115,000**	**1,900**	1,000 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0594 (continued)	12/2/2020	8	LC34-DPT0594-008.0-20201202	0.31 U	9	**44.3**
		13	LC34-DPT0594-013.0-20201202	0.31 U	0.34 U	**36.1**
		18	LC34-DPT0594-018.0-20201202	0.31 U	3.7	**21.5**
		23	LC34-DPT0594-023.0-20201202	1.8	23.5	**187**
		28	LC34-DPT0594-028.0-20201202	2.9	10.8	**92.1**
		33	LC34-DPT0594-033.0-20201202	**4,680**	**3,250**	**376**
		38	LC34-DPT0594-038.0-20201202	**64,900**	**8,450**	**327 J**
		43	LC34-DPT0594-043.0-20201202	**1,100,000**	**56,600**	2,300 U
		48	LC34-DPT0594-048.0-20201202	**780,000**	**172,000**	**6,840 J**
		53	LC34-DPT0594-053.0-20201202	**1,420,000**	**34,100**	2,300 U
		58	LC34-DPT0594-058.0-20201202	**1,120,000**	**24,500**	2,300 U
		63	LC34-DPT0594-063.0-20201202	**6,640**	40.7 J	12 U
		68	LC34-DPT0594-068.0-20201202	**8,670**	17 U	12 U
		73	LC34-DPT0594-073.0-20201202	**20,500**	**2,470**	**207**
		78	LC34-DPT0594-078.0-20201202	**1,520,000**	**24,200**	2,300 U
		83	LC34-DPT0594-083.0-20201202	**1,110**	**159**	1.2 U
		88	LC34-DPT0594-088.0-20201202	**9,870**	**114**	23 U
		93	LC34-DPT0594-093.0-20201202	**28,400**	**375**	46 U
		98	LC34-DPT0594-098.0-20201202	**2,330**	43.5	4.6 U
	12/22/2021	8	LC34-DPT0594-008.0-20211222	**1,160**	57.5 J	41 U
		13	LC34-DPT0594-013.0-20211222	**21,200 J**	**6,700**	**257**
		18	LC34-DPT0594-018.0-20211222	**61,100 J**	**5,430**	**484**
		23	LC34-DPT0594-023.0-20211222	**89,800 J**	**4,040**	**826**
		28	LC34-DPT0594-028.0-20211222	**36,700 J**	**7,260**	**582**
		33	LC34-DPT0594-033.0-20211222	**78.3 J**	**377**	**73.3**
		38	LC34-DPT0594-038.0-20211222	**20,300**	**4,640 J**	2,000 U
		43	LC34-DPT0594-043.0-20211222	**1,900,000**	**150,000**	41,000 U
		48	LC34-DPT0594-048.0-20211222	**637,000**	55,000 U	82,000 U
		53	LC34-DPT0594-053.0-20211222	**1,560,000 J**	**38,100 J**	**5,400 J**
		58	LC34-DPT0594-058.0-20211222	**632,000 J**	**19,000 J**	**2,330 J**
		63	LC34-DPT0594-063.0-20211222	**24,000 J**	**213 J**	100 UJ
	12/23/2021	68	LC34-DPT0594-068.0-20211223	**19,100**	**330 J**	200 U
		73	LC34-DPT0594-073.0-20211223	**49,300 J**	**3,810**	200 U
		78	LC34-DPT0594-078.0-20211223	**1,230,000**	**17,500 J**	8,200 U
		83	LC34-DPT0594-083.0-20211223	**23,400 J**	**605**	**12.8 J**
		88	LC34-DPT0594-088.0-20211223	**116,000 J**	**4,090**	**185 J**
		93	LC34-DPT0594-093.0-20211223	**229,000 J**	**8,700**	**255 J**
		98	LC34-DPT0594-098.0-20211223	**2,630,000 J**	**17,100**	**627**
	12/14/2022	8	LC34-DPT0594-008.0-20221214	**1,300**	**3,000**	**19 I**
		13	LC34-DPT0594-013.0-20221214	**69**	**690**	**9.0**
		18	LC34-DPT0594-018.0-20221214	**38**	**870**	**41**
		23	LC34-DPT0594-023.0-20221214	**230**	**1,900**	13 U
		28	LC34-DPT0594-028.0-20221214	**42,000**	**14,000**	320 U
		33	LC34-DPT0594-033.0-20221214	**6,300**	**15,000**	**1,600**
		38	LC34-DPT0594-038.0-20221214	**5,800**	**15,000**	**690**
		43	LC34-DPT0594-043.0-20221214	**610,000**	**41,000**	3,200 U
		48	LC34-DPT0594-048.0-20221214	**690,000**	**42,000**	3,200 U
		53	LC34-DPT0594-053.0-20221214	**1,300,000**	**47,000**	**3,600 I**
		58	LC34-DPT0594-058.0-20221214	**330,000**	**9,200**	**7,000**
		63	LC34-DPT0594-063.0-20221214	**2,100**	36 U	**2,700**
	12/15/2022	68	LC34-DPT0594-068.0-20221215	**3,000**	18 I	13 U
		73	LC34-DPT0594-073.0-20221215	**29,000**	**1,300**	130 U
		78	LC34-DPT0594-078.0-20221215	**380,000**	**9,100**	1,300 U
		83	LC34-DPT0594-083.0-20221215	**16,000**	**210**	130 U
	12/16/2022	88	LC34-DPT0594-088.0-20221216	**8,800**	**120**	64 U
		93	LC34-DPT0594-093.0-20221216	**44,000**	**160 I**	130 U
		98	LC34-DPT0594-098.0-20221216	**24,000**	**94 I**	64 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0594 (continued)	1/18/2024	8	LC34-DPT0594-008.0-20240118	8.9 U	**200**	**14**
		13	LC34-DPT0594-013.0-20240118	4.5 U	**80**	**50**
		18	LC34-DPT0594-018.0-20240118	4.5 U	25	**61**
		23	LC34-DPT0594-023.0-20240118	**3.6**	38	**52**
		28	LC34-DPT0594-028.0-20240118	4.5 U	70	**41**
		33	LC34-DPT0594-033.0-20240118	8.9 U	**900**	**160**
		38	LC34-DPT0594-038.0-20240118	**5,200**	**9,400**	**280**
		43	LC34-DPT0594-043.0-20240118	**21,000**	**5,000**	360 U
		48	LC34-DPT0594-048.0-20240118	**270,000**	**33,000**	**1,100**
		53	LC34-DPT0594-053.0-20240118	**1,600,000**	**91,000**	**2,700**
		58	LC34-DPT0594-058.0-20240118	**670,000**	**51,000**	**2,900**
		63	LC34-DPT0594-063.0-20240118	**79,000**	**6,300**	**2,200**
		68	LC34-DPT0594-068.0-20240118	**130,000**	**3,300**	710 U
		73	LC34-DPT0594-073.0-20240118	**78,000**	**950 I**	710 U
		78	LC34-DPT0594-078.0-20240118	**1,400,000**	**8,300**	3,600 U
		83	LC34-DPT0594-083.0-20240118	**14,000**	**1,200**	180 U
		88	LC34-DPT0594-088.0-20240118	**54,000**	**4,900**	710 U
	1/19/2024	93	LC34-DPT0594-093.0-20240119	**88,000**	**3,200**	1,400 U
		98	LC34-DPT0594-098.0-20240119	**34,000**	**760**	360 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0595	11/8/2017	8	LC34-DPT0595-008.0-20171108	**130**	14	**160**
		13	LC34-DPT0595-013.0-20171108	**5,400**	29	**18**
		18	LC34-DPT0595-018.0-20171108	**640**	40 U	**72**
		23	LC34-DPT0595-023.0-20171108	**64**	10 U	**92**
		28	LC34-DPT0595-028.0-20171108	**190**	6	**42**
		33	LC34-DPT0595-033.0-20171108	**47**	**800**	**3,400**
		38	LC34-DPT0595-038.0-20171108	200 U	**42,600**	**34,500**
		43	LC34-DPT0595-043.0-20171108	40 U	**1,100**	**89**
		48	LC34-DPT0595-048.0-20171108	**240**	**1,500**	**30**
		53	LC34-DPT0595-053.0-20171108	**24**	**120**	10 U
		58	LC34-DPT0595-058.0-20171108	**64**	**590**	**5**
		63	LC34-DPT0595-063.0-20171108	**4**	18	**6**
		68	LC34-DPT0595-068.0-20171108	**7**	15	**5**
		73	LC34-DPT0595-073.0-20171108	**151,000**	**6,000**	1,000 U
		78	LC34-DPT0595-078.0-20171108	**1,340,000**	**6,800**	3,300 U
		83	LC34-DPT0595-083.0-20171108	**4,500**	**110**	20 U
	11/7/2018	8	LC34-DPT0595-008.0-20181107	**4**	25	**190**
		13	LC34-DPT0595-013.0-20181107	2	30	**220**
		18	LC34-DPT0595-018.0-20181107	1	3	**2**
		23	LC34-DPT0595-023.0-20181107	1	1	**6**
		28	LC34-DPT0595-028.0-20181107	1 U	1	**18**
		33	LC34-DPT0595-033.0-20181107	3 U	3 U	**200**
		38	LC34-DPT0595-038.0-20181107	100 U	**20,900**	**21,600**
		43	LC34-DPT0595-043.0-20181107	**1,600**	**23,400**	**1,900**
		48	LC34-DPT0595-048.0-20181107	**510**	**700**	**130**
		53	LC34-DPT0595-053.0-20181107	**42**	**670**	**320**
		58	LC34-DPT0595-058.0-20181107	**120**	**140**	**58**
		63	LC34-DPT0595-063.0-20181107	**9**	16	**9**
		68	LC34-DPT0595-068.0-20181107	**49**	**93**	**10**
		73	LC34-DPT0595-073.0-20181107	**123,000**	**840**	200 U
		78	LC34-DPT0595-078.0-20181107	**1,060,000 J**	**5,300**	500 U
	11/8/2018	83	LC34-DPT0595-083.0-20181108	**610**	100 U	100 U
	11/19/2019	8	LC34-DPT0595-008.0-20191119	1	3	**12**
		13	LC34-DPT0595-013.0-20191119	1 U	3	**31**
		18	LC34-DPT0595-018.0-20191119	1 U	3	**50**
		23	LC34-DPT0595-023.0-20191119	1 U	2	**53**
		28	LC34-DPT0595-028.0-20191119	1 U	3	**36**
		33	LC34-DPT0595-033.0-20191119	20 U	**1,200**	**3,200**
		38	LC34-DPT0595-038.0-20191119	290 U	**50,000**	**28,000**
		43	LC34-DPT0595-043.0-20191119	290 U	**7,900**	**4,900**
		48	LC34-DPT0595-048.0-20191119	200 U	**5,000**	**2,800**
		53	LC34-DPT0595-053.0-20191119	50 U	**6,400**	**2,800**
		58	LC34-DPT0595-058.0-20191119	20 U	**4,800**	**2,100**
		63	LC34-DPT0595-063.0-20191119	1 U	2	1 U
		68	LC34-DPT0595-068.0-20191119	1 U	1 U	1 U
		73	LC34-DPT0595-073.0-20191119	**5,400**	**190**	20 U
		78	LC34-DPT0595-078.0-20191119	**3,600**	**500**	20 U
		83	LC34-DPT0595-083.0-20191119	3	5	1

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0595 (continued)	12/2/2020	8	LC34-DPT0595-008.0-20201202	1.2	0.55 J	0.23 U
		13	LC34-DPT0595-013.0-20201202	0.31 U	0.34 U	0.23 U
		18	LC34-DPT0595-018.0-20201202	0.51 J	1.1	**13.8**
		23	LC34-DPT0595-023.0-20201202	0.54 J	1.4	20.5 U
		28	LC34-DPT0595-028.0-20201202	0.37 J	1.9	**8.8**
		33	LC34-DPT0595-033.0-20201202	0.66 J	4.9	**163**
	12/3/2020	38	LC34-DPT0595-038.0-20201203	62 U	**22,600**	**24,800**
		43	LC34-DPT0595-043.0-20201203	**72.6 J**	**11,100**	**6,700**
		48	LC34-DPT0595-048.0-20201203	**75.2**	**6,220**	12 U
		53	LC34-DPT0595-053.0-20201203	**70.3**	**6,080**	**3,750**
		58	LC34-DPT0595-058.0-20201203	**13.1 J**	**3,170**	**2,120 J**
		63	LC34-DPT0595-063.0-20201203	0.33 J	2.5	0.23 U
		68	LC34-DPT0595-068.0-20201203	0.75 J	0.34 U	0.23 U
		73	LC34-DPT0595-073.0-20201203	**31.8**	1.6	0.23 U
		78	LC34-DPT0595-078.0-20201203	**28,600**	**1,100**	46 U
		83	LC34-DPT0595-083.0-20201203	**14**	16.7	**1.7**
		88	LC34-DPT0595-088.0-20201203	**31.8**	1.6	0.23 U
		93	LC34-DPT0595-093.0-20201203	1.8	0.34 U	0.23 U
		98	LC34-DPT0595-098.0-20201203	**46.4**	5.7	0.23 U
	12/22/2021	8	LC34-DPT0595-008.0-20211222	**4,380**	**295**	41 U
		13	LC34-DPT0595-013.0-20211222	**965**	**219**	41 U
		18	LC34-DPT0595-018.0-20211222	100 U	55.2 J	41 U
		23	LC34-DPT0595-023.0-20211222	100 U	28 U	41 U
		28	LC34-DPT0595-028.0-20211222	100 U	28 U	41 U
		33	LC34-DPT0595-033.0-20211222	1,000 U	550 U	820 U
		38	LC34-DPT0595-038.0-20211222	10,000 U	**23,300**	**22,700**
		43	LC34-DPT0595-043.0-20211222	500 U	**65,200**	**33,100**
		48	LC34-DPT0595-048.0-20211222	170 U	**339 J**	**317 J**
		53	LC34-DPT0595-053.0-20211222	**251 J**	**2,340**	**1,710**
		58	LC34-DPT0595-058.0-20211222	2.9 J	16.5 J	**9.9 J**
		63	LC34-DPT0595-063.0-20211222	**282**	10.1 J	41 U
		68	LC34-DPT0595-068.0-20211222	**6 J**	3.2 J	1 J
		73	LC34-DPT0595-073.0-20211222	**160**	53.5 J	**6.9 J**
		78	LC34-DPT0595-078.0-20211222	**2,310**	**1,590 J**	820 U
		83	LC34-DPT0595-083.0-20211222	**61.4 J**	22.6 J	**4.1 J**
		88	LC34-DPT0595-088.0-20211222	**5.7 J**	10.9 J	**2.4 J**
		93	LC34-DPT0595-093.0-20211222	**43.2 J**	**120**	**5.4 J**
		98	LC34-DPT0595-098.0-20211222	**13.9 J**	**80 J**	**18.6 J**
	12/12/2022	8	LC34-DPT0595-008.0-20221212	**170**	**630**	6.4 U
		13	LC34-DPT0595-013.0-20221212	4.0 U	**550**	**19**
		18	LC34-DPT0595-018.0-20221212	7.9 U	**540**	**56**
		23	LC34-DPT0595-023.0-20221212	16 U	**740**	**74**
		28	LC34-DPT0595-028.0-20221212	1.6 U	**390**	**76**
		33	LC34-DPT0595-033.0-20221212	**6.4**	6.0	**77**
		38	LC34-DPT0595-038.0-20221212	160 U	**2,300**	**8,000**
		43	LC34-DPT0595-043.0-20221212	790 U	**28,000**	**21,000**
		48	LC34-DPT0595-048.0-20221212	40 U	**6,200**	**7,300**
		53	LC34-DPT0595-053.0-20221212	16 U	**1,700**	**2,200**
		58	LC34-DPT0595-058.0-20221212	40 U	**4,400**	**6,000**
		63	LC34-DPT0595-063.0-20221212	0.79 U	1.0	**1.5 I**
		68	LC34-DPT0595-068.0-20221212	4.0 U	5.9	3.2 U
		73	LC34-DPT0595-073.0-20221212	3.1 I	**98**	**16**
		78	LC34-DPT0595-078.0-20221212	**1,000**	**310**	13 U
		83	LC34-DPT0595-083.0-20221212	**7.2**	5.3	**1.7 I**
		88	LC34-DPT0595-088.0-20221212	1.1 I	3.9	**1.5 I**
	12/13/2022	93	LC34-DPT0595-093.0-20221213	0.79 U	0.71 U	0.64 U
		98	LC34-DPT0595-098.0-20221213	0.79 U	0.71 U	0.64 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0595 (continued)	1/18/2024	8	LC34-DPT0595-008.0-20240118	**7.0**	**140**	**43**
		13	LC34-DPT0595-013.0-20240118	0.96 I	55	**42**
		18	LC34-DPT0595-018.0-20230118	0.89 U	31	**32**
		23	LC34-DPT0595-023.0-20240118	**6.5**	47	**41**
		28	LC34-DPT0595-028.0-20240118	**26**	48	**25**
		33	LC34-DPT0595-033.0-20240118	8.9 U	**230**	**57**
		38	LC34-DPT0595-038.0-20240118	89 U	**3,400**	**9,400**
		43	LC34-DPT0595-043.0-20240118	890 U	**60,000**	**42,000**
		48	LC34-DPT0595-048.0-20240118	89 U	**4,000**	**9,600**
		53	LC34-DPT0595-053.0-20240118	**45 I**	**3,000**	**7,800**
		58	LC34-DPT0595-058.0-20240118	8.9 U	**760**	**2,500**
		63	LC34-DPT0595-063.0-20240118	0.89 U	24	**14**
		68	LC34-DPT0595-068.0-20240118	1.5	0.86 I	0.71 U
		73	LC34-DPT0595-073.0-20240118	**43**	34	**7.8**
		78	LC34-DPT0595-078.0-20240118	**5,200**	**1,000**	**300**
		83	LC34-DPT0595-083.0-20240118	2.1	13	**7.4**
		88	LC34-DPT0595-088.0-20240118	2.8	5.6	**2.3**
		93	LC34-DPT0595-093.0-20240118	0.89 U	2.1	**1.5**
		98	LC34-DPT0595-098.0-20240118	1.0	4.0	0.71 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0596	11/9/2017	8	LC34-DPT0596-008.0-20171109	3	2	1 U
		13	LC34-DPT0596-013.0-20171109	**4**	3	**2**
		18	LC34-DPT0596-018.0-20171109	**460**	8	**9**
		23	LC34-DPT0596-023.0-20171109	**4**	4	**7**
		28	LC34-DPT0596-028.0-20171109	100 U	12	**1,000**
		33	LC34-DPT0596-033.0-20171109	**9,400**	**33,700**	**6,100**
		38	LC34-DPT0596-038.0-20171109	**165,000**	**334,000**	**1,000**
		43	LC34-DPT0596-043.0-20171109	**129,000**	**458,000**	3,300 U
		48	LC34-DPT0596-048.0-20171109	**1,101,000**	**191,000**	**20,800**
		53	LC34-DPT0596-053.0-20171109	**377,000**	**4,000**	2,000 U
		58	LC34-DPT0596-058.0-20171109	**109,000**	**17,000**	1,000 U
		63	LC34-DPT0596-063.0-20171109	**3,000**	**620**	**110**
		68	LC34-DPT0596-068.0-20171109	**1,500**	65	**18**
	11/8/2018	8	LC34-DPT0596-008.0-20181108	1	1 U	1 U
		13	LC34-DPT0596-013.0-20181108	1 U	1 U	1 U
		18	LC34-DPT0596-018.0-20181108	1	1	1 U
		23	LC34-DPT0596-023.0-20181108	2	4	**7**
		28	LC34-DPT0596-028.0-20181108	1 U	2	**8**
		33	LC34-DPT0596-033.0-20181108	**810**	**5,400**	**3,400**
		38	LC34-DPT0596-038.0-20181108	**153,000**	**192,000**	**3,300**
		43	LC34-DPT0596-043.0-20181108	**121,000**	**402,000**	1,000 U
		48	LC34-DPT0596-048.0-20181108	**790,000**	**214,000**	**31,900**
		53	LC34-DPT0596-053.0-20181108	**91,600**	**41,700**	1,000 U
		58	LC34-DPT0596-058.0-20181108	**6,100**	**9,800**	290 U
		63	LC34-DPT0596-063.0-20181108	**610**	**210**	**4**
		68	LC34-DPT0596-068.0-20181108	**4,100**	**95**	20 U
		73	LC34-DPT0596-073.0-20181108	**130**	49	5 U
		78	LC34-DPT0596-078.0-20181108	**1,500**	**110**	10 U
		83	LC34-DPT0596-083.0-20181108	**470**	44	5 U
	11/21/2019	8	LC34-DPT0596-008.0-20191121	2	48	**180**
		13	LC34-DPT0596-013.0-20191121	2	**81**	**420**
		18	LC34-DPT0596-018.0-20191121	3	22	**110**
		23	LC34-DPT0596-023.0-20191121	**7**	9	**8**
		28	LC34-DPT0596-028.0-20191121	3	7	**13**
		33	LC34-DPT0596-033.0-20191121	10 U	**690**	**940**
		38	LC34-DPT0596-038.0-20191121	**2,000**	**15,100**	**6,800**
		43	LC34-DPT0596-043.0-20191121	**85,500**	**151,000**	**3,500**
		48	LC34-DPT0596-048.0-20191121	**415,000 J**	**126,000**	**24,900**
		53	LC34-DPT0596-053.0-20191121	**252,000 J**	**73,400**	**1,800**
		58	LC34-DPT0596-058.0-20191121	**19,600**	**22,300**	**350**
		63	LC34-DPT0596-063.0-20191121	**4,200**	**2,500**	100 U
		68	LC34-DPT0596-068.0-20191121	**3,400**	**240**	50 U
		73	LC34-DPT0596-073.0-20191121	**180**	17	3 U
		78	LC34-DPT0596-078.0-20191121	**1,600**	**350**	20 U
		83	LC34-DPT0596-083.0-20191121	**230**	10	1 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0596 (continued)	11/30/2020	8	LC34-DPT0596-008.0-20201130	**22**	**249**	1.2 U
		13	LC34-DPT0596-013.0-20201130	**8.7**	**590**	1.2 U
		18	LC34-DPT0596-018.0-20201130	6.2 U	6.7 U	4.6 U
		23	LC34-DPT0596-023.0-20201130	1.5	**147**	**426**
		28	LC34-DPT0596-028.0-20201130	1.2	5.5	**12**
		33	LC34-DPT0596-033.0-20201130	0.92 J	7.2	**58**
		38	LC34-DPT0596-038.0-20201130	**2,490**	**6,810**	**2,500**
		43	LC34-DPT0596-043.0-20201130	**235,000**	**305,000**	**4,720**
		48	LC34-DPT0596-048.0-20201130	**1,690,000**	**125,000**	**28,000**
		53	LC34-DPT0596-053.0-20201130	**479,000**	**64,800**	1,200 U
		58	LC34-DPT0596-058.0-20201130	**25,700**	**22,800**	46 U
		63	LC34-DPT0596-063.0-20201130	**294**	**258**	**3.9**
		68	LC34-DPT0596-068.0-20201130	**773**	13.9	0.55 J
		73	LC34-DPT0596-073.0-20201130	**1,030**	14.3	0.69 J
	12/1/2020	78	LC34-DPT0596-078.0-20201201	**189**	**212**	**1.6**
		83	LC34-DPT0596-083.0-20201201	**68.2**	2.8	0.23 U
		88	LC34-DPT0596-088.0-20201201	**495**	9.3	0.56 J
		93	LC34-DPT0596-093.0-20201201	**4,300**	**164**	**8.4**
		98	LC34-DPT0596-098.0-20201201	**698**	4.2	0.23 U
	12/21/2021	8	LC34-DPT0596-008.0-20211221	**2,260 J**	**3,160 J**	**61.8**
		13	LC34-DPT0596-013.0-20211221	86 UJ	**11,100 J**	100 UJ
		18	LC34-DPT0596-018.0-20211221	**81,500 J**	**21,400 J**	200 UJ
		23	LC34-DPT0596-023.0-20211221	**48,300 J**	**26,100 J**	**461 J**
		28	LC34-DPT0596-028.0-20211221	**96,100 J**	**36,300 J**	**515 J**
		33	LC34-DPT0596-033.0-20211221	**72,100 J**	**50,800 J**	**380 J**
		38	LC34-DPT0596-038.0-20211221	**36,100 J**	**38,800 J**	**1,220 J**
		43	LC34-DPT0596-043.0-20211221	**52,200**	**71,200**	**4,250**
		48	LC34-DPT0596-048.0-20211221	**2,030,000**	**255,000**	**26,800 J**
		53	LC34-DPT0596-053.0-20211221	**458,000**	**58,300**	**4,690 J**
		58	LC34-DPT0596-058.0-20211221	**70,200 J**	**41,600**	**309 J**
	12/22/2021	63	LC34-DPT0596-063.0-20211222	**684**	**672**	**16.7 J**
		68	LC34-DPT0596-068.0-20211222	**1,190**	**213**	41 U
		73	LC34-DPT0596-073.0-20211222	**1,090**	24.5 J	82 U
		78	LC34-DPT0596-078.0-20211222	**831**	**191**	**18.7 J**
		83	LC34-DPT0596-083.0-20211222	**1,590**	**156**	41 U
		88	LC34-DPT0596-088.0-20211222	**1,190**	59.3	20 U
		93	LC34-DPT0596-093.0-20211222	**14,100**	**1,120**	410 U
		98	LC34-DPT0596-098.0-20211222	**1,060**	**78 J**	41 U
	12/14/2022	8	LC34-DPT0596-008.0-20221214	**450**	**560**	6.4 U
		13	LC34-DPT0596-013.0-20221214	0.79 U	17	**5.4**
		18	LC34-DPT0596-018.0-20221214	**3.5 I**	35	**24**
		23	LC34-DPT0596-023.0-20221214	160 U	**12,000**	**1,200**
		28	LC34-DPT0596-028.0-20221214	160 U	**20,000**	**2,700**
		33	LC34-DPT0596-033.0-20221214	400 U	**19,000**	**4,100**
		38	LC34-DPT0596-038.0-20221214	79 U	**32,000**	**12,000**
		43	LC34-DPT0596-043.0-20221214	40 U	**37,000**	**9,200**
		48	LC34-DPT0596-048.0-20221214	**1,200,000**	**190,000**	**5,800 I**
		53	LC34-DPT0596-053.0-20221214	**820,000**	**250,000**	**13,000**
		58	LC34-DPT0596-058.0-20221214	**380,000**	**81,000**	**6,400**
		63	LC34-DPT0596-063.0-20221214	**20,000**	**9,900**	**1,100**
		68	LC34-DPT0596-068.0-20221214	**1,400**	18 I	16 U
		73	LC34-DPT0596-073.0-20221214	**700**	17	3.2 U
		78	LC34-DPT0596-078.0-20221214	**3,200**	**130**	**61**
		83	LC34-DPT0596-083.0-20221214	**680**	31	6.4 U
		88	LC34-DPT0596-088.0-20221214	**10,000**	**240**	6.4 U
		93	LC34-DPT0596-093.0-20221214	**3,500**	**180**	32 U
		98	LC34-DPT0596-098.0-20221214	**840**	21	3.2 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0596 (continued)	1/17/2024	8	LC34-DPT0596-008.0-20240117	**15**	64	**21**
		13	LC34-DPT0596-013.0-20240117	0.89 U	2.2	**2.2**
		18	LC34-DPT0596-018.0-20240117	1.4	4.8	**4.9**
		23	LC34-DPT0596-023.0-20240117	1.4	6.7	**10**
		28	LC34-DPT0596-028.0-20240117	180 U	**8,000**	**2,900**
		33	LC34-DPT0596-033.0-20240117	450 U	**34,000**	**9,600**
		38	LC34-DPT0596-038.0-20240117	450 U	**29,000**	**12,000**
		43	LC34-DPT0596-043.0-20240117	**1,400**	**59,000**	**24,000**
		48	LC34-DPT0596-048.0-20240117	**1,300,000**	**160,000**	**28,000**
		53	LC34-DPT0596-053.0-20240117	**600,000**	**160,000**	**24,000**
		58	LC34-DPT0596-058.0-20240117	**620,000**	**270,000**	**26,000**
		63	LC34-DPT0596-063.0-20240117	**9,000**	**17,000**	**1,300**
		68	LC34-DPT0596-068.0-20240117	**260**	7.1 I	7.1 U
		73	LC34-DPT0596-073.0-20240117	**2,400**	53 U	71 U
		78	LC34-DPT0596-078.0-20240117	**1,100**	18 I	**75**
		83	LC34-DPT0596-083.0-20240117	**690**	13 U	18 U
		88	LC34-DPT0596-088.0-20240117	**280**	15	**3.8 I**
	1/18/2024	93	LC34-DPT0596-093.0-20240118	**5,700**	**620**	180 U
		98	LC34-DPT0596-098.0-20240118	**1,200**	15	7.1 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0597	11/10/2017	8	LC34-DPT0597-008.0-20171110	**50**	5	1 U
		13	LC34-DPT0597-013.0-20171110	**17**	17	**17**
		18	LC34-DPT0597-018.0-20171110	**8**	37	**23**
		23	LC34-DPT0597-023.0-20171110	**9**	24	**11**
		28	LC34-DPT0597-028.0-20171110	2	26	**13**
		33	LC34-DPT0597-033.0-20171110	**82**	39	**44**
		38	LC34-DPT0597-038.0-20171110	**4,000**	**180**	20 U
		43	LC34-DPT0597-043.0-20171110	**235,000**	**16,700**	2,000 U
		48	LC34-DPT0597-048.0-20171110	**759,000**	**42,000**	3,300 U
		53	LC34-DPT0597-053.0-20171110	**1,120,000**	**97,600**	**38,200**
		58	LC34-DPT0597-058.0-20171110	**1,360,000**	**17,000**	**2,800**
		63	LC34-DPT0597-063.0-20171110	**271,000**	**22,300**	1,000 U
	11/9/2018	8	LC34-DPT0597-008.0-20181109	**25**	1 U	1 U
		13	LC34-DPT0597-013.0-20181109	**9**	16	**9**
		18	LC34-DPT0597-018.0-20181109	2	38	**26**
		23	LC34-DPT0597-023.0-20181109	2	49	**32**
		28	LC34-DPT0597-028.0-20181109	3 U	37	**24**
		33	LC34-DPT0597-033.0-20181109	**9**	34	**10**
		38	LC34-DPT0597-038.0-20181109	**79,500**	**2,100**	290 U
		43	LC34-DPT0597-043.0-20181109	**89,300**	**3,500**	290 U
		48	LC34-DPT0597-048.0-20181109	**578,000**	**31,000**	2,000 U
		53	LC34-DPT0597-053.0-20181109	**495,000 J**	**31,300**	**970**
		58	LC34-DPT0597-058.0-20181109	**811,000**	**29,000**	3,300 U
		63	LC34-DPT0597-063.0-20181109	**473,000**	**37,000**	1,000 U
		68	LC34-DPT0597-068.0-20181109	**8,200**	40	40 U
		73	LC34-DPT0597-073.0-20181109	**35,700**	**1,100**	290 U
		78	LC34-DPT0597-078.0-20181109	**828,000**	**7,200**	2,000 U
		83	LC34-DPT0597-083.0-20181109	**14,300**	**830**	200 U
	11/19/2019	8	LC34-DPT0597-008.0-20191119	**84**	3	1 U
		13	LC34-DPT0597-013.0-20191119	3	20	**4**
		18	LC34-DPT0597-018.0-20191119	**5**	**160**	**14**
		23	LC34-DPT0597-023.0-20191119	2	17	**12**
		28	LC34-DPT0597-028.0-20191119	2	42	**11**
		33	LC34-DPT0597-033.0-20191119	2	40	**19**
		38	LC34-DPT0597-038.0-20191119	**5,900**	**320**	50 U
		43	LC34-DPT0597-043.0-20191119	**290,000 J**	**12,200**	500 U
		48	LC34-DPT0597-048.0-20191119	**341,000 J**	**30,400**	**570**
		53	LC34-DPT0597-053.0-20191119	**354,000 J**	**50,700**	**6,200**
		58	LC34-DPT0597-058.0-20191120	**571,000 J**	**27,000**	**12,400**
		63	LC34-DPT0597-063.0-20191120	**212,000**	**36,000**	1,000 U
		68	LC34-DPT0597-068.0-20191120	**12,700**	500 U	500 U
		73	LC34-DPT0597-073.0-20191120	**7,100**	**860**	100 U
		78	LC34-DPT0597-078.0-20191120	**146,000 J**	**18,700**	100 U
		83	LC34-DPT0597-083.0-20191120	**840**	**410**	10 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0597 (continued)	12/4/2020	8	LC34-DPT0597-008.0-20201204	**33.9**	1.4	0.23 U
		13	LC34-DPT0597-013.0-20201204	2.1	8.7	0.23 U
		18	LC34-DPT0597-018.0-20201204	1	7.4	0.23 U
		23	LC34-DPT0597-023.0-20201204	0.31 U	10.9	0.23 U
		28	LC34-DPT0597-028.0-20201204	1.5	23.9	0.23 U
		33	LC34-DPT0597-033.0-20201204	1.9	37.3	0.23 U
		38	LC34-DPT0597-038.0-20201204	**1,360**	**306**	0.23 U
		43	LC34-DPT0597-043.0-20201204	**81,900**	**7,160**	**143 J**
		48	LC34-DPT0597-048.0-20201204	**781,000**	**19,800**	1,200 U
		53	LC34-DPT0597-053.0-20201204	**964,000**	**26,700**	2,300 U
		58	LC34-DPT0597-058.0-20201204	**1,440,000**	**32,100**	**3,630 J**
		63	LC34-DPT0597-063.0-20201204	**29,800**	**3,010**	**90.1 J**
		68	LC34-DPT0597-068.0-20201204	**873**	14.6	1.1
		73	LC34-DPT0597-073.0-20201204	**19,200**	**677**	46 U
		78	LC34-DPT0597-078.0-20201204	**691,000**	**7,290**	1,200 U
	12/7/2020	83	LC34-DPT0597-083.0-20201207	**43,900**	**3,170**	120 U
		88	LC34-DPT0597-088.0-20201207	**1,230**	**955**	2.3 U
		93	LC34-DPT0597-093.0-20201207	**1,220**	7.3 J	2.3 U
		98	LC34-DPT0597-098.0-20201207	**128**	1.1	0.23 U
	12/20/2021	8	LC34-DPT0597-008.0-20211220	**5,200 J**	**76.5**	**1.6**
	12/21/2021	13	LC34-DPT0597-013.0-20211221	**45,900 J**	**7,020 J**	**86**
		18	LC34-DPT0597-018.0-20211221	**112,000 J**	**8,080 J**	**120 J**
		23	LC34-DPT0597-023.0-20211221	**115,000 J**	**16,600 J**	**84.7 J**
		28	LC34-DPT0597-028.0-20211221	**83.3**	**80.6 J**	**20.2**
		33	LC34-DPT0597-033.0-20211221	**161,000 J**	**26,900 J**	**194 J**
		38	LC34-DPT0597-038.0-20211221	**122,000 J**	**8,820 J**	**158**
		43	LC34-DPT0597-043.0-20211221	**1,260,000 J**	**12,600**	410 U
		48	LC34-DPT0597-048.0-20211221	**1,460,000 J**	**29,000**	4,100 U
		53	LC34-DPT0597-053.0-20211221	**3,060,000 J**	**122,000**	**4,560 J**
		58	LC34-DPT0597-058.0-20211221	**15,400,000 J**	**338,000**	**20,600 J**
		63	LC34-DPT0597-063.0-20211221	**990,000 J**	**73,900 J**	**2,410**
		68	LC34-DPT0597-068.0-20211221	**7,400 J**	**108 J**	**9.4**
		73	LC34-DPT0597-073.0-20211221	**4,810**	**115 J**	82 U
		78	LC34-DPT0597-078.0-20211221	**830,000**	**9,330 J**	4,100 U
		83	LC34-DPT0597-083.0-20211221	**472,000 J**	**1,650**	200 U
		88	LC34-DPT0597-088.0-20211221	**11,800 J**	**125**	4.1 U
		93	LC34-DPT0597-093.0-20211221	**4,590 J**	**92.4**	4.1 U
		98	LC34-DPT0597-098.0-20211221	**19,400 J**	**82.5**	**4.5 J**
	12/14/2022	8	LC34-DPT0597-008.0-20221214	**9,400**	**610**	64 U
		13	LC34-DPT0597-013.0-20221214	**12,000**	**5,200**	64 U
		18	LC34-DPT0597-018.0-20221214	40 U	**3,200**	**39 I**
		23	LC34-DPT0597-023.0-20221214	**3,000**	**7,200**	64 U
		28	LC34-DPT0597-028.0-20221214	40 U	**3,800**	32 U
		33	LC34-DPT0597-033.0-20221214	**17,000 I**	**35,000**	**650**
		38	LC34-DPT0597-038.0-20221214	**18,000**	**51,000**	**1,300**
		43	LC34-DPT0597-043.0-20221214	**320,000**	**52,000**	3,200 U
		48	LC34-DPT0597-048.0-20221214	**570,000**	**33,000**	3,200 U
		53	LC34-DPT0597-053.0-20221214	**670,000**	**40,000**	6,400 U
		58	LC34-DPT0597-058.0-20221214	**1,200,000**	**23,000**	640 U
		63	LC34-DPT0597-063.0-20221214	**260,000**	**9,800**	3,200 U
		68	LC34-DPT0597-068.0-20221214	**2,700**	**75**	**92**
		73	LC34-DPT0597-073.0-20221214	**29,000**	**290**	130 U
		78	LC34-DPT0597-078.0-20221214	**1,500,000**	**5,700**	3,200 U
		83	LC34-DPT0597-083.0-20221214	**46,000**	360 U	320 U
		88	LC34-DPT0597-088.0-20221214	**19,000**	64	32 U
		93	LC34-DPT0597-093.0-20221214	**18,000**	**240**	6.4 U
		98	LC34-DPT0597-098.0-20221214	**19,000**	**150**	**7.4**

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0597 (continued)	1/19/2024	8	LC34-DPT0597-008.0-20240119	**1,500**	**100**	36 U
		13	LC34-DPT0597-013.0-20240119	**3,400**	**2,300**	36 U
		18	LC34-DPT0597-018.0-20240119	**150 I**	**690**	**27**
		23	LC34-DPT0597-023.0-20240119	8.9 U	**380**	**88**
		28	LC34-DPT0597-028.0-20240119	8.9 U	**410**	**82**
		33	LC34-DPT0597-033.0-20240119	**61**	**1,600**	**190**
		38	LC34-DPT0597-038.0-20240119	89 U	**2,000**	**310**
		43	LC34-DPT0597-043.0-20240119	**13,000**	**38,000**	710 U
		48	LC34-DPT0597-048.0-20240119	**130,000**	**61,000**	1,400 U
		53	LC34-DPT0597-053.0-20240119	**620,000**	**47,000**	3,600 U
		58	LC34-DPT0597-058.0-20240119	**700,000**	**42,000**	**2,300 I**
		63	LC34-DPT0597-063.0-20240119	**300,000**	**30,000**	**1,400 I**
		68	LC34-DPT0597-068.0-20240119	**5,300**	**74 I**	71 U
		73	LC34-DPT0597-073.0-20240119	**380**	9.4 I	7.1 U
		78	LC34-DPT0597-078.0-20240119	**140,000**	**7,300**	360 U
		83	LC34-DPT0597-083.0-20240119	**100,000**	**2,400**	710 U
		88	LC34-DPT0597-088.0-20240119	**14,000**	**1,400**	180 U
		93	LC34-DPT0597-093.0-20240119	**87,000**	**810 I**	710 U
		98	LC34-DPT0597-098.0-20240119	**66,000**	**1,400**	710 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0598	11/9/2017	8	LC34-DPT0598-008.0-20171109	**4**	5	**16**
		13	LC34-DPT0598-013.0-20171109	**46**	13	**8**
		18	LC34-DPT0598-018.0-20171109	**44**	19	**32**
		23	LC34-DPT0598-023.0-20171109	**14**	32	**88**
		28	LC34-DPT0598-028.0-20171109	3	9	**16**
		33	LC34-DPT0598-033.0-20171109	10 U	**5,200**	**9,000**
		38	LC34-DPT0598-038.0-20171109	**4,700**	**662,000**	**16,500**
		43	LC34-DPT0598-043.0-20171109	**12,300**	**108,000**	**9,200**
		48	LC34-DPT0598-048.0-20171109	**59,400**	**38,000**	**570**
		53	LC34-DPT0598-053.0-20171109	**220**	**700**	**140**
	11/10/2017	58	LC34-DPT0598-058.0-20171110	**17,200**	**29,300**	**250**
		63	LC34-DPT0598-063.0-20171110	**210**	**150**	5 U
		68	LC34-DPT0598-068.0-20171110	**40**	44	1
		73	LC34-DPT0598-073.0-20171110	**11**	12	1 U
		78	LC34-DPT0598-078.0-20171110	**384,000**	**13,400**	2,000 U
		83	LC34-DPT0598-083.0-20171110	**2,500**	**1,600**	**10**
	11/12/2018	8	LC34-DPT0598-008.0-20181112	1 U	11	**4**
		13	LC34-DPT0598-013.0-20181112	2	8	**2**
		18	LC34-DPT0598-018.0-20181112	2	11	**5**
		23	LC34-DPT0598-023.0-20181112	2	23	**94**
		28	LC34-DPT0598-028.0-20181112	1 U	10	**46**
		33	LC34-DPT0598-033.0-20181112	1	12	**69**
		38	LC34-DPT0598-038.0-20181112	**2,200**	**36,700**	**17,600**
		43	LC34-DPT0598-043.0-20181112	**320**	**32,600**	**2,400**
		48	LC34-DPT0598-048.0-20181112	**27,300**	**35,900**	**2,600**
		53	LC34-DPT0598-053.0-20181112	**57**	**570**	**62**
		58	LC34-DPT0598-058.0-20181112	**15,800**	**28,400**	**91**
		63	LC34-DPT0598-063.0-20181112	**6**	**120**	5 U
		68	LC34-DPT0598-068.0-20181112	**4**	3	3 U
		73	LC34-DPT0598-073.0-20181112	**17,700**	**1,200**	40 U
		78	LC34-DPT0598-078.0-20181112	**3,190,000**	**13,100**	290 U
		83	LC34-DPT0598-083.0-20181112	**5,100**	**3,900**	10 U
	11/19/2019	8	LC34-DPT0598-008.0-20191119	1	5	**4**
		13	LC34-DPT0598-013.0-20191119	2	2	**5**
		18	LC34-DPT0598-018.0-20191119	3	8	**5**
		23	LC34-DPT0598-023.0-20191119	3	17	**32**
		28	LC34-DPT0598-028.0-20191119	1	8	**7**
		33	LC34-DPT0598-033.0-20191119	**130**	7	**35**
		38	LC34-DPT0598-038.0-20191119	20 U	**1,700**	**510**
		43	LC34-DPT0598-043.0-20191119	**2,400**	**73,600**	**8,000**
		48	LC34-DPT0598-048.0-20191119	**257,000 J**	**140,000**	**7,200**
		53	LC34-DPT0598-053.0-20191119	**6,400**	**11,100**	**800**
		58	LC34-DPT0598-058.0-20191119	**164,000 J**	**42,400**	**430**
		63	LC34-DPT0598-063.0-20191119	**298,000 J**	**7,500**	500 U
		68	LC34-DPT0598-068.0-20191119	**5,200**	**100**	50 U
		73	LC34-DPT0598-073.0-20191119	**19,800**	**240**	50 U
		78	LC34-DPT0598-078.0-20191119	**785,000 J**	**17,200**	1,000 U
		83	LC34-DPT0598-083.0-20191119	**64,000**	**1,100**	290 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0598 (continued)	12/3/2020	8	LC34-DPT0598-008.0-20201203	0.8 J	2.5	**2.3**
		13	LC34-DPT0598-013.0-20201203	0.94 J	3.2	**2.8**
		18	LC34-DPT0598-018.0-20201203	1.7	4.9	0.23 U
		23	LC34-DPT0598-023.0-20201203	1.1	14.9	0.23 U
		28	LC34-DPT0598-028.0-20201203	0.74 J	20.9	**22.5**
		33	LC34-DPT0598-033.0-20201203	0.77 J	4	0.23 U
		38	LC34-DPT0598-038.0-20201203	**27.9**	**1,840**	4.6 U
		43	LC34-DPT0598-043.0-20201203	**596**	**17,800**	**5,920**
		48	LC34-DPT0598-048.0-20201203	**29,200**	**104,000**	**5,180**
		53	LC34-DPT0598-053.0-20201203	**19.9**	**241**	0.23 U
		58	LC34-DPT0598-058.0-20201203	**1,180**	**2,240**	**143**
		63	LC34-DPT0598-063.0-20201203	3	**276**	**5.8**
		68	LC34-DPT0598-068.0-20201203	1.7	2.1	0.23 U
		73	LC34-DPT0598-073.0-20201203	**11,900**	**641**	23 U
	12/4/2020	78	LC34-DPT0598-078.0-20201204	**847,000**	**13,900**	1,200 U
		83	LC34-DPT0598-083.0-20201204	**9,270**	**1,990**	4.6 U
		88	LC34-DPT0598-088.0-20201204	**37.4**	19.6	0.23 U
		93	LC34-DPT0598-093.0-20201204	**93**	**495**	1.2 U
		98	LC34-DPT0598-098.0-20201204	**66,000**	**54,000**	120 U
	12/20/2021	8	LC34-DPT0598-008.0-20211220	**12,400 J**	**1,920 J**	**28.3**
		13	LC34-DPT0598-013.0-20211220	**868 J**	**716 J**	**25.8**
		18	LC34-DPT0598-018.0-20211220	**648 J**	**864 J**	**64.9**
		23	LC34-DPT0598-023.0-20211220	**25,500 J**	**3,980 J**	200 UJ
		28	LC34-DPT0598-028.0-20211220	**19,800 J**	**3,560 J**	**211 J**
		33	LC34-DPT0598-033.0-20211220	**71,300 J**	**21,500 J**	**975 J**
		38	LC34-DPT0598-038.0-20211220	**19,000 J**	**4,070 J**	**195**
		43	LC34-DPT0598-043.0-20211220	**105,000 J**	**53,600 J**	**3,340**
		48	LC34-DPT0598-048.0-20211220	**49,700 J**	**106,000 J**	**4,390 J**
		53	LC34-DPT0598-053.0-20211220	**29,600 J**	**14,100 J**	**475 J**
		58	LC34-DPT0598-058.0-20211220	**207 J**	**2,940 J**	**338 J**
		63	LC34-DPT0598-063.0-20211220	**377 J**	**190 J**	**8.2 J**
		68	LC34-DPT0598-068.0-20211220	**19.6**	6.1	0.41 U
		73	LC34-DPT0598-073.0-20211220	**790 J**	55 UJ	82 UJ
		78	LC34-DPT0598-078.0-20211220	**3,070,000 J**	**11,000 J**	4,100 UJ
		83	LC34-DPT0598-083.0-20211220	**230,000 J**	**5,760 J**	82 UJ
		88	LC34-DPT0598-088.0-20211220	**6,500 J**	**335 J**	**7 J**
		93	LC34-DPT0598-093.0-20211220	**173 J**	**349 J**	4.1 UJ
		98	LC34-DPT0598-098.0-20211220	**82,000 J**	**37,100 J**	410 UJ
	12/12/2022	8	LC34-DPT0598-008.0-20221212	**310 I**	**3,800**	130 U
		13	LC34-DPT0598-013.0-20221212	40 U	**930**	32 U
		18	LC34-DPT0598-018.0-20221212	40 U	**1,400**	32 U
		23	LC34-DPT0598-023.0-20221212	**1,400**	**6,700**	130 U
		28	LC34-DPT0598-028.0-20221212	**17,000**	**22,000**	**540**
		33	LC34-DPT0598-033.0-20221212	40 U	**1,600**	**1,400**
		38	LC34-DPT0598-038.0-20221212	**1,500 I**	**11,000**	**3,200**
		43	LC34-DPT0598-043.0-20221212	790 U	**56,000**	**11,000**
		48	LC34-DPT0598-048.0-20221212	790 U	**150,000**	**8,900**
		53	LC34-DPT0598-053.0-20221212	400 U	**11,000**	**11,000**
		58	LC34-DPT0598-058.0-20221212	**1,300**	**12,000**	**3,500**
		63	LC34-DPT0598-063.0-20221212	**8.4 I**	**280**	**38**
		68	LC34-DPT0598-068.0-20221212	1.4 I	6.1	0.64 U
		73	LC34-DPT0598-073.0-20221212	**1,200**	52	0.64 U
		78	LC34-DPT0598-078.0-20221212	**870,000**	**9,100**	640 U
		83	LC34-DPT0598-083.0-20221212	**150,000**	**5,600**	640 U
		88	LC34-DPT0598-088.0-20221212	**180**	28	1.3 U
	12/13/2022	93	LC34-DPT0598-093.0-20221213	**130**	**310**	3.2 U
		98	LC34-DPT0598-098.0-20221213	**7,400**	**36,000**	320 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0598 (continued)	1/17/2024	8	LC34-DPT0598-008.0-20240117	45 U	**960**	36 U
		13	LC34-DPT0598-013.0-20240117	0.89 U	32	**1.9**
		18	LC34-DPT0598-018.0-20240117	1.7	**90**	**11**
		23	LC34-DPT0598-023.0-20240117	4.5 U	**200**	3.6 U
		28	LC34-DPT0598-028.0-20230117	45 U	**2,000**	**140**
		33	LC34-DPT0598-033.0-20240117	450 U	**13,000**	**1,300**
		38	LC34-DPT0598-038.0-20240117	220 U	**13,000**	**2,500**
		43	LC34-DPT0598-043.0-20240117	220 U	**15,000**	**7,900**
		48	LC34-DPT0598-048.0-20240117	450 U	**86,000**	**12,000**
		53	LC34-DPT0598-053.0-20240117	450 U	**4,300**	**11,000**
		58	LC34-DPT0598-058.0-20240117	220 U	**1,500**	**11,000**
		63	LC34-DPT0598-063.0-20240117	4.5 U	**150**	**48**
	1/18/2024	68	LC34-DPT0598-068.0-20240118	1.2	2.8	0.71 U
		73	LC34-DPT0598-073.0-20240118	**230**	45	3.6 U
		78	LC34-DPT0598-078.0-20240118	**440,000**	**5,900**	3,600 U
		83	LC34-DPT0598-083.0-20240118	**530,000**	**11,000**	3,600 U
		88	LC34-DPT0598-088.0-20240118	**19,000**	**25,000**	360 U
		93	LC34-DPT0598-093.0-20240118	**12,000**	**24,000**	360 U
		98	LC34-DPT0598-098.0-20240118	**110,000**	**25,000**	1,400 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0599	11/13/2017	8	LC34-DPT0599-008.0-20171113	**7**	1 U	1 U
		13	LC34-DPT0599-013.0-20171113	**84**	4	1 U
		18	LC34-DPT0599-018.0-20171113	**220**	41	**41**
		23	LC34-DPT0599-023.0-20171113	**25,100**	**3,900**	**560**
		28	LC34-DPT0599-028.0-20171113	**913,000**	**7,500**	2,000 U
		33	LC34-DPT0599-033.0-20171113	**1,000,000**	**25,000**	3,300 U
		38	LC34-DPT0599-038.0-20171113	**1,030,000**	**50,300**	3,300 U
		43	LC34-DPT0599-043.0-20171113	**356,000**	**214,000**	3,300 U
		48	LC34-DPT0599-048.0-20171113	**1,370,000**	**45,900**	2,000 U
		53	LC34-DPT0599-053.0-20171113	**96,700**	**26,100**	200 U
		58	LC34-DPT0599-058.0-20171113	**51,400**	**6,500**	200 U
		63	LC34-DPT0599-063.0-20171113	**3,300**	100 U	100 U
		68	LC34-DPT0599-068.0-20171113	**15,800**	**160**	40 U
		73	LC34-DPT0599-073.0-20171113	**109,000**	**860**	100 U
		78	LC34-DPT0599-078.0-20171113	**12,500**	**1,400**	100 U
		83	LC34-DPT0599-083.0-20171113	**142,000**	**10,900**	100 U
	11/13/2018	8	LC34-DPT0599-008.0-20181113	1 U	1 U	1 U
		13	LC34-DPT0599-013.0-20181113	1	2	1 U
		18	LC34-DPT0599-018.0-20181113	**33**	30	**12**
		23	LC34-DPT0599-023.0-20181113	**54,700 J**	**3,400**	**270**
		28	LC34-DPT0599-028.0-20181113	**479,000 J**	**5,100**	**670**
		33	LC34-DPT0599-033.0-20181113	**683,000**	**18,300**	**2,600**
		38	LC34-DPT0599-038.0-20181113	**759,000**	**137,000**	3,300 U
		43	LC34-DPT0599-043.0-20181113	**231,000**	**211,000**	**3,900**
		48	LC34-DPT0599-048.0-20181113	**1,110,000 J**	**43,200**	2,000 U
		53	LC34-DPT0599-053.0-20181113	**28,500 J**	**21,600**	40 U
		58	LC34-DPT0599-058.0-20181113	**210**	**1,300**	**5**
		63	LC34-DPT0599-063.0-20181113	**1,500**	29	5 U
		68	LC34-DPT0599-068.0-20181113	**570**	11	5 U
		73	LC34-DPT0599-073.0-20181113	**2,000**	29	10 U
		78	LC34-DPT0599-078.0-20181113	**3,800**	**490**	10 U
		83	LC34-DPT0599-083.0-20181113	**1,500**	48	10 U
		88	LC34-DPT0599-088.0-20181113	**12,200 J**	**180**	20 U
		93	LC34-DPT0599-093.0-20181113	**5,400**	**100**	20 U
		98	LC34-DPT0599-098.0-20181113	**8,700**	**110**	40 U
	11/20/2019	8	LC34-DPT0599-008.0-20191120	2	1 U	1 U
		13	LC34-DPT0599-013.0-20191120	3 U	3 U	**8**
		18	LC34-DPT0599-018.0-20191120	2	6	**3**
		23	LC34-DPT0599-023.0-20191120	**1,700**	**1,200**	**100**
		28	LC34-DPT0599-028.0-20191120	**48,500**	**7,900**	**790**
		33	LC34-DPT0599-033.0-20191120	**264,000**	**14,100**	**1,200**
		38	LC34-DPT0599-038.0-20191120	**113,000**	**82,200**	**5,600**
		43	LC34-DPT0599-043.0-20191120	**373,000 J**	**175,000**	**2,700**
		48	LC34-DPT0599-048.0-20191120	**688,000 J**	**59,200**	**4,500**
	11/21/2019	53	LC34-DPT0599-053.0-20191121	**126,000 J**	**33,000**	500 U
		58	LC34-DPT0599-058.0-20191121	**66,400 J**	**5,700**	290 U
		63	LC34-DPT0599-063.0-20191121	**12,500**	200 U	200 U
		68	LC34-DPT0599-068.0-20191121	**2,700**	**76**	20 U
		73	LC34-DPT0599-073.0-20191121	**440 J**	31	1
		78	LC34-DPT0599-078.0-20191121	**770**	**930**	10 U
		83	LC34-DPT0599-083.0-20191121	**2,200**	**98**	20 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0599 (continued)	11/24/2020	8	LC34-DPT0599-008.0-20201124	1.7	0.34 U	0.23 U
		13	LC34-DPT0599-013.0-20201124	1.1	2.5	**25.6**
		18	LC34-DPT0599-018.0-20201124	1.8	5.1	0.23 U
		23	LC34-DPT0599-023.0-20201124	3.3	**361**	0.23 U
		28	LC34-DPT0599-028.0-20201124	**39,000**	**6,230**	46 U
		33	LC34-DPT0599-033.0-20201124	**109,000**	**16,100**	120 U
		38	LC34-DPT0599-038.0-20201124	**876,000**	**27,600**	1,200 U
		43	LC34-DPT0599-043.0-20201124	**145,000**	**191,000**	230 U
		48	LC34-DPT0599-048.0-20201124	**1,600,000**	**54,700**	1,200 U
		53	LC34-DPT0599-053.0-20201124	**266,000**	**32,800**	230 U
		58	LC34-DPT0599-058.0-20201124	**3,370**	**1,090**	23 U
	11/30/2020	63	LC34-DPT0599-063.0-20201130	**9,250**	**540**	1.2 U
		68	LC34-DPT0599-068.0-20201130	**1,560**	23.3	0.23 U
		73	LC34-DPT0599-073.0-20201130	**332**	9.4	0.23 U
		78	LC34-DPT0599-078.0-20201130	**151**	**1,430**	2.3 U
		83	LC34-DPT0599-083.0-20201130	**12.3**	11.5	0.23 U
		88	LC34-DPT0599-088.0-20201130	**116**	1	0.23 U
		93	LC34-DPT0599-093.0-20201130	**159**	6.9	0.23 U
		98	LC34-DPT0599-098.0-20201130	**128**	3.1	0.23 U
	12/21/2021	8	LC34-DPT0599-008.0-20211221	**69.6**	3.8	0.74 J
		13	LC34-DPT0599-013.0-20211221	**2,100 J**	**1,360 J**	**28.5**
		18	LC34-DPT0599-018.0-20211221	**7,200 J**	**21,300 J**	**398 J**
		23	LC34-DPT0599-023.0-20211221	**225,000 J**	**33,100 J**	**390**
		28	LC34-DPT0599-028.0-20211221	**187,000 J**	**15,600**	**371 J**
		33	LC34-DPT0599-033.0-20211221	**39,700 J**	**3,130 J**	820 U
		38	LC34-DPT0599-038.0-20211221	**755,000**	**39,000**	4,100 U
		43	LC34-DPT0599-043.0-20211221	**274,000 J**	**121,000 J**	**3,950 J**
		48	LC34-DPT0599-048.0-20211221	**1,480,000 J**	**48,300 J**	4,100 UJ
		53	LC34-DPT0599-053.0-20211221	**294,000 J**	**121,000 J**	**4,660 J**
		58	LC34-DPT0599-058.0-20211221	**86,800 J**	**13,700 J**	200 UJ
		63	LC34-DPT0599-063.0-20211221	**15,700 J**	**2,300 J**	100 UJ
		68	LC34-DPT0599-068.0-20211221	**14,500 J**	**300 J**	100 UJ
		73	LC34-DPT0599-073.0-20211221	**1,480 J**	**175 J**	100 UJ
		78	LC34-DPT0599-078.0-20211221	**238**	**636**	**35.8**
		83	LC34-DPT0599-083.0-20211221	**2,830**	**254**	20 U
		88	LC34-DPT0599-088.0-20211221	**14,400**	**4,360**	**169 J**
		93	LC34-DPT0599-093.0-20211221	**6,090 J**	**381**	20 U
	12/22/2021	98	LC34-DPT0599-098.0-20211222	200 U	55 U	82 U
	12/16/2022	8	LC34-DPT0599-008.0-20221216	**700**	11	3.2 U
		13	LC34-DPT0599-013.0-20221216	0.84 I	3.1	**1.5 I**
		18	LC34-DPT0599-018.0-20221216	**1,000**	**180**	**7.2 I**
		23	LC34-DPT0599-023.0-20221216	**52,000**	**37,000**	**790 I**
		28	LC34-DPT0599-028.0-20221216	**310,000**	**24,000**	1,600 U
		33	LC34-DPT0599-033.0-20221216	**550,000**	**17,000**	1,600 U
		38	LC34-DPT0599-038.0-20221216	**1,400,000**	**61,000**	6,400 U
		43	LC34-DPT0599-043.0-20221216	**150,000**	**82,000**	**7,000**
		48	LC34-DPT0599-048.0-20221216	**1,800,000**	**30,000**	6,400 U
		53	LC34-DPT0599-053.0-20221216	**250,000**	**100,000**	1,300 U
		58	LC34-DPT0599-058.0-20221216	**84,000**	**83,000**	**2,600**
		63	LC34-DPT0599-063.0-20221216	**900**	**960**	**37**
		68	LC34-DPT0599-068.0-20221216	**98**	10	1.3 U
		73	LC34-DPT0599-073.0-20221216	**99 J3**	3.1	0.64 U
		78	LC34-DPT0599-078.0-20221216	**380**	**410**	**12**
		83	LC34-DPT0599-083.0-20221216	**350**	34	3.2 U
		88	LC34-DPT0599-088.0-20221216	**460**	13	3.2 U
		93	LC34-DPT0599-093.0-20221216	**32,000**	**470**	160 U
		98	LC34-DPT0599-098.0-20221216	**330**	3.6 U	3.2 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0599 (continued)	1/16/2024	8	LC34-DPT0599-008.0-20240116	**11**	2.1	0.71 U
		13	LC34-DPT0599-013.0-20240116	0.93 I	0.53 U	0.71 U
		18	LC34-DPT0599-018.0-20240116	1.7	3.6	**8.9**
		23	LC34-DPT0599-023.0-20240116	**5.7**	25	**81**
		28	LC34-DPT0599-028.0-20240116	**45,000**	**30,000**	**2,500**
		33	LC34-DPT0599-033.0-20240116	**320,000**	**74,000**	**1,300**
		38	LC34-DPT0599-038.0-20240116	**510,000**	**70,000**	7,100 U
		43	LC34-DPT0599-043.0-20240116	**22,000**	**160,000**	**25,000**
		48	LC34-DPT0599-048.0-20240116	**3,400**	**64,000**	**15,000**
		53	LC34-DPT0599-053.0-20240116	**130,000**	**120,000**	**9,600**
		58	LC34-DPT0599-058.0-20240116	**7,100**	**48,000**	**2,700**
		63	LC34-DPT0599-063.0-20240116	**560**	**4,100**	**900**
		68	LC34-DPT0599-068.0-20240116	**2,400**	**110**	18 U
		73	LC34-DPT0599-073.0-20240116	**140**	30	**1.7**
		78	LC34-DPT0599-078.0-20240116	**220**	**110**	**3.7**
		83	LC34-DPT0599-083.0[(1)]	NS	NS	NS
		88	LC34-DPT0599-088.0-20240116	**180**	44	**2.9**
	1/17/2024	93	LC34-DPT0599-093.0-20240117	**890**	**95**	7.1 U
		98	LC34-DPT0599-098.0-20240117	**1,600**	41	7.1 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0600	11/16/2017	8	LC34-DPT0600-008.0-20171116	**170**	14	1 U
		13	LC34-DPT0600-013.0-20171116	3	**170**	**39**
		18	LC34-DPT0600-018.0-20171116	**5**	**120**	**63**
		23	LC34-DPT0600-023.0-20171116	**10**	**240**	**47**
		28	LC34-DPT0600-028.0-20171116	**140**	23	**51**
		33	LC34-DPT0600-033.0-20171116	3	7	**12**
		38	LC34-DPT0600-038.0-20171116	**25**	**260**	**4,000 J**
		43	LC34-DPT0600-043.0-20171116	400 U	**235,000**	**14,300**
		48	LC34-DPT0600-048.0-20171116	100 U	**26,400**	**3,500**
		53	LC34-DPT0600-053.0-20171116	**120**	**1,700**	**59**
		58	LC34-DPT0600-058.0-20171116	**14**	**5,500**	**54**
		63	LC34-DPT0600-063.0-20171116	**250**	**3,700 J**	**120**
		68	LC34-DPT0600-068.0-20171116	**38**	**200**	10 U
		73	LC34-DPT0600-073.0-20171116	**110**	**220**	**14**
		78	LC34-DPT0600-078.0-20171116	**15,700**	**6,400**	**14**
		83	LC34-DPT0600-083.0-20171116	**94**	**230**	10 U
	11/14/2018	8	LC34-DPT0600-008.0-20181114	1	1 U	1 U
		13	LC34-DPT0600-013.0-20181114	1	31	**17**
		18	LC34-DPT0600-018.0-20181114	**5**	31	**36**
		23	LC34-DPT0600-023.0-20181114	**180**	57	**70**
		28	LC34-DPT0600-028.0-20181114	3 U	47	**51**
		33	LC34-DPT0600-033.0-20181114	**11**	38	**97**
		38	LC34-DPT0600-038.0-20181114	20 U	**78**	**67**
		43	LC34-DPT0600-043.0-20181114	40 U	**8,800**	**12,400 J**
		48	LC34-DPT0600-048.0-20181114	290 U	**57,400**	**9,000**
		53	LC34-DPT0600-053.0-20181114	290 U	**95,300**	**14,000**
		58	LC34-DPT0600-058.0-20181114	290 U	**11,000**	**800**
		63	LC34-DPT0600-063.0-20181114	**120**	**1,700**	**29**
		68	LC34-DPT0600-068.0-20181114	2 U	36	**21**
		73	LC34-DPT0600-073.0-20181114	**32**	**170**	**160**
		78	LC34-DPT0600-078.0-20181114	**1,500**	**2,200**	**21**
		83	LC34-DPT0600-083.0-20181114	2	21	2 U
		88	LC34-DPT0600-088.0-20181114	3	**100**	**13**
		93	LC34-DPT0600-093.0-20181114	**4**	**150**	**7**
		98	LC34-DPT0600-098.0-20181114	**10**	**530**	**43**
	11/20/2019	8	LC34-DPT0600-008.0-20191120	3	1 U	1 U
		13	LC34-DPT0600-013.0-20191120	2	1 U	1 U
		18	LC34-DPT0600-018.0-20191120	3	3	1 U
		23	LC34-DPT0600-023.0-20191120	2	68	**120**
		28	LC34-DPT0600-028.0-20191120	3	**71**	**130**
		33	LC34-DPT0600-033.0-20191120	10 U	55	**78**
		38	LC34-DPT0600-038.0-20191120	3 U	5	**79**
		43	LC34-DPT0600-043.0-20191120	**1,300**	**39,400**	**8,900**
		48	LC34-DPT0600-048.0-20191120	100 U	**23,300**	**5,100**
		53	LC34-DPT0600-053.0-20191120	**59**	**10,200**	**1,800**
		58	LC34-DPT0600-058.0-20191120	**240**	**3,200**	**110**
		63	LC34-DPT0600-063.0-20191120	**43**	**710**	**24**
		68	LC34-DPT0600-068.0-20191120	**8**	8	**5**
		73	LC34-DPT0600-073.0-20191120	**9**	**160**	**19**

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0600 (continued)	11/21/2019	78	LC34-DPT0600-078.0-20191121	**1,300**	**2,100**	**22**
		83	LC34-DPT0600-083.0-20191121	**4**	12	1 U
	11/23/2020	8	LC34-DPT0600-008.0-20201123	0.66 J	0.34 U	0.23 U
		13	LC34-DPT0600-013.0-20201123	1.4	0.55 J	0.23 U
		18	LC34-DPT0600-018.0-20201123	0.95 J	3.3	0.23 U
	11/24/2020	23	LC34-DPT0600-023.0-20201124	1.2	9.4	0.23 U
		28	LC34-DPT0600-028.0-20201124	0.75 J	11.4	**13.8**
		33	LC34-DPT0600-033.0-20201124	0.45 J	22.1	**66.1**
		38	LC34-DPT0600-038.0-20201124	1.4	11.9	**39.3**
		43	LC34-DPT0600-043.0-20201124	16 U	**11,000**	**4,580**
		48	LC34-DPT0600-048.0-20201124	160 U	**50,000**	**6,190**
		53	LC34-DPT0600-053.0-20201124	16 U	**10,500**	**1,710**
		58	LC34-DPT0600-058.0-20201124	1.6 U	**663**	1.2 U
		63	LC34-DPT0600-063.0-20201124	2.3 J	**342**	1.2 U
		68	LC34-DPT0600-068.0-20201124	1	**166**	**122**
		73	LC34-DPT0600-073.0-20201124	0.86 J	**128**	**91.2**
		78	LC34-DPT0600-078.0-20201124	**595**	**1,320**	2.3 U
		83	LC34-DPT0600-083.0-20201124	0.31 U	2.8	0.23 U
		88	LC34-DPT0600-088.0-20201124	0.31 U	0.42 J	0.23 U
		93	LC34-DPT0600-093.0-20201124	0.42 J	20.9	0.23 U
		98	LC34-DPT0600-098.0-20201124	0.31 U	3.3	0.23 U
	12/20/2021	8	LC34-DPT0600-008.0-20211220	**324 J**	7.5	0.55 J
		13	LC34-DPT0600-013.0-20211220	**24,100 J**	**3,410 J**	**35.5**
		18	LC34-DPT0600-018.0-20211220	**10,900 J**	**2,210 J**	**91**
		23	LC34-DPT0600-023.0-20211220	**23,400 J**	**5,360 J**	**192 J**
	12/21/2021	28	LC34-DPT0600-028.0-20211221	**44.5**	19.4	**20**
		33	LC34-DPT0600-033.0-20211221	**41,900 J**	**9,130 J**	**183 J**
		38	LC34-DPT0600-038.0-20211221	**54,000 J**	**7,480 J**	**242 J**
		43	LC34-DPT0600-043.0-20211221	**74,600 J**	**14,800**	**1,480**
		48	LC34-DPT0600-048.0-20211221	**76,800 J**	**28,500**	**889**
		53	LC34-DPT0600-053.0-20211221	**260 J**	**18,100**	**2,450**
		58	LC34-DPT0600-058.0-20211221	**434 J**	**535**	**289**
		63	LC34-DPT0600-063.0-20211221	**400**	**443**	**49**
		68	LC34-DPT0600-068.0-20211221	**84.9**	13.3	**6.8**
		73	LC34-DPT0600-073.0-20211221	**339 J**	**421 J**	**10.1**
		78	LC34-DPT0600-078.0-20211221	**49.1 J**	**312**	**44.5**
		83	LC34-DPT0600-083.0-20211221	**85.7 J**	68.1	**5.8**
		88	LC34-DPT0600-088.0-20211221	**78.1 J**	22	0.69 J
		93	LC34-DPT0600-093.0-20211221	**160 J**	**90.2 J**	**6.8**
		98	LC34-DPT0600-098.0-20211221	**790 J**	**310 J**	**18.2**
	12/13/2022	8	LC34-DPT0600-008.0-20221213	**5,800**	**550**	64 U
		13	LC34-DPT0600-013.0-20221213	**23,000**	**3,200**	130 U
		18	LC34-DPT0600-018.0-20221213	**830**	**3,800**	32 U
		23	LC34-DPT0600-023.0-20221213	40 U	**4,500**	**180**
		28	LC34-DPT0600-028.0-20221213	79 U	**5,800**	**890**
		33	LC34-DPT0600-033.0-20221213	40 U	**3,300**	**1,000**
		38	LC34-DPT0600-038.0-20221213	400 U	**27,000**	**1,800**
		43	LC34-DPT0600-043.0-20221213	160 U	**13,000**	**1,600**
		48	LC34-DPT0600-048.0-20221213	160 U	**22,000**	**6,100**
		53	LC34-DPT0600-053.0-20221213	160 U	**13,000**	**5,900**
		58	LC34-DPT0600-058.0-20221213	79 U	**11,000**	**3,200**
		63	LC34-DPT0600-063.0-20221213	4.0 U	**300**	**150**
		68	LC34-DPT0600-068.0-20221213	1.5 I	32	**40**
		73	LC34-DPT0600-073.0-20221213	2.8 I	60	**66**
		78	LC34-DPT0600-078.0-20221213	**14**	**150**	**9.5**
		83	LC34-DPT0600-083.0-20221213	0.79 U	4.9	0.64 U
		88	LC34-DPT0600-088.0-20221213	0.79 U	15	0.64 U
		93	LC34-DPT0600-093.0-20221213	**9.5**	55	**3.4**
		98	LC34-DPT0600-098.0-20221213	3.1 I	3.9	0.64 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0600 (continued)	1/16/2024	8	LC34-DPT0600-008.0-20240116	**990**	**230**	**140**
		13	LC34-DPT0600-013.0-20240116	**2,100**	**1,900**	**120**
		18	LC34-DPT0600-018.0-20240116	1.6	37	**60**
		23	LC34-DPT0600-023.0-20240116	8.9 U	**480**	**400**
		28	LC34-DPT0600-028.0-20240116	89 U	**300**	**110**
		33	LC34-DPT0600-033.0-20240116	45 U	**1,500**	**430**
		38	LC34-DPT0600-038.0-20240116	89 U	**490**	**460**
		43	LC34-DPT0600-043.0-20240116	45 U	**370**	**1,100**
		48	LC34-DPT0600-048.0-20240116	**450,000**	**70,000**	**13,000**
		53	LC34-DPT0600-053.0-20240116	8.9 U	**590**	**1,800**
		58	LC34-DPT0600-058.0-20240116	22 U	**940**	**2,700**
		63	LC34-DPT0600-063.0-20240116	1.5	**90**	**29**
		68	LC34-DPT0600-068.0-20240116	0.89 U	1.8	**3.3**
		73	LC34-DPT0600-073.0-20240116	1.4	10	**9.0**
		78	LC34-DPT0600-078.0-20240116	8.9 U	**510**	**130**
		83	LC34-DPT0600-083.0-20240116	0.89 U	8.1	0.71 U
	1/17/2024	88	LC34-DPT0600-088.0-20240117	0.89 U	1.1	0.71 U
		93	LC34-DPT0600-093.0-20240117	0.89 U	14	1.4
		98	LC34-DPT0600-098.0-20240117	0.89 U	0.53 U	0.71 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0601	11/16/2017	8	LC34-DPT0601-008.0-20171116	2	30	**5**
		13	LC34-DPT0601-013.0-20171116	**5**	64	**29**
		18	LC34-DPT0601-018.0-20171116	**11**	**79**	**39**
		23	LC34-DPT0601-023.0-20171116	**11**	**6,100**	**640**
		28	LC34-DPT0601-028.0-20171116	**27,400**	**81,600 J**	**1,500**
		33	LC34-DPT0601-033.0-20171116	**181,000**	**202,000**	**3,100**
		38	LC34-DPT0601-038.0-20171116	**119,000**	**249,000**	**4,800**
		43	LC34-DPT0601-043.0-20171116	**24,200**	**339,000**	**13,100**
		48	LC34-DPT0601-048.0-20171116	**890**	**139,000**	**18,600**
	11/17/2017	53	LC34-DPT0601-053.0-20171117	**160**	**280**	10 U
		58	LC34-DPT0601-058.0-20171117	**1,000**	**5,900 J**	**120**
		63	LC34-DPT0601-063.0-20171117	**280**	**1,100**	20 U
		68	LC34-DPT0601-068.0-20171117	**160**	**280**	10 U
		73	LC34-DPT0601-073.0-20171117	**780**	**370**	**7**
		78	LC34-DPT0601-078.0-20171117	**6,800**	**9,800**	**41**
		83	LC34-DPT0601-083.0-20171117	**61**	**160**	**8**
	11/16/2018	8	LC34-DPT0601-008.0-20181116	1	22	**16**
		13	LC34-DPT0601-013.0-20181116	2 U	45	**55**
		18	LC34-DPT0601-018.0-20181116	2	49	**53**
		23	LC34-DPT0601-023.0-20181116	3 U	20	**180**
		28	LC34-DPT0601-028.0-20181116	40 U	**12,000**	**3,400**
		33	LC34-DPT0601-033.0-20181116	**33,800**	**80,800**	**1,800**
		38	LC34-DPT0601-038.0-20181116	**103,000**	**125,000**	**2,400**
		43	LC34-DPT0601-043.0-20181116	**97,900**	**156,000**	**3,100**
		48	LC34-DPT0601-048.0-20181116	**26,600**	**160,000**	**5,900**
		53	LC34-DPT0601-053.0-20181116	**24**	**2,100**	**170**
		58	LC34-DPT0601-058.0-20181116	**90**	**310**	**5**
		63	LC34-DPT0601-063.0-20181116	3	57	3 U
		68	LC34-DPT0601-068.0-20181116	3	19	1
		73	LC34-DPT0601-073.0-20181116	**80**	**160**	**7**
		78	LC34-DPT0601-078.0-20181116	**360**	**1,300**	**32**
		83	LC34-DPT0601-083.0-20181116	**25**	**100**	**5**
		88	LC34-DPT0601-088.0-20181116	1	9	1 U
		93	LC34-DPT0601-093.0-20181116	**5**	54	**6**
		98	LC34-DPT0601-098.0-20181116	**7**	14	1 U
	11/20/2019	8	LC34-DPT0601-008.0-20191120	**9**	12	**3**
		13	LC34-DPT0601-013.0-20191120	**4**	26	**24**
		18	LC34-DPT0601-018.0-20191120	**8**	42	**37**
		23	LC34-DPT0601-023.0-20191120	2	42	**110**
		28	LC34-DPT0601-028.0-20191120	2	23	**260 J**
		33	LC34-DPT0601-033.0-20191120	**1,400**	**17,700**	**1,500**
		38	LC34-DPT0601-038.0-20191120	**50,200**	**60,400**	**1,300**
		43	LC34-DPT0601-043.0-20191120	**104,000**	**154,000**	**2,900**
		48	LC34-DPT0601-048.0-20191120	**61,100**	**117,000 J**	**4,300**
		53	LC34-DPT0601-053.0-20191120	**50**	**170**	**17**
		58	LC34-DPT0601-058.0-20191120	**26**	**110**	1
		63	LC34-DPT0601-063.0-20191120	**13**	**140**	2 U
		68	LC34-DPT0601-068.0-20191120	**93**	**220**	**5**
		73	LC34-DPT0601-073.0-20191120	**24**	**89**	**12**
		78	LC34-DPT0601-078.0-20191120	**9,100**	**4,300**	100 U
		83	LC34-DPT0601-083.0-20191120	**40**	50	**2**

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0601 (continued)	11/23/2020	8	LC34-DPT0601-008.0-20201123	1.3	5.5	**6.6**
		13	LC34-DPT0601-013.0-20201123	0.8 J	12.9	**16.9**
		18	LC34-DPT0601-018.0-20201123	1.3	36.5	**38.1**
		23	LC34-DPT0601-023.0-20201123	3.1 U	11.4	**63.6**
		28	LC34-DPT0601-028.0-20201123	0.86 J	15.1	**50.8**
		33	LC34-DPT0601-033.0-20201123	2.1 J	**707**	**642**
		38	LC34-DPT0601-038.0-20201123	**662**	**18,900**	**1,070**
		43	LC34-DPT0601-043.0-20201123	**9,090**	**42,600**	**888 J**
		48	LC34-DPT0601-048.0-20201123	**39,800**	**93,400**	**2,080**
		53	LC34-DPT0601-053.0-20201123	3	18.6	**11.3**
		58	LC34-DPT0601-058.0-20201123	**24.5**	**132**	**2.3**
		63	LC34-DPT0601-063.0-20201123	**3.7**	34.4	0.23 U
		68	LC34-DPT0601-068.0-20201123	2	7.8	**5.3**
		73	LC34-DPT0601-073.0-20201123	**181**	36	0.44 J
		78	LC34-DPT0601-078.0-20201123	**5,260**	**2,830**	**10.3**
		83	LC34-DPT0601-083.0-20201123	1.1	3.4	0.23 U
		88	LC34-DPT0601-088.0-20201123	2.8	1.3	0.23 U
		93	LC34-DPT0601-093.0-20201123	**4.9**	9.7	0.23 U
		98	LC34-DPT0601-098.0-20201123	0.31 U	0.34 U	0.23 U
	12/20/2021	8	LC34-DPT0601-008.0-20211220	**2,870 J**	37.9	1.4
		13	LC34-DPT0601-013.0-20211220	**795 J**	**1,790 J**	**21.7**
		18	LC34-DPT0601-018.0-20211220	**15,300 J**	**2,610 J**	**125 J**
		23	LC34-DPT0601-023.0-20211220	**18**	35.6	**62.1**
		28	LC34-DPT0601-028.0-20211220	**10.8**	10.1	**243 J**
		33	LC34-DPT0601-033.0-20211220	**17.3**	8.2 J	**30.2**
		38	LC34-DPT0601-038.0-20211220	**948**	**1,210**	**1,010**
		43	LC34-DPT0601-043.0-20211220	**674**	**8,760**	**2,730**
		48	LC34-DPT0601-048.0-20211220	**2,160**	**49,800**	**2,720**
		53	LC34-DPT0601-053.0-20211220	**6.5**	**5,190 J**	**442 J**
		58	LC34-DPT0601-058.0-20211220	**5.4 J**	**76.4 J**	**6.8**
		63	LC34-DPT0601-063.0-20211220	**10.2**	16.2	1.3
		68	LC34-DPT0601-068.0-20211220	**203 J**	**105 J**	**12.2**
		73	LC34-DPT0601-073.0-20211220	**68.1**	61	**67.5**
		78	LC34-DPT0601-078.0-20211220	**690**	**2,390**	**156**
		83	LC34-DPT0601-083.0-20211220	**80.3 J**	42.2	**2**
		88	LC34-DPT0601-088.0-20211220	**29.6**	15.8	0.68 J
		93	LC34-DPT0601-093.0-20211220	**13.1**	28	1.2
		98	LC34-DPT0601-098.0-20211220	**36.2**	4.4	0.41 U

Table 2-14. DPT Performance Groundwater Results (continued)

Location ID (LC34-)	Date	Sample Depth (ft bls)	Sample ID	TCE	cDCE	VC
DPT0601 (continued)	12/13/2022	8	LC34-DPT0601-008.0-20221213	**1,700**	**360**	13 U
		13	LC34-DPT0601-013.0-20221213	4 U	**710**	**32**
		18	LC34-DPT0601-018.0-20221213	16 U	**1,700**	**76**
		23	LC34-DPT0601-023.0-20221213	40 U	**3,600**	**280**
		28	LC34-DPT0601-028.0-20221213	1.3 I	9.6	**39**
		33	LC34-DPT0601-033.0-20221213	1.6 U	43	**250**
		38	LC34-DPT0601-038.0-20221213	4 U	**150**	**460**
		43	LC34-DPT0601-043.0-20221213	40 U	**4,800**	**3,000**
		48	LC34-DPT0601-048.0-20221213	**25,000**	**64,000**	**2,500**
		53	LC34-DPT0601-053.0-20221213	**62 I**	**2,600**	**860**
		58	LC34-DPT0601-058.0-20221213	4 U	**340**	**95**
		63	LC34-DPT0601-063.0-20221213	1.5 I	40	**18**
		68	LC34-DPT0601-068.0-20221213	1.7 I	3.1	0.64 U
		73	LC34-DPT0601-073.0-20221213	2.5 I	57	**3.6**
		78	LC34-DPT0601-078.0-20221213	**5,800**	**4,000**	64 U
		83	LC34-DPT0601-083.0-20221213	**5.5**	7.7	0.64 U
		88	LC34-DPT0601-088.0-20221213	2.3 I	2.1	0.64 U
		93	LC34-DPT0601-093.0-20221213	**18**	9.9	0.64 U
		98	LC34-DPT0601-098.0-20221213	**32**	**81**	**2**
	1/15/2024	8	LC34-DPT0601-008.0-20240115	45 U	**1,600**	**250**
		13	LC34-DPT0601-013.0-20240115	0.89 U	**73**	**32**
		18	LC34-DPT0601-018.0-20240115	4.5 U	**250**	**77**
		23	LC34-DPT0601-023.0-20240115	89 U	**5,700**	**400**
		28	LC34-DPT0601-028.0-20240115	22 U	**1,300**	**510**
		33	LC34-DPT0601-033.0-20240115	1.3	4.4	**13**
		38	LC34-DPT0601-038.0-20240115	89 U	**4,300**	**2,700**
		43	LC34-DPT0601-043.0-20240115	**4,700**	**58,000**	**6,200**
		48	LC34-DPT0601-048.0-20240115	**44,000**	**120,000**	**3,800**
		53	LC34-DPT0601-053.0-20240115	89 U	**7,200**	**3,600**
		58	LC34-DPT0601-058.0-20240115	2.3	33	**64**
		63	LC34-DPT0601-063.0-20240115	**10**	**110**	**34**
		68	LC34-DPT0601-068.0-20240115	2.0	3.1	0.71 U
		73	LC34-DPT0601-073.0-20240115	**10**	25	**1.9**
		78	LC34-DPT0601-078.0-20240115	**1,000**	**7,400**	71 U
		83	LC34-DPT0601-083.0-20240115	1.2	19	**3.0**
		88	LC34-DPT0601-088.0-20240115	1.9	1.7	0.71 U
	1/16/2024	93	LC34-DPT0601-093.0-20240116	**7.1**	27	0.71 U
		98	LC34-DPT0601-098.0-20240116	**11**	25	1.0

Notes:

- DPT results are considered screening-level only and were reviewed in accordance with internal data protocols; appropriate qualifiers were applied to the data as deemed necessary by the quality reviewer.
- Concentrations reported in micrograms per liter (µg/L).
- Shading indicates > Groundwater Cleanup Target Level (GCTL): TCE = 3 µg/L, cDCE = 70 µg/L, and VC = 1 µg/L.

(1) - Sample was not collected at DPT0599 at 83.0 feet due to a miscount in screens.

TCE = Trichloroethene
cDCE = cis-1,2-Dichloroethene
VC = Vinyl chloride
NS = Not sampled
NA = Not applicable
I = Reported value is between method detection limit (MDL) and practical quantitation limit
J = Estimated concentration
L = Actual value is known to be greater than value given
U = Not detected at or above MDL (associated value)

Table 2-15. Layer 7 and 8 Monitoring Well Results

Well (LC34-)/ (Screened Interval)	Layer	Sample Date	TCE	cDCE	tDCE	VC
IW0001D2 (105-115)	8	15-Jun-05	0.5 U	0.5 U	0.5 U	0.5 U
		12-Dec-05	**5.9**	0.78 I	0.5 U	0.58 I
		29-Jun-06	0.5 U	0.5 U	0.5 U	0.5 U
		11-Dec-06	2.4	1.8	0.5 U	**2.5**
		11-Jun-07	2	1.1	0.5 U	1.1
		04-Dec-07	1.4	0.45 I	0.2 U	0.34 U
		03-Dec-08	**57.7**	16.9	0.122 U	0.155 U
		30-Nov-09	**8.1**	21.8	2.1	**8.5**
		22-Dec-10	0.26 U	0.5 I	0.7 I	**8.5**
		14-Dec-11	1 U	30	3	**19**
		05-Dec-12	0.5 U	4	0.44 U	**6**
		04-Dec-13	0.31 U	11.4	1.4	**19**
		11-Dec-14	0.3 U	3.2	1.1	**13.2**
		22-Dec-15	0.22 U	1.2	0.37 I	**2.6**
		4-Dec-16	0.29 I	1.4	0.36 I	**1.7**
		23-Jan-19	0.35 U	0.28 U	0.22 U	0.41 U
		21-Dec-20	0.35 U	0.28 U	0.22 U	0.41 U
		23-Dec-21	0.89 U	0.53 U	0.73 U	0.71 U
		20-Dec-22	0.79 U	0.71 U	0.95 U	0.64 U
		13-Oct-23	0.20 U	0.25 U	0.34 U	0.40 U
		8-Dec-23	0.89 U	0.53 U	0.73 U	0.71 U
IW0042D2 (87-92)	7	09-Jun-05	**20.9**	10.4	0.5 U	0.5 U
		12-Dec-05	2.4	1.4	0.5 U	0.5 U
		26-Jun-06	2.5	1.2	0.5 U	0.5 U
		11-Dec-06	0.67 I	0.52 I	0.5 U	**3.9**
		11-Jun-07	0.94 I	0.5 U	0.5 U	**2.6**
		04-Dec-07	2.2	0.73 I	0.2 U	0.96 I
		01-Dec-08	0.87 I	1.14 I	0.122 U	0.953 I
		23-Nov-09	1	0.57 I	0.45 U	0.42 I
		20-Dec-10	0.26 U	0.26 U	0.35 U	0.22 U
		15-Dec-11	1.6	3.1	1 U	1 U
		05-Dec-12	0.5 U	0.65 U	0.44 U	0.5 U
		02-Dec-13	0.31 U	0.24 U	0.23 U	0.47 I
		8-Dec-14	0.3 U	0.33 U	0.34 U	0.33 U
		22-Dec-15	0.22 U	0.22 U	0.21 U	0.25 U
		6-Dec-16	0.27 U	0.31 U	0.33 U	0.31 U
		3-Dec-18	0.35 U	0.28 U	0.22 U	0.41 U
		21-Dec-20	0.35 U	0.28 U	0.22 U	0.41 U
		23-Dec-21	0.89 U	0.53 U	0.73 U	0.71 U
		20-Dec-22	0.79 U	0.71 U	0.95 U	0.64 U
		8-Dec-23	0.89 U	0.73 I	0.73 U	0.71 U

Table 2-15. Layer 7 and 8 Monitoring Well Results (continued)

Well (LC34-)/ (Screened Interval)	Layer	Sample Date	TCE	cDCE	tDCE	VC
IW0043D2 (105-115)	8	11-Feb-04	**9.3**	0.6 J	0.5 U	0.5 U
		15-Jun-05	0.5 U	0.5 U	0.5 U	0.5 U
		13-Dec-05	1 U	1 U	1 U	1 U
		04-Dec-07	0.74 I	0.28 U	0.38 I	0.34 U
		01-Dec-08	0.118 U	0.162 U	0.122 U	0.155 U
		24-Nov-09	0.32 U	0.2 U	0.45 U	0.3 U
		23-Dec-10	0.26 U	0.48 I	0.53 I	0.22 U
		14-Dec-11	**6.7**	9.1	6.2	**1.5**
		04-Dec-12	0.5 U	0.65 U	0.44 U	0.5 U
		03-Dec-13	0.31 U	0.24 U	0.23 U	0.44 U
		9-Dec-14	0.3 U	0.33 U	0.34 U	0.33 U
		22-Dec-15	0.22 U	0.49 I	0.21 U	0.25 U
		4-Dec-16	0.27 U	0.52 I	0.33 U	0.31 U
		4-Dec-18	0.35 U	2.0	0.22 U	0.41 U
		21-Dec-20	0.35 U	0.44 I	0.22 U	0.41 U
		23-Dec-21	0.89 U	0.74 I	0.73 U	0.71 U
		20-Dec-22	0.79 U	1.0	0.95 U	**4.2**
		8-Dec-23	0.89 U	0.5 U	0.73 U	0.71 U

Table 2-15. Layer 7 and 8 Monitoring Well Results (continued)

Well (LC34-)/ (Screened Interval)	Layer	Sample Date	TCE	cDCE	tDCE	VC
IW0044D2 (105-115)	8	15-Jun-04	0.5 U	0.5 U	0.5 U	0.5 U
		17-Nov-04	0.5 U	0.5 U	0.5 U	0.5 U
		09-Jun-05	2.5	0.5 U	0.5 U	0.5 U
		13-Dec-05	1.3	0.5 U	0.5 U	0.5 U
		04-Dec-07	1.1	1	0.2 U	0.34 U
		03-Dec-08	0.118 U	58.5	0.122 U	0.155 U
		24-Nov-09	0.32 U	5.3	1.2	**32.8**
		20-Dec-10	0.26 U	0.26 U	0.35 U	0.22 U
		15-Dec-11	1 U	1 U	1 U	1 U
		05-Dec-12	1.8	1.4	0.44 U	0.5 U
		04-Dec-13	1.2	1.8	0.27 I	0.44 U
		9-Dec-14	0.37 I	0.67 I	0.34 U	0.33 U
		23-Dec-15	0.27 U	0.95 I	0.33 U	0.31 U
		7-Dec-16	0.27 U	0.57 I	0.33 U	0.31 U
		4-Dec-18	0.35 U	0.28 U	0.22 U	0.41 U
		21-Dec-20	0.35 U	0.28 U	0.22 U	0.41 U
		23-Dec-21	0.89 U	0.53 U	0.73 U	0.71 U
		19-Dec-22	0.79 U	1.2	0.95 U	0.64 U
		31-Mar-23	**360**	**930**	9.5 U	6.4 U
		14-Apr-23	**1500**	**1300**	5.0 U	**54**
		28-Apr-23	**2800**	**2300**	13 U	**75**
		12-May-23	**1400**	**960**	8.0	**110**
		26-May-23	**4200 L**	**2100**	7.3 I	**150**
		9-Jun-23	**5300**	**1900**	68 U	**110 I**
		23-Jun-23	**1300**	**1700**	3.4 U	**550**
		6-Jul-23	**2900**	**2700**	12	**230**
		21-Jul-23	**1600**	**1900**	5.0 U	**150**
		4-Aug-23	**2400**	**2200**	5.9 I	**130**
		18-Aug-23	**2400**	**2000**	12	**210**
		1-Sep-23	**2800**	**1800**	8.5 U	**190**
		15-Sep-23	**12000**	**2600**	68 U	80 U
		29-Sep-23	**190000 L**	**20000**	21	**1400**
		13-Oct-23	**16000**	**2900**	34 U	40 U
		27-Oct-23	**4000**	**1700**	73 U	**220**
		10-Nov-23	**1600**	**1000**	16 I	8.0 U J3
		27-Nov-23	**750**	**330**	5.5	**220**
		8-Dec-23	**1200**	**730**	12	**130**
		21-Dec-23	**400**	**260**	7.3 U	**85**
		5-Jan-24	**330**	**260**	3.7 U	3.6 U
		19-Jan-24	**640**	**890**	12	**94**
		2-Feb-24	**430**	**1000**	18 U	**93**
		16-Feb-24	**440**	**1200**	18 U	**87**
		1-Mar-24	**270**	**1100**	15 U	**100**
		15-Mar-24	**1000**	**2400**	11	**260**
		29-Mar-24	**1400**	**660**	10	**150**

Table 2-15. Layer 7 and 8 Monitoring Well Results (continued)

Well (LC34-)/ (Screened Interval)	Layer	Sample Date	TCE	cDCE	tDCE	VC
IW0045D2 (105-115)	8	10-Oct-03	**6.2**	**78.2**	0.81 J	**2.3**
		30-Oct-03	**7.4**	45.1	2 U	**2.9**
		09-Jun-05	1.9	4.8	0.5 U	1
		12-Dec-05	2	1.4	0.5 U	0.5 U
		17-Jun-08	1.7	2.3	0.2 U	0.34 U
		03-Dec-08	**4.91**	4.06 I	0.122 U	0.155 U
		23-Nov-09	**29.6**	**72.9**	8.3	**6.5**
		20-Dec-10	**4**	1.5	0.35 U	0.22 U
		15-Dec-11	**6.8**	19	5.6	**5.3**
		05-Dec-12	1.3	1.1	2.1	**4.9**
		04-Dec-13	0.31 U	0.24 U	0.58 I	**2.3**
		9-Dec-14	0.3 U	0.52 I	0.34 U	0.33 U
		22-Dec-15	0.22 U	0.22 U	0.23 I	0.98 I
		7-Dec-16	0.69 I	0.33 I	0.33 U	0.31 U
		3-Dec-18	0.68 I	1.9	0.22 U	0.41 U
		21-Dec-20	0.35 U	0.28 U	4.3	**6.9**
		19-May-21	0.35 U	0.28 U	0.22 U	0.41 U
		23-Dec-21	0.89 U	0.53 U	0.73 U	0.71 U
		20-Dec-22	0.79 U	0.71 U	0.95 U	0.64 U
		8-Dec-23	4.5 U	**140**	3.7 U	3.6 U
IW0160 (105-115)	8	21-Aug-19	0.94 I	0.28 U	0.22 U	0.41 U
		21-Dec-20	0.35 U	0.28 U	0.22 U	0.41 U
		23-Dec-21	0.89 U	0.53 U	0.73 U	0.71 U
		19-Dec-22	0.79 U	0.71 U	0.95 U	0.64 U
		8-Dec-23	0.89 U	0.53 U	0.73 U	0.71 U
IW0161 (105-115)	8	21-Aug-19	0.35 U	0.28 U	0.22 U	0.41 U
		18-Dec-20	0.35 U	0.28 U	0.22 U	0.41 U
		23-Dec-21	0.89 U	0.53 U	0.73 U	0.71 U
		19-Dec-22	0.79 U	0.71 U	0.95 U	0.64 U
		13-Oct-23	0.20 U	0.25 U	0.34 U	0.40 U
		8-Dec-23	0.89 U	0.53 U	0.73 U	0.71 U

Table 2-15. Layer 7 and 8 Monitoring Well Results (continued)

Well (LC34-)/ (Screened Interval)	Layer	Sample Date	TCE	cDCE	tDCE	VC
IW0162 (105-115)	8	21-Aug-19	0.35 U	0.28 U	0.22 U	0.41 U
		18-Dec-20	0.35 U	0.28 U	0.22 U	0.41 U
		23-Dec-21	2.4 I	0.53 U	0.73 U	0.71 U
		4-Feb-22	**7.4**	0.53 U	0.73 U	0.71 U
		22-Mar-22	**33**	0.53 U	0.73 U	0.71 U
		19-Apr-22	**58**	0.53 U	0.73 U	0.71 U
		31-May-22	**44**	0.53 U	0.73 U	0.71 U
		28-Jun-22	**90**	0.53 U	0.73 U	0.71 U
		22-Jul-22	**94**	0.64 I	0.73 U	0.71 U
		18-Aug-22	**115**	0.81 I	0.44 U	0.82 U
		8-Sep-22	**210**	1.1 I	0.73 U	0.71 U
		26-Oct-22	**260**	11	0.95 U	0.64 U
		19-Dec-22	**280**	16	4.7 U	3.2 U
		2-Feb-23	**510**	29	4.7 U	3.2 U
		21-Feb-23	**14000**	**230**	47 U	32 U
		16-Mar-23	**15000**	**1700**	95 U	64 U
		31-Mar-23	**1700**	**580**	19 U	13 U
		14-Apr-23	**250**	**150**	1.0 U	1.1 I
		28-Apr-23	**46**	**89**	0.50 U	**3.3**
		12-May-23	**17**	25	0.50 U	**3.0**
		26-May-23	**16**	23	0.34 U	0.40 U
		9-Jun-23	**13**	20	0.34 U	0.40 U J3
		23-Jun-23	**4.9**	11	0.34 U	**7.4**
		6-Jul-23	**10**	10	0.95 U	0.64 U
		21-Jul-23	**6.1**	5.9	0.5 U	**2.4**
		4-Aug-23	**6.0**	4.9	0.5 U	**2.5**
		18-Aug-23	**5.3**	3.6	0.5 U	**2.3**
		1-Sep-23	**5.2**	3.7	0.34 U	**3.1**
		15-Sep-23	**4.4**	2.1	0.34 U	0.40 U
		29-Sep-23	3.0	1.6	0.34 U	**3.5**
		13-Oct-23	3.4	2.6	0.34 U	0.40 U
		27-Oct-23	2.5	1.6	0.73 U	0.71 U
		10-Nov-23	2.0	1.1	0.34 U	**1.5**
		27-Nov-23	1.8	1.0	0.73 U	0.71 U
		8-Dec-23	2.0	1.3	0.73 U	0.71 U
		21-Dec-23	2.0	0.92 I	0.73 U	0.95 I
		5-Jan-24	2.3	1.1	0.73 U	0.71 U
		19-Jan-24	2.0	1.0	0.73 U	0.71 U
		2-Feb-24	2.9	1.3	0.73 U	0.71 U

Table 2-15. Layer 7 and 8 Monitoring Well Results (continued)

Well (LC34-)/ (Screened Interval)	Layer	Sample Date	TCE	cDCE	tDCE	VC
IW0163 (105-115)	8	21-Aug-19	0.35 U	0.28 U	0.22 U	0.41 U
		18-Dec-20	0.35 U	0.28 U	0.22 U	0.41 U
		23-Dec-21	0.89 U	0.53 U	0.73 U	0.71 U
		19-Dec-22	0.79 U	0.71 U	0.95 U	0.64 U
		8-Dec-23	0.89 U	0.53 U	0.73 U	0.71 U
IW0164 (105-115)	8	21-Aug-19	0.35 U	0.28 U	0.22 U	0.41 U
		18-Dec-20	0.35 U	0.28 U	0.22 U	0.41 U
		23-Dec-21	0.89 U	0.53 U	0.73 U	0.71 U
		19-Dec-22	0.79 U	0.71 U	0.95 U	0.64 U
		8-Dec-23	0.89 U	0.53 U	0.73 U	0.71 U
IW0165 (105-115)	8	21-Aug-19	0.45 I	0.28 U	0.22 U	0.41 U
		18-Dec-20	0.35 U	0.28 U	0.22 U	0.41 U
		23-Dec-21	0.89 U	0.53 U	0.73 U	0.71 U
		20-Dec-22	0.79 U	0.71 U	0.95 U	0.64 U
		31-Mar-23	0.79 U	0.71 U	0.95 U	0.64 U
		14-Apr-23	0.15 U	0.20 U	0.50 U	0.50 U
		28-Apr-23	0.15 U	0.20 U	0.50 U	0.50 U
		12-May-23	0.15 U	0.20 U	0.50 U	0.50 U
		26-May-23	0.20 U	0.25 U	0.34 U	0.40 U
		9-Jun-23	0.20 U	0.25 U	0.34 U	0.40 U J3
		23-Jun-23	0.20 U	0.25 U	0.34 U	0.40 U
		6-Jul-23	0.79 U	0.71 U	0.95 U	0.64 U
		21-Jul-23	0.15 U	0.20 U	0.50 U	0.50 U
		4-Aug-23	0.15 U	0.20 U	0.50 U	0.50 U
		18-Aug-23	0.15 U	0.20 U	0.50 U	0.50 U
		1-Sep-23	0.20 U	0.25 U	0.34 U	0.40 U
		15-Sep-23	0.20 U	0.25 U	0.34 U	0.40 U
		29-Sep-23	0.20 U	0.25 U	0.34 U	0.40 U
		13-Oct-23	0.20 U	0.25 U	0.34 U	0.40 U
		8-Dec-23	0.89 U	0.53 U	0.73 U	0.71 U

Notes:

Concentrations in micrograms per liter (µg/L).

Shading indicates exceeding Groundwater Cleanup Target Level (GCTL), TCE = 3 µg/L, cDCE = 70 µg/L, tDCE = 100 µg/L, and VC = 1 µg/L

TCE = Trichloroethene

tDCE = trans-1,2-Dichloroethene

cDCE = cis-1,2-Dichloroethene

VC = Vinyl chloride

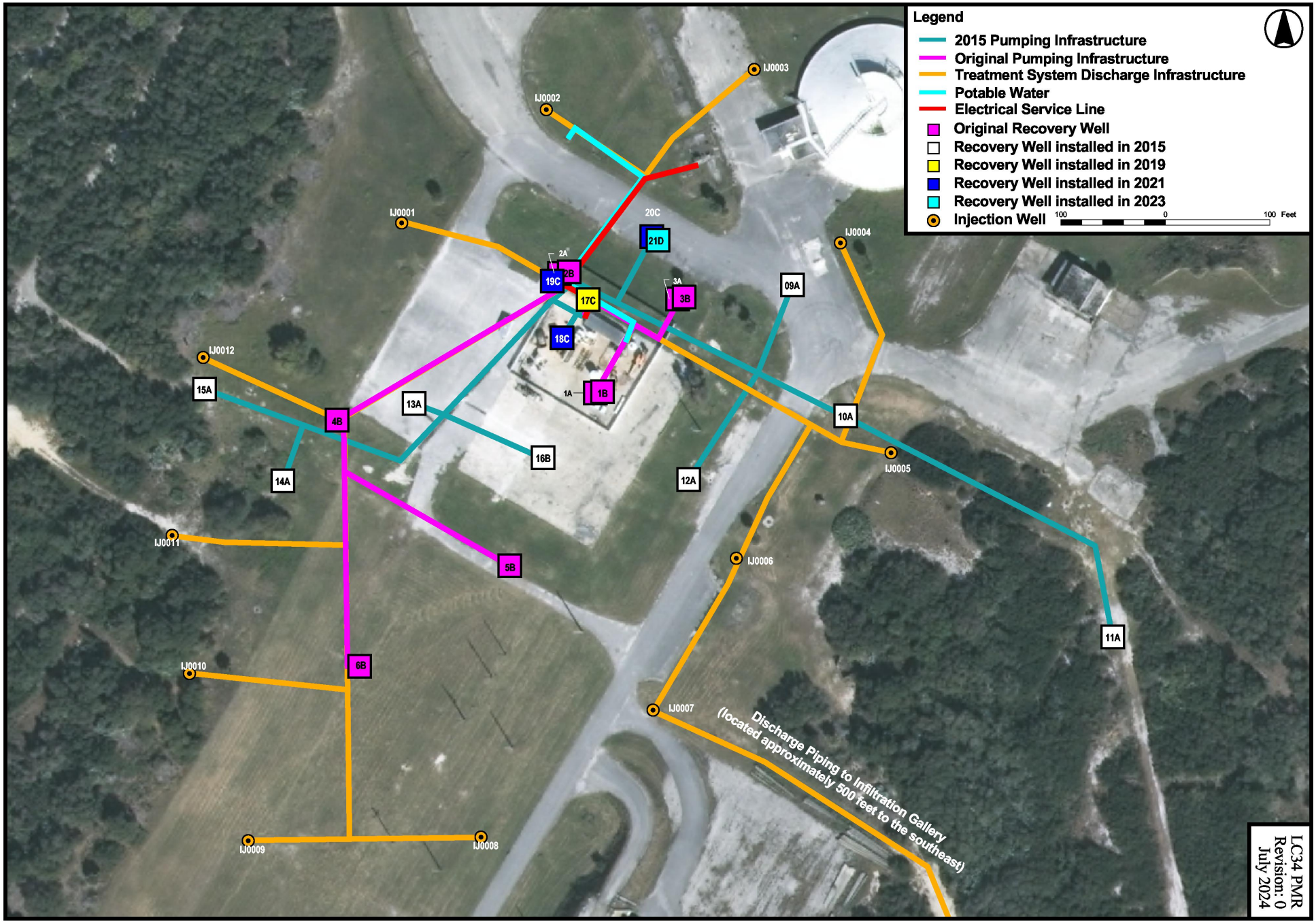
I = Reported value is between method detection limit (MDL) and practical quantitation limit

J3 = Estimated value; value may not be accurate. Spike recovery or relative percent difference outside of criteria

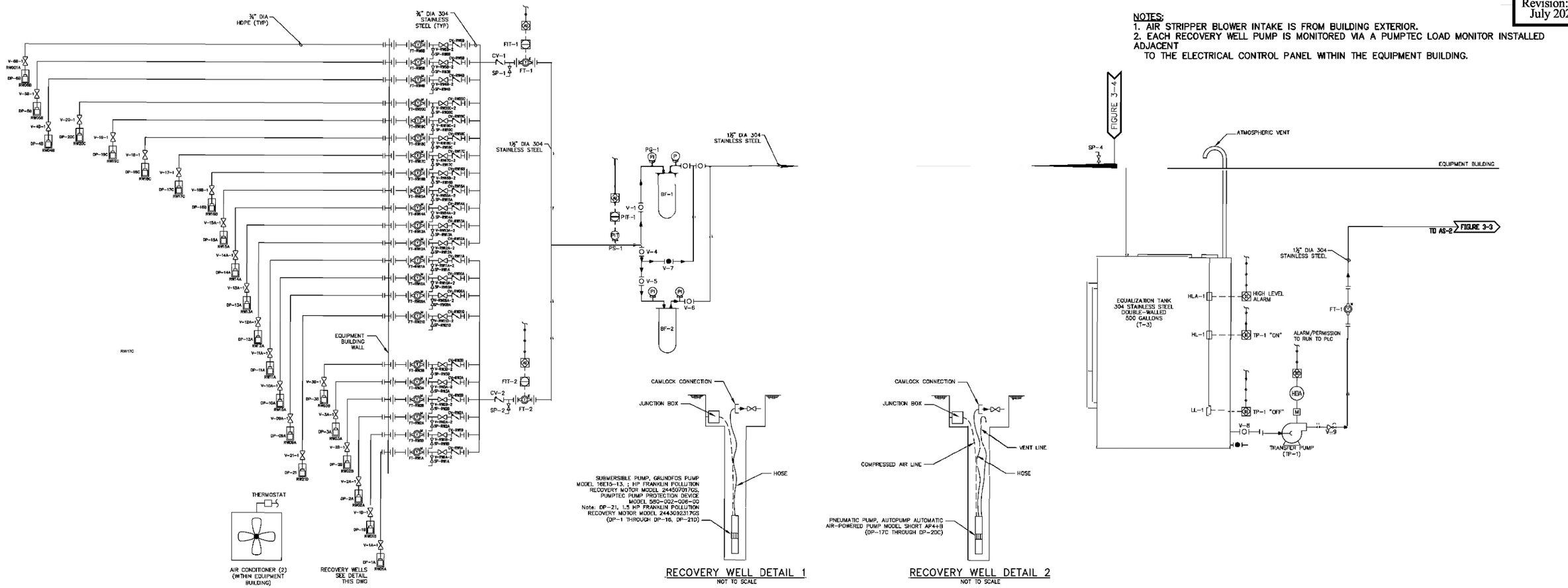
L = Actual value is known to be greater than value given

U = Not detected at or above MDL (associated value)

FIGURE 2-1 HYDRAULIC CONTAINMENT SYSTEM LAYOUT
LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION, FLORIDA



NOTES:
1. AIR STRIPPER BLOWER INTAKE IS FROM BUILDING EXTERIOR.
2. EACH RECOVERY WELL PUMP IS MONITORED VIA A PUMPTEC LOAD MONITOR INSTALLED ADJACENT
   TO THE ELECTRICAL CONTROL PANEL WITHIN THE EQUIPMENT BUILDING.



RECOVERY WELL DETAIL 1
NOT TO SCALE

RECOVERY WELL DETAIL 2
NOT TO SCALE

KEY EQUIPMENT ITEMS

P&ID Symbol	Description	Model Info	Qty.
DP-1 through DP-16, DP-21	Submersible Pump, Extraction well pump	SUBMERSIBLE PUMP, GRUNDFOS PUMP MODEL 16E15-13, ¾ HP FRANKLIN POLLUTION RECOVERY MOTOR MODEL 244507017GS, PUMPTEC PUMP PROTECTION DEVICE MODEL 580-002-006-00 Note: DP-21, 1.5 HP FRANKLIN POLLUTION RECOVERY MOTOR MODEL 2443092317GS	17
DP-17C through DP-20C	Pneumatic Pump, Extraction well pump	Auto Pump model SHORT AP4+B	4
FT-1A through FT-21D	Flow totalizer for each extraction well	ISTEC model 1740, 3/4" inlet/outlet	21
FS-1 and FIC-1, FS-2 and FIC-2	Flow sensor and transmitter with digital display	Signet 525 METLEX	2
FS-3 and FIC-3, FS-4 and FIC-4	Flow sensor and transmitter	Signet 38550-1	2
BF-1 to BF-4	Bag filter	KRYSTIL KLEAR model 66-30 (304SS)	2
MP-1, MP-2	Biocide, sequestering agent metering pumps	LMI model AA971-155HV	2
FT-1	Flow totalizer	ISTEC model 1740, 1 1/2" inlet/outlet	1
AS-1, AS-2	4-tray low profile air stripper	QED model EZ Tray 12.4SS, rated for 125 gpm, 600 SCFM at <30" w.c.	1
LGAC-1, LGAC-2	Liquid phase granular activated carbon vessels, located outside	Carbon services model AQ1500, 1500# of carbon each, 50 gpm, <150 psi rating	1
TP-1	Air stripper inlet transfer pump	AMT model 490D-98, 50 gpm at 75' TDH, 1.5 hp	1
TP-2	Air stripper effluent transfer pump	Goulds SSH 5SH, 5.5 inch impeller, 125 gpm at 23 feet, 1.5 hp, VFD controlled	1
TP-3	Air stripper effluent transfer pump	Goulds SSH 4SH, 6-1/16 inch impeller, 125 gpm at 115 feet, 7.5 hp, VFD controlled	1
B-1	Air stripper blower	New York Blower model 29006, 600 scfm at 62" wg, 20 hp, VFD controlled	1
MV-1	Flow dividing motorized valve controlled by PLC signal	?	1
SP-1	Sump Pump	ARD PD air operated pump	1

SYMBOLS

FS	FLOW SENSOR
FIT	FLOW TRANSMITTER WITH TOTALIZING FUNCTION
PS	PRESSURE SENSOR
PIT	PRESSURE TRANSMITTER
MIC	MOTORIZED VALVE PLC CONTROLLER
PG	PRESSURE GAUGE
V	PROCESS VALVE
CV	CHECK VALVE
SP	SAMPLING PORT
LL	LOW LEVEL SWITCH
HL	HIGH LEVEL SWITCH
HLA	HIGH LEVEL ALARM SWITCH

LEGEND

- ANALOG OUTPUT FROM PLC
- DISCRETE OUTPUT FROM PLC
- ANALOG INPUT TO PLC
- DISCRETE INPUT TO PLC
- INSTRUMENT WITH SCADA AND HMI DISPLAY
- INSTRUMENT WITH SCADA DISPLAY ONLY
- HAND-OFF-AUTO SWITCH
- VARIABLE FREQUENCY DRIVE
- ELECTRICAL MOTOR
- UNION
- FLEXIBLE HOSE
- CHECK VALVE
- BALL VALVE (NORMALLY OPEN)
- BALL VALVE (NORMALLY CLOSED)
- FLANGE
- HOSE CONNECTION
- GATE VALVE
- ELECTRONIC FLOW SENSOR
- MECHANICAL FLOW TOTALIZER
- PRESSURE INDICATOR TRANSMITTER
- PRESSURE INDICATOR
- DIFFERENTIAL PRESSURE INDICATOR
- TEMPERATURE INDICATOR
- CENTRIFUGAL PUMP
- METERING PUMP
- CENTRIFUGAL BLOWER
- SUMP PUMP W/FLOAT SWITCH

FIGURE 2-2
PIPING AND INSTRUMENTATION DIAGRAM
1 OF 3
LAUNCH COMPLEX 34
CAPE CANAVERAL SPACE FORCE STATION, FLORIDA

20200109

NOTES:
1. AIR STRIPPER BLOWER INTAKE IS FROM BUILDING EXTERIOR.
2. EACH RECOVERY WELL PUMP IS MONITORED VIA A PUMPTEC LOAD MONITOR INSTALLED ADJACENT TO THE ELECTRICAL CONTROL PANEL WITHIN THE EQUIPMENT BUILDING.

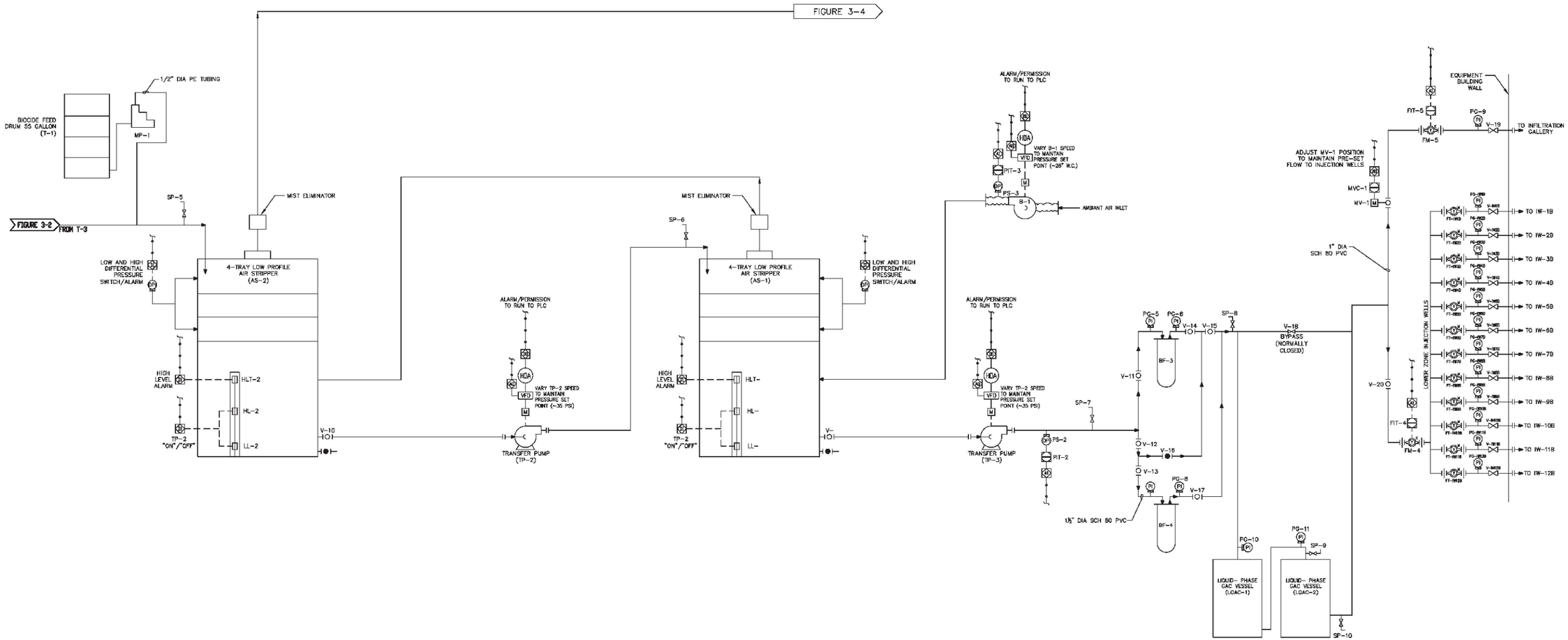
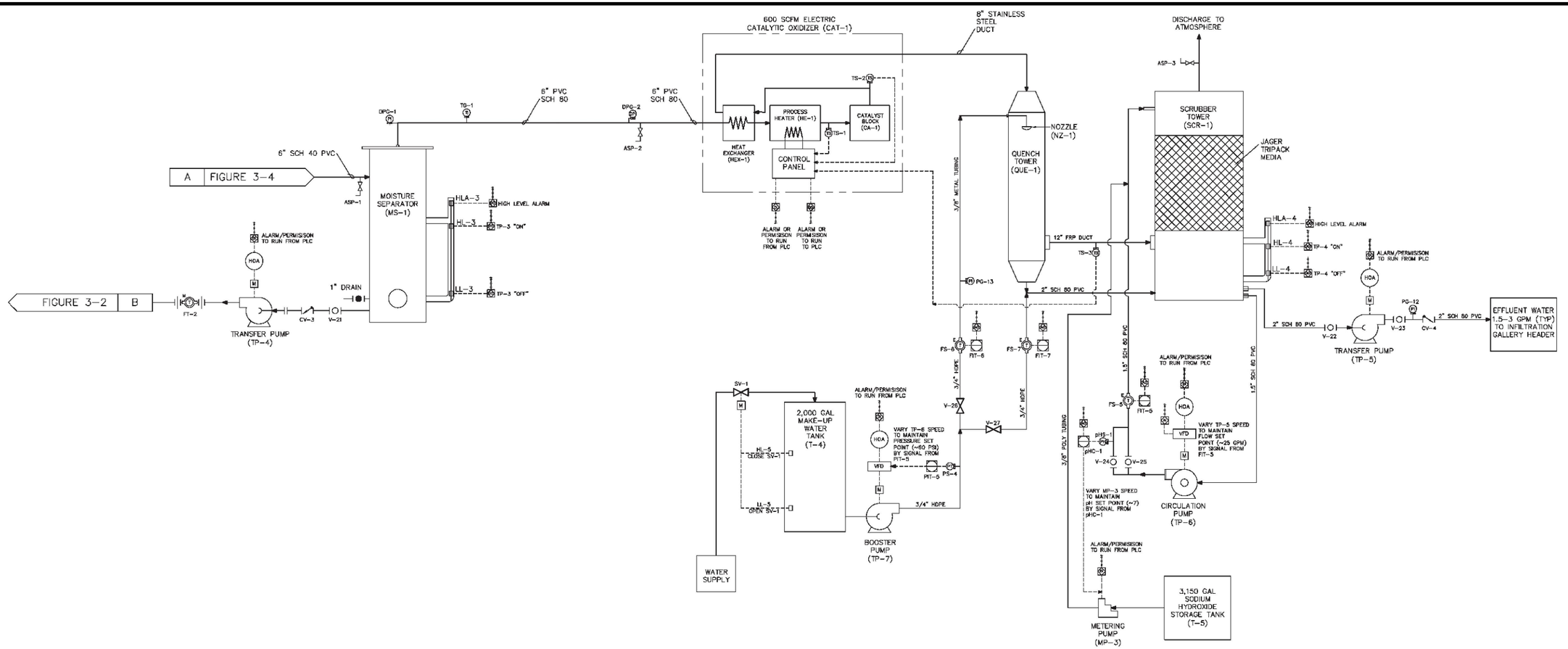


FIGURE 2-3
PIPING AND INSTRUMENTATION DIAGRAM
2 OF 3
LAUNCH COMPLEX 34
CAPE CANAVERAL SPACE FORCE STATION, FLORIDA

20200009



KEY EQUIPMENT ITEMS

Description	Model Info	Quantity
Electrical catalytic oxidizer	PRM model CATOX-E600, 600 SCFM max flow, integrated control panel and temperature sensors	1
Process heater	Durex Industries, Model FDH48N-5630, 825degF at 600 SCFM, 116 KW max	1
Heat exchanger	Custom made, gauge 14 AL6XN stainless steel, 50% efficiency	1
Catalyst module	Johnson Matthey, Model HALOCAT, 8.6 cu.ft (72 cubes)	1
Pre-scrubber quench tower	Custom made, gauge 14 AL6XN stainless steel, 14"Dx120"H.	1
Scrubber tower	Custom made, FRP, 24"Dx120"H.	1
Moisture separator	PRM model MS120, epoxy coated steel, 4" inlet, 6" outlet, 750 SCFM max flow, 24"Dx60"H, 60-gal liquid capacity	1
CATOX inlet blower	Twin City Fan model TBNS 9N6, 7.5 hp, VFD controlled	1
Moisture separator transfer pump	CT Meyers, Model CT05, 1/2 hp	1
Scrubber effluent transfer pump	Stainless steel centrifugal pump, 1.5 hp	1
Scrubber circulation pump	Stainless steel centrifugal pump, 1.5 hp, VFD controlled	1
Make-up water pressure booster pump	Goulds SS, Model 2HMIF250, VFD controlled	1
Flow sensor and transmitter	Signet 38550-1	3
Flow totalizer	Master Meter, 3/4" classic multi-jet water meter	1
Thermocouple	Pyromation, Model K43U-024-00-8HN34	2
Thermocouple	Pyromation, Model K48UT-012-56C-9HP63	1

SYMBOLS

FS	FLOW SENSOR
FIT	FLOW TRANSMITTER WITH TOTALIZING FUNCTION
PS	PRESSURE SENSOR
PIT	PRESSURE TRANSMITTER
pHS	pH SENSOR
pHC	pH CONTROLLER
SV	SOLENOID VALVE
PG	PRESSURE GAUGE
DPG	DIFFERENTIAL PRESSURE GAUGE
V	PROCESS VALVE
CV	CHECK VALVE
SP	SAMPLING PORT
ASP	AIR SAMPLING PORT
LL	LOW LEVEL SWITCH
HL	HIGH LEVEL SWITCH
HLA	HIGH LEVEL ALARM SWITCH

LEGEND

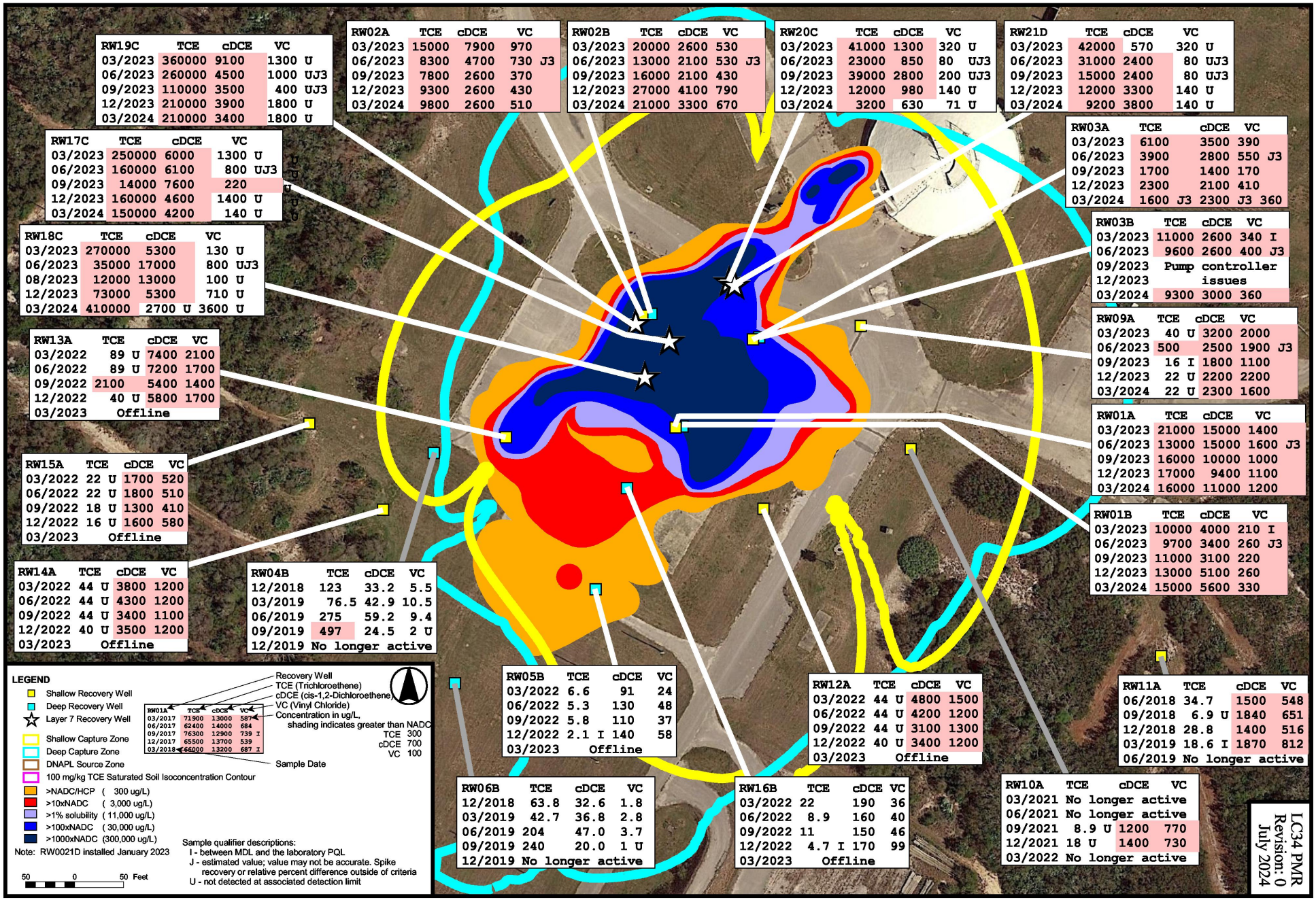
- ANALOG OUTPUT TO PLC
- DISCRETE OUTPUT TO PLC
- ANALOG INPUT FROM PLC
- DISCRETE INPUT FROM PLC
- INSTRUMENT WITH SCADA AND HMI DISPLAY
- INSTRUMENT WITH SCADA DISPLAY ONLY
- HAND-OFF-AUTO SWITCH
- VARIABLE FREQUENCY DRIVE
- ELECTRICAL MOTOR
- UNION
- FLEXIBLE HOSE
- CHECK VALVE
- BALL VALVE (NORMALLY OPEN)
- BALL VALVE (NORMALLY CLOSED)
- FLANGE
- HOSE CONNECTION
- GATE VALVE
- ELECTRONIC FLOW SENSOR
- MECHANICAL FLOW TOTALIZER
- ELECTRONIC PRESSURE SENSOR
- PRESSURE INDICATOR
- DIFFERENTIAL PRESSURE INDICATOR
- TEMPERATURE INDICATOR
- CENTRIFUGAL PUMP
- METERING PUMP
- CENTRIFUGAL BLOWER

FIGURE 2-4
PIPING AND INSTRUMENTATION DIAGRAM
3 OF 3

LAUNCH COMPLEX 34
CAPE CANAVERAL SPACE FORCE STATION, FLORIDA

20200109

FIGURE 2-5 YEAR 14 INDIVIDUAL RECOVERY WELL RESULTS
LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION, FLORIDA



DPT0598	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC
	11/2017			11/2018			11/2019			11/2020			12/2021			12/2022			12/2023		
8'	4	5	16	1 U	11	4	1	5	4	0.8 J	2.5	2.3	12400 Q	1920 Q	28.3	310 I	3800	130 U	45 U	960	36 U
13'	46	13	8	2	8	2	2	2	5	0.94 J	3.2	2.8	868 Q	716 Q	25.8	40 U	930	32 U	0.89 U	32	1.9
18'	44	19	32	2	11	5	3	8	5	1.7	4.9	0.23 U	648 Q	864 Q	64.9	40 U	1400	32 U	1.7	90	11
23'	14	32	80	2	23	94	3	17	32	1.1	14.9	0.23 U	25500 Q	3980 Q	200 UQ	1400	6700	130 U	4.5 U	200	3.6 U
28'	3	9	16	1 U	10	46	1	8	7	0.74 J	20.9	22.5	19800 Q	3560 Q	211 IQ	17000	22000	540	45 U	2000	140
33'	10 U	5200	9000	1	12	69	130	7	35	0.77 J	4	0.23 U	71300 Q	21500 Q	975 IQ	40 U	1600	1400	450 U	13000	1300
38'	4700	662000	16500	2200	36700	17600	20 U	1700	510	27.9	1840	4.6 U	19000 Q	4070 Q	195	1500 I	11000	3200	220 U	13000	2500
43'	12300	108000	9200	320	32600	2400	2400	73600	8000	596	17800	5920	105000 LQ	53600 Q	3340	790 U	56000	11000	220 U	15000	7900
48'	59400	38000	570	27300	35900	2600	257000 J	140000	7200	29200	104000	5180	49700 Q	106000 Q	4390 Q	790 U	150000	8900	450 U	86000	12000
53'	220	700	140	57	570	62	6400	11100	800	15.9	241	0.23 U	29600 Q	1410 Q	475 IQ	400 U	11000	11000	450 U	4300	11000
58'	17200	29300	250	15800	28400	91	164000 J	42400	430	1180	2240	143	207 Q	2940 Q	338 Q	1300	12000	3500	220 U	1500	11000
63'	210	150	5 U	6	120	5	5 U 298000 J	7500	500 U	3	276	5.8	377 Q	190 Q	8.2 Q	8.4 I	280	38	4.5 U	150	48
68'	40	44	1	4	3	3 U	5200	100	50 U	1.7	2.1	0.23 U	19.6	6.1	0.41 U	1.4 I	6.1	0.64 U	1.2	2.8	0.71 U
73'	11	12	1 U	17700	1200	40 U	19800	240	50 U	11900	641	23 U	790 Q	55 UQ	82 UQ	1200	52	0.64 U	230	45	3.6 U
78'	384000	13400	2000 U	3190000 J	13000	1200 U	785000 J	17200	1000 U	847000	13900	1200 U	3070000 LQ	11000 Q	4100 UQ	870000	9100	640 U	440000	5900	3600 U
83'	2500	1600	10	5100	3900	10 U	6400	1100	290 U	9270	1990	4.6 U	230000 Q	5760 LQ	82 IQ	150000	5600	640 U	530000	11000	3600 U
88'				Interval not sampled until November 2020						37.4	19.6	0.23 U	6500 LQ	335 Q	7 IQ	180	28	1.3 U	19000	25000	360 U
93'				Interval not sampled until November 2020						93	495	1.2 U	173 Q	349 Q	4.1 UQ	130	310	3.2 U	12000	24000	360 U
98'				Interval not sampled until November 2020						66000	54000	120 U	82000 Q	37100 Q	410 UQ	7400	36000	320 U	110000	25000	1400 U

DPT0595	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC
	11/2017			11/2018			11/2019			11/2020			12/2021			12/2022			12/2023		
8'	130	14	160	4	25	190	1	3	12	1.2	0.55 J	0.23 U	4380	295	41 U	170	630	6.4 U	7	140	43
13'	5400	29	18	2	30	220	1 U	3	31	0.31 U	0.34 U	0.23 U	965	219	41 U	4.0 U	550	19	0.96 I	55	42
18'	640	40 U	72	1	3	2	1 U	3	50	0.51 J	1.1	13.8	100 U	55.2 I	41 U	7.9 U	540	56	0.89 U	31	32
23'	64	10 U	92	1	1	6	1 U	2	53	0.54 J	1.4	20.5	100 U	28 U	41 U	16 U	740	74	6.5	47	41
28'	190	6	42	1 U	1	18	1 U	3	36	0.37 J	1.9	8.8	100 U	28 U	41 U	1.6 U	390	76	26	48	25
33'	47	800	3400	3 U	3 U	200	20 U	1200	3200	0.66 J	4.9	163	1000 U	550 U	820 U	6.4	6.0	77	8.9 U	230	57
38'	200 U	42600	34500	100 U	29000	21600	290 U	50000	28000	62 U	22600	24800	10000 U	23300	22700	160 U	2300	8000	89 U	3400	9400
43'	40 U	1100	89	1600	23400	1900	290 U	7900	4900	72.6 J	11100	6700	500 U	65200	33100	790 U	28000	21000	890 U	60000	42000
48'	240	1500	30	510	700	130	200 U	7900	2800	75.2	6220	12 U	170 U	339 I	317 I	40 U	6200	7300	89 U	4000	9600
53'	24	120	10 U	42	670	320	50 U	6400	2800	70.3	6080	3750	251 I	2340	1710	16 U	1700	2200	45 I	3000	7800
58'	64	590	5	120	140	58	20 U	4800	2100	13.1 J	3170	2120 J	2.9 Q	16.5 Q	9.9 Q	40 U	4400	6000	8.9 U	760	2500
63'	4	18	6	9	16	9	1 U	2	1 U	0.33 J	2.5	0.23 U	282	10.1 Q	41 U	0.79 U	1.0	1.5 I	0.89 U	24	14
68'	7	15	5	49	93	10	1 U	1 U	0.75 J	0.34 U	0.23 U	6 Q	3.2 Q	1 Q	4.0 U	5.9	3.2 U	1.5	0.86 I	0.71 U	
73'	151000	6800	100 U	123000	840	200 U	5400	190	20 U	31.8	1.6	0.23 U	160	53.5 Q	6.9 Q	3.1 I	98	16	43	34	7.8
78'	1340000	6800	3300 U	1060000 J	5300	500 U	3600	500	20 U	28600	1100	46 U	2310	1590 I	820 U	1000	310	13 U	5200	1000	300
83'	4500	110	20 U	610	100 U	100 U	3	5	1	14	16.7	1.7	61.4 Q	22.6 Q	4.1 Q	7.2	5.3	1.7 I	2.1	13	7.4
88'				Interval not sampled until November 2020						31.8	1.6	0.23 U	5.7 Q	10.9 Q	2.4 Q	1.1 I	3.9	1.5 I	2.8	5.6	2.3
93'				Interval not sampled until November 2020						1.8	0.34 U	0.23 U	43.2 I	120	5.4 Q	0.79 U	0.71 U	0.64 U	0.89 U	2.1	1.5
98'				Interval not sampled until November 2020						46.4	5.7	0.23 U	13.9 Q	80 Q	18.6 Q	0.79 U	0.71 U	0.64 U	1	4	0.71 U

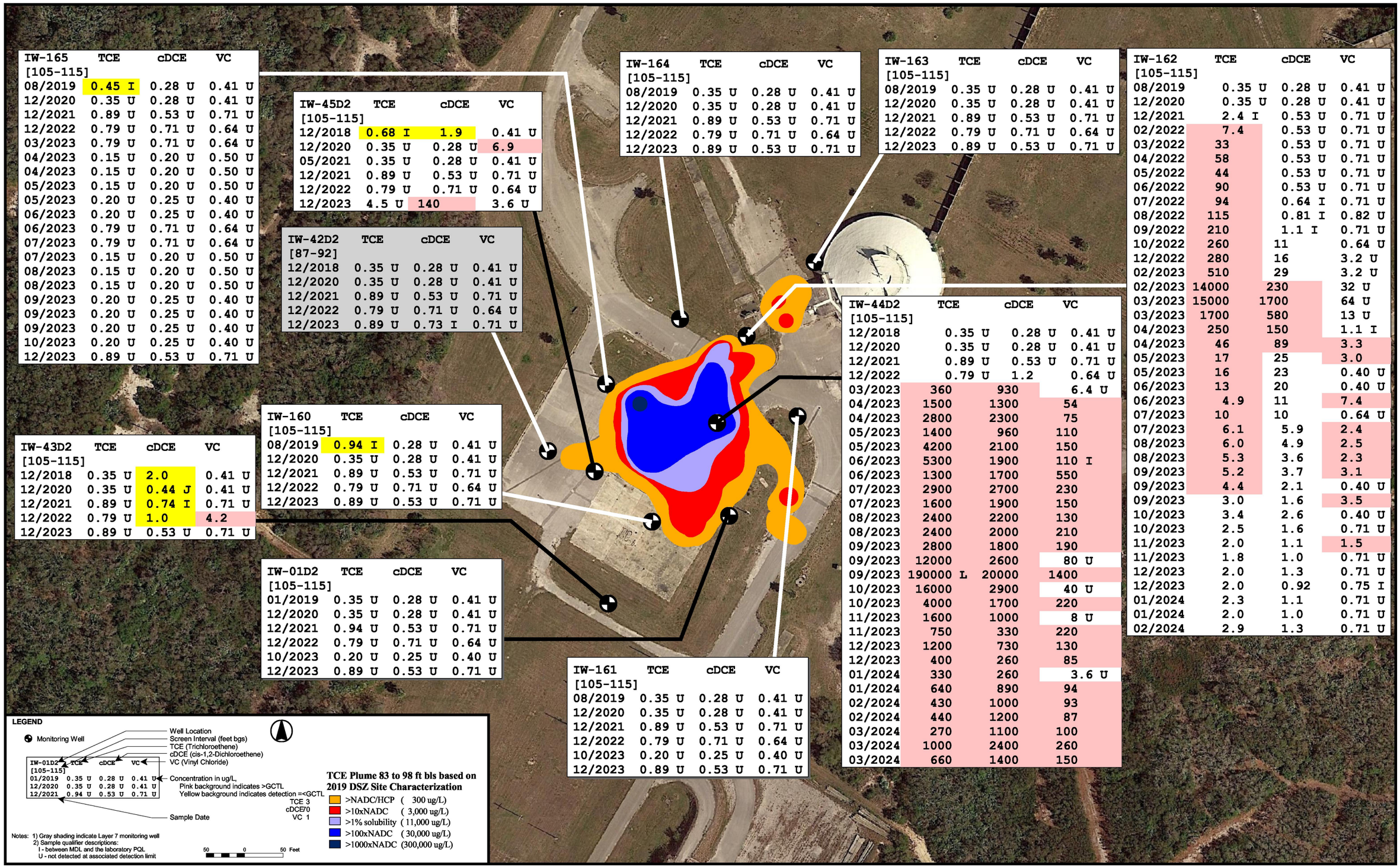
DPT0597	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC
	11/2017			11/2018			11/2019			11/2020			12/2021			12/2022			12/2023		
8'	50	5	1 U	25	1 U	1 U	84	3	1 U	33.9	1.4	0.23 U	5200 LQ	76.5	1.6	9400	610	64 U	1500	100	36 U
13'	17	17	17	9	16	9	3	20	4	2.1	8.7	0.23 U	45900 LQ	7020 Q	86	12000	5200	64 U	3400	2300	36 U
18'	8	37	23	2	38	26	5	160	14	1	7.4	0.23 U	112000 LQ	8080 Q	120 IQ	3200	39 I	150	690	27	40
23'	9	24	11	2	49	32	2	17	12	0.31 U	10.9	0.23 U	115000 LQ	16600 Q	84.7 IQ	3000	7200	64 U	8.9 U	380	88
28'	2	26	13	3 U	37	24	2	42	11	1.5	23.9	0.23 U	83.3	80.6 Q	20.2	40 U	3800	32 U	8.9 U	410	82
33'	82	39	44	9	34	10	2	40	19	1.9	37.3	0.23 U	161000 LQ	26900 LQ	194 IQ	17000 I	35000	650	61	1600	190
38'	4000	180	20 U	79500	2100	290 U	6900	320	50 U	1360	306	0.23 U	122000 LQ	8820 Q	158	18000	51000	1300	89 U	2000	310
43'	235000	16700	2000 U	89300	3500	290 U	29000 J	12200	500 U	81900	7160	143 J	1260000 LQ	12600	410 U	320000	52000	3200 U	13000	3800	710 U
48'	759000	42000	3300 U	578000	31000	2000 U	341000 J	30400	570	781000	19800	1200 U	1460000 Q	29000	4100 U	570000	33000	3200 U	130000	61000	1400 U
53'	1120000	97600	38200	495000 J	31300	970	354000 J	50700	6200	964000	26700	2300 U	3060000 Q	122000	4560 I	670000	40000	6400 U	620000	47000	3600 U
58'	1360000	17000	2800	811000	29000	3300 U	571000 J	27000	12400	1440000	32100	3630 J	15400000 L	338000	20600 I	1200000	23000	640 U	700000	42000	2300 I
63'	271000	22300	1000 U	473000	37000	1000 U	212000	36000	1000 U	29800	3010	90.1 J	990000 Q	73900 Q	2410	260000	9800	3200 U	300000	30000	1400 I
68'	Not Sampled		8200		40	40 U	12700	500 U	500 U	873	14.6	1.1	7400 LQ	108 Q	9.4	2700	75	92	5300	74 I	71 U
73'	Not Sampled		35700		1100	290 U	7100	860	100 U	19200	677	46 U	4810	115 I	82 U	29000	290	130 U	380	9.4 I	7.1 U
78'	Not Sampled		828000		7200	2000 U	146000 J	18700	100 U	691000	7290	1200 U	830000	9330 I	4100 U	1500000	5700	3200 U	140000	7300	360 U
83'	Not Sampled		14300		830	200 U	840	410	10 U	43900	3170	120 U	472000 Q	1650	200 U	46000	360 U	320 U	100000	2400	710 U
88'				Interval not sampled until November 2020						1230	955	2.3 U	11800 L	125	4.1 U	19000	64	32 U	14000	1400	180 U
93'				Interval not sampled until November 2020						1220	7.3 J	2.3 U	4590 Q	92.4	4.1 U	18000	240	6.4 U	87000	810 I	710 U
98'				Interval not sampled until November 2020						128	1.1	0.23 U	19400 Q	82.5	4.5 I	19000	150	7.4	66000	1400	710 U

DPT0594	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC
	11/2017			11/2018			11/2019			11/2020			12/2021			12/2022			12/2023		
8'	24	7	13	1 U	2	1 U	2 U	16	110	0.31 U	9	44.3	1160	57.5 I	41 U	1300	3000	19 I	8.9 U	200	14
13'	11	27	110	1 U	4	29	1	140	220 J	0.31 U	0.34 U	36.1	21200 Q	6700	257	69	690	9	4.5 U	80	50
18'	8	38	200	3	6	49	2	26	260 J	0.31 U	3.7	21.5	61100 Q	5430	484	38	870	41	4.5 U	25	61
23'	6	52	240	2	2	11	2	32	240 J	1.8	23.5	187	89800 Q	4040	826	230	1900	13 U	3.6	38	52
28'	25	2	3	180	2	3	2	12	210	2.9	10.8	92.1	36700 Q	7260	582	42000	14000	320 U	4.5 U	70	41
33'	12500	3100	160	2	2	2	14200	840	290 U	4680	3250	376	78.3 Q	377	73.3	6300	15000	1600	8.9 U	900	160
38'	610000	8200	1000 U	11500	2200	200 U	206000 J	13700	330	64900	8450	327 J	20300	4640 I	2000 U	5800	15000	690	5200	9400	280
43'	836000	134000	2500 U	781000	32000	360 U	414000 J	33900	840	1100000	56600	2300 U	1900000	150000	41000 U	61000	41000	3200 U	210000	5300	360 U
48'	754000	43400	3300 U	323000 J	87300	10400	457000 J	55000	1100	780000	172000	6840 J	637000	55000 U	82000 U	690000	42000	3200 U	270000	33000	1100
53'	1580000	34000	3300 U	42000 J	69000	4500	813000 J	37600	1000 U	1420000	34100	2300 U	1560000 Q	38100 Q	5400 Q	1300000	47000	3600 I	1600000	91000	2700
58'	549000	43000	5000 U	212000	10700	1000 U	669000 J	25000	2400	1120000	24500	2300 U	632000 Q	19000 Q	2330 Q	330000	9200	7000	670000	51000	2900
63'	28600 J	180	10 U	3300	320	200 U	17900	410	1300	6640	40.7 J	12 U	24000 Q	213 IQ	100 UQ	2100	36 U	2700	79000	6300	2200
68'	17100	1200	100 U	1650	300	3 U	27800	600	100 U	8670	17 U	12 U	19100	330 I	200 U	3000	18 I	13 U	130000	3300	710 U
73'	96900	6600	100 U	29900	2400	200 U	177000	4500	1000 U	20500	2470	207	49300 Q	3810	200 U	29000	1300	130 U	78000	950 I	710 U
78'	431000	26500	400 U	278000 J	14400	200 U	594000 J	20000	1000 U	1520000	24200	2300 U	1230000	17500 I	8200 U	380000	9100	1300 U	1400000	8300	3600 U
83'	6300	940	2000 U	31000	320	100 U	115000	1900	1000 U	1110	159	1.2 U	23400 Q	605	12.8 I	16000	210	130 U	14000	1200	180 U
88'				Interval not sampled until November 2020						9870	114	23 U	116000 L	4090	185 I	8800	120	64 U	54000	4900	710 U
93'				Interval not sampled until November 2020						28400	375	46 U	229000 Q	8700	255 I	44000	160 I	130 U	88000	3200	1400 U
98'				Interval not sampled until November 2020						2330	43.5	4.6 U	2630000 LQ	17100	627	24000	94 I	64 U	34000	760	360 U

DPT0596	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC
	11/2017			11/2018			11/2019			11/2020			12/2021			12/2022			12/2023		
8'	3	2	1 U	1	1 U	1 U	2	48	180	22	249	1.2 U	2260 Q	3160 Q	61.8	450	560	6.4 U	15 64	21	
13'	4	3	2	1 U	1 U	1 U	2	81	420	8.7	590	1.2 U	86 UQ	11100 Q	100 UQ	0.79 U	17	5.4	0.89 U	2.2	2.2
18'	460	8	9	1	1	1 U	3	22	110	6.2 U	6.7 U	4.6 U	81500 Q	21400 Q	200 UQ	3.5 I	35	24	1.4	4.8	4.9
23'	4	4	7	2	4	7	7	9	8	1.5	147	426	48300 Q	26100 Q	461 Q	160 U	12000	1200	1.4	6.7	10
28'	100 U	12	1000	1 U	2	8	3	7	13	1.2	5.5	12	96100 Q	36300 Q	515 Q	160 U	20000	2700	180 U	8000	2900
33'	9400	33700	6100	810	5400	3400	10 U	690	940	0.92 J	7.2	58	72100 Q	50800 LQ	380 Q	400 U	19000	4100	450 U	34000	9600
38'	165000	334000	1000	153000	192000	3300	2000	15100	6800	2490	6810	2500	36100 Q	38800 QJ	1220 Q	79 U	32000	12000	450 U	29000	12000
43'	129000	458000	3300 U	121000	402000	1000 U	85500	151000	3500	235000	305000	4720	52200	71200	4250	40 U	37000	9200	890 U	59000	24000
48'	1101000	191000	20800	790000	214000	31900	415000 J	126000	24900	1690000	125000	28000	2030000	255000	26800 I	1200000	190000	5800 I	1300000	160000	28000
53'	377000	4000	2000 U	91600	41700	1000 U	252000 J	73400	1800	479000	64800	1200 U	458000	58300	4690 I	820000	250000	13000	600000	160000	24000
58'	109000	17000	1000 U	6100	9800	290 U	19600	22300	350	25700	22800	46 U	70200 Q	41600	309 I	380000	81000	6400	620000	270000	26000
63'	3000	620	110	610	210	4	4200	2500	100 U	294	258	3.9	684	672	16.7 Q	20000	9900	1100	9000	17000	1300
68'	1500	65	18	4100	95	20 U	3400	240	50 U	773	13.9	0.55 J	1190	213	41 U	1400	18 I	16 U	260	7.1 I	7.1 U
73'		Not Sampled		130	49	5 U	180	17	3 U	1030	14.3	0.69 J	1090	24.5 Q	82 U	700	17	3.2 U	2400	53 U	71 U
78'		Not Sampled		1500	110	10 U	1600	350	20 U	189	212	1.6	831	191	18.7 Q	3200	130	61	1100	18 I	75
83'		Not Sampled		470	44	5 U	230	10	1 U	68.2	2.8	0.23 U	1590	156	41 U	680	31	6.4 U	690	13 U	18 U
88'				Interval not sampled until November 2020						495	9.3	0.56 J	1190	59.3	20 U	10000	240	6.4 U	280	15	3.8 I
93'				Interval not sampled until November 2020						4300	164	8.4	14100	1120	410 U	3500	180	32 U	5700	620	180 U
98'				Interval not sampled until November 2020						698	4.2	0.23 U	1060	78 I	41 U	840	21	3.2 U	1200	15	7.1 U

DPT0599	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC
	11/2017			11/2018			11/2019			11/2020			12/2021			12/2022			12/2023		
8'	7	1 U	1 U	1 U	1 U	1 U	2	1 U	1 U	1.7	0.34 U	0.23 U	69 6	3.8	0.74 I	700	11	3.2 U	11	2.1	0.71 U
13'	84	4	1 U	1	2	1 U	3 U	3	8	1.1	2.5	25.6	2100 LQ	1360 Q	28.5	0.84 I	5.1	1.5 I	0.93 I	0.53 U	0.71 U
18'	220	41	41	33	30	12	2	6	3	1.8	5.1	0.23 U	7200 L	21300 LQ	398 Q	1000	180	7.2 I	1.7	3.6	8.9
23'	25100	3900	560	54700 J	3400	270	1700	1200	100	3.3	361	0.23 U	225000 LQ	33100 Q	390	52000	37000	790 I	5.7	25	81
28'	913000	7500	2000 U	479000 J	5100	670	48500	7900	790	39000	6230	46 U	187000 Q	15600	371 I	310000	24000	1600 U	45000	30000	2500
33'	1000000	25000	3300 U	683000	18300	2600	264000	14100	1200	109000	16100	120 U	39700 Q	3130 Q	820 U	550000	17000	1600 U	320000	74000	1300
38'	1030000	50300	3300 U	759000	137000	3300 U	113000	82200	5600	876000	27600	1200 U	755000	39000	4100 U	1400000	61000	6400 U	5100000	70000	7100 U
43'	356000	214000	3300 U	231000	211000	3900	373000 J	175000	2700	145000	191000	230 U	274000 Q	121000 Q	3950 IQ	150000	82000	7000	220000	160000	25000
48'	1370000	45900	2000 U	1110000 J	43200	2000 U	688000 J	59200	4500	1600000	54700	1200 U	1480000 Q	48300 Q	4100 UQ	1800000	30000	6400 U	3400	64000	15000
53'	96700	26100	200 U	28500 J	21600	40 U	126000 J	33000	500 U	266000	32800	230 U	294000 Q	121000 Q	4660 IQ	250000	100000	1300 U	1300000	120000	9600
58'	51400	6500	200 U	210	1300	5	66400 J	5700	290 U	3370	1090	23 U	86800 Q	13700 Q	200 UQ	84000	83000	2600	71000	48000	2700
63'	3300	100 U	100 U	1500	29	5 U	12500	200 U	200 U	9250	540	1.2 U	15700 Q	2300 Q	100 UQ	900	960	37	560	4100	900
68'	15800	160	40 U	570	11	5 U	2700	76	20 U	1560	23.3	0.23 U	14500 Q	300 Q	100 UQ	98	10	1.3 U	2400	110	18 U
73'	109000	860	100 U	2000	29	10 U	440 J	31	1	332	9.4	0.23 U	1480 Q	175 IQ	100 UQ	99 J	3.1	0.64 U	140	30	1.7
78'	12500	1400	100 U	3800	490	10 U	770	930	10 U	151	1430	2.3 U	238	636	35.8	380	410	12	220	110	3.7
83'	142000	10900	100 U	1500	48	10 U	2200	98	20 U	12.3	11.5	0.23 U	2830	254	20 U	350	34	3.2 U		Not Sampled	
88'		Not Sampled		12200 J	180	20 U		Not Sampled		116	1	0.23 U	14400	4360	169 I	460	13	3.2 U	180	44	2.9
93'		Not Sampled		5400	100	20 U		Not Sampled		159	6.9	0.23 U	6090 L	381	20 U	32000	470	160 U	890	95	7.1 U
98'		Not Sampled		8700	110	40 U		Not Sampled		128	3.1	0.23 U	200 U	55 U	82 U	330	3.6 U	3.2 U	1600	41	7.1 U

DPT0601	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC
	11/2017			11/2018			11/2019			11/2020			12/2021			12/2022			12/2023		
8'	2	30	5	1	22	16	9	12	3	1.3	5.5	6.6	2870 Q	37.9	1.4	1700	360	13 U	45 U	1600	250
13'	5	64	29	2 U	45	55	4	26	24	0.8 J	12.9	16.9	795 Q	1790 Q	21.7	4 U	710	32	0.89 U	73	32
18'	11	79	39	2	49	53	8	42	37	1.3	36.5	38.1	15300 Q	2610 Q	125 IQ	16 U	1700	76	4.5 U	250	77
23'	13	6100	640	3 U	120	180	2	42	110	3.1 U	11.4	63.6	18	35.6	62.1	40 U	3600	280	89 U	5700	400
28'	27400	81600	J 1500	40 U	12000	3400	23	260	J 0.86 J	15.1	50.8	10.8	10.1	243 I	1.3 I	9.6	39	22 U	1300	510	
33'	181000	202000	3100	33800	80800	1800	1400	17700	1500	2.1 J	707	642	17.3	8.2 I	30.2	1.6 U	43	250	1.3	4.4	13
38'	119000	249000	4800	103000	125000	2400	50200	60400	1300	662	18900	1070	948	1210	1010	4 U	150	460	89 U	4300	2700
43'	24200	339000	13100	97900	156000	3100	104000	154000	2900	9090	42600	888 J	674	8760	2730	40 U	4800	3000	4700	58000	6200
48'	890	139000	18600	26600	160000	5900	61100	117000	J 4300	39800	93400	2080	2160	49800	2720	25000	64000	2500	44000	120000	3800
53'	160	280	10 U	24	2100	170	50	170	17	3	18.6	11.3	6.5	5190 Q	442 Q	62 I	2600	860	89 U	7200	3600
58'	1000	5900	J 120	90	310	5	26	110	1	24.5	132	2.3	5.4 Q	76.4 Q	6.8	4 U	340	95	2.3	33	64
63'	280	1100	20 U	3	57	3 U	13	140	2 U	3.7	34.4	0.23 U	10.2	16.2	1.3	1.5 I	40	18	10	110	34
68'	160	280	10 U	3	19	1	93	220	5	2	7.8	5.3	203 L	105 L	12.2	1.7 I	3.1	0.64 U	2	3.1	0.71 U
73'	780	370	7	80	160	7	24	89	12	181	36	0.44 J	68.1	61	67.5	2.5 I	57	3.6	10	25	1.9
78'	6800	9800	41	360	1300	32	9100	4300	100 U	5260	2830	10.3	690	2390	156	5800	4000	64 U	1000	7400	71 U
83'	61	160	8	25	100	5	40	50	2	1.1	3.4	0.23 U	80.3 Q	42.2	2	5.5	7.7	0.64 U	1.2	19	3
88'	Not Sampled			1	9	1 U	Not Sampled			2.8	1.3	0.23 U	29.6	15.8	0.68 I	2.3 I	2.1	0.64 U	1.9	1.7	0.71 U
93'	Not Sampled			5	54	6



IW-165	TCE	cDCE	VC
[105-115]			
08/2019	0.45 I	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
03/2023	0.79 U	0.71 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U
04/2023	0.15 U	0.20 U	0.50 U
05/2023	0.15 U	0.20 U	0.50 U
05/2023	0.20 U	0.25 U	0.40 U
06/2023	0.20 U	0.25 U	0.40 U
06/2023	0.79 U	0.71 U	0.64 U
07/2023	0.79 U	0.71 U	0.64 U
07/2023	0.15 U	0.20 U	0.50 U
08/2023	0.15 U	0.20 U	0.50 U
08/2023	0.15 U	0.20 U	0.50 U
09/2023	0.20 U	0.25 U	0.40 U
09/2023	0.20 U	0.25 U	0.40 U
09/2023	0.20 U	0.25 U	0.40 U
10/2023	0.20 U	0.25 U	0.40 U
12/2023	0.89 U	0.53 U	0.71 U

IW-45D2	TCE	cDCE	VC
[105-115]			
12/2018	0.68 I	1.9	0.41 U
12/2020	0.35 U	0.28 U	6.9
05/2021	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
12/2023	4.5 U	140	3.6 U

IW-42D2	TCE	cDCE	VC
[87-92]			
12/2018	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
12/2023	0.89 U	0.73 I	0.71 U

IW-164	TCE	cDCE	VC
[105-115]			
08/2019	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
12/2023	0.89 U	0.53 U	0.71 U

IW-163	TCE	cDCE	VC
[105-115]			
08/2019	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
12/2023	0.89 U	0.53 U	0.71 U

IW-162	TCE	cDCE	VC
[105-115]			
08/2019	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	2.4 I	0.53 U	0.71 U
02/2022	7.4	0.53 U	0.71 U
03/2022	33	0.53 U	0.71 U
04/2022	58	0.53 U	0.71 U
05/2022	44	0.53 U	0.71 U
06/2022	90	0.53 U	0.71 U
07/2022	94	0.64 I	0.71 U
08/2022	115	0.81 I	0.82 U
09/2022	210	1.1 I	0.71 U
10/2022	260	11	0.64 U
12/2022	280	16	3.2 U
02/2023	510	29	3.2 U
02/2023	14000	230	32 U
03/2023	15000	1700	64 U
03/2023	1700	580	13 U
04/2023	250	150	1.1 I
04/2023	46	89	3.3
05/2023	17	25	3.0
05/2023	16	23	0.40 U
06/2023	13	20	0.40 U
06/2023	4.9	11	7.4
07/2023	10	10	0.64 U
07/2023	6.1	5.9	2.4
08/2023	6.0	4.9	2.5
08/2023	5.3	3.6	2.3
09/2023	5.2	3.7	3.1
09/2023	4.4	2.1	0.40 U
09/2023	3.0	1.6	3.5
10/2023	3.4	2.6	0.40 U
10/2023	2.5	1.6	0.71 U
11/2023	2.0	1.1	1.5
11/2023	1.8	1.0	0.71 U
12/2023	2.0	1.3	0.71 U
12/2023	2.0	0.92	0.75 I
01/2024	2.3	1.1	0.71 U
01/2024	2.0	1.0	0.71 U
02/2024	2.9	1.3	0.71 U

IW-44D2	TCE	cDCE	VC
[105-115]			
12/2018	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	1.2	0.64 U
03/2023	360	930	6.4 U
04/2023	1500	1300	54
04/2023	2800	2300	75
05/2023	1400	960	110
05/2023	4200	2100	150
06/2023	5300	1900	110 I
06/2023	1300	1700	550
07/2023	2900	2700	230
07/2023	1600	1900	150
08/2023	2400	2200	130
08/2023	2400	2000	210
09/2023	2800	1800	190
09/2023	12000	2600	80 U
09/2023	190000 L	20000	1400
10/2023	16000	2900	40 U
10/2023	4000	1700	220
11/2023	1600	1000	8 U
11/2023	750	330	220
12/2023	1200	730	130
12/2023	400	260	85
01/2024	330	260	3.6 U
01/2024	640	890	94
02/2024	430	1000	93
02/2024	440	1200	87
03/2024	270	1100	100
03/2024	1000	2400	260
03/2024	660	1400	150

IW-160	TCE	cDCE	VC
[105-115]			
08/2019	0.94 I	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
12/2023	0.89 U	0.53 U	0.71 U

IW-43D2	TCE	cDCE	VC
[105-115]			
12/2018	0.35 U	2.0	0.41 U
12/2020	0.35 U	0.44 J	0.41 U
12/2021	0.89 U	0.74 I	0.71 U
12/2022	0.79 U	1.0	4.2
12/2023	0.89 U	0.53 U	0.71 U

IW-01D2	TCE	cDCE	VC
[105-115]			
01/2019	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.94 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
10/2023	0.20 U	0.25 U	0.40 U
12/2023	0.89 U	0.53 U	0.71 U

IW-161	TCE	cDCE	VC
[105-115]			
08/2019	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
10/2023	0.20 U	0.25 U	0.40 U
12/2023	0.89 U	0.53 U	0.71 U

LEGEND

Monitoring Well

Well Location
Screen Interval (feet bgs)
TCE (Trichloroethene)
cDCE (cis-1,2-Dichloroethene)
VC (Vinyl Chloride)
Concentration in ug/L,
Pink background indicates >GCTL
Yellow background indicates detection =<GCTL
Sample Date

IW-01D2	TCE	cDCE	VC
[105-115]			
01/2019	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.94 U	0.53 U	0.71 U

TCE 3
cDCE/0
VC 1

TCE Plume 83 to 98 ft bls based on 2019 DSZ Site Characterization

- >NADC/HCP (300 ug/L)
- >10xNADC (3,000 ug/L)
- >1% solubility (11,000 ug/L)
- >100xNADC (30,000 ug/L)
- >1000xNADC (300,000 ug/L)

Notes: 1) Gray shading indicate Layer 7 monitoring well
2) Sample qualifier descriptions:
I - between MDL and the laboratory PQL
U - not detected at associated detection limit

50 0 50 Feet

20240301

SECTION III
HOT SPOT 6 AREA AS SYSTEM EXPANSION - PHASE TWO

This section discusses the activities associated with the implementation of the HS 6 AS System Phase Two expansion conducted between August 17, 2022 and August 28, 2023. As stated in Section 1.4.26, the original expansion design (currently referred to as Phase Two A) included installation of 76 AS wells to depths of approximately 35 feet bls, to remediate contaminated groundwater within a 4-acre area located north of the existing HS 6 treatment area. Elements of the IWP were presented during the December 2020 KSCRT meeting, and consensus was reached to proceed with development of the work plan and implement the project. The IWP was approved by FDEP on June 18, 2021.

Implementation of Phase Two A was delayed while the U.S. Fish and Wildlife Service reviewed information regarding threatened and endangered species at LC34. Planning for the next expansion proceeded, and in May 2022, FDEP was briefed on additional expansion (Phase Two B) that would include 116 AS wells and 10 performance monitoring wells over an area of 5.7 acres. FDEP concurred with proceeding without an additional IWP on condition that further expansion would be documented with as-builts in a CCR. The proposed additional expansion (Phase Two B) was documented in a revised ADP, dated March 2022 (NASA, 2022a).

This report section includes details of construction and implementation of both phases (design presented in 2020 and additional design presented in 2022), collectively referred to as Phase Two, and includes the elements of a stand-alone CCR.

3.1 CONSTRUCTION

Construction activities associated with implementation of the HS 6 Phase Two expansion consisted of pre-construction preparation, mobilization, installation of AS and monitoring wells, installation of piping and manifolds, and associated infrastructure. Ongoing operations, maintenance, and monitoring since startup are discussed in Section IV.

3.1.1 Pre-Construction Activities. Prior to initiating the work, planning and scoping details were discussed with NASA. Project details, including KSC-specific construction requirements

and components of the IWP and Site-Specific Health and Safety Plan (NASA, 2021e), were discussed. As detailed in the IWP, all work was completed in compliance with the KSC Environmental Checklist, including the KSC Record of Environmental Consideration (REC), Utility Locate/Excavation Permit, Threatened and Endangered Species Survey, Wetland Survey, and well permits, as applicable. Permits and forms associated with the HS 6 Phase Two expansion are provided in Appendix E.

Note, the REC was originally issued on March 5, 2021, for the original expansion design including the installation of 76 AS wells (Phase Two A), but because the threatened and endangered species survey identified potential impacts requiring review from the U.S. Fish and Wildlife Service, mobilization was placed on hold pending the issuance of a U.S Wildlife Services Biological Opinion. During that time, the project design was modified to include 116 additional AS wells (Phase Two B) and once the Biological Opinion was received on June 6, 2022, the REC was updated and re-issued on September 9, 2022. All other required permits were updated and re-submitted, and the project proceeded after full approval.

3.1.2 Mobilization. During the week of September 19, 2022, Tetra Tech mobilized to the HS 6 expansion site for initial utility clearance, and to conduct a stake-out survey to demarcate areas of proposed installation activities, including monitoring wells, AS wells, and trenches for piping. Beginning the week of October 3, 2022 an ecological survey was initiated by NASA's wildlife biologist. The ecological survey was conducted in phases in prior to drilling activities in various areas of the site and was completed the week of December 7th, 2022. The ecological survey determined there were no wetlands present within the project area.

3.1.3 Clearing Activities. Because the majority of the system expansion area is within the mowed/maintained areas of LC34, minimal vegetative clearing was needed in only a small area on the southeast side of the perimeter road. Shrub vegetation was removed to allow installation of monitoring wells, AS wells, and piping.

3.1.4 Pre-Construction DPT Sampling. To verify the plume extents in the expansion area, groundwater sampling was conducted via DPT along the center line of the plume from August 17-19, 2022. Samples were collected from 10 boring locations, at four depth intervals per boring

(13, 18, 25, and 34 feet bls), for a total of 40 samples. The locations were consistent with previous DPT samples collected during the 2019-2020 DPT Investigation, which was conducted to delineate areas exceeding 10x NADC concentrations and support the design of the AS system expansion. The DPT samples were submitted to SGS Northeast, Inc., in Orlando, Florida for analysis of VOCs via Method 8260D. The results showed no detections of TCE, but there were concentrations of cDCE and VC greater than GCTLs with selected locations exceeding NADC and 10xNADC values, consistent with previous results. The August 2022 DPT locations and results are shown on Figure 3-1 and results are summarized in Table 3-1. The DPT sample log sheets and field notes are included in Appendix F. Laboratory analytical reports are included in Appendix C.

3.1.5 Monitoring Well Installation. A total of 21 monitoring wells (IW0168 through IW0188) were installed from November 1, 2022 to January 20, 2023 for the purpose of performance monitoring in support of evaluating the plume treatment. The wells were placed within treatment area and around the perimeter of the Phase Two expansion area, as depicted on Figure 3-2.

The monitoring wells were installed using rotosonic drilling technology by Drill Pro, LLC, a Florida-licensed driller. The wells were each constructed with 1-inch diameter pre-packed 0.010-slotted PVC screen, 5 or 10 feet in length, threaded to solid PVC riser. Silica sand (20/30) pack was placed within the well annulus from the bottom of the borehole to 1 foot above the well screen, and 30/65 silica sand was placed an additional two feet above the 20/30 silica sand pack. Each well was sealed with a Portland cement and bentonite slurry to land surface. The monitoring wells were completed with a 3-foot by 3-foot concrete well pads and were “flush-mount” with steel manholes and bolt-down covers. After installation, well top-of-casing and ground surface elevations were surveyed by a Florida-licensed surveyor. Aqueous IDW generated during drilling activities (decontamination fluids and development water) was transferred to the LC34 HCS treatment system. The performance monitoring well construction details are included in Table 3-2.

As shown on Figure 3-2, the eight wells placed around the perimeter of the treatment area are screened from 16 to 21 feet bls. The wells placed in the interior portion of the treatment area

were installed in collocated pairs, screened from 17 to 27 feet bls (to include a 10-foot sampling zone) and 30-35 feet bls.

A field geologist and environmental technician were present during monitoring well installation and were responsible for direction of the drilling subcontractor, monitoring of drilling operations, geologic logging, and recording of well installation and decontamination procedures. Monitoring well screened intervals were verified by the field geologist. Field documentation including well installation log sheets, field notes, well construction diagrams, driller well completion reports, and the surveyor report are included in Appendix G.

Baseline sampling of the 21 new performance monitoring wells (IW0168 through IW0188) was conducted in July 2023, and the first quarterly sampling event was conducted in November 2023, concurrent with the semi-annual sampling of the 28 wells in the original HS 6 performance monitoring network. Performance monitoring activities and results are further discussed in Section IV.

3.1.6 AS Well Installation. A total of 190 AS wells (AS-301 through AS-490) were installed from October 17, 2022 to February 9, 2023, to total depths of approximately 40 feet bls, just above the shallow confining layer in the intermediate zone (Layer 4). Note, there were originally 192 AS wells planned (76 in Phase Two A and 116 in Phase Two B), but during site setup activities, a decision was made to omit two locations because of surface obstructions. During AS well installation, soil cores were collected to verify the depth of the confining layer at 155 representative locations (some of the core samples had no recovery and were not logged and some of the AS wells installed at angles were too shallow to collect cores). Of the 190 AS wells installed, 26 were installed at an angle to avoid surface obstructions such as roadways and concrete pads. The soil cores were interpreted by the geologist to identify the depth of the confining layer and the bottoms of AS well screens were placed directly above the confining layer.

The AS wells were installed using rotosonic drilling technology by Drill Pro, LLC, a Florida-licensed driller. The AS wells were constructed with 1-inch Schedule 40 PVC casings and 40-micron Schumasoil® diffuser well screens (24 inches in length). Casing sections were flush-joint

threaded with neoprene O-rings on the male threaded ends to render the joints air tight. A 20/30 silica sand pack was placed within the well annulus from the bottom of the borehole to 1.5 feet above the well screen and a 3-foot bentonite seal was placed above the sand pack. Each well was sealed with a Portland cement and bentonite slurry to land surface. The AS wells were completed following trenching and piping installation activities, as described in Section 3.1.7.1. Soil IDW generated during the AS well installation (drill cuttings) were returned to the boreholes, aqueous IDW (decontamination fluids and development water) was transferred to the LC34 HCS treatment system. The locations of the AS wells are provided on Figure 3-2. AS well construction details are provided in Table 3-3. Soil boring logs, field notes, AS well construction diagrams, and driller completion reports are included in Appendix G.

3.1.7 AS System Installation.

3.1.7.1 Piping And Utility Installation. A trenching network was excavated to install subsurface compressed air conveyance piping to the AS wells. Trenching and installation commenced on January 30, 2023 and was completed on July 13, 2023. The trenches had dimensions of approximately 24 inches wide by 18-24 inches deep and trenches were excavated with a hydraulic excavator or were hand dug in locations where underground utilities were identified during utility clearance. A trench layout map is depicted on Figure 3-2 and cross-sectional details of the trenches are shown on Figure 3-3. Construction daily activity reports are included in Appendix H. A photographic log is also provided in Appendix H.

Dedicated 1-inch standard dimension ratio (SDR)-11 high-density polyethylene (HDPE) air conveyance piping was plumbed to each AS well (lateral) for compressed air delivery from the AS wells to one of two distribution trailers located on the eastern and western sides of the blockhouse cable tray wall. These distribution trailers were moved from their original locations on the east and west sides of the drainage ditch, but a third existing distribution trailer located southwest of the perimeter road remained in place to supply the newly configured Zone 8 and new Zone 9. Once the AS wells were in place, the two distribution trailers were disconnected, taking Zones 1 through 8 offline (Phase One configuration), and were moved between July 7 and 13, 2023 to their new locations and anchored to the ground in accordance with the Trailer /Equipment Tiedown Plan (NASA, 2001).

The 190 AS wells were installed as part of six new zones (Zones 9-14) to treat an additional 11.2 acres. The 190 new AS wells are spaced 50 feet apart to accommodate a 25-foot ROI with no overlap, and a flow rate of 5 scfm, consistent with the original (Phase One) HS 6 AS system design. A portion of the existing AS system was reconfigured as a barrier to prevent upgradient contamination from impacting the treated area. This portion (Zone 8) has 48 operational AS wells supplied by the third distribution trailer, located on the southeast side of the perimeter road, west of the drainage ditch. The four AS wells designated as Zone 9 were tied into the piping and same manifold supplying Zone 8. Operational information of the current system configuration (238 wells in original and expansion) is further discussed in Section IV. A piping and instrumentation diagram is depicted on Figure 3-4, and the distribution manifold construction detail is depicted on Figure 3-5. A layout of the HS 6 AS zones is depicted on Figure 3-6.

Well quantities per zone and manifold pressures of the HS 6 Phase Two expansion design are presented in the following table.

Zone ID	Manifold ID	Number of Wells	Design Pressure (psig)	Well Flow (cfm)	Manifold Flow (cfm)
8/9*	8	52	30	5	240
10	4	36	30	5	180
11	1	36	30	5	180
12	5	38	30	5	190
13	3	38	30	5	190
14	2	38	30	5	190

* Zones 8/9 – 48 wells were part of the existing system, four were installed and tied into the supply line during the expansion

Once relocated, the distribution trailers were tied into the existing compressor trailer located under the Van Shelter 22004, which houses a 75-hp variable frequency drive rotary screw air compressor. A 2-inch HDPE header pipeline was installed for each zone manifold to connect the lines from the compressor across the cable tray wall to the distribution trailers.

From each AS well manifold outlet, a flow meter (0 to 14 scfm scale range), flow-regulating needle valve, and pressure gauge (0 to 60 psig scale range) were installed on each line. Each outlets exits the through the wall of the distribution trailer and transitions from 0.5-inch flexible

polyurethane tubing to 1-inch male-threaded fittings for connection to the compressed air conveyance lateral pipe to the AS well.

The 2-inch header lines were connected to the compressor system, and the cycling times were programmed via the PLC for the zones (see Section 3.2.1 for cycling details). The manifold/header connections for the expanded system are summarized in the table below.

Zone ID	Manifold Trailer
8/9	Southeast
10	East
11	East
12	West
13	West
14	West

Connections for piping sections and fittings were socket welded using an electric welding plate. All socket welds were completed per piping manufacturer recommendations. AS wellheads were modified to accept the compressed air lateral and completed with connections to the lateral and inspection plugs buried just below ground surface with surveyor-style location hubs above each AS well and marked with survey stakes. Following backfilling of the trenches, pressure tests were conducted for each lateral and header pipe. Tests were typically performed in the mornings to minimize the effect of thermal expansion of the pipes during pressure testing. All installed lines passed the pressure tests.

During backfilling of the trenches, metallic utility detection tape and #10 thermoplastic high heat-resistant nylon-coated (THHN) wire were installed within all trenches at a depth of 1-foot bls for future detection of the IM infrastructure. Trenches were backfilled with native soil, compacted, and resurfaced to match existing conditions.

3.1.7.2 <u>Building and Equipment Installation.</u> The Phase Two AS expansion is utilizing the existing components and electrical supply. The compressor trailer was originally constructed for the Converter Compressor Building site in 2013, and it was relocated to LC34 in 2018 for the HS 6 IM. When it was constructed, appropriate process units, shut-off valves, control valves, sample ports, and/or instrumentation were installed and wired for operation by the equipment vendor. A

telemetry system was installed by the equipment vendor for remote system monitoring and operation and also to notify the operator and project team of system shutdown and/or alarm conditions. The vendor calibrated all instrumentation before the system was mobilized and the instrumentation was recalibrated upon installation at LC34, and electrical connections checked, and equipment rotation verified for proper rotation prior to commission of the original (Phase One) AS operations.

3.2 SYSTEM STARTUP TESTING AND MONITORING

This section identifies the activities conducted during startup of the Phase Two expansion. Subsequent O&M activities and evaluations conducted routinely to monitor system performance of the current configuration of the HS 6 AS system are further discussed in Section IV.

3.2.1 Pulse Setup and Programming. The Phase Two expansion design was implemented to include a specific pulse schedule for designated zones. The eastern distribution trailer was programmed to pulse between zones 10 and 11, for 6-hours each. The western distribution trailer was programmed to pulse between zones 12, 13, and 14, for 6-hours each. The southeast distribution trailer was programmed to run a 6-hour pulse cycle for zone 8/9, which was reconfigured after the remaining zones in the original (Phase One) design were turned off. Pressure regulators at the system manifolds were adjusted to meet the design requirements and then adjusted to ensure that the pressures at the distribution manifolds meet the intended injection pressures at the wellheads. The manifolds were tested during system startup to ensure proper operation. Operational data for the updated system configuration are further discussed in Section IV.

Zone ID	Cycle Time
8/9	06:00 – 12:00
10	18:00 – 00:00
11	12:00 – 18:00
12	12:00 – 18:00
13	00:00 – 06:00
14	06:00 – 12:00

3.2.2 System Startup. After the completion of baseline sampling and after all components were connected, the initial startup testing was conducted over a period of six weeks from July 17, 2023 to August 24, 2023 and the system was fully operational on the week of August 28, 2023. All related health, safety, and emergency response procedures were in place and reviewed before this phase of operation. Before the process system was started, a final check on the alignments and positioning of all motor drives, valves, safety devices, and control set points was conducted.

The objective of this phase was to ensure that all components of the AS system were operating within design parameters and to flow and pressure balance the zones and AS wells. Startup of the AS system was performed gradually with a beginning pressure of 10 psi and increasing the pressure by about 10 percent per week, focusing on each specific manifold zone at a given time, and comparing observations and test data to design and performance criteria.

The overall startup sequence for the AS process system was as follows:

- Ensure that all valves are in the proper position (including valving at the distribution manifolds);
- Ensure that the electrical disconnects are in energized positions;
- Ensure that all alarm conditions on the control panel are cleared;
- Verify that the condensate treatment system is on line and that fluids were drained;
- Verify that all filters are prepared for operation and that condensate drains and piping are in their correct positions;
- Verify that the solenoid valve programming is set for pre-set pulse intervals and set in the AUTO position (entries for spare manifold legs should be set as “OFF”);
- Turn the selector switch for the rotary screw compressor/air dryer to the AUTO position; and
- Verify operating pressures, flows, and temperatures throughout the system and at the system discharge manifolds.

The system was then in automatic operation, and ON/OFF and START/STOP functions of the system were controlled by the PLC. After operation was verified and acceptable at each system location, conditions were inspected at the distribution manifolds. Pressure and flow were verified and balanced at each distribution manifold using a sequenced approach, with flow and pressure adjusted for each manifold and then each AS well. The sequence was terminated when the design and equipment performance complied with specifications, and the system was ready for transition into the O&M phase. Observations, sampling, and other performance testing performed during startup ensured that the system was operating as expected. After the system was running within the expected operating conditions, all components associated with the HS 6 system were checked as part of system startup monitoring. Readings for flow and pressure at each AS well and operation flows, pressures, and temperatures at all monitoring points in the HS 6 AS system were collected. Full operations began the week of August 28th, 2023.

3.2.3 System Evaluations and Maintenance. System evaluations and maintenance checks were conducted daily or weekly during startup. Thereafter, the system transitioned into the routine O&M phase to be conducted monthly. A detailed evaluation of system performance and operation is further discussed in Section IV.

Table 3-1. HS 6 Phase Two Expansion Supplemental DPT Groundwater Results

Location (LC34-)	Date	Sample Depth (feet bls)	Sample ID	TCE	cDCE	tDCE	VC
DPT0464	8/18/2022	13	LC34-DPT0464-013.0-20220818	0.35 U	**73.4**	0.57 I	**30.1**
		18	LC34-DPT0464-018.0-20220818	3.5 U	**636**	2.2 U	**325**
		25	LC34-DPT0464-025.0-20220818	8.6 U	**1,160**	6.9 I	**370**
		34	LC34-DPT0464-034.0-20220818	0.35 U	3.1	0.22 U	0.41 U
DPT0782	8/19/2022	13	LC34-DPT0782-013.0-20220819	3.5 U	**368**	2.2 U	**232**
		18	LC34-DPT0782-018.0-20220819	35 U	**4,910**	22 U	**2,260**
		25	LC34-DPT0782-025.0-20220819	35 U	**6,330**	22 U	**10,700**
		34	LC34-DPT0782-034.0-20220819	1.7 U	**235**	1.1 U	**451**
DPT0784	8/18/2022	13	LC34-DPT0784-013.0-20220818	1.7 U	**280**	2.0 I	**126**
		18	LC34-DPT0784-018.0-20220818	1.7 U	**348**	2.0 I	**221**
		25	LC34-DPT0784-025.0-20220818	35 U	**5,010**	58 I	**2,970**
		34	LC34-DPT0784-034.0-20220818	3.5 U	**447**	2.2 U	4.1 U
DPT0787	8/18/2022	13	LC34-DPT0787-013.0-20220818	0.35 U	**85.1**	0.73 I	**217**
		18	LC34-DPT0787-018.0-20220818	6.9 U	**973**	6.4 I	**1,960**
		25	LC34-DPT0787-025.0-20220818	6.9 U	**1,230**	39.3	**3,920**
		34	LC34-DPT0787-034.0-20220818	0.35 U	7.7	0.22 U	**21.1**
DPT0795	8/18/2022	13	LC34-DPT0795-013.0-20220818	0.35 U	26.9	0.22 U	**25.7**
		18	LC34-DPT0795-018.0-20220818	3.5 U	**631**	2.2 U	**497**
		25	LC34-DPT0795-025.0-20220818	17 U	**2,390**	11 U	**1,040**
		34	LC34-DPT0795-034.0-20220818	0.35 U	19.8	0.22 U	**2.9**
DPT0800	8/17/2022	13	LC34-DPT0800-013.0-202208	0.35 U	39.3	0.22 U	**41.8**
		18	LC34-DPT0800-018.0-202208	0.35 U	**194**	4.2	**579**
		25	LC34-DPT0800-025.0-202208	0.35 U	**3,590**	35.1	**3,450**
		34	LC34-DPT0800-034.0-202208	0.35 U	**713**	0.33 I	**15.1**
DPT0801	8/18/2022	13	LC34-DPT0801-013.0-20220818	0.35 U	50.8	0.22 U	**48.5**
		18	LC34-DPT0801-018.0-20220818	8.6 U	**1,360**	5.5 U	**856**
		25	LC34-DPT0801-025.0-20220818	0.35 U	**760**	4.0	**5,250**
		34	LC34-DPT0801-034.0-20220818	0.86 U	**137**	0.55 U	**16.6**
DPT0817	8/17/2022	13	LC34-DPT0817-013.0-202208	0.35 U	**84.3**	0.44 I	**52.9**
		18	LC34-DPT0817-018.0-202208	0.35 U	**281**	3.1	**139**
		25	LC34-DPT0817-025.0-202208	0.35 U	**1,510**	13.5	**754**
		34	LC34-DPT0817-034.0-202208	0.35 U	**2,450**	2.6	**338**
DPT0819	8/17/2022	13	LC34-DPT0819-013.0-202208	0.35 U	22.7	0.22 U	**27.8**
		18	LC34-DPT0819-018.0-202208	0.35 U	67.1	0.73 I	**97.1**
		25	LC34-DPT0819-025.0-202208	0.35 U	**515**	11.7	**1,080**
		34	LC34-DPT0819-034.0-202208	0.35 U	**2,470**	3.8	**195**
DPT0826	8/17/2022	13	LC34-DPT0826-013.0-202208	0.35 U	33	0.87 I	**72.5**
		18	LC34-DPT0826-018.0-202208	0.35 U	67.5	7.4	**959**
		25	LC34-DPT0826-025.0-202208	0.35 U	**127**	12.5	**2,900**
		34	LC34-DPT0826-034.0-202208	0.35 U	**87.5**	0.22 U	**3.3**

Notes:

- DPT results are considered screening-level only and were reviewed in accordance with internal data review protocols; appropriate qualifiers were applied to the data as deemed necessary by the quality reviewer.
- Concentrations reported in micrograms per liter (µg/L)
- Shading indicates > Groundwater Cleanup Target Level (GCTL): TCE = 3 µg/L, cDCE = 70 µg/L, and VC = 1 µg/L

TCE = Trichloroethene
cDCE = cis-1,2-Dichloroethene
VC = Vinyl chloride
I = Result greater than or equal to method detection limit (MDL), but less than practical quantitation limit
U = Not detected greater than the MDL (associated value)
bls = Below land surface

Table 3-2. HS 6 Phase Two Expansion Performance Monitoring Well Construction Details

Well ID (LC34-)	Installation Date	Screen Depth (feet bls)	Well Diameter (inch)	Surface Completion	Top of Casing Elevation (feet)	Ground Elevation (feet)	Coordinates	
							Northing (meters)	Easting (meters)
IW0168	11/7/2022	17 to 27	1	Flush Mount	5.33	5.67	463838.96	242853.72
IW0169	11/7/2022	30 to 35	1	Flush Mount	5.44	5.67	463837.28	242853.55
IW0170	11/8/2022	17 to 27	1	Flush Mount	4.92	5.20	463829.76	242898.90
IW0171	11/7/2022	30 to 35	1	Flush Mount	5.01	5.20	463829.81	242897.77
IW0172	11/8/2022	17 to 27	1	Flush Mount	4.60	4.89	463822.94	242953.18
IW0173	11/7/2022	30 to 35	1	Flush Mount	4.62	4.89	463822.81	242952.01
IW0174	11/8/2022	16 to 21	1	Flush Mount	5.97	6.37	463803.30	243002.75
IW0175	11/1/2022	30 to 35	1	Flush Mount	6.39	6.37	463802.34	243003.47
IW0176	12/6/2022	16 to 21	1	Flush Mount	7.20	7.35	463792.11	243034.03
IW0177	11/8/2022	16 to 21	1	Flush Mount	4.78	4.98	463781.55	242955.16
IW0178	11/8/2022	16 to 21	1	Flush Mount	4.49	4.65	463867.50	242934.08
IW0179	12/16/2022	17 to 27	1	Flush Mount	5.27	5.39	463885.62	242815.59
IW0180	12/16/2022	30 to 35	1	Flush Mount	5.27	5.39	463885.13	242814.24
IW0181	12/21/2022	17 to 27	1	Flush Mount	7.47	7.61	463904.01	242738.18
IW0182	12/21/2022	30 to 35	1	Flush Mount	7.39	7.61	463904.77	242736.36
IW0183	1/20/2023	17 to 27	1	Flush Mount	7.88	8.11	463933.50	242786.16
IW0184	1/20/2023	30 to 35	1	Flush Mount	7.85	8.11	463933.38	242787.81
IW0185	1/13/2023	16 to 21	1	Flush Mount	5.22	5.35	463939.94	242876.05
IW0186	1/20/2023	16 to 21	1	Flush Mount	5.10	5.32	463991.19	242776.97
IW0187	12/21/2022	16 to 21	1	Flush Mount	6.30	6.33	463946.67	242691.69
IW0188	12/21/2022	16 to 21	1	Flush Mount	7.91	8.10	463865.64	242662.61

Notes:

- Horizontal coordinates are referenced to the Florida State Plane Coordinate System, East Zone, North American Datum of 1983 (NAD83).
- Vertical elevations are referenced to the North American Vertical Datum of 1988 (NAVD88).

bls = Below land surface

Table 3-3. HS 6 Phase Two Expansion Air Sparge Well Construction Details

Air Sparge Well ID (LC34-ASW-)	Installation Date	AS Zone	Screen Interval (feet bls)	Boring Angle (degrees)	Total Boring Length (feet)	Coordinates (meters)	
						Northing	Easting
301	12/2/2022	10	33-35	90.0	40.0	463701.03	242841.36
302	12/2/2022	10	34-36	90.0	40.0	463714.68	242852.20
303	12/2/2022	10	35-37	90.0	40.0	463728.33	242861.51
304	10/17/2022	11	38-40	90.0	40.0	463743.70	242858.58
305	10/17/2022	11	37-39	90.0	40.0	463742.36	242873.76
306	10/18/2022	10	38-40	90.0	40.0	463758.53	242854.28
307	10/18/2022	10	38-40	90.0	40.0	463757.19	242869.46
308	10/18/2022	10	38-40	90.0	40.0	463755.84	242884.64
309	12/5/2022	11	35-37	90.0	40.0	463754.50	242899.82
310	12/7/2022	11	38.3-40.3	48.0	57.0	463771.01	242863.03
311	10/18/2022	11	38-40	90.0	40.0	463769.66	242878.21
312	10/18/2022	11	38-40	90.0	40.0	463768.32	242893.39
313	12/1/2022	10	36-38	90.0	40.0	463766.97	242908.57
314	10/19/2022	10	37-39	90.0	40.0	463784.83	242856.61
315	10/19/2022	10	33-35	90.0	40.0	463783.48	242871.79
316	12/7/2022	10	34-36	63.0	40.5	463782.14	242886.97
317	10/19/2022	11	37-39	90.0	40.0	463780.79	242902.15
318	12/1/2022	11	35-37	90.0	40.0	463798.65	242850.18
319	12/8/2022	11	38-40	90.0	40.0	463797.30	242865.36
320	11/3/2022	11	35-37	90.0	40.0	463795.96	242880.54
321	11/3/2022	11	38-40	90.0	40.0	463794.61	242895.72
322	11/3/2022	11	32.5-34.5	90.0	40.0	463793.26	242910.90
323	11/7/2022	10	35-37	90.0	40.0	463791.92	242926.08
324	10/19/2022	10	36-38	90.0	40.0	463812.47	242843.76
325	11/4/2022	10	36-38	90.0	40.0	463811.12	242858.94
326	11/2/2022	10	33-35	90.0	40.0	463809.77	242874.12
327	11/2/2022	10	35-37	90.0	40.0	463808.43	242889.30
328	11/2/2022	10	34-36	90.0	40.0	463807.08	242904.48
329	11/2/2022	10	34-36	90.0	40.0	463805.74	242919.66
330	11/2/2022	10	34-36	90.0	40.0	463804.39	242934.84
331	11/1/2022	10	37-39	90.0	40.0	463803.05	242950.02
332	11/1/2022	10	37-39	90.0	40.0	463801.70	242965.20
333	11/3/2022	10	36-38	90.0	40.0	463800.36	242980.38
334	12/6/2022	8/9	35.5-38.5	74.0	42.0	463799.01	242995.56
335	12/6/2022	11	36-38	65.0	42.0	463797.66	243010.74
336	12/6/2022	8/9	37-39	90.0	40.0	463786.54	242986.81
337	12/5/2022	8/9	38-40	90.0	40.0	463785.19	243001.99
338	12/5/2022	8/9	38-40	90.0	40.0	463783.85	243017.17
339	12/7/2022	11	36.1-38.1	49.0	51.0	463771.37	243008.41
340	11/7/2022	11	36-38	90.0	40.0	463824.94	242852.51
341	10/19/2022	11	36-38	90.0	40.0	463823.59	242867.69
342	10/28/2022	11	35-37	90.0	40.0	463822.25	242882.87
343	10/28/2022	11	33-35	90.0	40.0	463820.90	242898.05
344	10/28/2022	11	33-35	90.0	40.0	463819.56	242913.23
345	10/28/2022	11	36-38	90.0	40.0	463818.21	242928.42
346	10/31/2022	11	34-36	90.0	40.0	463816.87	242943.60
347	11/3/2022	11	36-38	90.0	40.0	463815.52	242958.78
348	10/31/2022	11	38-40	90.0	40.0	463814.18	242973.96
349	10/31/2022	11	38-40	90.0	40.0	463812.83	242989.14
350	11/4/2022	11	36-38	90.0	40.0	463811.48	243004.32
351	11/1/2022	11	37-39	90.0	40.0	463810.14	243019.50
352	10/21/2022	10	37-39	90.0	40.0	463838.76	242846.09
353	10/21/2022	10	38-40	90.0	40.0	463837.41	242861.27

Table 3-3. HS 6 Phase Two Expansion Air Sparge Well Construction Details (continued)

Air Sparge Well ID (LC34-ASW-)	Installation Date	AS Zone	Screen Interval (feet bls)	Boring Angle (degrees)	Total Boring Length (feet)	Coordinates (meters)	
						Northing	Easting
354	10/20/2022	10	38-40	90.0	40.0	463836.07	242876.45
355	10/28/2022	10	35-37	90.0	40.0	463834.72	242891.63
356	10/27/2022	10	34-36	90.0	40.0	463833.38	242906.81
357	10/27/2022	10	36-38	90.0	40.0	463832.03	242921.99
358	10/26/2022	10	36-38	90.0	40.0	463830.69	242937.17
359	10/25/2022	10	36-38	90.0	40.0	463829.34	242952.35
360	10/25/2022	10	35-37	90.0	40.0	463827.99	242967.53
361	10/25/2022	10	32-34	90.0	40.0	463826.65	242982.71
362	11/4/2022	10	37-39	90.0	40.0	463825.30	242997.89
363	10/25/2022	10	33-35	90.0	40.0	463823.96	243013.07
364	10/21/2022	11	38-40	90.0	40.0	463851.23	242854.84
365	10/21/2022	11	38-40	90.0	40.0	463849.89	242870.02
366	10/20/2022	11	38-40	90.0	40.0	463848.54	242885.20
367	10/21/2022	11	38-40	90.0	40.0	463847.20	242900.38
368	10/24/2022	11	38-40	90.0	40.0	463845.85	242915.57
369	10/24/2022	11	36-38	90.0	40.0	463844.51	242930.75
370	10/25/2022	11	37-39	90.0	40.0	463843.16	242945.93
371	10/25/2022	11	34-36	90.0	40.0	463841.81	242961.11
372	10/25/2022	11	38-40	90.0	40.0	463840.47	242976.29
373	10/19/2022	10	36-38	90.0	40.0	463863.71	242863.60
374	10/20/2022	10	38-40	90.0	40.0	463862.36	242878.78
375	10/20/2022	10	38-40	90.0	40.0	463861.02	242893.96
376	10/20/2022	11	38-40	90.0	40.0	463878.36	242868.45
377	1/5/2023	12	37.8-39.8	50.5	52.0	463842.32	242709.89
378	12/13/2022	12	38-40	90.0	40.0	463837.05	242715.89
379	2/9/2023	13	38.4-40.4	50.6	51.7	463855.03	242703.87
380	12/13/2022	13	38-40	90.0	40.0	463850.87	242709.46
381	12/13/2022	13	38-40	90.0	40.0	463849.52	242724.64
382	12/13/2022	13	38-40	90.0	40.0	463848.18	242739.82
383	1/5/2023	13	36.1-.8.1	55.0	45.5	463849.34	242813.96
384	1/5/2023	14	35.2-37.2	61.0	42.5	463845.51	242834.32
385	2/9/2023	14	37.7-39.7	62.3	45.2	463867.79	242694.02
386	1/30/2023	14	38-40	90.0	40.0	463864.69	242703.04
387	12/13/2022	14	38-40	90.0	40.0	463863.34	242718.22
388	12/12/2022	14	38-40	90.0	40.0	463862.00	242733.40
389	12/12/2022	14	38-40	90.0	40.0	463860.65	242748.58
390	12/9/2022	14	36-38	90.0	40.0	463859.31	242763.76
391	12/9/2022	14	37-39	90.0	40.0	463857.96	242778.94
392	12/9/2022	14	36-38	90.0	40.0	463856.62	242794.12
393	12/8/2022	14	36-38	90.0	40.0	463855.27	242809.30
394	12/8/2022	14	36-38	90.0	40.0	463853.92	242824.48
395	12/8/2022	14	34-36	90.0	40.0	463852.58	242839.66
396	2/9/2023	12	38.4-40.4	50.4	51.9	463878.79	242692.92
397	1/30/2023	12	38-40	90.0	40.0	463878.51	242696.61
398	12/13/2022	12	38-40	90.0	40.0	463877.16	242711.79
399	12/14/2022	12	36-38	90.0	40.0	463875.82	242726.97
400	12/14/2022	12	38-40	90.0	40.0	463874.47	242742.16
401	1/9/2023	12	32.5-34.5	90.0	40.0	463873.13	242757.34
402	12/14/2022	12	36-38	90.0	40.0	463871.78	242772.52
403	12/14/2022	12	35-37	90.0	40.0	463870.43	242787.70
404	12/14/2022	12	35-37	90.0	40.0	463869.09	242802.88
405	12/14/2022	12	33-35	90.0	40.0	463867.74	242818.06
406	12/15/2022	12	38-40	90.0	40.0	463866.40	242833.24

Table 3-3. HS 6 Phase Two Expansion Air Sparge Well Construction Details (continued)

Air Sparge Well ID (LC34-ASW-)	Installation Date	AS Zone	Screen Interval (feet bls)	Boring Angle (degrees)	Total Boring Length (feet)	Coordinates (meters)	
						Northing	Easting
407	12/15/2022	12	38-40	90.0	40.0	463865.05	242848.42
408	2/9/2023	13	37.9-39.9	69.7	42.6	463891.92	242694.64
409	12/20/2022	13	38-40	90.0	40.0	463890.98	242705.37
410	12/20/2022	13	36-38	90.0	40.0	463889.64	242720.55
411	12/20/2022	13	37-39	90.0	40.0	463888.29	242735.73
412	12/20/2022	13	37-39	90.0	40.0	463886.95	242750.91
413	12/19/2022	13	37-39	90.0	40.0	463885.60	242766.09
414	12/19/2022	13	36-38	90.0	40.0	463884.25	242781.27
415	12/19/2022	13	36-38	90.0	40.0	463882.91	242796.45
416	12/16/2022	13	33-35	90.0	40.0	463881.56	242811.63
417	12/16/2022	13	38-40	90.0	40.0	463880.22	242826.81
418	12/16/2022	13	36-38	90.0	40.0	463878.87	242841.99
419	12/15/2022	13	31-33	90.0	40.0	463877.53	242857.17
420	2/9/2023	14	37.9-39.9	58.1	47.1	463901.27	242697.43
421	12/20/2022	14	38-40	90.0	40.0	463904.80	242698.94
422	12/21/2022	14	38-40	90.0	40.0	463903.46	242714.12
423	12/21/2022	14	38-40	90.0	40.0	463902.11	242729.31
424	12/22/2022	14	37-39	90.0	40.0	463900.76	242744.49
425	12/22/2022	14	33-35	90.0	40.0	463899.42	242759.67
426	12/22/2022	14	38-40	90.0	40.0	463898.07	242774.85
427	12/23/2022	14	38-40	90.0	40.0	463896.73	242790.03
428	1/4/2023	14	38-40	90.0	40.0	463895.38	242805.21
429	1/4/2023	14	34-36	90.0	40.0	463894.04	242820.39
430	1/4/2023	14	35-37	90.0	40.0	463892.69	242835.57
431	1/4/2023	14	38-40	90.0	40.0	463891.35	242850.75
432	2/8/2023	12	37.8-39.8	47.2	54.6	463915.14	242703.25
433	1/9/2023	12	38-40	90.0	40.0	463917.28	242707.70
434	1/9/2023	12	38-40	90.0	40.0	463915.93	242722.88
435	1/10/2023	12	38-40	90.0	40.0	463914.58	242738.06
436	1/10/2023	12	38-40	90.0	40.0	463913.24	242753.24
437	1/10/2023	12	38-40	90.0	40.0	463911.89	242768.42
438	1/10/2023	12	37-39	90.0	40.0	463910.55	242783.60
439	1/10/2023	12	33-35	90.0	40.0	463909.20	242798.78
440	1/10/2023	12	33-35	90.0	40.0	463907.86	242813.96
441	1/11/2023	12	37-39	90.0	40.0	463906.51	242829.14
442	1/11/2023	12	30-32	90.0	40.0	463905.17	242844.32
443	1/12/2023	12	38-40	90.0	40.0	463903.82	242859.50
444	2/8/2023	13	38.2-40.2	52.0	50.7	463926.12	242709.35
445	1/17/2023	13	38-40	90.0	40.0	463929.75	242716.46
446	1/17/2023	13	38-40	90.0	40.0	463928.40	242731.64
447	1/17/2023	13	38-40	90.0	40.0	463927.06	242746.82
448	1/17/2023	13	37-39	90.0	40.0	463925.71	242762.00
449	1/17/2023	13	32-34	90.0	40.0	463924.37	242777.18
450	1/16/2023	13	36-38	90.0	40.0	463923.02	242792.36
451	1/16/2023	13	32-34	90.0	40.0	463921.68	242807.54
452	1/16/2023	13	35-37	90.0	40.0	463920.33	242822.72
453	1/13/2023	13	35-37	90.0	40.0	463918.99	242837.90
454	1/13/2023	13	34-36	90.0	40.0	463917.64	242853.08
455	1/17/2023	13	38-40	90.0	40.0	463916.29	242868.26
456	2/8/2023	14	38.3-40.3	56.4	48.0	463939.47	242717.02
457	1/17/2023	14	38-40	90.0	40.0	463942.22	242725.21
458	1/18/2023	14	38-40	90.0	40.0	463940.88	242740.39
459	1/19/2023	14	36-38	90.0	40.0	463939.53	242755.57

Table 3-3. HS 6 Phase Two Expansion Air Sparge Well Construction Details (continued)

Air Sparge Well ID (LC34-ASW-)	Installation Date	AS Zone	Screen Interval (feet bls)	Boring Angle (degrees)	Total Boring Length (feet)	Coordinates (meters)	
						Northing	Easting
460	1/19/2023	14	34-36	90.0	40.0	463938.19	242770.75
461	1/19/2023	14	36-38	90.0	40.0	463936.84	242785.93
462	1/19/2023	14	33-35	90.0	40.0	463935.50	242801.11
463	1/30/2023	14	36-38	90.0	45.0	463934.15	242816.29
464	1/27/2023	14	44-46	90.0	50.0	463932.80	242831.47
465	2/7/2023	14	36.1-38.1	60.0	44.0	463931.46	242846.65
466	1/12/2023	14	38-40	90.0	40.0	463930.11	242861.84
467	2/8/2023	12	38.2-40.2	60.9	45.8	463952.65	242724.69
468	1/19/2023	12	38-40	90.0	40.0	463954.70	242733.97
469	1/18/2023	12	38-40	90.0	40.0	463953.35	242749.15
470	1/20/2023	12	38-40	90.0	40.0	463952.01	242764.33
471	1/23/2023	12	37-39	90.0	40.0	463950.66	242779.51
472	1/23/2023	12	36-38	90.0	40.0	463949.32	242794.69
473	1/27/2023	12	48-50	90.0	50.0	463947.97	242809.87
474	2/7/2023	12	45.6-47.6	72.0	50.0	463943.21	242821.72
475	1/27/2023	12	48-50	90.0	50.0	463943.84	242841.68
476	2/7/2023	12	36.1-38.1	60.0	44.0	463943.93	242855.41
477	2/8/2023	13	38.2-40.2	65.8	43.9	463965.66	242732.20
478	1/18/2023	13	31-33	90.0	40.0	463967.17	242742.72
479	1/18/2023	13	38-40	90.0	40.0	463965.83	242757.90
480	1/26/2023	13	38-40	90.0	40.0	463964.48	242773.08
481	1/23/2023	13	41-43	90.0	45.0	463963.13	242788.26
482	1/23/2023	13	46-48	90.0	50.0	463960.32	242802.16
483	2/6/2023	12	44.9-46.9	52.0	59.5	463952.12	242811.06
484	2/7/2023	13	45.4-47.4	51.0	61.0	463948.04	242846.01
485	2/7/2023	12	45.6-47.6	74.0	49.5	463954.92	242852.03
486	1/18/2023	14	30-32	90.0	40.0	463979.65	242751.48
487	1/18/2023	14	30-32	90.0	40.0	463978.30	242766.66
488	1/31/2023	14	43-45	90.0	45.0	463976.95	242781.84
489	1/31/2023	13	45.3-47.3	71.0	50.0	463979.14	242793.29
490	2/6/2023	13	45.3-47.3	52.0	60.0	463961.88	242800.60

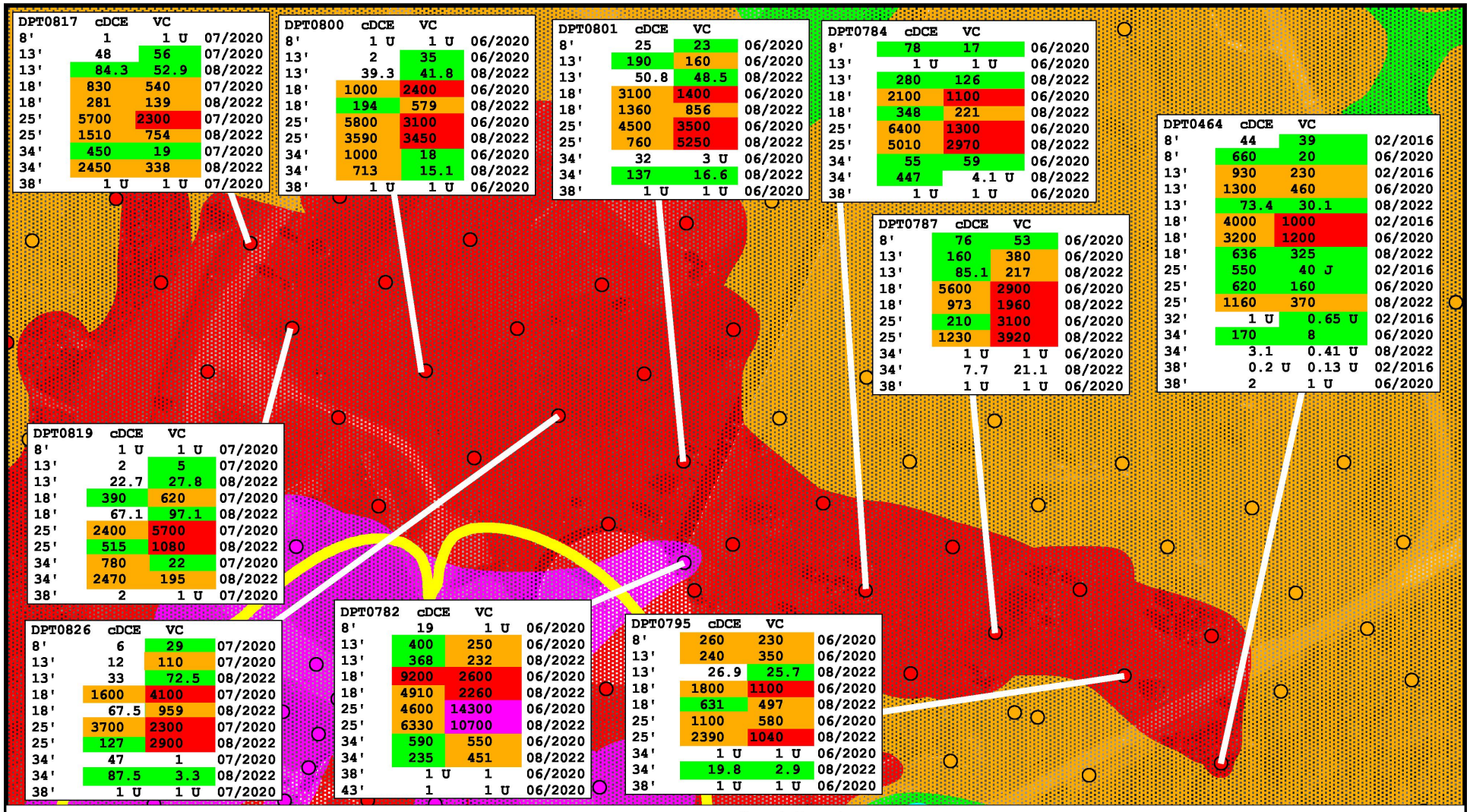
Notes:

- All wells are 1-inch diameter with 40-micron Schumasoil® diffuser screens
- Horizontal coordinates are referenced to the Florida State Plane Coordinate System, East Zone, North American Datum of 1983 (NAD83).
- Vertical elevations are referenced to the North American Vertical Datum of 1988 (NAVD88).

AS = Air sparge
ASW = Air sparge well
bls = Below land surface

FIGURE 3-1 HOT SPOT 6 DPT RESULTS AUGUST 2022

SWMU CC054, LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION, FLORIDA



LC34 PMR
Revision: 0
July 2024

FIGURE 3-2 HOT SPOT 6 EXPANSION - PHASE TWO - TRENCHING LAYOUT
SWMU CC054, LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION, FLORIDA

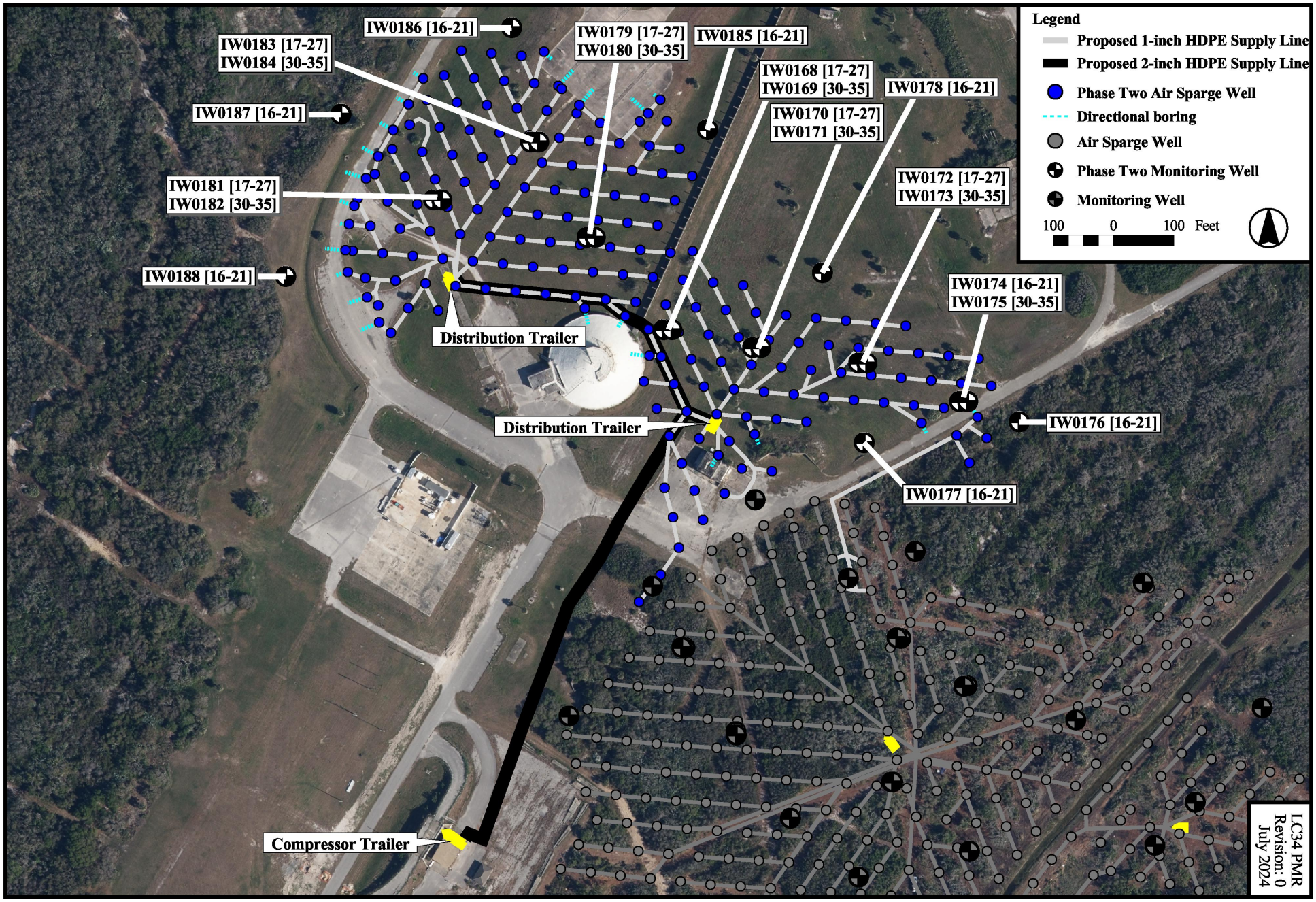
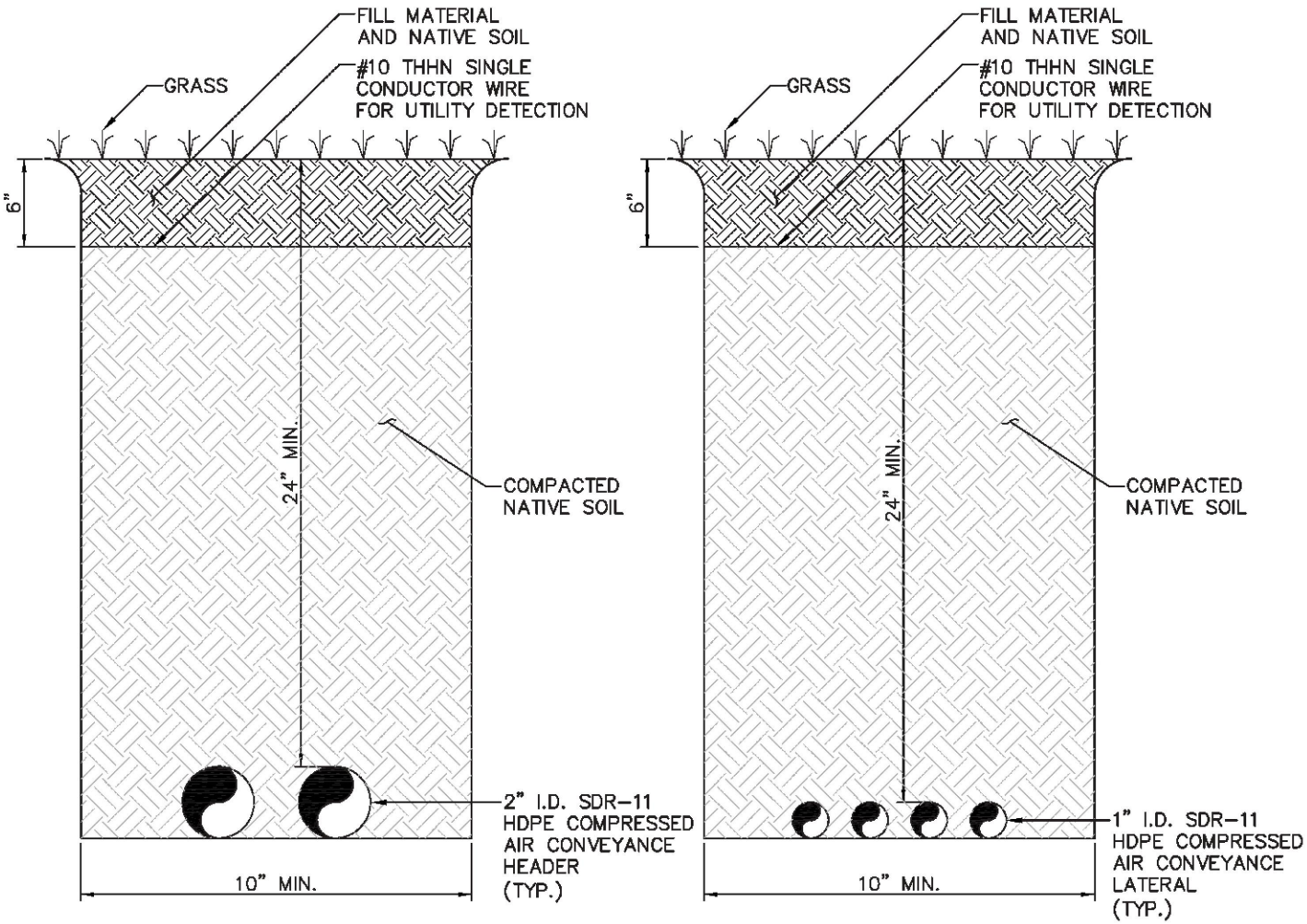


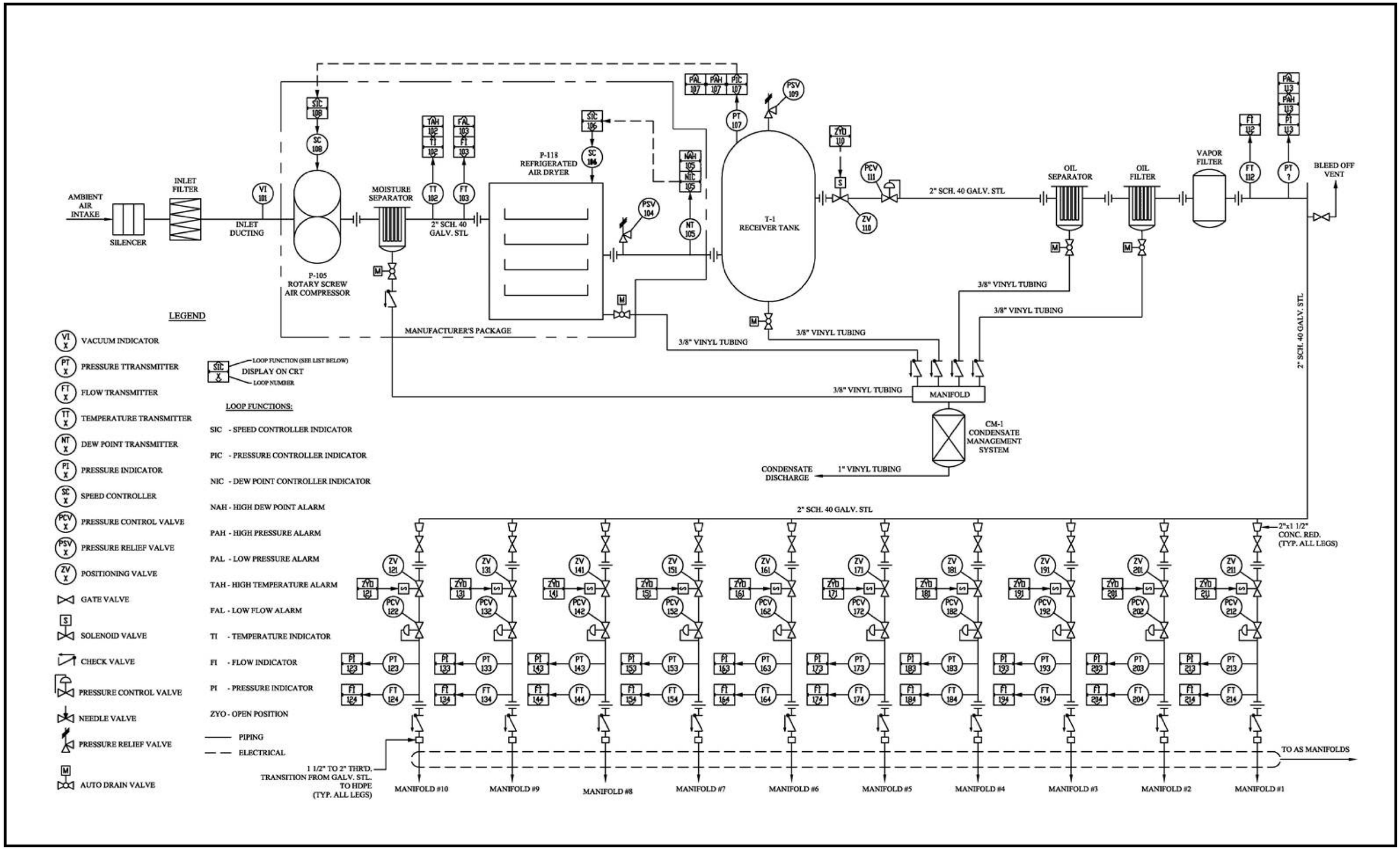
FIGURE 3-3 TRENCH CROSS SECTION DETAILS

SWMU CC054, LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION, FLORIDA



HEADER TRENCHING CROSS SECTION

LATERAL TRENCHING CROSS SECTION


AMBIENT AIR INTAKE
SILENCER
INLET FILTER
INLET DUCTING
VI 101
P-105 ROTARY SCREW AIR COMPRESSOR
SIC 108
SC 108
MOISTURE SEPARATOR
TAH 102
TT 102
TT 102
FAL 103
FT 103
FT 103
2" SCH. 40 GALV. STL
P-118 REFRIGERATED AIR DRYER
SIC 106
SC 106
NAH 105
NIC 105
NT 105
PSV 104
PSV 109
PAL 107
PAH 107
PIC 107
PT 107
T-1 RECEIVER TANK
ZYO 110
S
PCV 111
ZV 110
2" SCH. 40 GALV. STL
OIL SEPARATOR
OIL FILTER
VAPOR FILTER
FT 112
FAL U3
PAH U3
PI U3
PT ?
BLEED OFF VENT
2" SCH. 40 GALV. STL.
MANUFACTURER'S PACKAGE
3/8" VINYL TUBING
3/8" VINYL TUBING
3/8" VINYL TUBING
3/8" VINYL TUBING
3/8" VINYL TUBING
MANIFOLD
CM-1 CONDENSATE MANAGEMENT SYSTEM
CONDENSATE DISCHARGE
1" VINYL TUBING
2" SCH. 40 GALV. STL
2"x1 1/2" CONC. RED. (TYP. ALL LEGS)
TO AS MANIFOLDS
1 1/2" TO 2" THR'D. TRANSITION FROM GALV. STL. TO HDPE (TYP. ALL LEGS)
MANIFOLD #10
MANIFOLD #9
MANIFOLD #8
MANIFOLD #7
MANIFOLD #6
MANIFOLD #5
MANIFOLD #4
MANIFOLD #3
MANIFOLD #2
MANIFOLD #1
LEGEND
VI X VACUUM INDICATOR
PT X PRESSURE TTRANSMITTER
FT X FLOW TRANSMITTER
TT X TEMPERATURE TRANSMITTER
NT X DEW POINT TRANSMITTER
PI X PRESSURE INDICATOR
SC X SPEED CONTROLLER
PCV X PRESSURE CONTROL VALVE
PSV X PRESSURE RELIEF VALVE
ZV X POSITIONING VALVE
GATE VALVE
S SOLENOID VALVE
CHECK VALVE
PRESSURE CONTROL VALVE
NEEDLE VALVE
PRESSURE RELIEF VALVE
M AUTO DRAIN VALVE
SIC X LOOP FUNCTION (SEE LIST BELOW)
DISPLAY ON CRT
LOOP NUMBER
LOOP FUNCTIONS:
SIC - SPEED CONTROLLER INDICATOR
PIC - PRESSURE CONTROLLER INDICATOR
NIC - DEW POINT CONTROLLER INDICATOR
NAH - HIGH DEW POINT ALARM
PAH - HIGH PRESSURE ALARM
PAL - LOW PRESSURE ALARM
TAH - HIGH TEMPERATURE ALARM
FAL - LOW FLOW ALARM
TI - TEMPERATURE INDICATOR
FI - FLOW INDICATOR
PI - PRESSURE INDICATOR
ZYO - OPEN POSITION
PIPING
ELECTRICAL

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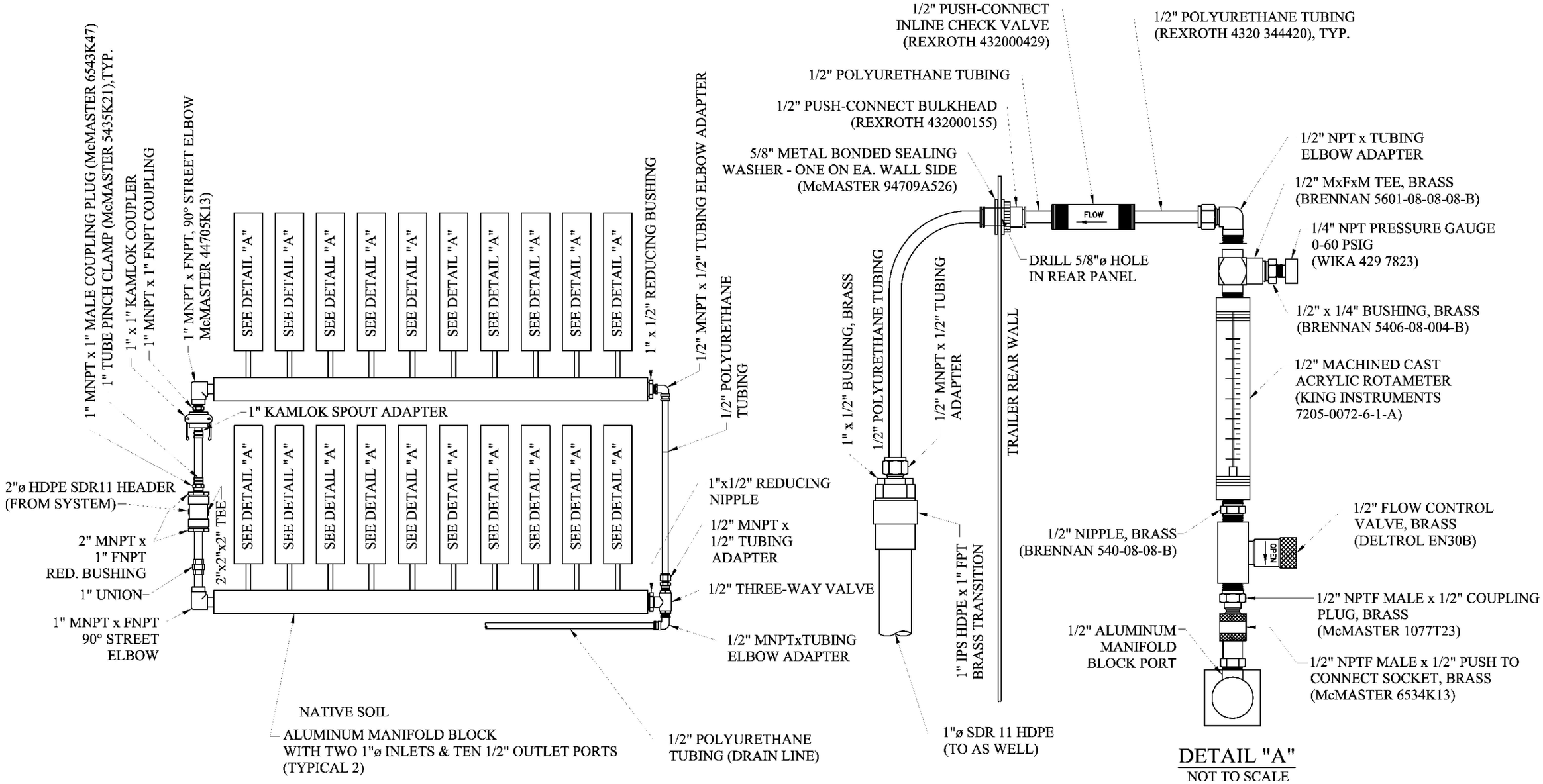
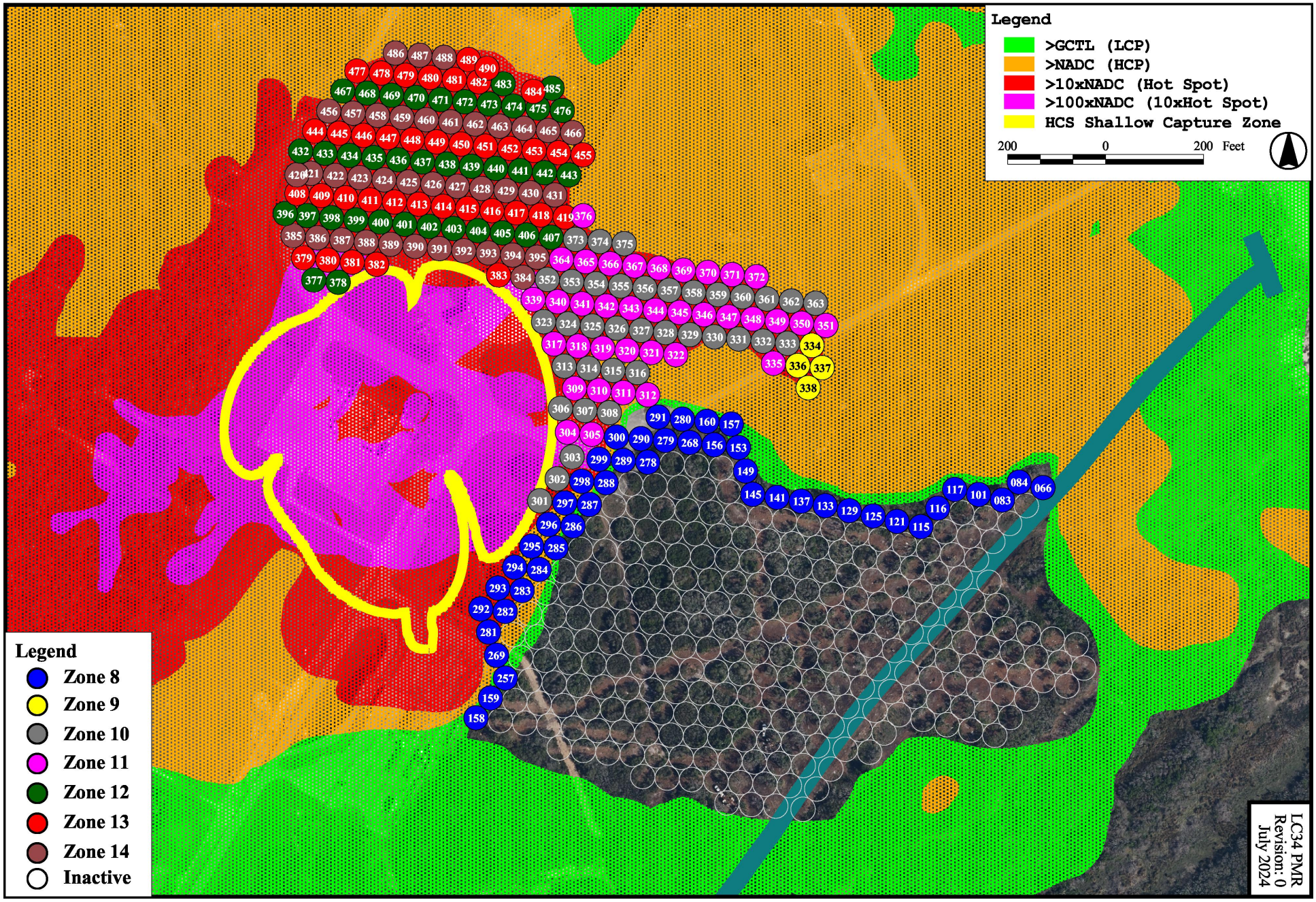


DISTRIBUTION MANIFOLD CONSTRUCTION DETAIL
NOT TO SCALE

DETAIL "A"
NOT TO SCALE

FIGURE 3-6 HOT SPOT 6 AIR SPARGING ZONE LAYOUT
SWMU CC054, LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION, FLORIDA



SECTION IV
HS 6 AREA AS IM OPERATIONS, EVALUATION, AND PERFORMANCE MONITORING

This section discusses activities conducted during the reporting period (April 1, 2023 to March 31, 2024) for the HS 6 AS IM of the Phase One (original configuration), and the Phase Two expansion, and summarizes the results of evaluations conducted regarding system performance.

Phase One (original configuration) of the HS 6 AS system was installed in two phases (for discussion purposes these are referred to herein as Phase One A and Phase One B). Phase One A was construction of the initial system to prevent further discharge of CVOCs into the drainage canal and to prevent the HS from expanding. This phase consisted of 160 AS wells in five zones (Zones 1 through 5), and was installed between February 19, 2018 and July 7, 2018, in accordance with the approved LC34 HS 6 IWP (NASA, 2017b). The full-scale O&M phase for the initial system began on July 9, 2018. After six months of operation, based on rapid contaminant reductions seen in performance monitoring, the HS 6 AS system was expanded to contain and remediate the HS 6 area located down/side-gradient of the HC IM at LC34. Phase One B consisted of 140 AS wells in four zones (Zones 6 through 9). Installation activities associated with the expanded system were performed in accordance with the approved LC34 HS 6 Expansion IWP (NASA, 2018) between November 9, 2018 and April 2, 2019, and full-scale operation resumed in May 2019.

The Phase One 300-AS well operational scheme changed in April 2019 when select AS wells in Zone 1 and Zone 2 were turned off (consisting of 48 AS wells). In January and February 2020, select wells in Zone 3 and Zone 4 were turned off (consisting of 53 AS wells; 35 wells in Zone 3 and 18 wells in Zone 4), which increased the individual AS well flow rate from 5.0 to 5.9 scfm per AS well. These AS wells in Zones 1 to 4 were shut off because performance monitoring results showed IM objectives had been achieved. The remaining 199 AS wells operated until July 2023 when they were shut off during startup of the Phase Two expansion, having also met IM objectives except along the fringe of the DSZ.

Currently, the Phase Two expansion is complete and operational for HS 6 and includes 238 AS wells in seven treatment zones installed to approximately 35 feet bls, spaced approximately 50 feet apart with a 25-foot ROI, and with approximately 5 cfm per AS well. Figure 3-2 depicts the HS 6 trenching, and AS and monitoring well layout (Phase One and Two).

4.1 INTERIM MEASURE SCOPE AND OBJECTIVE

The objective for the HS 6 AS IM is to remediate contaminated groundwater within the treatment zone, to prevent impacts to drainage canals, and support transition to MNA. The overall corrective action objective at HS 6 is to reduce concentrations of the HS 6 COCs (cDCE, tDCE, and VC) to less than FDEP NADCs. The HS 6 AS IM objective was developed to provide a flexible treatment train approach for which certain metrics such as remedial performance, plume dynamics, and natural attenuation characteristics can be evaluated to determine remedial objectives and ultimately an endpoint to the IM. Based on the treatment performance of the IM, AS operations may be modified, as appropriate, to achieve the HS 6 AS IM objective.

4.2 AS SYSTEM OPERATION, MAINTENANCE, AND EVALUATION

Table 4-1 presents runtime data for the HS 6 AS system. Pressure and flow data for each manifold and zone is included in Appendix I. During the operational period from April 1, 2023 to March 31, 2024, the cumulative runtime was 85 percent. From April 1 to July 7, 2023, the original configuration was operating and then the configuration changed when the distribution trailers were moved and connected to the Phase Two expansion and the phased startup began. Phase Two was fully operational on August 28, 2023. Other than downtime associated with installation of the new AS wells, transitioning the system from the original configuration to the new Phase Two layout, and activities associated with startup and initial maintenance, the system operated as planned. The system was shut down prior to performance monitoring events in April, July, and November 2023, and February 2024, and for DPT sampling in the Phase Three expansion area in October 2023.

During the operational period covered under this report, 199 AS wells operated in Zones 3-9 from April 1, 2023 until July 24, 2023, then 238 wells operated through March 31, 2024. The

system is currently operating on a cycled schedule alternating operation between zones, as summarized in the following table.

Zone ID	Manifold ID	Cycle Time Before Phase Two	Cycle Time After Phase Two
1/2	1	Off	Off
4	2	00:00 – 08:00	Off
3	3	00:00 – 06:00	Off
5	4	06:00 – 12:00	Off
6	5	12:00 – 00:00	Off
9	6	00:00 – 06:00	Off
7	7	06:00 – 12:00	Off
8	8	12:00 – 18:00	NA
8/9	8	NA	06:00 – 12:00
10	4	NA	18:00 – 00:00
11	1	NA	12:00 – 18:00
12	5	NA	12:00 – 18:00
13	3	NA	00:00 – 06:00
14	2	NA	06:00 – 12:00

Phase Two became fully operational on August 28, 2023.

The system is monitored remotely, and system evaluations and maintenance activities are conducted in-person by field personnel to evaluate the operational parameters of the system. At a minimum, monthly site visits were conducted during the reporting period, which included the following activities for system evaluation:

- Inspection of flow meters, transmitters, and AS system components for leakage and excessive vibration, noise, or abnormal temperatures;
- Inspection of oil levels and lubrication;
- Inspection of condensate treatment systems and refrigerated air dryer;
- Assessment of differential pressure across filtration units and process equipment;

- Recording of system operational data and comparing data to design conditions and previous operating data;
- Repairing and cleaning equipment as needed; and
- Perform housekeeping.

Maintenance will continue to be executed in a manner that minimizes emergencies or unscheduled shutdowns. Maintenance activities were conducted as planned during the monthly site visits, which included the following activities:

- Balancing individual AS well flows within each manifold zone;
- Redevelop AS wells as needed if fouling occurs;
- Change air compressor oil every 8,000 hours;
- Drain condensate treatment system on a quarterly basis or as needed; and
- Replace filters as needed and/or based on manufacturer's recommendations.

4.3 HS 6 PERFORMANCE MONITORING FIELD ACTIVITIES

Performance monitoring results are used to evaluate the effectiveness of the HS 6 AS IM in reducing concentrations of CVOCs in groundwater by comparing current results to baseline results collected prior to installation of the AS system.

During this reporting period, semi-annual performance monitoring of the original AS IM configuration was conducted in April 2023 and November 2023. For the Phase Two expansion area, three sampling events occurred during this reporting period of the network of 21 new wells. The baseline event for the Phase Two expansion was in July 2023, and the first two quarterly events were in November 2023 and February 2024. Note, the first quarterly event aligned with the second semi-annual event of the original configuration, in November 2023. Table 1-1 presents the performance monitoring network and Figure 3-2 shows the well locations. During this reporting period, the following sampling events were conducted:

- April 2023 - Semi-annual sampling of 28 monitoring wells and three surface water locations (original configuration).

- July 2023 – Baseline sampling of 21 monitoring wells (Phase Two expansion).
- November 2023 – Semi-annual sampling of 28 monitoring wells and three surface water locations (original configuration), and first quarterly sampling of 21 monitoring wells (Phase Two expansion).
- February 2024 – Second quarterly sampling of 21 monitoring wells (Phase Two expansion).

Peristaltic pumps were used for the purging of wells prior to sampling, and samples were collected using the low-flow purge technique. Monitoring well purging and sampling activities and surface water collection were conducted in accordance with the KSC SAP (NASA, 2017a) and FDEP SOPs FS 2100 and 2200 (FDEP, 2017). Water quality parameters such as temperature, pH, conductivity, turbidity, dissolved oxygen (DO), and oxidation-reduction potential (ORP) were measured at each monitoring well using a water quality meter and a flow-through cell. Groundwater samples were collected once the parameters met the stabilization criteria. Surface water samples were collected in accordance with FDEP SOPs, utilizing a peristaltic pump and tubing connected to an extendable pole to obtain a grab sample. Sampling logs and field documentation associated with HS 6 performance monitoring is provided in Appendix F. Field measurements for each sampled location were generally within normal range and consistent with historical values. A summary of water quality parameter data recorded during monitoring well and surface water sampling is provided in Table 4-2.

The groundwater and surface water samples were shipped under chain-of-custody to Eurofins, in Altamonte Springs, Florida, for analysis of VOCs by USEPA Method 8260D. During the events, samples were collected in both unpreserved and preserved vials to ensure headspace fell within accepted criteria as micro bubbles have been observed in preserved vials during previous sampling events at HS 6. Only the sample containers observed to have zero headspace were analyzed by the laboratory. All planned samples were analyzed for the designated parameters recommended in the 2022 PMR (NASA, 2023b). All analytical results for samples collected during the reporting period were reviewed by a chemist and data quality manager and were found to have been generated in compliance with good analytical practices.

4.4 GROUNDWATER ELEVATION SUMMARY

Site-wide water level measurements are typically collected at LC34 during biennial LTM events, from a network of 55 wells, several of which are located in the HS 6 area. The LTM wells are screened in two depth zones: Layer 1 (0 to 25 feet bls) and Layer 2 (25 to 30 feet bls). During the previous LTM event in 2022, groundwater flow contours depicted an easterly flow in the eastern portion of the site and a western and southerly flow in the western portion of the site in both depth zones, with areas of radial flow west and south of the HCS capture zone. These contours were consistent with historical events.

During this reporting period, the LTM network was not scoped for sampling or water level gauging, but water level elevations were collected from the HS 6 wells prior to each performance monitoring event. Prior to measuring depth-to-water, all monitoring wells were uncapped and allowed to equilibrate. This step ensured equilibration of hydrostatic and atmospheric pressure to secure an accurate static water level. All water level measurements were collected from the same permanent point identified on top of the well casing to ensure consistency with historical measurements. Measurements were made to the nearest 0.01 foot using an electronic water level meter. To calculate the groundwater elevation in feet, the depth-to-water was subtracted from the top-of-casing elevation, which was previously determined by survey. All elevations stated herein are referenced to the North American Vertical Datum of 1988 (NAVD88). The water level readings and calculated groundwater elevations for the HS 6 performance monitoring events are included in Table 4-3.

Groundwater contours were developed for the November 2023 performance monitoring event because it had the most robust data set with 28 wells in the original configuration and 21 wells in the Phase Two expansion area. Of the total 49 wells in the HS 6 network, 24 are screened in Layer 1 and 25 are screened in Layer 2. The water level contours are depicted on Figure 4-1 and Figure 4-2.

In Layer 1, the elevations ranged from 4.15 feet in IW0188, located northwest of the blockhouse to 2.98 feet in IW0128 located along the northwest side of the drainage ditch. The Layer 1 elevation contours generally depict an eastern flow direction near the blockhouse and a

southeastern flow direction in the south portion of the site toward the drainage ditch. In Layer 2, the elevations ranged from 4.24 feet in IW0126, located in the southern portion of the site to 3.02 feet in IW0130, located southeast of the drainage ditch. Similar to Layer 1, the Layer 2 wells also depict an easterly flow near the blockhouse and transition to a southeasterly direction toward the drainage ditch.

4.5 HS 6 PERFORMANCE MONITORING RESULTS

Summaries of TCE, cDCE, tDCE, and VC results for baseline and all performance monitoring events to date are presented in Table 4-4 (groundwater) and Table 4-5 (surface water) and on Figure 4-3 (groundwater and surface water). During these sampling events, several other VOC analytes were detected at concentrations less than GCTLs, such as low-level detections of benzene, toluene, acetone, 1,1-dichloroethene, carbon disulfide, 2-butanone, bromodichloromethane, dibromochloromethane, and chloroethane. These results can be found in the laboratory analytical reports in Appendix C. Groundwater and surface water sampling log sheets and field documentation for HS 6 are provided in Appendix F. Groundwater and surface water results for each sampling event (semi-annual sampling of Phase One and baseline/quarterly sampling of Phase Two) are discussed below.

4.5.1 Phase One Semi-annual Performance Monitoring. Semi-annual performance monitoring of the original AS system configuration was conducted in April 2023 and November 2023, with 28 wells and three surface water locations sampled. Note, prior to the first event in April the system was operational (199 AS wells), but prior to the second event in November, the system was shut off except for the 48 AS wells that were reconfigured into a barrier (Zone 8) to prevent groundwater from re-contaminating the treated area. The results of each event are discussed below.

<u>April 2023</u>

TCE was not detected in any of the monitoring wells during the April event. tDCE was detected in several wells, but the concentrations were less than its GCTL of 100 µg/L.

cDCE was detected at a concentration greater than the GCTL of 70 µg/L in two of the 28 wells sampled (IW0134 and IW0135, both located on the west side of the HS 6 area treatment zone closer to the DSZ). In well IW0134, cDCE exceeded the 10xNADC value of 7,000 µg/L with a result of 7,300 µg/L. This result is an increase from the previous concentration of 6,300 µg/L in October 2022, but it's a significant decrease from the baseline concentration of 20,300 µg/L in March 2019. In this well, cDCE concentrations have regularly fluctuated. In IW0135, cDCE was detected above its NADC of 700 µg/L with a result of 770 µg/L. This represents a significant decrease from the baseline concentration of 53,800 µg/L in March 2019, but a slight increase from the previous October 2022 concentration of 400 µg/L. At the other 26 well locations, cDCE was not detected or was detected at a concentration less than the GCTL.

VC was detected at a concentration greater than its GCTL of 1 µg/L in five of the 28 wells. Concentrations ranged from 3.3 µg/L in IW0129 to 5,600 µg/L in IW0134, located on the western boundary of the AS treatment area. This maximum VC detection exceeded the 10xNADC value of 1,000 µg/L. At IW0134, VC has increased during the past four sampling events but is an overall decrease since the baseline value of 8,900 µg/L in March 2019. Well IW0135, which is located along the northwest edge of the AS treatment area just outside the ROI of the AS wells, had a VC concentration of 1,100 µg/L, which also exceeds the 10xNADC value. This result at IW0135 is a significant decrease from baseline concentration of 10,700 µg/L in March 2019. The other three wells that had VC concentrations greater than the GCTL were located around the perimeter of the AS treatment area, which include IW0123, located on the north side of the AS treatment area with a concentration of 5.3 µg/L, and IW0129 and IW0130, both of which are located in the eastern downgradient side of the canal, with VC concentrations of 3.3 µg/L and 14 µg/L, respectively.

In surface water samples, TCE, tDCE, and VC were not detected in any of the locations. cDCE was detected at SW1001 and SW1002 with a concentration of 0.26 µg/L and 0.70 µg/L, respectively. There is no Florida Freshwater Surface Water Cleanup Target Level; however, these concentrations are low-level and do not represent a significant impact to the canal.

November 2023

During the second semi-annual performance monitoring event, the same 28 wells and three surface water locations were sampled. Consistent with the April 2023 event, TCE was not detected in any monitoring wells and tDCE was not detected in any monitoring wells greater than the GCTL.

The cDCE concentrations exceeded the GCTL in the same two wells as the April 2023 event, IW0134 and IW0135, but decreased in concentration. At IW0134, the cDCE concentration was 1,900 µg/L in November 2023, a decrease from the April 2023 concentration of 7,300 µg/L and a significant decrease from the baseline concentration of 20,300 µg/L in March 2019. At IW0135, the November 2023 concentration was 110 µg/L, a decrease from April 2023 NADC exceedance of 770 µg/L and the lowest overall cDCE concentration in this well. cDCE was not detected or was detected lower than its GCTL in the remaining 26 wells.

VC was detected in six of the 28 wells at a concentration greater than the GCTL and of these, one result exceeded 10xNADC of 1,000 µg/L. The concentrations ranged from 1.8 µg/L in IW0123 to 3,700 µg/L in IW0134, which is located along the western boundary of the AS treatment area. The maximum result was a decrease from the April 2023 concentration of 5,600 µg/L. The other well located on the western boundary of the AS treatment area (IW0035) is in the ROI of the reconfigured area (Zone 10) and had a significant decrease in VC concentration from 1,100 µg/L in April 2023 to 12 µg/L in November 2023. This well also showed a significant decrease in cDCE. East of the canal and outside the AS treatment area, VC exceeded the GCTL in wells IW0129 (9.4 µg/L) and IW0130 (30 µg/L). At IW0123 located outside and north of the AS treatment area, VC slightly exceeded the GCTL at 1.8 µg/L. Two wells inside the former treatment area, IW0057I and IW0145, had VC concentrations greater than the GCTL at 7.6 µg/L and 3.7 µg/L, respectively. These results represent increases since the AS wells were shut off.

In the surface water samples, all TCE, tDCE, cDCE, and VC results were non-detect during the November 2023 sampling event.

Overall, the two semi-annual datasets show no detections of TCE and decreasing concentrations of tDCE, cDCE, and VC over the course of the monitoring period. Performance monitoring sampling results indicate the IM is meeting the objectives of reducing concentrations of COCs in groundwater associated with HS 6 (cDCE, tDCE, and VC), and preventing impacts to the drainage canal in support of a future transition to LTM.

4.5.2 Phase Two Baseline and Quarterly Performance Monitoring. Baseline and quarterly performance monitoring of the Phase Two expansion was conducted in July 2023 (baseline), November 2023 (first quarter), and February 2024 (second quarter). The 21 new wells (IW0168 through IW0188) installed to monitor the Phase Two treatment area were sampled during each event. The wells are positioned with 14 located within the treatment area and seven located around the perimeter. The 14 wells within the treatment area are configured into seven pairs with screen intervals in shallow (17-27 feet bls) and deeper (30-35 feet bls) intervals. The deeper screen intervals are placed at the bottom of the AS treatment interval, just above Layer 4. The results of each event are discussed below.

July 2023 - Baseline

TCE was not detected in any monitoring wells during the baseline event, but several of the non-detect values were elevated to greater than 3 µg/L because of dilutions necessary for other target analytes. tDCE was detected in several wells, but all were at concentrations less than the GCTL.

cDCE was detected in all 21 wells and concentrations exceeded the GCTL in 16 of the 21 wells. Of these, nine of the samples exceeded the NADC of 700 µg/L. The maximum cDCE concentration was 6,500 µg/L in well IW0168, located in the treatment area, northeast of the blockhouse. Well IW0168 (screened 17-27 feet bls) is collocated with IW0169 (screened 30-35 feet bls), which had a cDCE result of 67 µg/L, less than the GCTL.

VC was detected in all 21 wells at concentrations greater than the GCTL. Of these, 14 results exceeded the NADC value of 100 µg/L and five results exceeded the 10xNADC value of 1,000 µg/L. The maximum VC concentration was 3,800 µg/L in well IW0168, which also had the maximum cDCE concentration. The collocated deeper well, IW0169, had a lower VC concentration, 1,400 µg/L, that still exceeded the 10xNADC.

Overall, the baseline event prior to startup of the Phase Two expansion showed high concentrations of cDCE and VC in all performance monitoring wells, which was expected prior to initiating treatment in this HS area. As additional samples are collected and evaluated, the reduction in VOC concentrations and overall effectiveness of the treatment system will continue to be evaluated.

November 2023 – Quarter 1

TCE was not detected in any monitoring wells during the first quarterly event, but several of the non-detect values were elevated to greater than 3 µg/L. In several wells, tDCE was detected, but all were at concentrations less than the GCTL.

In all 21 wells, cDCE was detected, and concentrations exceeded the GCTL in 13 of the wells, with six of the samples greater than the NADC. The maximum cDCE concentration was 3,900 µg/L in well IW0168, which also had the maximum cDCE and VC concentration during the baseline event. The maximum cDCE result of 3,900 µg/L was a decrease from the baseline value of 6,500 µg/L. Collocated well IW0169 had a cDCE result of 110 µg/L, which increased from the baseline concentration of 67 µg/L. Compared to the baseline event, cDCE concentrations in the treatment area wells decreased in all wells except for IW0183, which had an increase from less than the GCTL to 77 µg/L. In the perimeter wells, cDCE concentrations in the first quarterly event were similar to the baseline concentrations.

VC was detected in 20 of the 21 wells at concentrations greater than the GCTL. Of these, 12 results exceeded the NADC, and one result exceeded the 10xNADC value. The maximum VC concentration was 3,100 µg/L in well IW0168, which had the maximum VC result during the baseline and also had the maximum cDCE concentration during the baseline and first quarter. The maximum result was a decrease from the baseline concentration of 3,800 µg/L, and in the collocated deeper well, IW0169, the VC concentration reduced from the baseline 10xNADC exceedance of 1,400 µg/L to 370 µg/L. Compared to the baseline event, the VC concentrations in the treatment area decreased in all but two wells. In the perimeter wells, concentrations in four of the seven locations indicated increases in VC.

The November sampling event showed an overall reduction in cDCE and VC concentrations after the first quarter of Phase Two operation.

February 2024 – Quarter 2

TCE was not detected in any monitoring wells during the second quarterly event, but several of the non-detect values remain elevated to greater than 3 µg/L, consistent with the baseline and first quarter. As in the baseline and first quarter, tDCE was detected in several wells, but all concentrations remain less than the GCTL.

In all 21 wells, cDCE was detected, and concentrations exceeded the GCTL in 13 of the wells, with three of the samples greater than the NADC. The maximum cDCE concentration was 1,500 µg/L in well IW0182, which was an increase since the baseline value of 1,100 µg/L in this well, but is a reduction from the first quarter maximum of 3,100 µg/L and the baseline maximum of 6,500 µg/L, both in IW0168. The collocated shallower well, IW0181, had a cDCE result of 19 µg/L, which was less than the GCTL. Compared to the baseline and first quarter events, cDCE concentrations in the treatment area wells decreased in all wells except for IW0169 and IW0182. In the perimeter wells, cDCE concentrations increased in five of the seven wells since the baseline event.

VC was detected in 20 of the 21 wells at concentrations greater than the GCTL, similar to the first quarter. Of these, seven results exceeded the NADC, and one result exceeded the 10xNADC value. The maximum VC concentration was 1,100 µg/L in perimeter well IW0188, located outside the treatment area to the west. The maximum result is an increase from this well's baseline value of 160 µg/L but was a decrease from the maximum baseline concentration of 3,800 µg/L in IW0168. Compared to the baseline event, the second quarter VC concentrations in the treatment area showed a decrease in all but one well. In the perimeter wells, concentrations in three of the seven locations indicated increases in VC, including the maximum concentration in IW0188.

The February 2024 sampling event showed an overall average reduction of approximately 12 percent for cDCE concentrations and 31 percent for VC concentrations after two quarters of performance monitoring of Phase Two. While high concentrations remain, the contaminant

concentrations are decreasing, and it is anticipated that the CVOCs will continue to decrease as treatment in this area continues. Results of continued performance monitoring at HS 6 will be detailed in future PMRs.

Table 4-1. HS 6 AS System Runtime Summary

Year / Configuration		Month	Days In Month	Downtime (Days)	Runtime	Downtime Contributing Factor
2023	Phase One	April	30	14	53%	Performance Monitoring (Phase One semi-annual). Zones 3, 4, 6, 7 running; Zones 5, 8 were off so as not to influence the HS 6 ASW install; shut down for system sampling.
		May	31	1.5	95%	System shut down for Phase Two expansion install.
		June	30	0	100%	None
		July	31	1.5	95%	Phase Two baseline performance monitoring; Relocate two manifold trailers; begin Phase Two phased startup
	Phase Two	August	31	0	100%	Phase Two phased startup ongoing
		September	30	0	100%	None
		October	31	18	42%	DPT Sampling (for Phase Three)
		November	30	10.5	65%	Performance Monitoring (Phase One semi-annual/Phase Two first quarterly)
		December	31	2.5	92%	Performance Monitoring continued
2024		January	31	0	100%	None
		February	29	9	69%	Performance Monitoring (Phase Two second quarterly)
		March	31	0	100%	None
		Total	**366**	**57**	**84%**	

Notes:

- Reporting period is from April 1, 2023 to March 31, 2024
- Phase Two phased startup began July 17, 2023 and was fully operational August 28, 2023

AS = Air sparge
ASW = Air sparge well
DPT = Direct push technology
HS = Hot spot

Table 4-2. HS 6 Performance Monitoring Field Measurements

Well ID (LC34-)	Sample Date	pH (S.U.)	Temp. (ºC)	SC (µS/cm)	DO (mg/L)	Turb. (NTUs)	ORP (mV)
IW0057I	6/13/2007	7.67	24.31	2233	0.16	6.33	-145.9
	12/4/2007	7.83	21.03	2131	0.39	7.96	-150.9
	6/17/2008	7.61	25.85	2400	0.30	1.70	-148.1
	12/2/2008	8.00	22.07	2239	0.99	2.70	-261.8
	11/23/2009	7.64	23.74	1812	0.22	0.00	-166.4
	12/21/2010	8.00	22.76	2930	0.37	0.77	-145.8
	12/15/2011	7.74	23.80	1670	0.14	0.77	-143.7
	12/4/2012	7.71	24.05	1784	0.27	0.00	-67.5
	12/9/2014	7.71	23.18	2301	0.35	1.33	-146.7
	12/9/2016	7.87	23.74	1834	0.36	2.49	-153.5
	12/6/2018	8.72	24.49	1288	0.32	1.11	-0.4
	3/28/2019	7.65	23.64	4074	12.90	2.06	16.8
	7/10/2019	7.49	26.00	1431	0.11	5.59	-44.3
	10/10/2019	5.89	27.79	3745	0.78	2.15	26.5
	1/17/2020	7.33	21.20	2496	0.24	6.30	-170.0
	4/15/2020	7.13	26.56	2769	0.30	6.29	-104.7
	7/29/2020	7.26	28.57	2684	0.23	4.45	-97.1
	10/20/2020	7.12	29.06	3006	0.40	3.35	-98.7
	1/24/2021	6.85	25.60	3090	0.55	4.01	53.9
	4/30/2021	7.10	25.65	2931	0.66	1.43	211.0
	10/6/2021	7.27	28.05	3294	0.59	4.08	48.1
	4/12/2022	7.43	26.0	3346	0.43	0.46	57.2
	10/20/2022	7.08	25.7	3990	0.17	1.20	-74.5
	4/19/2023	6.78	24.8	4151	1.07	0.00	-58.6
	11/29/2023	6.99	24.69	5228.8	0.22	1.52	-98.4
IW0057S	6/13/2007	7.12	25.00	868	0.24	6.10	-83.9
	12/4/2007	7.30	21.43	920	0.48	6.15	-115.8
	6/17/2008	7.11	27.06	1050	0.31	1.40	89.8
	12/2/2008	7.41	21.70	1013	1.11	-4.40	-226.9
	11/23/2009	7.06	24.68	712	0.37	0.00	-57.0
	1/30/2017	7.02	23.54	2593	0.49	13.70	-40.1
	12/6/2018	7.98	24.70	1698	0.43	5.32	29.2
	3/28/2019	7.18	23.14	1637	0.15	18.20	-45.3
	7/10/2019	7.10	28.90	2020	0.24	5.61	143.2
	10/10/2019	5.71	28.89	3501	2.69	6.21	112.0
	1/17/2020	7.24	20.70	2069	1.18	7.56	-21.8
	4/15/2020	7.13	26.53	1808	2.26	2.31	-60.1
	7/29/2020	7.19	29.24	2265	1.33	6.33	-50.2
	10/20/2020	7.13	30.23	1666	2.64	1.42	-227.3
	1/24/2021	6.95	24.0	1941	2.48	1.34	73.2
	4/29/2021	7.21	27.4	1922	3.23	2.70	147.7
	10/6/2021	7.30	29.4	2039	1.08	0.51	-58.8
	4/12/2022	7.60	25.2	1644	3.32	0.17	98.6
	10/20/2022	7.12	26.7	1544	1.42	0.59	-67.5
	4/19/2023	6.80	25.2	1922	0.62	0.14	-135.0
	11/29/2023	7.12	24.64	2354	0.92	7.11	-17.4

Table 4-2. HS 6 Performance Monitoring Field Measurements (continued)

Well ID (LC34-)	Sample Date	pH (S.U.)	Temp. (ºC)	SC (µS/cm)	DO (mg/L)	Turb. (NTUs)	ORP (mV)
IW0108	6/12/2018	7.75	23.81	2646	0.22	1.55	-181.8
	10/17/2018	7.34	25.99	2420	1.10	19.09	-89.1
	1/18/2019	7.51	24.38	2462	1.37	7.62	0.7
	4/17/2019	7.36	24.72	2807	1.10	9.87	-60.1
	7/9/2019	7.41	26.20	3941	0.20	4.77	0.3
	10/9/2019	7.19	25.01	7576	3.93	11.42	87.3
	1/17/2020	7.29	20.90	3835	0.95	2.23	-81.1
	4/14/2020	7.24	26.80	2692	2.02	9.67	-55.0
	7/29/2020	7.23	25.28	3994	1.19	1.26	15.2
	10/20/2020	7.15	26.50	4022	2.42	5.19	132.8
	1/23/2021	6.80	23.1	3315	3.23	2.21	88.8
	4/29/2021	7.23	24.8	3525	1.54	6.37	209.4
	10/5/2021	7.41	26.0	3682	3.40	4.96	99.1
	4/12/2022	7.71	24.7	3731	3.52	0.05	89.3
	10/24/2022	7.46	24.9	4030	1.50	0.54	59.0
	4/20/2023	7.09	23.6	3960	5.08	0.00	-17.4
	11/28/2023	7.3	23.39	5434.2	2.98	4.19	28
IW0123	6/13/2018	7.48	24.46	952	0.39	3.57	-133.9
	10/17/2018	7.30	27.82	1636	0.59	5.93	115.9
	1/18/2019	7.15	24.54	2459	0.29	8.56	85.5
	4/17/2019	7.9	25.04	1948	0.48	7.39	-13.9
	7/11/2019	6.93	25.97	2353	0.10	4.07	125.5
	10/9/2019	6.86	25.55	5259	0.44	2.14	52.6
	1/16/2020	7.03	21.50	2362	0.20	4.57	-167.9
	4/15/2020	6.84	26.53	2222	0.53	2.84	-45.7
	7/30/2020	6.92	26.43	2201	0.18	9.90	81.2
	10/21/2020	6.92	28.09	2191	0.19	4.29	-113.0
	1/25/2021	6.76	25.1	2350	0.24	1.65	-39.3
	4/30/2021	7.05	25.8	1884	0.14	6.21	-65.4
	10/7/2021	7.25	27.8	2219	0.14	1.50	-31.4
	4/13/2022	7.49	25.0	2050	0.11	0.38	-84.5
	10/24/2022	7.16	26.2	2361	0.44	0.60	11.7
	4/20/2023	6.73	26.5	6220	0.10	0.35	-139.2
	11/29/2023	6.94	25.33	9928.4	0.18	18.56	-46.1
IW0124	6/13/2018	7.46	25.03	2528	0.32	11.41	-199.4
	10/17/2018	7.10	26.59	3437	1.48	19.99	93.9
	1/18/2019	7.28	23.76	1887	1.16	12.64	107.1
	4/17/2019	7.18	25.70	4449	0.53	9.55	70.2
	7/10/2019	6.92	26.67	4643	1.61	6.51	194.1
	10/10/2019	5.81	28.92	10247	2.30	5.24	90.7
	1/17/2020	7.10	21.50	3943	1.90	6.43	-122.8
	4/14/2020	6.86	26.65	3571	1.07	4.68	-26.9
	7/29/2020	7.05	26.26	4045	0.61	1.07	24.0
	10/20/2020	6.95	27.32	3223	4.96	2.36	117.7
	1/23/2021	6.65	23.5	3535	4.38	3.51	121.3
	4/29/2021	6.94	26.7	3656	3.96	4.18	189.6
	10/6/2021	7.15	27.6	3139	4.04	2.20	163.1
	4/12/2022	6.84	25.5	3943.7	5.74	1.20	162.9
	10/24/2022	7.27	25.9	2877	4.01	0.63	97.0
	4/20/2023	6.77	23.6	3322	5.03	1.06	13.2
	11/28/2023	7.11	23.15	3289.6	1.58	14.28	46.1

Table 4-2. HS 6 Performance Monitoring Field Measurements (continued)

Well ID (LC34-)	Sample Date	pH (S.U.)	Temp. (ºC)	SC (µS/cm)	DO (mg/L)	Turb. (NTUs)	ORP (mV)
IW0125	6/12/2018	7.28	23.82	8322	0.27	1.07	-130.8
	10/19/2018	7.34	25.95	7727	0.18	14.97	-101.9
	1/18/2019	7.26	23.86	580	0.19	5.25	-127.4
	4/17/2019	7.36	23.96	4357	0.16	8.41	-55.1
	7/9/2019	7.53	25.72	8892	0.09	6.47	-4.3
	10/8/2019	7.13	25.26	15459	0.32	2.46	-46.1
	1/16/2020	7.47	19.00	4383	0.51	11.20	-52.3
	4/13/2020	7.36	26.38	7657	0.15	5.63	-210.3
	7/28/2020	7.34	25.32	7319	0.20	4.09	-187.8
	10/19/2020	7.33	26.06	7333	0.20	2.41	-258.5
	1/23/2021	6.79	23.4	7663	0.09	5.37	-129.8
	4/28/2021	7.15	25.2	6618	1.35	6.76	-147.5
	10/5/2021	7.30	25.7	6276	0.09	4.51	-53.9
	4/12/2022	7.58	23.9	5670	0.08	0.42	-122.2
	10/24/2022	7.33	25.7	5686	0.24	1.05	-107.5
	4/18/2023	7.21	22.7	9033	0.83	0.65	-159.0
	11/28/2023	7.05	23.29	9280.8	0.18	0.61	-86.6
IW0126	6/13/2018	7.36	25.42	1385	0.23	1.50	-199.1
	10/17/2018	7.65	25.20	1394	0.07	6.98	-231.0
	1/18/2019	7.52	23.65	1190	0.09	7.62	-148.8
	4/17/2019	7.49	24.59	1447	0.04	4.52	-94.7
	7/11/2019	7.34	25.87	1711	0.11	1.08	-4.3
	10/9/2019	7.39	25.16	3216	2.02	3.65	-98.1
	1/17/2020	7.44	20.80	1952	0.10	10.20	-249.1
	4/15/2020	7.08	25.17	1936	0.28	3.33	-179.5
	7/30/2020	7.43	27.73	2336	0.26	5.85	-148.6
	10/21/2020	7.08	26.40	2077	0.13	4.34	-218.9
	1/25/2021	7.01	23.70	2341	0.07	0.89	-147.1
	4/30/2021	7.11	24.99	2016	0.11	3.25	-172.8
	10/8/2021	7.30	25.06	2028	0.08	1.12	-52.3
	4/13/2022	6.98	23.58	2705.7	0.05	1.04	45.1
	10/25/2022	7.36	24.40	2253	0.16	1.38	122.7
	4/20/2023	7.06	23.5	2222	0.13	0.46	-160.0
	11/30/2023	7.19	23.46	2414.8	0.13	15.7	-148.6
IW0127	6/13/2018	7.28	24.39	1643	0.42	3.07	-131.5
	10/17/2018	7.25	26.14	1771	0.60	13.27	6.9
	1/18/2019	7.20	24.16	153	1.53	8.66	74.0
	4/17/2019	7.10	25.30	2210	0.07	1.22	-3.8
	7/10/2019	6.96	26.32	2836	0.35	14.31	126.7
	10/9/2019	6.14	26.10	5513	0.96	6.13	132.4
	1/17/2020	6.95	21.10	2784	1.14	4.20	-84.6
	4/14/2020	6.94	26.46	2567	4.08	5.58	-9.7
	7/29/2020	6.95	26.23	2708	0.21	5.45	17.4
	10/20/2020	6.85	27.83	2662	1.55	2.34	-25.0
	1/24/2021	6.62	24.6	2688	2.22	3.74	85.9
	4/29/2021	6.90	26.2	2352	1.59	6.36	149.9
	10/6/2021	7.16	27.2	2265	2.50	5.65	142.0
	4/12/2022	6.80	25.78	2930.5	1.66	5.88	128.3
	10/24/2022	7.18	25.3	2130	0.55	2.88	42.0
	4/19/2023	6.78	24.8	2158	2.21	0.81	-99.5
	11/28/2023	7.1	23.52	2473	0.13	15.63	16.6

Table 4-2. HS 6 Performance Monitoring Field Measurements (continued)

Well ID (LC34-)	Sample Date	pH (S.U.)	Temp. (ºC)	SC (µS/cm)	DO (mg/L)	Turb. (NTUs)	ORP (mV)
IW0128	6/13/2018	7.44	24.33	2376	0.39	3.65	-146.4
	10/17/2018	7.32	27.32	2181	0.91	3.49	47.6
	1/18/2019	7.25	24.79	2169	1.40	16.50	74.6
	4/17/2019	7.15	24.87	2251	0.04	4.30	44.0
	7/10/2019	6.97	26.84	3014	0.89	4.67	181.3
	10/10/2019	6.12	28.20	5276	2.11	5.25	102.4
	1/17/2020	7.22	21.40	2885	2.40	8.20	-117.7
	4/14/2020	7.00	25.95	2233	0.76	2.70	-118.1
	7/29/2020	7.06	26.35	3070	1.31	8.90	-27.5
	10/20/2020	7.01	28.28	3027	3.82	4.38	-191.6
	1/24/2021	6.76	24.70	3122	3.83	2.45	-11.2
	4/29/2021	7.03	25.55	2838	3.20	6.52	157.7
	10/6/2021	7.26	27.06	2506	4.01	4.54	144.4
	4/12/2022	6.88	25.76	3196.2	3.07	1.32	149.0
	10/24/2022	7.30	25.5	3190	0.75	0.48	78.0
	4/19/2023	6.91	24.6	5902	6.54	0.00	-76.5
	11/28/2023	7.06	23.7	6158.3	0.44	13.17	41.9
IW0129	6/12/2018	7.37	23.65	5439	0.24	17.51	-147.6
	10/19/2018	7.26	25.88	5944	0.19	13.50	49.0
	1/18/2019	7.17	23.73	4474	0.24	10.29	51.2
	4/17/2019	7.08	24.16	6153	0.25	9.25	75.9
	7/9/2019	7.36	25.32	6081	0.09	5.57	46.7
	10/8/2019	7.02	25.48	10812	0.22	6.06	-28.2
	1/16/2020	7.18	20.10	5950	0.30	7.59	-146.7
	4/14/2020	7.14	24.31	5364	0.20	4.14	-149.7
	7/29/2020	7.19	24.41	5480	0.16	3.35	-76.7
	10/19/2020	7.33	26.10	5213	0.14	6.91	-179.2
	1/23/2021	6.77	22.9	5777	0.10	2.86	-87.1
	4/28/2021	7.17	25.9	4606	0.09	4.11	-92.5
	10/5/2021	7.28	26.2	4796	0.06	4.59	-66.9
	4/12/2022	6.99	23.91	5842.6	0.04	17.38	-38.1
	10/25/2022	7.37	24.1	5042	0.22	8.95	-110.0
	4/18/2023	7.25	23.85	6568	0.60	1.93	-110.0
	11/28/2023	7.09	22.44	8339.7	0.28	13.49	-62.3
IW0130	6/12/2018	7.50	23.78	5302	0.22	7.29	-167.6
	10/19/2018	7.39	24.97	5254	0.13	10.66	66.0
	1/18/2019	7.23	23.40	977	0.31	9.57	54.0
	4/17/2019	7.20	23.95	6472	0.18	14.62	67.9
	7/9/2019	7.43	25.48	6281	0.08	5.35	63.5
	10/8/2019	6.50	25.48	10843	0.21	5.08	-27.8
	1/16/2020	7.25	20.00	5984	0.09	6.33	-226.4
	4/14/2020	7.15	24.50	6218	0.13	1.37	-115.9
	7/29/2020	7.23	24.47	6057	0.14	4.43	-60.8
	10/19/2020	7.35	25.91	5475	0.13	3.91	-164.5
	1/23/2021	6.76	23.00	6796	0.08	1.88	-61.9
	4/28/2021	7.16	26.65	5703	0.11	8.97	-68.8
	10/5/2021	7.28	25.48	6391	0.05	3.34	-45.7
	4/12/2022	7.02	25.24	6926.6	0.05	8.83	-19.9
	10/25/2022	7.37	23.8	7083	0.22	1.03	-100.0
	4/18/2023	7.28	23.7	8461	0.54	0.76	-171.0
	11/28/2023	7.17	22.82	9346	0.13	6.52	-158.8

Table 4-2. HS 6 Performance Monitoring Field Measurements (continued)

Well ID (LC34-)	Sample Date	pH (S.U.)	Temp. (ºC)	SC (µS/cm)	DO (mg/L)	Turb. (NTUs)	ORP (mV)
IW0131	6/12/2018	7.22	24.00	5295	0.29	10.41	-154.6
	10/19/2018	7.23	26.76	5658	0.26	5.04	55.7
	1/18/2019	7.27	24.73	5420	0.38	8.00	44.9
	4/17/2019	7.16	25.29	6324	1.51	14.74	78.3
	7/9/2019	7.41	25.61	7832	0.14	4.94	85.3
	10/8/2019	7.13	26.19	13675	0.27	1.90	-9.0
	1/16/2020	7.24	19.50	4998	0.64	7.13	-161.0
	4/14/2020	7.18	24.08	7612	0.21	3.98	-67.4
	7/28/2020	7.35	26.10	8241	0.15	4.88	-129.0
	10/19/2020	7.36	26.51	7951	0.15	4.27	-153.5
	1/23/2021	6.77	22.50	8177	0.19	4.22	-57.5
	4/28/2021	7.24	24.87	6303	0.08	5.91	-74.4
	10/5/2021	7.36	25.80	6890	0.08	3.51	-30.6
	4/12/2022	7.62	23.3	6131.0	0.05	0.21	-70.8
	10/24/2022	7.37	24.9	6347	0.42	1.32	-81.0
	4/18/2023	7.35	22.92	6264	0.75	0.59	-113.0
	11/28/2023	7.12	23.18	8586.7	0.14	15.66	-51
IW0132	6/12/2018	7.31	24.41	4697	0.35	16.92	-143.6
	10/19/2018	7.10	26.66	6587	0.68	7.14	35.7
	1/18/2019	7.09	25.34	3976	0.61	4.53	-1.4
	4/17/2019	7.04	24.90	6782	0.37	9.87	40.9
	7/9/2019	7.25	26.02	7115	0.10	7.71	68.0
	10/8/2019	6.93	27.36	12988	0.22	6.67	-3.9
	1/16/2020	7.13	21.00	6261	0.24	10.11	-175.4
	4/13/2020	7.21	26.50	6517	0.14	4.86	-145.9
	7/28/2020	7.27	25.96	5322	0.12	2.02	-152.7
	10/19/2020	7.27	26.68	6774	0.10	4.47	-172.4
	1/23/2021	6.67	23.6	7192	0.18	4.99	-69.3
	4/28/2021	7.15	25.5	6058	0.14	5.88	-72.2
	10/5/2021	7.24	27.4	5738	0.08	6.77	-94.1
	4/12/2022	7.49	23.8	5241.0	0.07	0.40	-85.3
	10/24/2022	7.30	25.5	5173	0.19	1.04	-91.2
	4/18/2023	7.30	14.68	5142	0.66	0.62	-121.0
	11/28/2023	7.05	23.51	7368.8	0.17	14.31	-51.9
IW0133	6/12/2018	7.37	23.72	7797	0.23	1.18	-163.7
	10/19/2018	7.24	24.77	8499	0.14	14.31	13.1
	1/18/2019	7.18	24.21	4674	0.68	7.78	10.5
	4/17/2019	7.14	23.94	8587	0.40	6.92	6.3
	7/9/2019	7.39	25.27	8803	0.10	4.08	11.3
	10/8/2019	7.22	26.57	15558	8.41	4.77	-78.8
	1/16/2020	7.29	20.00	8158	0.17	1.17	32.1
	4/13/2020	7.50	26.15	7939	0.15	0.99	-201.2
	7/28/2020	7.37	25.39	5570	0.25	8.39	-173.4
	10/19/2020	7.36	25.82	7822	1.05	2.51	-202.0
	1/23/2021	6.69	23.30	8448	0.21	2.99	-113.8
	4/29/2021	7.16	24.40	5999	0.14	6.95	-131.8
	10/5/2021	7.27	26.54	7885	0.12	3.85	-48.7
	4/12/2022	7.02	24.37	10499	0.11	0.54	-40.7
	10/24/2022	7.36	25.0	7982	0.29	0.85	-108.0
	4/18/2023	7.36	22.23	7677	0.85	0.74	-210.0
	11/28/2023	7.16	22.84	10260	0.19	14.47	-85.6

Table 4-2. HS 6 Performance Monitoring Field Measurements (continued)

Well ID (LC34-)	Sample Date	pH (S.U.)	Temp. (ºC)	SC (µS/cm)	DO (mg/L)	Turb. (NTUs)	ORP (mV)
IW0134	3/27/2019	7.92	23.60	2459	0.22	8.38	-104.4
	7/11/2019	7.46	27.28	1538	0.06	7.39	11.2
	10/8/2019	6.96	27.86	3538	1.02	60.15	14.8
	1/17/2020	7.20	21.00	2173	0.35	14.20	-85.2
	4/15/2020	6.85	27.34	2461	0.34	2.81	-91.4
	7/30/2020	7.13	28.68	2942	0.13	2.71	16.1
	10/22/2020	6.96	29.34	2810	0.13	7.47	39.3
	1/25/2021	6.78	25.6	2697	0.28	3.56	7.9
	4/23/2021	7.33	22.4	2417	0.36	3.56	180.4
	10/8/2021	7.11	27.8	2578	0.24	7.36	4.2
	4/13/2022	6.84	25.50	2592.6	0.39	0.72	127.7
	10/25/2022	7.31	25.7	2515	0.49	1.95	-51.5
	4/18/2023	7.40	24.37	2597	0.55	0.71	-85.3
	11/29/2023	7.05	24.29	4154.5	0.18	16.76	-28.3
IW0135	3/27/2019	7.55	23.07	1887	0.16	9.06	-129.6
	7/11/2019	7.36	26.53	1632	0.08	3.69	52.4
	10/8/2019	6.98	26.83	3461	2.98	5.23	58.1
	1/16/2020	7.12	21.80	2157	0.23	7.01	-119.2
	4/15/2020	6.87	26.26	2133	0.35	7.99	-133.9
	7/30/2020	7.09	28.44	2148	0.29	6.97	-129.1
	10/22/2020	6.96	26.72	2199	0.15	5.80	-11.7
	1/25/2021	6.73	24.6	2291	0.37	2.60	8.0
	4/23/2021	7.29	22.0	1947	0.23	4.32	265.0
	10/7/2021	7.23	26.0	1632	0.09	2.32	102.7
	4/13/2022	6.75	25.40	2428.1	1.21	4.80	172.1
	10/25/2022	7.27	26.0	1888	0.71	0.78	-37.5
	4/20/2023	6.88	24.4	1846	0.10	0.15	-124.5
	11/29/2023	7.2	25.57	2355.6	5.58	6.67	90.7
IW0136	3/27/2019	8.36	26.50	1982	0.09	1.66	-202.3
	7/11/2019	7.42	29.10	2507	0.25	2.55	29.3
	10/8/2019	7.21	28.41	4643	0.27	1.36	59.4
	1/17/2020	7.25	22.30	2620	0.22	8.26	-239.9
	4/15/2020	7.04	29.18	2978	0.20	1.73	-70.0
	7/30/2020	7.08	30.62	2639	0.10	2.25	-77.2
	10/22/2020	7.00	31.77	3342	0.27	5.93	40.7
	1/25/2021	6.74	27.40	3566	0.89	4.66	60.0
	4/23/2021	7.26	24.00	3251	1.59	9.65	192.6
	10/8/2021	7.04	29.60	3622	2.00	0.40	124.4
	4/13/2022	6.75	28.09	4699.8	2.57	3.47	195.5
	10/25/2022	7.22	29.1	3455	0.80	0.98	-30.0
	4/19/2023	6.90	27.9	2629	0.29	0.45	-139.7
	11/28/2023	6.88	26.2	3640	2.72	0.39	96.8
IW0137	3/27/2019	7.92	22.90	657	0.22	8.46	-182.4
	7/11/2019	7.26	26.38	1739	0.19	3.58	61.3
	10/9/2019	7.19	25.83	4203	5.14	5.10	85.3
	1/16/2020	7.16	22.00	1965	0.89	58.70	-182.3
	4/16/2020	7.07	24.43	1238	2.16	4.27	40.4
	7/30/2020	7.09	27.94	2449	0.79	3.47	25.6
	10/22/2020	7.07	30.90	2559	1.28	5.36	57.5
	1/25/2021	6.88	24.90	2795	2.35	4.31	2.1
	4/23/2021	7.48	22.20	2749	4.19	5.61	187.6
	10/7/2021	7.46	27.00	2784	4.40	5.08	154.5
	4/13/2022	6.98	25.28	3642.2	5.50	2.64	210.4
	10/21/2022	7.45	24.5	1871	2.76	0.44	-32.0
	4/20/2023	7.10	25.3	2625	0.08	0.00	-166.5
	11/30/2023	7.07	25.1	2591	2.68	2.01	65.1

Table 4-2. HS 6 Performance Monitoring Field Measurements (continued)

Well ID (LC34-)	Sample Date	pH (S.U.)	Temp. (ºC)	SC (µS/cm)	DO (mg/L)	Turb. (NTUs)	ORP (mV)
IW0138	3/27/2019	8.12	23.40	1504	0.30	9.57	-136.0
	7/11/2019	7.33	26.73	2584	2.01	4.02	127.6
	10/9/2019	7.17	25.70	6125	6.79	6.82	92.1
	1/16/2020	7.38	22.50	3599	2.32	800	-191.3
	4/16/2020	7.36	24.61	3145	3.14	9.81	49.9
	7/30/2020	7.25	27.79	3368	5.14	5.03	60.4
	10/22/2020	7.15	28.99	3762	3.28	8.33	79.1
	1/25/2021	6.92	25.3	4016	2.39	5.28	69.0
	4/23/2021	7.59	22.6	3715	3.94	6.17	189.6
	10/7/2021	7.54	26.7	3459	4.91	3.25	154.9
	4/13/2022	7.84	25.2	3194.0	4.46	0.80	101.6
	10/21/2022	7.52	23.9	3456	2.69	1.23	-40.5
	4/20/2023	7.04	25.6	3590	0.13	2.66	-180.5
	11/30/2023	7.24	24.9	3772	1.85	4.52	47.9
IW0139	3/27/2019	7.80	22.90	1528	0.22	4.72	-174.9
	7/11/2019	7.02	27.46	2142	0.21	1.33	112.9
	10/10/2019	5.65	28.06	4536	5.26	1.09	159.1
	1/16/2020	7.12	20.80	2220	4.71	18.20	-170.4
	4/16/2020	7.01	23.76	2113	6.39	4.45	75.0
	7/30/2020	7.03	27.42	2226	3.19	4.20	83.4
	10/22/2020	6.95	30.33	2258	6.68	3.24	86.4
	1/24/2021	6.84	24.30	2304	6.98	3.88	107.5
	4/23/2021	7.44	22.10	2164	7.89	3.62	188.2
	10/8/2021	7.30	26.46	1828	6.60	2.11	168.2
	4/13/2022	7.68	24.1	1877.0	6.50	0.18	117.2
	10/21/2022	7.38	24.4	2124	4.86	1.02	-23.0
	4/18/2023	7.39	23.79	4031	4.60	0.04	-12.1
	11/30/2023	7.13	25.44	3217	2.23	5.38	30.6
IW0140	3/27/2019	8.93	23.30	1288	0.15	17.30	-220.6
	7/11/2019	7.26	26.49	2755	0.22	3.01	59.1
	10/10/2019	5.58	27.94	6554	1.88	18.80	118.4
	1/16/2020	7.35	21.00	3279	0.60	23.90	-49.2
	4/16/2020	7.25	24.13	2552	2.41	4.49	51.2
	7/30/2020	7.31	27.58	3233	0.61	2.83	-70.0
	10/22/2020	7.17	30.27	3249	2.72	5.54	50.0
	1/24/2021	6.98	24.4	3860	4.37	3.40	58.4
	4/23/2021	7.62	22.0	3704	5.82	5.17	186.8
	10/8/2021	7.43	26.9	3271	4.99	1.52	169.8
	4/13/2022	7.86	24.6	3140.0	4.17	1.30	112.2
	10/21/2022	7.50	24.7	3530	2.13	0.75	-59.0
	4/18/2023	7.40	23.6	3203	3.90	0.06	-11.1
	11/30/2023	7.09	25	4214	0.17	14.2	-12
IW0141	3/28/2019	7.54	24.25	1226	0.28	12.00	-132.9
	7/11/2019	7.05	26.52	2100	0.12	4.98	150.1
	10/10/2019	6.10	26.10	5511	1.62	8.20	133.2
	1/17/2020	7.16	21.60	3066	1.53	11.20	-201.6
	4/15/2020	7.08	26.63	2482	2.55	2.22	-26.1
	7/30/2020	7.11	27.69	2896	3.09	3.73	81.0
	10/21/2020	7.04	28.06	3593	3.39	3.06	160.6
	1/24/2021	6.93	25.70	4040	4.27	2.96	87.3
	4/29/2021	7.22	26.97	2996	3.69	1.46	161.0
	10/6/2021	7.45	26.94	3778	5.33	3.40	130.5
	4/13/2022	6.98	25.60	4842.1	5.12	0.84	218.7
	10/24/2022	7.40	25.6	4440	1.69	0.70	124.3
	4/19/2023	7.08	26.0	4766	7.08	0.07	-77.7
	11/30/2023	7.07	25.26	5196.1	0.33	4.93	-100.7

Table 4-2. HS 6 Performance Monitoring Field Measurements (continued)

Well ID (LC34-)	Sample Date	pH (S.U.)	Temp. (ºC)	SC (µS/cm)	DO (mg/L)	Turb. (NTUs)	ORP (mV)
IW0142	3/28/2019	7.64	23.72	1453	0.32	16.30	-134.6
	7/10/2019	7.30	26.57	2574	0.15	9.46	143.5
	10/10/2019	7.10	26.74	3515	1.72	2.27	129.9
	1/17/2020	7.43	21.50	3120	1.02	10.20	-161.0
	4/14/2020	7.48	26.62	1214	2.58	2.42	-27.1
	7/29/2020	7.38	27.14	3022	2.07	2.17	46.8
	10/20/2020	7.48	27.88	3549	4.61	2.25	9.0
	1/24/2021	7.12	24.7	3828	5.15	1.89	71.3
	4/29/2021	7.41	26.9	2947	4.28	3.05	166.3
	10/7/2021	7.66	26.0	3487	6.39	2.22	186.0
	4/13/2022	7.30	24.78	5070.0	7.42	3.14	216.7
	10/20/2022	7.53	25.4	3991	3.65	1.47	-41.5
	4/19/2023	7.26	24.7	4400	7.26	0.65	-81.5
	11/28/2023	7.32	24.03	4697	0.27	10.63	60.6
IW0143	3/27/2019	7.71	24.18	1855	0.26	11.73	-101.0
	7/11/2019	7.00	25.78	2020	1.19	3.55	133.6
	10/9/2019	7.06	26.04	4523	5.51	9.82	80.2
	1/16/2020	7.23	22.40	2310	3.89	8.26	-103.5
	4/15/2020	7.34	26.77	2434	5.18	16.50	-31.2
	7/29/2020	7.32	28.05	2596	3.81	6.92	50.3
	10/22/2020	7.14	29.50	2754	4.17	7.84	60.8
	1/25/2021	6.83	25.60	2853	4.19	2.22	107.8
	4/30/2021	7.12	26.05	2381	4.78	5.62	56.1
	10/7/2021	7.41	27.15	2515	7.06	1.93	163.1
	4/13/2022	6.92	25.62	3045.8	5.78	3.22	217.9
	10/25/2022	7.39	25.5	2830	3.70	1.21	24.7
	4/20/2023	6.91	27.0	2590.00	0.22	0.13	-129.5
	11/29/2023	7.2	25.16	4046.6	7.96	2.28	91.5
IW0144	3/27/2019	7.46	23.99	2149	0.14	4.53	-114.6
	7/10/2019	7.04	27.10	2627	0.15	5.19	80.3
	10/10/2019	5.85	28.19	5552	1.80	12.59	124.2
	1/16/2020	7.02	22.40	2890	0.94	20.90	-191.5
	4/15/2020	7.14	26.60	2869	1.05	6.91	-28.0
	7/30/2020	6.98	27.48	2892	0.53	4.66	82.7
	10/21/2020	6.91	28.97	2580	1.86	7.56	-30.9
	1/24/2021	6.70	25.10	2823	1.65	5.86	85.0
	4/30/2021	7.06	26.84	2436	1.88	3.13	155.7
	10/7/2021	7.28	27.01	2391	1.53	1.71	168.8
	4/13/2022	7.62	25.3	2174.0	3.25	0.90	108.4
	10/24/2022	7.32	26.30	2384	1.67	1.22	66.5
	4/20/2023	6.91	25.50	3990	4.98	2.17	-28.5
	11/29/2023	7.05	25.97	4078.7	0.21	16.04	230.8
IW0145	3/27/2019	7.82	24.07	1418	0.29	2.67	-113.1
	7/10/2019	7.61	26.31	2066	0.09	3.65	-82.9
	10/10/2019	5.68	28.37	5175	0.56	19.9	-171.2
	1/16/2020	7.23	22.30	3055	0.50	20.10	-202.2
	4/15/2020	7.16	26.45	3637	0.39	1.81	-106.8
	7/30/2020	7.03	26.90	3884	0.20	4.42	36.9
	10/21/2020	6.92	28.19	4196	0.38	4.31	-126.5
	1/24/2021	6.66	25.00	4415	0.43	2.21	-8.7
	4/30/2021	7.00	26.42	3899	0.39	7.27	-27.6
	10/7/2021	7.23	26.64	3746	0.25	3.75	-0.4
	4/13/2022	7.50	25.3	2922.0	0.89	0.15	7.7
	10/24/2022	7.31	26.6	2977	0.98	0.65	-20.0
	4/20/2023	6.92	26.9	2989	1.40	0.00	-106.5
	11/29/2023	7.09	25.36	3827.4	0.19	15.75	-140.4

Table 4-2. HS 6 Performance Monitoring Field Measurements (continued)

Well ID (LC34-)	Sample Date	pH (S.U.)	Temp. (ºC)	SC (µS/cm)	DO (mg/L)	Turb. (NTUs)	ORP (mV)
IW0146	3/27/2019	7.42	22.89	1657	0.21	3.12	-124.9
	7/10/2019	7.18	25.98	2168	0.80	4.55	87.3
	10/10/2019	5.43	28.24	6303	4.48	10.26	56.7
	1/17/2020	7.44	21.40	3030	4.50	4.28	-433.8
	4/16/2020	7.23	23.89	2675	5.98	8.17	39.4
	7/29/2020	7.39	28.07	2708	6.47	6.33	21.9
	10/21/2020	7.21	28.70	2701	7.62	4.63	-3.6
	1/25/2021	7.01	24.70	2759	5.95	1.77	107.3
	4/30/2021	7.30	25.18	2577	7.79	2.49	191.7
	10/7/2021	7.51	27.21	1921	7.92	1.01	156.4
	4/13/2022	7.91	24.1	1804.0	7.43	0.14	143.5
	10/21/2022	7.57	25.5	2383	5.67	0.54	-40.5
	4/19/2023	7.16	26.4	2890	8.09	0.00	-97.1
	11/29/2023	7.28	25.07	3085.3	1.2	13.63	194.6
IW0147	3/27/2019	8.26	23.23	1391	0.23	6.48	-156.9
	7/10/2019	7.27	26.37	2291	0.23	6.46	102.4
	10/10/2019	5.43	28.24	6303	4.48	9.26	56.7
	1/17/2020	7.28	21.30	259	4.62	4.21	-173.0
	4/16/2020	7.57	24.01	2205	5.90	5.83	36.8
	7/29/2020	7.52	27.43	3150	5.27	3.86	40.0
	10/21/2020	7.44	28.37	3080	6.86	6.71	5.5
	1/24/2021	7.09	24.6	3321	6.22	3.33	90.9
	4/30/2021	7.44	25.8	1923	6.42	4.10	189.7
	10/7/2021	7.64	27.5	3266	7.55	1.08	127.0
	4/13/2022	7.96	24.3	2729.0	6.54	0.37	139.9
	10/21/2022	7.57	25.3	3345	3.05	0.72	-59.0
	4/19/2023	7.26	25.7	3360	8.35	0.46	-102.0
	11/29/2023	7.3	24.89	3865.2	0.38	11.05	82.2
IW0168	7/10/2023	7.09	28.0	744	0.22	6.78	-63.0
	11/28/2023	7.40	24.2	858	0.18	2.37	-177.4
	2/15/2024	7.03	23.8	1587	0.15	16.20	-78.5
IW0169	7/10/2023	7.81	27.6	1691	0.06	5.21	-255.4
	11/28/2023	7.25	24.0	2391	0.06	3.33	-316.6
	2/15/2024	7.08	24.0	1953	0.06	10.70	-322.9
IW0170	7/10/2023	6.81	25.6	3156	0.16	2.59	-13.0
	11/28/2023	6.98	24.1	3464	0.12	8.44	-103.2
	2/14/2024	6.93	23.6	2757	0.22	7.34	-53.4
IW0171	7/10/2023	7.49	26.3	1784	0.13	9.20	-117.7
	11/28/2023	7.22	23.1	2661	1.51	4.58	20.3
	2/14/2024	7.28	22.5	2465	1.55	4.26	13.2
IW0172	7/10/2023	7.08	26.1	899	0.14	3.04	-36.2
	11/28/2023	7.06	24.2	1607	0.32	8.98	-78.2
	2/15/2024	7.03	24.1	1260	1.39	9.61	-137.5
IW0173	7/10/2023	7.46	26.5	1862	0.12	1.21	-162.8
	11/28/2023	7.32	23.1	2644	0.68	9.73	-17.8
	2/15/2024	7.26	24.2	2466	1.45	7.10	-82.7
IW0174	7/10/2023	6.53	26.3	2014	0.19	1.24	-35.3
	11/28/2023	7.07	24.1	1682	0.16	0.04	-128.3
	2/14/2024	6.98	24.5	1818	0.08	2.19	-126
IW0175	7/10/2023	7.12	26.1	2095	0.21	2.91	-140.6
	11/28/2023	7.29	23.7	2760	0.87	0.70	-44.8
	2/14/2024	7.25	24.8	2623	1.32	4.28	-34.0
IW0176	7/10/2023	6.86	26.9	5224	0.08	2.07	-21.5
	11/29/2023	7.06	24.27	6291.2	0.17	7.98	-79.3
	2/15/2024	6.92	24.3	3882	0.23	6.13	-72.4

Table 4-2. HS 6 Performance Monitoring Field Measurements (continued)

Well ID (LC34-)	Sample Date	pH (S.U.)	Temp. (ºC)	SC (µS/cm)	DO (mg/L)	Turb. (NTUs)	ORP (mV)
IW0177	7/10/2023	6.65	27.3	3407	0.35	6.80	-4.8
	11/28/2023	6.97	24.7	2681	0.21	6.95	-136.2
	2/15/2024	6.87	24.6	2041	0.56	4.15	-90.6
IW0178	7/10/2023	6.92	25.9	1260	0.19	1.79	-47.1
	11/28/2023	7.25	24.2	1487	0.30	0.02	-167.6
	2/15/2024	7.13	23.8	144	0.27	0.47	-221.9
IW0179	7/10/2023	7.00	27.7	758	0.09	2.09	-56.9
	11/29/2023	7.19	24.9	1368	0.17	10.20	-16.9
	2/14/2024	7.09	24.3	1266	1.07	13.20	3.1
IW0180	7/10/2023	7.52	28.2	1412	0.09	1.98	-79.2
	11/29/2023	7.66	24.3	1856	0.02	1.08	-175.5
	2/14/2024	7.54	24.3	1887	0.08	4.41	-203.4
IW0181	7/10/2023	7.06	27.0	587	0.13	5.96	-63.0
	11/29/2023	7.17	24.4	829	0.11	1.88	-51.0
	2/14/2024	7.08	24.1	831	0.36	1.81	-34.2
IW0182	7/10/2023	7.54	26.9	1067	0.13	2.67	-46.3
	11/29/2023	7.81	24.2	1235	0.08	12.8	-182.3
	2/14/2024	7.71	24.3	1126	0.02	1.79	-179.4
IW0183	7/10/2023	6.92	26.8	712	0.09	5.03	-43.2
	11/29/2023	7.17	24.9	1309	0.30	6.56	-16.5
	2/14/2024	7.16	25.0	1509	2.19	3.59	6.5
IW0184	7/10/2023	7.55	27.1	988	0.09	4.80	-45.6
	11/29/2023	7.59	24.8	1465	0.10	1.78	-158.5
	2/14/2024	7.51	24.9	1422	0.05	8.77	-164.5
IW0185	7/10/2023	6.94	27.9	699	0.09	4.97	-27.6
	11/29/2023	7.22	25.5	774	0.04	3.60	-129.1
	2/14/2024	7.09	24.3	691	0.09	7.85	-58.9
IW0186	7/10/2023	7.12	28.5	775	0.10	6.14	-115.0
	11/29/2023	7.13	25.5	1061	0.05	9.37	-58.3
	2/14/2024	7.15	23.9	824	0.45	10.80	-35.0
IW0187	7/10/2023	7.36	26.1	1000	0.08	6.22	-135.7
	11/29/2023	7.29	25.1	2505	0.02	5.36	-165.7
	2/15/2024	7.16	23.6	2266	0.05	2.77	-164.2
IW0188	7/10/2023	7.35	27.1	3032	0.08	4.78	-150.2
	11/29/2023	7.48	24.9	2314	0.16	1.50	-190.8
	2/15/2024	7.31	24.1	1964	0.04	2.83	-184.7
SW1001	6/13/2018	8.33	30.22	1834	5.26	1.71	-26.2
	10/19/2018	NM	NM	NM	NM	NM	NM
	1/14/2019	7.83	20.90	2429	7.96	2.65	67.7
	4/17/2019	8.68	30.62	1845	15.88	44.18	9.4
	7/11/2019	7.42	30.81	2000	6.72	2.38	166.8
	10/8/2019	7.71	29.84	5228	7.51	12.96	97.4
	1/17/2020	7.85	19.90	1916	5.74	10.20	821.0
	4/16/2020	7.50	21.70	1757	3.23	0.21	-2.0
	7/30/2020	7.27	34.18	2244	3.79	2.80	-88.9
	10/22/2020	7.08	28.03	1958	1.23	5.64	-27.5
	1/25/2021	7.39	21.70	1856	3.50	2.46	-44.3
	4/28/2021	7.50	27.86	1669	2.56	9.24	-180.1
	10/8/2021	7.59	29.54	1915	5.66	10.60	-4.4
	4/13/2022	NM	23.09	2268.8	1.45	0.26	192.2
	10/25/2022	7.76	28.20	2335	3.5	15.5	-4.5
	4/21/2023	7.51	25.50	2680	2.04	1.78	-118.0
	11/30/2023	7.63	19.4	2286.2	6.79	2.23	-25.4

Table 4-2. HS 6 Performance Monitoring Field Measurements (continued)

Well ID (LC34-)	Sample Date	pH (S.U.)	Temp. (ºC)	SC (µS/cm)	DO (mg/L)	Turb. (NTUs)	ORP (mV)
SW1002	6/13/2018	7.32	27.39	1943	1.50	10.99	-68.3
	10/19/2018	NM	NM	NM	NM	NM	NM
	1/18/2019	7.77	24.07	1907	3.97	48.29	52.5
	4/17/2019	8.54	30.03	1978	10.66	69.45	-2.3
	7/11/2019	7.51	30.81	1940	8.35	2.22	178.1
	10/8/2019	7.67	30.47	2318	7.12	10.27	37.9
	1/17/2020	7.79	18.20	1802	6.36	14.30	39.4
	4/16/2020	7.41	20.71	1640	3.23	12.97	-64.5
	7/30/2020	7.48	36.24	2302	8.67	0.92	-78.7
	10/22/2020	7.11	27.59	2026	1.07	2.92	-73.0
	1/25/2021	7.33	22.10	1850	2.98	2.48	-89.6
	4/28/2021	7.58	29.21	1473	8.93	19.21	-76.9
	10/8/2021	7.57	30.01	1766	5.26	3.53	84.1
	4/14/2022	7.12	23.4	2174.3	2.77	0.61	186.3
	10/25/2022	7.66	28	2095	4.35	15	26
	4/21/2023	7.28	25	2024	1.58	1.47	-128
	11/30/2023	7.74	20	2332.5	9.13	0.79	14.1
SW1004	6/13/2018	7.45	28.55	2586	0.31	19.18	-253.6
	10/19/2018	NM	NM	NM	NM	NM	NM
	1/18/2019	7.85	23.64	4074	12.90	1744.70	16.8
	4/17/2019	8.95	33.32	4074	12.90	265.46	16.8
	7/11/2019	7.06	32.72	2810	6.52	2.62	141.8
	10/8/2019	7.50	29.36	7168	8.13	12.51	77.4
	1/17/2020	7.81	19.30	1832	6.03	19.80	19.2
	4/16/2020	7.64	20.78	2552	5.44	6.43	-128.6
	7/30/2020	7.55	36.66	2462	16.73	2.39	-141.3
	10/22/2020	7.43	27.66	1562	4.55	0.35	186.1
	1/25/2021	7.32	26.70	2881	11.10	3.01	21.7
	4/28/2021	8.41	32.68	2157	8.58	3.01	26.1
	10/8/2021	7.77	30.39	1975	9.45	6.17	91.5
	4/14/2022	6.81	23.58	2207.4	3.74	0.86	235.8
	10/25/2022	7.9	28.6	1733	3.93	17	-21.5
	4/21/2023	7.9	22.4	3548	5.45	2.53	-94.8
	11/30/2023	8.3	18.5	2147	10.95	0	-63.9

Note:

SC = Specific conductance in microSiemens per centimeter (µS/cm)
S.U. = pH in standard units
DO = Dissolved oxygen in milligrams per liter (in mg/L)
Turb. = Turbidity in nephelometric turbidity units (NTUs)
ORP = Oxidation/reduction potential in millivolts (mV)
NM = Not measured

Table 4-3. HS 6 Water Level Measurements

Northing (meters)	Easting (meters)	Well ID	Screen Interval (feet)		Ground Surface Elevation (feet)	T.O.C. Elevation (feet)	June 26, 2023		April 17, 2023		November 27, 2023		February 14, 2024	
			Top Depth	Bottom Depth			Depth to Water (feet below T.O.C.)	Groundwater Elevation (feet)	Depth to Water (feet below T.O.C.)	Groundwater Elevation (feet)	Depth to Water (feet below T.O.C.)	Groundwater Elevation (feet)	Depth to Water (feet below T.O.C.)	Groundwater Elevation (feet)
Layer 1 (0 to 20 feet bls)														
463610.05	242969.59	LC34-IW0057S	1	11	6.83	10.30	NA	NA	8.42	1.88	6.76	3.54	NA	NA
463641.41	243062.27	LC34-IW0124	13	23	5.20	5.26	NA	NA	3.35	1.91	2.10	3.16	NA	NA
463647.46	243156.43	LC34-IW0125	13	23	4.40	4.14	NA	NA	2.15	1.99	1.12	3.02	NA	NA
463574.96	243008.38	LC34-IW0128	13	23	4.47	4.47	NA	NA	2.66	1.81	1.49	2.98	NA	NA
463530.38	243066.53	LC34-IW0129	13	23	5.66	5.87	NA	NA	3.86	2.01	2.86	3.01	NA	NA
463577.98	243102.25	LC34-IW0131	13	23	5.68	5.21	NA	NA	3.20	2.01	2.22	2.99	NA	NA
463599.74	243122.64	LC34-IW0132	13	23	5.21	5.24	NA	NA	3.26	1.98	2.24	3.00	NA	NA
463569.48	243167.72	LC34-IW0133	13	23	4.06	4.75	NA	NA	2.92	1.83	1.71	3.04	NA	NA
463635.41	242890.37	LC34-IW0139	13	23	4.72	4.72	NA	NA	2.58	2.14	0.71	4.01	NA	NA
463658.77	243007.20	LC34-IW0146	13	23	7.05	7.17	NA	NA	3.35	3.82	3.69	3.48	NA	NA
463803.29	243002.75	LC34-IW0174	16	21	6.37	5.97	2.66	3.31	NA	NA	2.31	3.66	3.17	2.80
463792.11	243034.02	LC34-IW0176	16	21	7.35	7.20	4.01	3.19	NA	NA	3.61	3.59	4.45	2.75
463781.54	242955.16	LC34-IW0177	16	21	4.98	4.78	1.30	3.48	NA	NA	1.03	3.75	1.81	2.97
463867.50	242934.08	LC34-IW0178	16	21	4.65	4.49	1.00	3.49	NA	NA	0.65	3.84	1.54	2.95
463939.93	242876.04	LC34-IW0185	16	21	5.35	5.22	1.63	3.59	NA	NA	1.31	3.91	2.15	3.07
463991.19	242776.96	LC34-IW0186	16	21	5.32	5.10	1.45	3.65	NA	NA	1.08	4.02	1.82	3.28
463946.67	242691.69	LC34-IW0187	16	21	6.33	6.30	2.59	3.71	NA	NA	2.19	4.11	2.89	3.41
463865.63	242662.60	LC34-IW0188	16	21	8.10	7.91	NA	NA	NA	NA	3.76	4.15	4.44	3.47
463838.96	242853.72	LC34-IW0168	17	27	5.67	5.33	1.63	3.70	NA	NA	1.37	3.96	2.25	3.08
463829.75	242898.90	LC34-IW0170	17	27	5.20	4.92	1.33	3.59	NA	NA	1.05	3.87	1.65	3.27
463822.94	242953.17	LC34-IW0172	17	27	4.89	4.60	1.16	3.44	NA	NA	0.86	3.74	1.75	2.85
463885.61	242815.58	LC34-IW0179	17	27	5.39	5.27	1.52	3.75	NA	NA	1.28	3.99	2.11	3.16
463904.00	242738.18	LC34-IW0181	17	27	7.61	7.47	3.69	3.78	NA	NA	3.4	4.07	4.20	3.27
463933.50	242786.15	LC34-IW0183	17	27	8.11	7.88	4.10	3.78	NA	NA	3.85	4.03	4.65	3.23
Layer 2 (25 to 30 feet bls)														
463710.63	243096.40	LC34-IW0108	20	28	5.04	7.68	NA	NA	5.83	1.85	4.42	3.26	NA	NA
463726.56	242980.95	LC34-IW0123	20	28	7.50	7.42	NA	NA	5.47	1.95	3.69	3.73	NA	NA
463549.56	242824.03	LC34-IW0126	20	28	5.00	4.63	NA	NA	2.20	2.43	0.39	4.24	NA	NA
463510.50	242915.04	LC34-IW0127	20	28	6.39	6.90	NA	NA	4.51	2.39	3.10	3.80	NA	NA
463529.47	243066.15	LC34-IW0130	20	28	5.66	5.75	NA	NA	3.74	2.01	2.73	3.02	NA	NA
463643.26	242806.01	LC34-IW0134	20	28	5.09	5.09	NA	NA	2.82	2.27	0.93	4.16	NA	NA
463708.97	242848.26	LC34-IW0135	20	28	6.01	6.01	NA	NA	3.83	2.18	1.96	4.05	NA	NA
463752.62	242900.08	LC34-IW0136	20	28	7.35	7.35	NA	NA	5.25	2.10	3.45	3.90	NA	NA
463677.77	242864.53	LC34-IW0137	20	28	7.15	7.15	NA	NA	5.02	2.13	3.15	4.00	NA	NA
463633.75	242890.51	LC34-IW0140	20	28	4.79	4.79	NA	NA	2.61	2.18	0.80	3.99	NA	NA
463591.70	242917.98	LC34-IW0141	20	28	6.38	6.13	NA	NA	4.07	2.06	2.29	3.84	NA	NA
463561.97	242952.41	LC34-IW0142	20	28	5.95	6.34	NA	NA	4.30	2.04	2.78	3.56	NA	NA
463713.07	242947.09	LC34-IW0143	20	28	5.15	5.15	NA	NA	3.18	1.97	1.36	3.79	NA	NA
463682.62	242973.76	LC34-IW0144	20	28	8.25	8.22	NA	NA	6.37	1.85	4.53	3.69	NA	NA
463658.28	243005.65	LC34-IW0147	20	28	7.31	7.34	NA	NA	3.54	3.80	3.81	3.53	NA	NA
463610.04	242969.11	LC34-IW0057I	23	28	7.02	10.31	NA	NA	8.45	1.86	6.76	3.55	NA	NA
463677.99	242862.93	LC34-IW0138	29	34	7.15	7.15	NA	NA	5.03	2.12	3.18	3.97	NA	NA

Table 4-3. HS 6 Water Level Measurements (continued)

Northing (meters)	Easting (meters)	Well ID	Screen Interval (feet)		Ground Surface Elevation (feet)	T.O.C. Elevation (feet)	June 26, 2023		April 17, 2023		November 27, 2023		February 14, 2024	
			Top Depth	Bottom Depth			Depth to Water (feet below T.O.C.)	Groundwater Elevation (feet)	Depth to Water (feet below T.O.C.)	Groundwater Elevation (feet)	Depth to Water (feet below T.O.C.)	Groundwater Elevation (feet)	Depth to Water (feet below T.O.C.)	Groundwater Elevation (feet)
463683.01	242971.70	LC34-IW0145	29	34	8.01	8.38	NA	NA	6.50	1.88	4.66	3.72	NA	NA
463837.28	242853.54	LC34-IW0169	30	35	5.7	5.44	1.74	3.70	NA	NA	1.52	3.92	2.39	3.05
463829.81	242897.77	LC34-IW0171	30	35	5.2	5.01	1.39	3.62	NA	NA	1.15	3.86	2.01	3.00
463822.81	242952.01	LC34-IW0173	30	35	4.9	4.62	1.08	3.54	NA	NA	0.88	3.74	1.79	2.83
463802.34	243003.46	LC34-IW0175	30	35	6.4	6.39	3.03	3.36	NA	NA	2.76	3.63	3.64	2.75
463885.12	242814.24	LC34-IW0180	30	35	5.4	5.27	1.52	3.75	NA	NA	1.28	3.99	2.09	3.18
463904.77	242736.36	LC34-IW0182	30	35	7.6	7.39	3.59	3.80	NA	NA	3.32	4.07	4.09	3.30
463933.38	242787.81	LC34-IW0184	30	35	8.1	7.85	4.07	3.78	NA	NA	3.81	4.04	4.63	3.22

Notes:

- Water level reading for IW0188 in June 2023 was not recorded because of a data logger error
- Wells IW0166 - IW0188 were installed for performance monitoring of the the HS 6 Phase Two expansion and were gauged in June (baseline), November, and February; all other wells were gauged in April/November 2023
- Elevation is relative to the North American Vertical Datum of 1988 (NAVD88)

bls = Below land surface
NA = Not applicable
T.O.C. = Top of casing

Table 4-4. HS 6 Groundwater Performance Monitoring Results

Well ID (LC34-) [Screened Interval]	Sample Date	TCE	cDCE	tDCE	VC
IW0057S [1-11]	30-Jan-17	1.0 U	23	1.0 U	**29**
	06-Dec-18	0.35 U	62.7	5.1	**54.9**
	28-Mar-19	3.0 U	63	3.0 U	**73**
	10-Jul-19	3.5 U	**488**	6.2 I	4.1 U
	10-Oct-19	1.7 U	**375**	3.9 I	2 U
	17-Jan-20	0.35 U	**93.1**	1.1 I	**1.5 I**
	15-Apr-20	0.35 U	20	0.27 I	0.41 U
	29-Jul-20	0.35 U	7.2	0.22 U	0.41 U
	20-Oct-20	0.35 U	2.0	0.22 U	0.41 U
	24-Jan-21	0.35 U	1.5	0.22 U	0.41 U
	29-Apr-21	0.35 U	0.43 I	0.22 U	0.41 U
	06-Oct-21	0.89 U	0.57 I	0.73 U	0.71 U
	12-Apr-22	0.89 U	0.53 U	0.73 U	0.71 U
	20-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
	19-Apr-23	0.15 U	0.27 I	0.50 U	0.50 U
	29-Nov-23	0.89 U	0.53 U	0.73 U	0.71 U
IW0057I [23-28]	21-Dec-10	5.2 U	**1120**	7.5 I	**264**
	15-Dec-11	20 UD	**2900 D**	37 D	**370 D**
	04-Dec-12	5.0 U	**4300**	**310**	**1200**
	9-Dec-14	60 U	**9430**	**170 I**	**2280**
	9-Dec-16	27 U	**6930**	**131**	**2090**
	6-Dec-18	0.35 U	**13500 LV**	**271**	**4430**
	28-Mar-19	40 U	**15400**	**330**	**5900**
	10-Jul-19	17 U	**5630**	**143**	**2840**
	10-Oct-19	8.6 U	**2310**	82.1	**857**
	17-Jan-20	1.7 U	**270**	29.4	**317**
	15-Apr-20	0.35 U	37.7	14.5	**101**
	29-Jul-20	0.35 U	26.9	13.7	**120**
	20-Oct-20	0.35 U	14.1	5.9	**19.5**
	24-Jan-21	0.35 U	9.8	4.1	**12.9**
	30-Apr-21	0.35 U	11	3.5	**7.1**
	06-Oct-21	0.89 U	6.2	1.8 I	**2.6**
	12-Apr-22	0.89 U	4.0	1.2 I	**2.2 I**
	20-Oct-22	0.79 U	4.4	1.4	**1.7 I**
	19-Apr-23	0.15 U	1.8	0.50 U	0.50 U
	29-Nov-23	0.89 U	9.2	1.0	**7.6**

Table 4-4. HS 6 Groundwater Performance Monitoring Results (continued)

Well ID (LC34-) [Screened Interval]	Sample Date	TCE	cDCE	tDCE	VC
IW0108 [20-28]	22-Dec-10	0.52 U	**137**	0.7 U	**3.5**
	13-Dec-11	1 U	**96**	1 U	**110**
	04-Dec-12	0.5 U	36	0.44 U	**230**
	10-Dec-14	0.76 U	**215**	0.86 I	**145**
	15-Dec-16	1.4 U	4.2 I	1.7 U	**320**
	12-Jun-18	0.35 U	0.88 I	0.45 I	**306**
	17-Oct-18	1.0 U	1.0	1.0 U	1.0
	14-Jan-19	0.35 U	0.36 I	0.22 U	0.41 U
	17-Apr-19	1.0 U	1.0	1.0 U	**3.0**
	9-Jul-19	0.35 U	0.48 I	0.22 U	0.56 I
	9-Oct-19	0.35 U	0.28 U	0.22 U	0.41 U
	17-Jan-20	0.35 U	0.28 U	0.22 U	0.41 U
	13-Apr-20	0.35 U	0.28 U	0.22 U	0.41 U
	29-Jul-20	0.35 U	0.28 U	0.22 U	0.41 U
	20-Oct-20	0.35 U	0.28 U	0.22 U	0.41 U
	23-Jan-21	0.35 U	1.2	0.22 U	0.41 U
	29-Apr-21	0.35 U	0.28 U	0.22 U	0.41 U
	5-Oct-21	0.89 U	0.53 U	0.73 U	0.71 U
	12-Apr-22	0.89 U	0.53 U	0.73 U	0.71 U
	24-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
	20-Apr-23	0.15 U	0.20 U	0.50 U	0.50 U
	28-Nov-23	0.89 U	0.53 U	0.73 U	0.71 U
IW0123 [20-28]	13-Jun-18	17 U	**4530**	63.6	**1000**
	17-Oct-18	3.0	**1200**	38	**130**
	14-Jan-19	3.5 U	**928**	20	**60.8**
	17-Apr-19	20 U	**710**	25	**200**
	11-Jul-19	1.7 U	**355**	17.6	**116**
	9-Oct-19	0.35 U	**137**	11.1	**35.9**
	16-Jan-20	0.69 U	**146**	8.0	**38.8**
	15-Apr-20	1.7 U	**258**	8.9	**51**
	30-Jul-20	1.7 U	**275**	8.8	**95.3**
	21-Oct-20	0.86 U	**213**	6.9	**67.4**
	25-Jan-21	0.69 U	**139**	4.4	**42.9**
	30-Apr-21	0.69 U	**90.7**	3.0	**25.5**
	7-Oct-21	0.89 U	**97**	2.4 I	**28**
	13-Apr-22	0.89 U	35	0.73 U	**10**
	24-Oct-22	0.79 U	32	0.95 U	**2.8**
	20-Apr-23	0.15 U	22	0.50 U	**5.3**
	29-Nov-23	0.89 U	17	0.73 U	**1.8**

Table 4-4. HS 6 Groundwater Performance Monitoring Results (continued)

Well ID (LC34-) [Screened Interval]	Sample Date	TCE	cDCE	tDCE	VC
IW0124 [13-23]	13-Jun-18	0.35 U	**74.6**	35.4	**1280**
	17-Oct-18	3.0 U	10	3 U	**4.0**
	14-Jan-19	0.35 U	0.56 I	0.88 I	0.67 I
	17-Apr-19	1.0 U	1.0 U	2.0	**5.0**
	10-Jul-19	0.35 U	0.60 I	2.1	**2.6**
	10-Oct-19	0.35 U	0.28 U	0.98 I	0.83 I
	17-Jan-20	0.35 U	0.44 I	1.0 I	0.79 I
	13-Apr-20	0.35 U	0.28 U	0.96 I	1.4
	29-Jul-20	0.35 U	0.49 I	1.3	**3.2**
	20-Oct-20	0.35 U	0.28 U	0.58 I	0.41 I
	23-Jan-21	0.35 U	0.28 U	0.27 I	0.41 U
	29-Apr-21	0.35 U	0.28 U	0.22 U	0.41 U
	6-Oct-21	0.89 U	0.53 U	0.73 U	0.71 U
	12-Apr-22	0.89 U	0.53 U	0.73 U	0.71 U
	24-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
	20-Apr-23	0.15 U	0.20 U	0.50 U	0.50 U
	28-Nov-23	0.89 U	0.53 U	0.73 U	0.71 U
IW0125 [13-23]	12-Jun-18	0.35 U	5.0	4.3	**2.4**
	19-Oct-18	**4.0**	4.0	1.0 U	1.0 U
	14-Jan-19	0.35 U	3.4	2.4	1.4
	17-Apr-19	1.0 U	4.0	2.0	1.0
	9-Jul-19	0.35 U	3.7	2.3	**1.7**
	8-Oct-19	0.35 U	3.0	1.5	**2.4**
	16-Jan-20	0.35 U	3.6	0.91 I	1.4
	13-Apr-20	0.35 U	2.3	0.37 I	**3.3**
	28-Jul-20	0.35 U	2.3	0.52 I	**3.9**
	19-Oct-20	0.35 U	1.4	0.22 U	**3.6**
	23-Jan-21	0.35 U	2.0	0.32 I	**3.2**
	28-Apr-21	0.35 U	3.6	0.22 U	**3.6**
	5-Oct-21	0.89 U	2.1 I	0.73 U	**2.9**
	12-Apr-22	0.89 U	2.3 I	0.73 U	**2.2 I**
	24-Oct-22	0.79 U	1.1	0.95 U	1.4 I
	18-Apr-23	0.15 U	0.31 I	0.50 U	0.50 I
	28-Nov-23	0.89 U	0.55 I	0.73 U	0.71 U

Table 4-4. HS 6 Groundwater Performance Monitoring Results (continued)

Well ID (LC34-) [Screened Interval]	Sample Date	TCE	cDCE	tDCE	VC
IW0126 [20-28]	13-Jun-18	0.35 U	3.4	0.22 U	**5.5**
	17-Oct-18	1.0 U	2.0	1.0 U	**2.0**
	18-Jan-19	0.35 U	1.7	0.22 U	0.41 U
	17-Apr-19	1.0 U	2.0	1.0 U	1.0 U
	11-Jul-19	0.35 U	1.7	0.22 U	0.41 U
	9-Oct-19	0.35 U	1.2	0.22 U	0.41 U
	17-Jan-20	0.35 U	0.98 I	0.22 U	0.41 U
	13-Apr-20	0.35 U	0.96 I	0.22 U	0.41 U
	30-Jul-20	0.35 U	1.2	0.22 U	0.41 U
	21-Oct-20	0.35 U	1.0	0.22 U	0.41 U
	25-Jan-21	0.35 U	0.92 I	0.22 U	0.41 U
	30-Apr-21	0.35 U	0.28 U	0.22 U	0.41 U
	8-Oct-21	0.89 U	0.64 I	0.73 U	0.71 U
	13-Apr-22	0.89 U	0.53 U	0.73 U	0.71 U
	25-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
	20-Apr-23	0.15 U	0.36 I	0.50 U	0.50 U
	30-Nov-23	0.89 U	0.95 I	0.73 U	0.71 U
IW0127 [20-28]	13-Jun-18	0.35 U	32.1	0.33 I	**42.8**
	17-Oct-18	1.0 U	3.0	1.0 U	1.0 U
	14-Jan-19	0.35 U	1.4	0.22 U	0.41 U
	17-Apr-19	1.0 U	4.0	1.0 U	1.0 U
	10-Jul-19	0.35 U	2.8	0.22 U	0.41 U
	9-Oct-19	0.35 U	1.6	0.22 U	0.41 U
	17-Jan-20	0.35 U	0.83 I	0.22 U	0.41 U
	15-Apr-20	0.35 U	0.5 I	0.22 U	0.41 U
	29-Jul-20	0.35 U	0.6 I	0.22 U	0.41 U
	20-Oct-20	0.35 U	0.58 I	0.22 U	0.41 U
	24-Jan-21	0.35 U	0.28 U	0.22 U	0.41 U
	29-Apr-21	0.35 U	0.28 U	0.22 U	0.41 U
	6-Oct-21	0.89 U	0.53 U	0.73 U	0.71 U
	12-Apr-22	0.89 U	0.53 U	0.73 U	0.71 U
	24-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
	19-Apr-23	0.15 U	0.20 U	0.50 U	0.50 U
	28-Nov-23	0.89 U	1.8	0.73 U	0.71 U

Table 4-4. HS 6 Groundwater Performance Monitoring Results (continued)

Well ID (LC34-) [Screened Interval]	Sample Date	TCE	cDCE	tDCE	VC
IW0128 [13-23]	13-Jun-18	17 U	**4030**	54.9	**3050**
	17-Oct-18	3 U	**180**	3 U	**10**
	18-Jan-19	0.35 U	21.5	1.0	**2.6**
	17-Apr-19	1.0 U	4.0	1.0 U	**33**
	10-Jul-19	0.35 U	3.3	0.47 I	**2.2**
	10-Oct-19	0.35 U	1.3	0.22 U	0.41 U
	17-Jan-20	0.35 U	0.81 I	0.22 U	0.49 I
	13-Apr-20	0.35 U	0.84 I	0.22 U	1.4
	29-Jul-20	0.35 U	1.1	0.22 U	0.59 I
	20-Oct-20	0.35 U	0.65 I	0.22 U	0.41 U
	24-Jan-21	0.35 U	0.5 I	0.22 U	0.41 U
	29-Apr-21	0.35 U	0.28 U	0.22 U	0.41 U
	6-Oct-21	0.89 U	0.53 U	0.73 U	0.71 U
	12-Apr-22	0.89 U	0.53 U	0.73 U	0.71 U
	24-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
	19-Apr-23	0.15 U	0.20 U	0.50 U	0.50 U
	28-Nov-23	0.89 U	0.55 I	0.73 U	0.71 U
IW0129 [13-23]	12-Jun-18	0.35 U	0.54 I	0.22 U	**53.5**
	19-Oct-18	1.0 U	1.0 U	1.0 U	**9.0**
	14-Jan-19	0.35 U	0.28 U	0.22 U	**3.4**
	17-Apr-19	1.0 U	1.0 U	1.0 U	**2.0**
	9-Jul-19	0.35 U	1.2	0.22 U	**5.0**
	8-Oct-19	0.35 U	1.9	0.22 U	**9.9**
	16-Jan-20	0.35 U	1.1	0.22 U	**6.9**
	13-Apr-20	0.35 U	1.2	0.22 U	**10.3**
	29-Jul-20	0.35 U	1.1	0.22 U	**14.1**
	19-Oct-20	0.35 U	0.98 I	0.22 U	**11.5**
	23-Jan-21	0.35 U	0.81 I	0.22 U	**11.6**
	28-Apr-21	0.35 U	0.48 I	0.22 U	**9.5**
	5-Oct-21	0.89 U	0.72 I	0.73 U	**6.6**
	12-Apr-22	0.89 U	0.53 U	0.73 U	**7.7**
	25-Oct-22	0.79 U	0.71 U	0.95 U	**8.2**
	18-Apr-23	0.15 U	0.52 I	0.50 U	**3.3**
	28-Nov-23	0.89 U	0.66 I	0.73 U	**9.4**

Table 4-4. HS 6 Groundwater Performance Monitoring Results (continued)

Well ID (LC34-) [Screened Interval]	Sample Date	TCE	cDCE	tDCE	VC
IW0130 [20-28]	12-Jun-18	0.35 U	1.3	0.22 U	**68.7**
	19-Oct-18	1.0 U	2.0	1.0 U	**19**
	18-Jan-19	0.35 U	0.99 I	0.22 U	**17.5**
	17-Apr-19	1.0 U	1.0	1.0 U	**4**
	9-Jul-19	0.35 U	1.0	0.22 U	**9.9**
	8-Oct-19	0.35 U	0.96 I	0.22 U	**10.2**
	16-Jan-20	0.35 U	0.86 I	0.22 U	**9.9**
	13-Apr-20	0.35 U	1.0	0.22 U	**12.7**
	29-Jul-20	0.35 U	1.1	0.22 U	**23.9**
	19-Oct-20	0.35 U	1.8	0.22 U	**17.2**
	23-Jan-21	0.35 U	0.99 I	0.22 U	**18.7**
	28-Apr-21	0.35 U	0.73 I	0.22 U	**20.9**
	5-Oct-21	0.89 U	1.2 I	0.73 U	**23**
	12-Apr-22	0.89 U	1.0 I	0.73 U	**20**
	25-Oct-22	0.79 U	3.0	0.95 U	**19**
	18-Apr-23	0.15 U	0.66 I	0.50 U	**14**
	28-Nov-23	0.89 U	1.7	0.73 U	**30**
IW0131 [13-23]	12-Jun-18	0.35 U	14.6	17.4	**1350**
	19-Oct-18	1.0 U	1.0	1.0 U	**2.0**
	14-Jan-19	0.35 U	0.28 U	0.22 U	0.61 I
	17-Apr-19	1.0 U	1.0 U	1.0 U	1.0 U
	9-Jul-19	0.35 U	0.4 I	0.22 U	0.41 U
	8-Oct-19	0.35 U	0.31 I	0.22 U	0.93 I
	16-Jan-20	0.35 U	0.28 U	0.22 U	0.73 I
	13-Apr-20	0.35 U	0.28 U	0.22 U	0.41 U
	28-Jul-20	0.35 U	0.46 I	0.22 U	0.41 U
	19-Oct-20	0.35 U	0.42 I	0.22 U	0.53 I
	23-Jan-21	0.35 U	0.36 I	0.22 U	0.41 U
	28-Apr-21	0.35 U	0.28 U	0.22 U	0.41 U
	5-Oct-21	0.89 U	0.80 I	0.73 U	0.71 U
	12-Apr-22	0.89 U	0.69 I	0.73 U	0.71 U
	24-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
	18-Apr-23	0.15 U	0.48 I	0.50 U	0.84 I
	28-Nov-23	0.89 U	0.97 I	0.73 U	0.80 I

Table 4-4. HS 6 Groundwater Performance Monitoring Results (continued)

Well ID (LC34-) [Screened Interval]	Sample Date	TCE	cDCE	tDCE	VC
IW0132 [13-23]	12-Jun-18	0.35 U	11.1	17.2	**1130**
	19-Oct-18	1.0 U	3.0	3.0	**3.0**
	14-Jan-19	0.35 U	0.28 U	0.22 U	1.1
	17-Apr-19	1.0 U	1.0	1.0 U	1.0 U
	9-Jul-19	0.35 U	2.9	0.22 U	0.51 I
	8-Oct-19	0.35 U	1.7	0.24 I	0.77 I
	16-Jan-20	0.35 U	0.88 I	0.22 U	0.69 I
	13-Apr-20	0.35 U	2.3	0.22 U	0.49 I
	28-Jul-20	0.35 U	1.9	0.22 U	0.83 I
	19-Oct-20	0.35 U	1.9	0.22 U	0.93 I
	23-Jan-21	0.35 U	1.6	0.22 U	0.41 U
	28-Apr-21	0.35 U	1.0	0.22 U	0.41 U
	5-Oct-21	0.89 U	1.0 I	0.73 U	0.71 U
	12-Apr-22	0.89 U	1.1 I	0.73 U	0.71 U
	24-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
	18-Apr-23	0.15 U	0.75 I	0.50 U	0.50 U
	28-Nov-23	0.89 U	0.89 I	0.73 U	0.71 U
IW0133 [13-23]	12-Jun-18	0.35 U	3.6	0.54 I	1.1
	19-Oct-18	1.0 U	2.0	1.0 U	1.0 U
	14-Jan-19	0.35 U	1.6	0.22 U	0.41 U
	17-Apr-19	1.0 U	2.0	1.0 U	1.0 U
	9-Jul-19	0.35 U	2.4	0.54 I	0.41 U
	8-Oct-19	0.35 U	2.1	0.47 I	0.41 U
	16-Jan-20	0.35 U	2.4	0.51 I	0.41 U
	13-Apr-20	0.35 U	1.5	0.22 U	0.41 U
	28-Jul-20	0.35 U	1.7	0.22 U	0.41 U
	19-Oct-20	0.35 U	1.5	0.33 I	0.41 U
	23-Jan-21	0.35 U	1.7	0.39 I	0.41 U
	28-Apr-21	0.35 U	1.6	0.22 U	0.41 U
	5-Oct-21	0.89 U	3.6	0.73 U	1.0 I
	12-Apr-22	0.89 U	3.7	0.73 U	0.83 I
	24-Oct-22	0.79 U	2.8	0.95 U	0.64 U
	18-Apr-23	0.15 U	2.4	0.50 U	0.51 I
	28-Nov-23	0.89 U	3.1	0.73 U	0.71 U

Table 4-4. HS 6 Groundwater Performance Monitoring Results (continued)

Well ID (LC34-) [Screened Interval]	Sample Date	TCE	cDCE	tDCE	VC
IW0134 [20-28]	27-Mar-19	1.0 U	**20300**	**220**	**8900**
	11-Jul-19	170 U	**37100**	**387 I**	**12500**
	8-Oct-19	69 U	**24300**	**344**	**391**
	17-Jan-20	69 U	**11900**	**166 I**	**220**
	15-Apr-20	35 U	**9130**	**120**	**207**
	30-Jul-20	35 U	**7590**	94.9 I	**837**
	22-Oct-20	69 U	**10200**	87 I	**651**
	25-Jan-21	69 U	**14400**	**132 I**	**715**
	23-Apr-21	69 U	**14200**	**175 I**	**1230**
	8-Oct-21	89 U	**9700**	77 I	**1000**
	13-Apr-22	89 U	**11000**	73 U	**1800**
	25-Oct-22	0.79 U	**6300**	30	**2500**
	18-Apr-23	3 U	**7300**	26	**5600**
	29-Nov-23	22 U	**1900**	18 U	**3700**
IW0135 [20-28]	27-Mar-19	290 U	**53800**	**1100**	**10700**
	11-Jul-19	35 U	**16200**	**619**	**15700**
	8-Oct-19	69 U	**10200**	**491**	**7330**
	16-Jan-20	35 U	**5330**	**295**	**1580**
	15-Apr-20	35 U	**7750**	**282**	**166**
	30-Jul-20	35 U	**11900**	**455**	**1960**
	22-Oct-20	69 U	**10200**	**288**	**580**
	25-Jan-21	35 U	**7440**	**227**	**403**
	23-Apr-21	35 U	**5230**	**228**	**284**
	7-Oct-21	18 U	**2700**	**150**	**190**
	13-Apr-22	22 U	**1400**	21 I	**380**
	25-Oct-22	0.79 U	**400**	6.9	**110**
	20-Apr-23	0.15 U	**770**	2.1	**1100**
	29-Nov-23	1.8 U	**110**	7.7	**12**
IW0136 [20-28]	27-Mar-19	10 U	**240**	10 U	**520**
	11-Jul-19	0.35 U	34.9	0.22 U	**59.7**
	8-Oct-19	0.35 U	2.5	0.22 U	**7.2**
	17-Jan-20	0.35 U	5.4	0.22 U	**1.5**
	15-Apr-20	0.35 U	3.9	0.22 U	0.66 I
	30-Jul-20	0.35 U	32.6	0.22 U	**12.2**
	22-Oct-20	0.35 U	1.4	0.22 U	0.41 U
	25-Jan-21	0.35 U	0.63 I	0.22 U	0.41 U
	23-Apr-21	0.35 U	0.33 I	0.22 U	0.41 U
	8-Oct-21	0.89 U	0.53 U	0.73 U	0.71 U
	13-Apr-22	0.89 U	1.3 I	0.73 U	0.71 U
	25-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
	19-Apr-23	0.15 U	1.5	0.50 U	0.50 U
	28-Nov-23	0.89 U	0.53 U	0.73 U	0.71 U

Table 4-4. HS 6 Groundwater Performance Monitoring Results (continued)

Well ID (LC34-) [Screened Interval]	Sample Date	TCE	cDCE	tDCE	VC
IW0137 [20-28]	27-Mar-19	40 U	**36600**	**490**	**4100**
	11-Jul-19	86 U	**21400**	**248 I**	**440**
	9-Oct-19	69 U	**12300**	**129 I**	82 U
	16-Jan-20	8.6 U	**1980**	22.8 I	10 U
	16-Apr-20	3.5 U	**789**	8.0 I	**10.6**
	30-Jul-20	1.7 U	**394**	9.0	**7.8**
	22-Oct-20	0.35 U	**97.3**	1.6	**1.7**
	25-Jan-21	0.35 U	21.9	0.55 I	0.43 I
	23-Apr-21	0.35 U	13.6	0.39 I	0.41 U
	7-Oct-21	0.89 U	5.0	0.73 U	0.71 U
	13-Apr-22	0.89 U	4.5	0.73 U	0.71 U
	21-Oct-22	0.79 U	2.6	0.95 U	0.64 U
	20-Apr-23	0.15 U	5.4	0.50 U	0.68 I
	30-Nov-23	0.89 U	2.8	0.73 U	0.71 U
IW0138 [29-34]	27-Mar-19	40 U	**48400**	**490**	**13600**
	11-Jul-19	35 U	**6400**	22 U	**873**
	9-Oct-19	3.5 U	**529**	6.7 I	4.1 U
	16-Jan-20	0.35 U	**111**	2.5	0.41 U
	16-Apr-20	0.35 U	23.8	0.73 I	0.53 I
	30-Jul-20	0.35 U	**85.2**	2.1	0.55 I
	22-Oct-20	0.35 U	6.6	0.28 I	0.41 U
	25-Jan-21	0.35 U	2.3	0.22 U	0.41 U
	23-Apr-21	0.35 U	1.9	0.22 U	0.41 U
	7-Oct-21	0.89 U	1.7 I	0.73 U	0.71 U
	13-Apr-22	0.89 U	1.3 I	0.73 U	0.71 U
	21-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
	20-Apr-23	0.15 U	2.7	0.50 U	0.59 I
	30-Nov-23	0.89 U	0.78 I	0.73 U	0.71 U
IW0139 [13-23]	27-Mar-19	10 U	**4300**	60	**1800**
	11-Jul-19	0.35 U	**569**	10.5	**31.1**
	10-Oct-19	0.69 U	**215**	2.6	0.82 U
	16-Jan-20	0.35 U	43.3	0.7 I	0.41 U
	16-Apr-20	0.35 U	14	0.37 I	0.41 U
	30-Jul-20	0.35 U	7.9	0.34 I	0.41 U
	22-Oct-20	0.35 U	2.3	0.24 I	0.41 U
	24-Jan-21	0.35 U	0.69 I	0.22 U	0.41 U
	23-Apr-21	0.35 U	0.29 I	0.22 U	0.41 U
	8-Oct-21	0.89 U	0.53 U	0.73 U	0.71 U
	13-Apr-22	0.89 U	0.53 U	0.73 U	0.71 U
	21-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
	18-Apr-23	0.15 U	0.20 U	0.50 U	0.50 U
	30-Nov-23	0.89 U	0.67 I	0.73 U	0.71 U

Table 4-4. HS 6 Groundwater Performance Monitoring Results (continued)

Well ID (LC34-) [Screened Interval]	Sample Date	TCE	cDCE	tDCE	VC
IW0140 [20-28]	27-Mar-19	100 U	**4000**	100 U	**3600**
	11-Jul-19	1.5 I	**125**	7.7	**65.3**
	10-Oct-19	0.35 U	9.9	1.7	0.41 U
	16-Jan-20	0.35 U	1.6	0.57 I	0.41 U
	16-Apr-20	0.35 U	0.75 I	0.49 I	0.41 U
	30-Jul-20	0.35 U	1.1	0.47 I	0.43 I
	22-Oct-20	0.35 U	0.44 I	0.32 I	0.41 U
	24-Jan-21	0.35 U	0.28 U	0.22 U	0.41 U
	23-Apr-21	0.35 U	0.28 U	0.22 U	0.41 U
	8-Oct-21	0.89 U	0.53 U	0.73 U	0.71 U
	13-Apr-22	0.89 U	0.53 U	0.73 U	0.71 U
	21-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
	18-Apr-23	0.15 U	0.20 U	0.50 U	0.50 U
	30-Nov-23	0.89 U	1.7	0.73 U	0.71 U
IW0141 [20-28]	28-Mar-19	50 U	**5600**	50 U	**5600**
	11-Jul-19	3.5 U	**809**	15.3	**36.8**
	10-Oct-19	0.35 U	55.6	3.9	0.41 U
	17-Jan-20	0.35 U	4.7	1.3	0.41 U
	15-Apr-20	0.35 U	0.51 I	0.22 U	0.41 U
	30-Jul-20	0.35 U	1.4	0.3 I	0.41 U
	21-Oct-20	0.35 U	0.58 I	0.22 U	0.41 U
	24-Jan-21	0.35 U	0.28 U	0.22 U	0.41 U
	29-Apr-21	0.35 U	0.28 U	0.22 U	0.41 U
	6-Oct-21	0.89 U	0.53 U	0.73 U	0.71 U
	13-Apr-22	0.89 U	0.53 U	0.73 U	0.71 U
	24-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
	19-Apr-23	0.15 U	0.20 U	0.50 U	0.50 U
	30-Nov-23	0.89 U	1.2	0.73 U	0.71 U
IW0142 [20-28]	28-Mar-19	40 U	**2900**	40 U	**6700**
	10-Jul-19	0.35 U	14.5	1.2	**5.7**
	10-Oct-19	0.35 U	0.84 I	0.22 U	0.41 U
	17-Jan-20	0.35 U	0.49 I	0.22 U	0.41 U
	13-Apr-20	0.35 U	0.28 U	0.22 U	0.41 U
	29-Jul-20	0.35 U	0.44 I	0.22 U	0.41 U
	20-Oct-20	0.35 U	0.28 U	0.22 U	0.41 U
	24-Jan-21	0.35 U	0.28 U	0.22 U	0.41 U
	29-Apr-21	0.35 U	0.28 U	0.22 U	0.41 U
	7-Oct-21	0.89 U	0.53 U	0.73 U	0.71 U
	13-Apr-22	0.89 U	0.53 U	0.73 U	0.71 U
	20-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
	19-Apr-23	0.15 U	0.20 U	0.50 U	0.50 U
	28-Nov-23	0.89 U	0.76 I	0.73 U	0.71 U

Table 4-4. HS 6 Groundwater Performance Monitoring Results (continued)

Well ID (LC34-) [Screened Interval]	Sample Date	TCE	cDCE	tDCE	VC
IW0143 [20-28]	27-Mar-19	3 U	**650**	11	**3.0**
	11-Jul-19	0.69 U	**697**	19.9	**3.1**
	9-Oct-19	1.7 U	**247**	6.4	**4.1 I**
	16-Jan-20	0.35 U	33.7	2.0	0.41 U
	15-Apr-20	0.35 U	21.2	0.81 I	0.41 U
	29-Jul-20	0.35 U	13	0.51 I	0.41 U
	22-Oct-20	0.35 U	11.3	0.22 U	0.41 U
	25-Jan-21	0.35 U	6.6	0.22 U	0.41 U
	30-Apr-21	0.35 U	5.9	0.22 U	0.41 U
	7-Oct-21	0.89 U	4.4	0.73 U	0.71 U
	13-Apr-22	0.89 U	5.8	0.73 U	0.71 U
	25-Oct-22	0.79 U	3.7	0.95 U	0.64 U
	20-Apr-23	0.15 U	8.0	0.50 U	0.50 U
	29-Nov-23	0.89 U	4.6	0.73 U	0.71 U
IW0144 [20-28]	27-Mar-19	10 U	**1900**	40	**410**
	10-Jul-19	1.7 U	**325**	11.8	**82.1**
	10-Oct-19	0.69 U	**108**	6.2	1.1 I
	16-Jan-20	0.35 U	20.3	7.9	**16.9**
	15-Apr-20	0.35 U	20.7	1.7	**1.7**
	30-Jul-20	0.35 U	10.2	1.2	**1.9**
	21-Oct-20	0.35 U	12.4	1.2	0.66 I
	24-Jan-21	0.35 U	6.7	0.82 I	0.41 U
	30-Apr-21	0.35 U	5.2	0.72 I	0.41 U
	7-Oct-21	0.89 U	3.2	0.73 U	0.71 U
	13-Apr-22	0.89 U	2.8	0.73 U	0.71 U
	24-Oct-22	0.79 U	3.3	0.95 U	0.64 U
	20-Apr-23	0.15 U	1.1	0.50 U	0.50 U
	29-Nov-23	0.89 U	1.8	0.73 U	0.71 U
IW0145 [29-34]	27-Mar-19	20 U	**3900**	27	**930**
	10-Jul-19	3.5 U	**546**	44.8	**987**
	10-Oct-19	0.69 U	**76.4**	16.7	**375**
	16-Jan-20	0.35 U	43	3.1	**3.5**
	15-Apr-20	0.35 U	7.7	2.4	**8.6**
	30-Jul-20	0.35 U	4.8	1.3	**11.7**
	21-Oct-20	0.35 U	2.8	0.92 I	**3.5**
	24-Jan-21	0.35 U	1.6	0.39 I	**1.7**
	30-Apr-21	0.35 U	1.3	0.22 U	**1.5**
	7-Oct-21	0.89 U	1.5 I	0.73 U	1.1 I
	13-Apr-22	0.89 U	0.80 I	0.73 U	0.81 I
	24-Oct-22	0.79 U	0.71 U	0.95 U	0.87 I
	20-Apr-23	0.15 U	0.53 I	0.50 U	0.50 U
	29-Nov-23	0.89 U	1.4	0.73 U	**3.7**

Table 4-4. HS 6 Groundwater Performance Monitoring Results (continued)

Well ID (LC34-) [Screened Interval]	Sample Date	TCE	cDCE	tDCE	VC
IW0146 [13-23]	27-Mar-19	10 U	**3000**	34	**310**
	10-Jul-19	1.7 U	**380**	4.3 I	2.0 U
	10-Oct-19	0.35 U	**93.3**	1.9	**2.0**
	17-Jan-20	0.35 U	2.9	0.22 U	0.41 U
	16-Apr-20	0.35 U	6.8	0.22 U	0.41 U
	29-Jul-20	0.35 U	1.5	0.22 U	0.41 U
	21-Oct-20	0.35 U	1.0	0.22 U	0.41 U
	25-Jan-21	0.35 U	0.8 I	0.22 U	0.41 U
	30-Apr-21	0.35 U	0.69 I	0.22 U	0.41 U
	7-Oct-21	0.89 U	0.53 U	0.73 U	0.71 U
	13-Apr-22	0.89 U	0.53 U	0.73 U	0.71 U
	21-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
	19-Apr-23	0.15 U	0.20 U	0.50 U	0.50 U
	29-Nov-23	0.89 U	0.81 I	0.73 U	0.71 U
IW0147 [20-28]	27-Mar-19	40 U	**4400**	40 U	**1200**
	10-Jul-19	0.35 U	29.5	0.68 I	**3.1**
	10-Oct-19	0.35 U	4.6	0.22 U	0.41 U
	17-Jan-20	0.35 U	15.1	0.22 U	0.41 U
	16-Apr-20	0.35 U	0.74 I	0.22 U	0.41 U
	29-Jul-20	0.35 U	1.5	0.22 U	0.41 U
	21-Oct-20	0.35 U	0.68 I	0.22 U	0.41 U
	24-Jan-21	0.35 U	0.49 I	0.22 U	0.41 U
	30-Apr-21	0.35 U	0.28 U	0.22 U	0.41 U
	7-Oct-21	0.89 U	0.53 U	0.73 U	0.71 U
	13-Apr-22	0.89 U	0.53 U	0.73 U	0.71 U
	21-Oct-22	0.79 U	0.71 U	0.95 U	0.64 U
	19-Apr-23	0.15 U	0.20 U	0.50 U	0.50 U
	29-Nov-23	0.89 U	0.73 I	0.73 U	0.71 U
LC34-IW0168 [17-27]	10-Jul-23	3.0 U	**6500**	18 I	**3800**
	28-Nov-23	89 U	**3900**	73 U	**3100**
	15-Feb-24	4.5 U	**360**	3.7 U	**180**
LC34-IW0169 [30-35]	7-Jul-23	4.0 U	67	6.8 U	**1400**
	28-Nov-23	4.5 U	**110**	3.7 U	**370**
	15-Feb-24	4.5 U	**210**	6.1	**61**
LC34-IW0170 [17-27]	10-Jul-23	0.75 U	**990**	2.5 U	**710**
	28-Nov-23	8.9 U	**740**	7.3 U	**220**
	14-Feb-23	4.5 U	**340**	3.8 I	**55**
LC34-IW0171 [30-35]	10-Jul-23	0.75 U	**890**	26	**1500**
	28-Nov-23	0.89 U	34	2.0	**39**
	14-Feb-24	0.89 U	4.0	0.81 I	**11**

Table 4-4. HS 6 Groundwater Performance Monitoring Results (continued)

Well ID (LC34-) [Screened Interval]	Sample Date	TCE	cDCE	tDCE	VC
LC34-IW0172 [17-27]	10-Jul-23	1.5 U	**2600**	5.0 U	**1700**
	28-Nov-23	8.9 U	**400**	7.3 U	**110**
	15-Feb-24	4.5 U	**400**	3.7 U	**15**
LC34-IW0173 [30-35]	10-Jul-23	0.15 U	23	0.50 U	**290**
	28-Nov-23	0.89 U	1.8	0.73 U	**10**
	15-Feb-24	0.89 U	1.4	0.73 U	**3.7**
LC34-IW0174 [16-21]	10-Jul-23	0.15 U	**110**	0.50 U	**240**
	28-Nov-23	0.89 U	66	0.73 U	**62**
	14-Feb-24	0.89 U	**91**	0.73 U	**27**
LC34-IW0175 [30-35]	10-Jul-23	0.15 U	7.3	0.5 U	26
	28-Nov-23	0.89 U	12	0.73 U	**13**
	14-Feb-24	0.89 U	7.2	0.73 U	1.1
LC34-IW0176 [16-21]	10-Jul-23	0.15 U	**84**	1.1	**50**
	29-Nov-23	1.8 U	**150**	1.5 I	**38**
	15-Feb-24	1.8 U	**140**	1.5 U	**27**
LC34-IW0177 [16-21]	10-Jul-23	0.15 U	**120**	0.50 U	**130**
	28-Nov-23	4.5 U	**280**	3.7 U	3.6 U
	14-Feb-24	4.5 U	**360**	3.7 U	**17**
LC34-IW0178 [16-21]	10-Jul-23	0.30 U	**810**	1.7 I	**510**
	28-Nov-23	8.9 U	**730**	7.3 U	**900**
	15-Feb-24	22 U	**940**	18 U	**550**
LC34-IW0179 [17-27]	10-Jul-23	0.75 U	**140**	2.5 U	**800**
	29-Nov-23	0.89 U	57	0.75 I	**75**
	14-Feb-24	0.89 U	10	0.73 U	**19**
LC34-IW0180 [30-35]	10-Jul-23	1.5 U	**1700**	7.3 I	**710**
	29-Nov-23	22 U	**780**	18 U	**400**
	14-Feb-24	22 U	**500**	18 U	**710**
LC34-IW0181 [17-27]	10-Jul-23	0.3 U	**130**	1.0 U	**540**
	29-Nov-23	4.5 U	34	3.7 U	**100**
	14-Feb-24	0.89 U	19	0.73 U	**46**
LC34-IW0182 [30-35]	10-Jul-23	0.75 U	**1100**	4.1 I	**540**
	29-Nov-23	22 U	**850**	18 U	**760**
	14-Feb-24	22 U	**1500**	18 U	**920**
LC34-IW0183 [17-27]	10-Jul-23	0.30 U	46	1.0 U	**720**
	29-Nov-23	0.89 U	**77**	2.4	**2.7**
	14-Feb-24	0.89 U	4.1	0.73 U	0.71 U
LC34-IW0184 [30-35]	10-Jul-23	0.75 U	**1600**	2.8 I	**1000**
	29-Nov-23	45 U	**1100**	37 U	**720**
	14-Feb-24	22 U	**770**	18 U	**600**
LC34-IW0185 [16-21]	10-Jul-23	0.15 U	**100**	0.5 U	**350**
	29-Nov-23	8.9 U	**100**	7.3 U	**250**
	14-Feb-24	0.89 U	61	0.73 U	**64**

Table 4-4. HS 6 Groundwater Performance Monitoring Results (continued)

Well ID (LC34-) [Screened Interval]	Sample Date	TCE	cDCE	tDCE	VC
LC34-IW0186 [16-21]	7-Jul-23	1.0 U	**320**	1.9 I	**330**
	29-Nov-23	4.5 U	**240**	3.7 U	**140**
	14-Feb-24	8.9 U	**650**	7.3 U	**250**
LC34-IW0187 [16-21]	7-Jul-23	2.0 U	**940**	9.3 I	**560**
	29-Nov-23	22 U	**150**	18 U	**780**
	15-Feb-24	22 U	**290**	18 U	**570**
LC34-IW0188 [16-21]	7-Jul-23	0.20 U	27	0.34 U	**160**
	29-Nov-23	8.9 U	29	7.3 U	**440**
	15-Feb-24	22 U	47	18 U	**1100**

Notes:

Concentrations in micrograms per liter (µg/L)

Shading indicates greater than the Groundwater Cleanup Target Level (GCTL):

TCE = 3 µg/L, cDCE = 70 µg/L, tDCE = 100 µg/L, and VC = 1 µg/L

TCE = Trichloroethene

tDCE = trans-1,2-Dichloroethene

cDCE = cis-1,2-Dichloroethene

VC = Vinyl chloride

I = Reported value is between method detection limit (MDL) and practical quantitation limit

L = Actual value is known to be greater than value given

U = Not detected at or above MDL (associated value)

D = Result was obtained from the analysis of a dilution

V = Analyte was detected in both the sample and associated method blank

Table 4-5. HS 6 Surface Water Performance Monitoring Results

Location ID (LC34-)	Sample Date	TCE	cDCE	tDCE	VC
SW1001	6/13/2018	0.35 U	37.3	1.7	**79.2**
	10/16/2018	1 U	1 U	1 U	1 U
	1/18/2019	0.35 U	0.28 U	0.22 U	0.41 U
	4/17/2019	1 U	1 U	1 U	1 U
	7/11/2019	0.35 U	0.94 I	0.22 U	0.41 U
	10/8/2019	0.35 U	0.28 U	0.22 U	0.41 U
	1/17/2020	0.35 U	0.71 I	0.22 U	0.41 U
	4/16/2020	0.35 U	0.58 I	0.22 U	0.41 U
	7/30/2020	0.35 U	0.28 U	0.22 U	0.41 U
	10/22/2020	0.35 U	0.28 U	0.22 U	0.41 U
	1/25/2021	0.35 U	0.28 U	0.22 U	0.41 U
	4/28/2021	0.35 U	0.42 I	0.22 U	0.41 U
	10/8/2021	0.89 U	0.53 U	0.73 U	0.71 U
	4/14/2022	0.89 U	0.53 U	0.73 U	0.71 U
	10/25/2022	0.79 U	0.71 U	0.95 U	0.64 U
	4/21/2023	0.15 U	0.26 I	0.50 U	0.50 U
	11/30/2023	0.89 U	0.53 U	0.73 U	0.71 U
SW1002	12/20/2016	1 U	1 U	1 U	1 U
	1/30/2017	1 U	1 U	1 U	1 U
	6/13/2018	0.35 U	22.4	0.22 U	**93.7**
	10/16/2018	1 U	1	1 U	1 U
	1/18/2019	0.35 U	1.7	0.22 U	0.41 U
	4/17/2019	1 U	1 U	1 U	1 U
	7/11/2019	0.35 U	2	0.22 U	0.41 U
	10/8/2019	0.35 U	0.28 U	0.22 U	0.41 U
	1/17/2020	0.35 U	1.1	0.22 U	0.41 U
	4/16/2020	0.35 U	2.8	0.22 U	0.41 U
	7/30/2020	0.35 U	1.9	0.22 U	0.66 I
	10/22/2020	0.35 U	0.78 I	0.22 U	0.6 I
	1/25/2021	0.35 U	0.28 U	0..22 U	0.41 U
	4/28/2021	0.35 U	1.2	0.22 U	0.41 U
	10/8/2021	0.89 U	2.1 I	0.73 U	0.71 U
	4/14/2022	0.89 U	1.6 I	0.73 U	0.71 U
	10/25/2022	0.79 U	0.71 U	0.95 U	0.64 U
	4/21/2023	0.15 U	0.70 I	0.50 U	0.50 U
	11/30/2023	0.89 U	0.53 U	0.73 U	0.71 U

Table 4-5. HS 6 Surface Water Performance Monitoring Results (continued)

Location ID (LC34-)	Sample Date	TCE	cDCE	tDCE	VC
SW1004	1/3/2017	1 U	41	8	**140**
	1/30/2017	1 U	7	2	**46**
	6/13/2018	0.35 U	1.4	11.5	**212**
	10/16/2018	1 U	1 U	1 U	1 U
	1/18/2019	0.35 U	0.28 U	0.22 U	0.41 U
	4/17/2019	1 U	1 U	1 U	1 U
	7/11/2019	0.35 U	0.28 U	0.22 U	0.41 U
	10/8/2019	0.35 U	0.28 U	0.22 U	0.41 U
	1/17/2020	0.35 U	0.28 U	0.22 U	0.41 U
	4/16/2020	0.35 U	0.28 U	0.22 U	0.41 U
	7/30/2020	0.35 U	0.28 U	0.22 U	0.41 U
	10/22/2020	0.35 U	0.28 U	0.22 U	0.41 U
	1/25/2021	0.35 U	0.28 U	0.22 U	0.41 U
	4/28/2021	0.35 U	0.28 U	0.22 U	0.41 U
	10/8/2021	0.89 U	0.53 U	0.73 U	0.71 U
	4/14/2022	0.89 U	0.53 U	0.73 U	0.71 U
	10/25/2022	0.79 U	0.71 U	0.95 U	0.64 U
	4/21/2023	0.15 U	0.20 U	0.50 U	0.50 U
	11/30/2023	0.89 U	0.53 U	0.73 U	0.71 U

Notes:

Concentrations in micrograms per liter (µg/L)

TCE = Trichloroethene

tDCE = trans-1,2-Dichloroethene

cDCE = cis-1,2-Dichloroethene

VC = Vinyl chloride

Shading indicates > Florida Freshwater Surface Water Criteria (FAC 62-777):

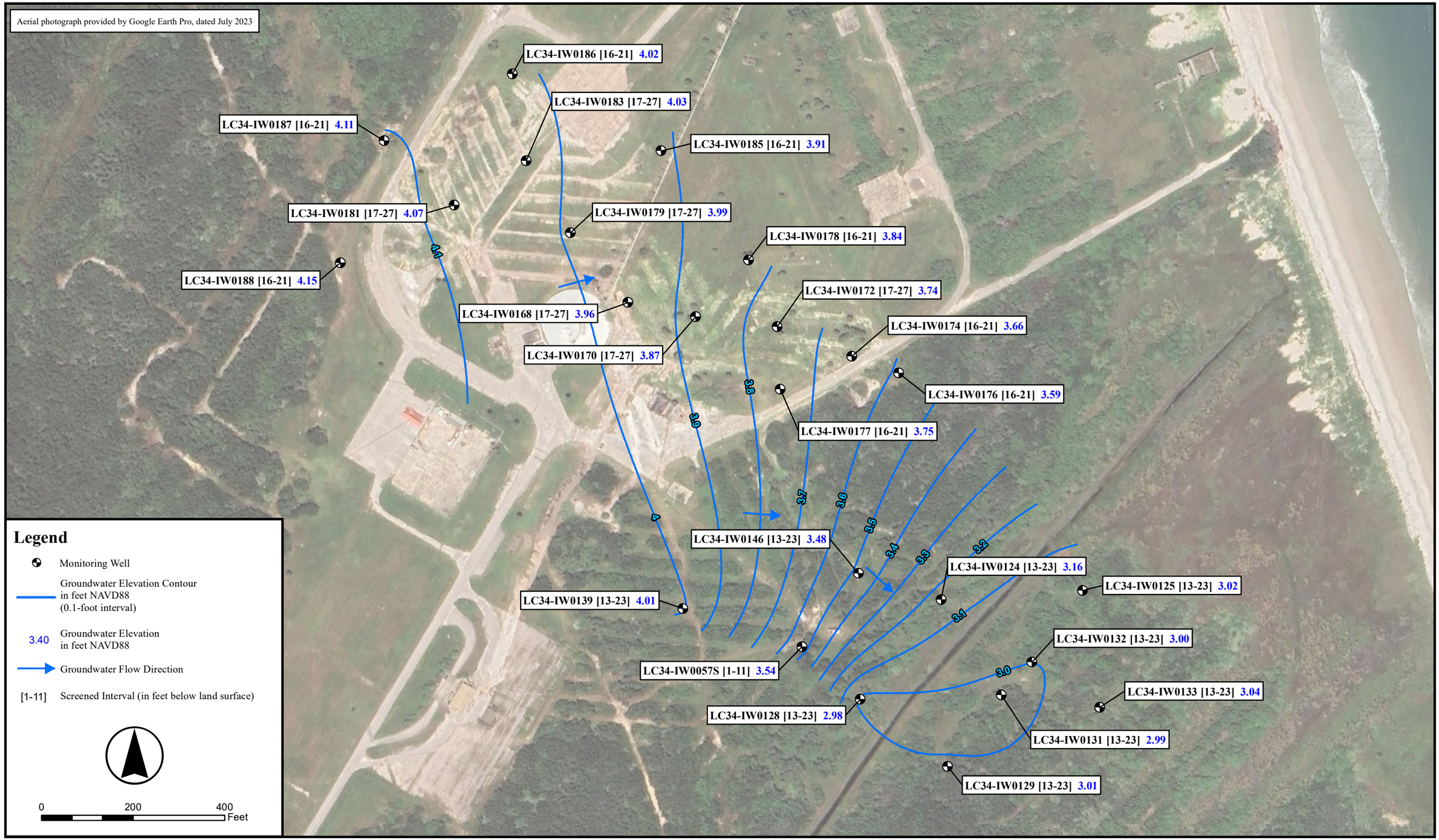
TCE = 80.7 µg/L, cDCE = no value, tDCE = 11,000 µg/L, and VC = 2.4 µg/L

U = Not detected at method detection limit (MDL) (associated value)

I = Reported value is between MDL and practical quantitation limit

FIGURE 4-1 LAYER 1 POTENTIOMETRIC MAP (0 TO 25 FEET BLS) – NOVEMBER 2023

LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION, FLORIDA

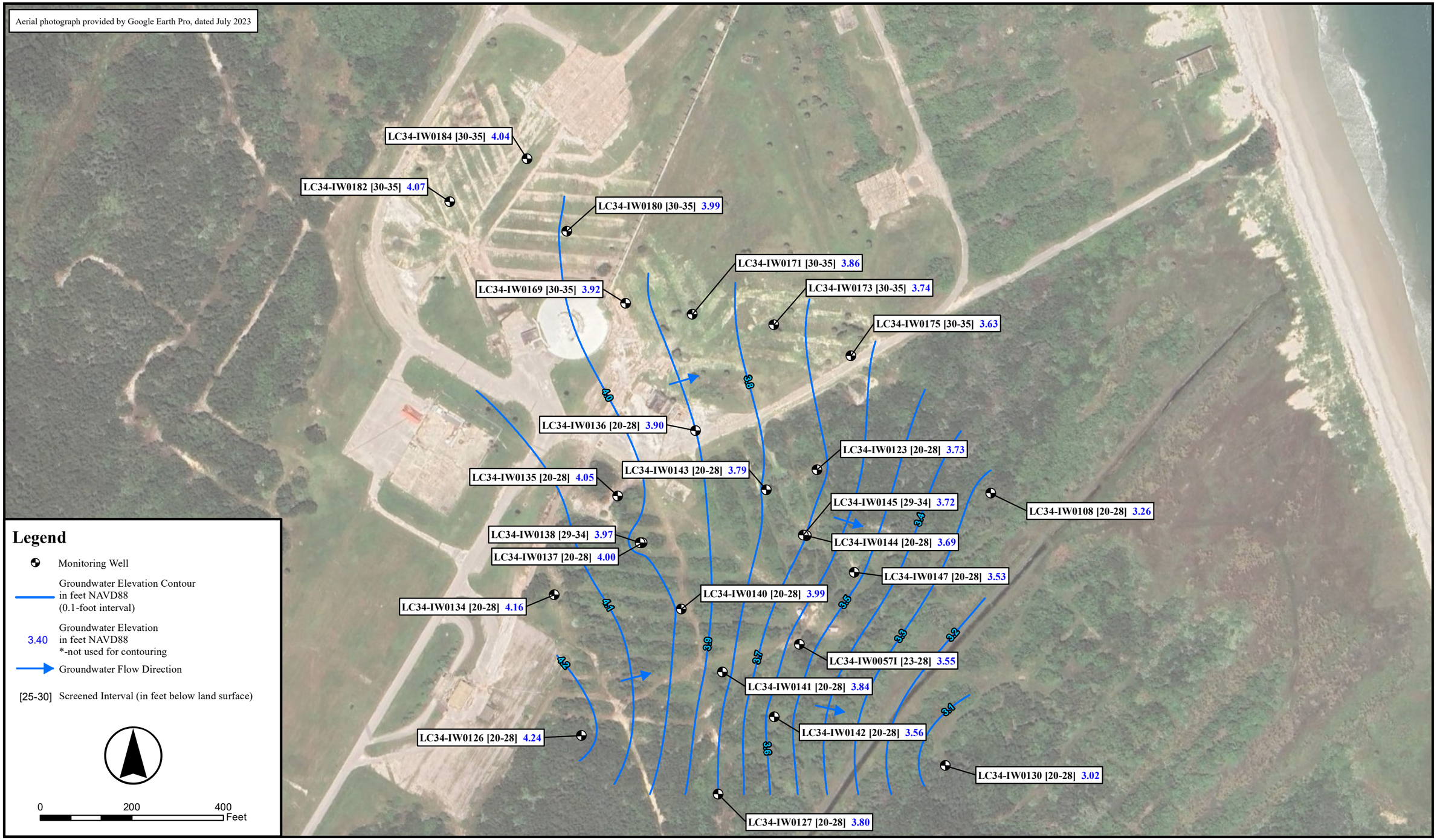


JAX C:\GIS\KSC\MXD\LC34\MXD\4-1_LC34_SHALLOW_GW_ELEVATIONS_NOV2023.MXD 07/24/24

FIGURE 4-2 LAYER 2 POTENTIOMETRIC MAP (25 TO 30 FEET BLS) – NOVEMBER 2023

LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION, FLORIDA

LC34 PMR
Revision 0
July 2024



JAX C:\GIS\KSC\MXD\LC34\MXD\4-2_LC34_DEEP_GW_ELEVATIONS_NOV2023.MXD 07/24/24

LC34 PMR
Revision: D
July 2024

IW0183	TCE	cDCE	tDCE	VC
[17-27]				
07/2023	0.3 U	46	1 U	720
11/2023	0.89 U	77	2.4 I	2.7
02/2024	0.89 U	4.1	0.73 U	0.71 U
IW0184	TCE	cDCE	tDCE	VC
[30-35]				
07/2023	0.75 U	1600	2.8 I	1000
11/2023	45 U	1100	37 U	720
02/2024	22 U	770	18 U	600

IW0186	TCE	cDCE	tDCE	VC
[16-21]				
07/2023	1 U	320	1.9 I	330
07/2023	4.5 U	240	3.7 U	140
11/2023	8.9 U	650	7.3 U	250

IW0185	TCE	cDCE	tDCE	VC
[16-21]				
07/2023	0.15 U	100	0.5 U	350
11/2023	8.9 U	100	7.3 U	250
02/2024	0.89 U	61	0.73 U	64

IW0187	TCE	cDCE	tDCE	VC
[16-21]				
07/2023	2 U	940	9.3 I	560
11/2023	22 U	150	18 U	780
02/2024	22 U	290	18 U	570

IW0168	TCE	cDCE	tDCE	VC
[17-27]				
07/2023	3.0 U	6500	18 I	3800
11/2023	89 U	3900	73 U	3100
02/2024	4.5 U	360	3.7 U	180
IW0169	TCE	cDCE	tDCE	VC
[30-35]				
07/2023	4.0 U	67	6.8 U	1400
11/2023	4.5 U	110	3.7 U	370
02/2024	4.5 U	210	6.1	61

IW0181	TCE	cDCE	tDCE	VC
[17-27]				
07/2023	0.3 U	130	1 U	540
11/2023	4.5 U	34	3.7 U	100
02/2024	0.89 U	19	0.73 U	46
IW0182	TCE	cDCE	tDCE	VC
[30-35]				
07/2023	0.75 U	1100	4.1 I	540
11/2023	22 U	850	18 U	760
02/2024	22 U	1500	18 U	920

IW0170	TCE	cDCE	tDCE	VC
[17-27]				
07/2023	0.75 U	990	2.5 U	710
11/2023	8.9 U	740	7.3 U	220
02/2024	4.5 U	340	3.8 I	55
IW0171	TCE	cDCE	tDCE	VC
[30-35]				
07/2023	0.75 U	890	26	1500
11/2023	0.89 U	34	2	39
02/2024	0.89 U	4	0.81 I	11

IW0179	TCE	cDCE	tDCE	VC
[17-27]				
07/2023	0.75 U	140	2.5 U	800
11/2023	0.89 U	57	0.75 I	75
02/2024	0.89 U	10	0.73 U	19
IW0180	TCE	cDCE	tDCE	VC
[30-35]				
07/2023	1.5 U	1700	7.3 I	710
11/2023	22 U	780	18 U	400
02/2024	22 U	500	18 U	710

IW0178	TCE	cDCE	tDCE	VC
[16-21]				
07/2023	0.3 U	810	1.7 I	510
11/2023	8.9 U	730	7.3 U	900
02/2024	22 U	940	18 U	550

IW0172	TCE	cDCE	tDCE	VC
[17-27]				
07/2023	1.5 U	2600	5 U	1700
11/2023	8.9 U	400	7.3 U	110
02/2024	4.5 U	400	3.7 U	15
IW0173	TCE	cDCE	tDCE	VC
[30-35]				
07/2023	0.15 U	23	0.50 U	290
11/2023	0.89 U	1.8	0.73 U	10
02/2024	0.89 U	1.4	0.73 U	3.7

IW0174	TCE	cDCE	tDCE	VC
[16-21]				
07/2023	0.15 U	110	0.5 U	240
11/2023	0.89 U	66	0.73 U	62
02/2024	0.89 U	91	0.73 U	27
IW0175	TCE	cDCE	tDCE	VC
[30-35]				
07/2023	0.15 U	7.3	0.5 U	26
11/2023	0.89 U	12	0.73 U	13
02/2024	0.89 U	7.2	0.73 U	1.1

IW0176	TCE	cDCE	tDCE	VC
[16-21]				
07/2023	0.15 U	84	1.1	50
11/2023	1.8 U	150	1.5 I	38
02/2024	1.8 U	140	1.5 U	27

IW0143	TCE	cDCE	tDCE	VC
[20-28]				
03/2019	3 U	650	11	3.0
07/2019	0.69 U	697	19.9	3.1
10/2019	1.7 U	247	6.4	4.1 I
01/2020	0.35 U	33.7	2	0.41 U
04/2020	0.35 U	21.2	0.81 I	0.41 U
07/2020	0.35 U	13	0.51 I	0.41 U
10/2020	0.35 U	11.3	0.22 U	0.41 U
01/2021	0.35 U	6.6	0.22 U	0.41 U
04/2021	0.35 U	5.9	0.22 U	0.41 U
10/2021	0.89 U	4.4	0.73 U	0.71 U
04/2022	0.89 U	5.8	0.73 U	0.71 U
10/2022	0.79 U	3.7	0.95 U	0.64 U
04/2023	0.15 U	8.0	0.50 U	0.50 U
11/2023	0.89 U	4.6	0.73 U	0.71 U

IW0123	TCE	cDCE	tDCE	VC
[20-28]				
06/2018	17 U	4530	63.6	1000
10/2018	3	1200	38	130
01/2019	3.5 U	928	20	60.8
04/2019	20 U	710	25	200
07/2019	1.7 U	355	17.6	116
10/2019	0.35 U	137	11.1	35.9
01/2020	0.69 U	146	8	38.8
04/2020	1.7 U	258	8.9	51
07/2020	1.7 U	275	8.8	95.3
10/2020	0.86 U	213	6.9	67.4
01/2021	0.69 U	139	4.4	42.9
04/2021	0.69 U	90.7	3.0	25.5
10/2021	0.89 U	97	2.4 I	28
04/2022	0.89 U	35	0.73 U	10
10/2022	0.79 U	32	0.95 U	2.8
04/2023	0.15 U	22	0.50 U	5.3
11/2023	0.89 U	17	0.73 U	1.8

IW0146	TCE	cDCE	tDCE	VC
[13-23]				
03/2019	10 U	3000	34	310
07/2019	1.7 U	380	4.3 I	2 U
10/2019	0.35 U	93.3	1.9	2
01/2020	0.35 U	2.9	0.22 U	0.41 U
04/2020	0.35 U	6.8	0.22 U	0.41 U
07/2020	0.35 U	1.5	0.22 U	0.41 U
10/2020	0.35 U	1.0	0.22 U	0.41 U
01/2021	0.35 U	0.8 I	0.22 U	0.41 U
04/2021	0.35 U	0.69 I	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	0.73 I	0.73 U	0.71 U

IW0108	TCE	cDCE	tDCE	VC
[20-28]				
12/2010	0.52 U	137	0.7 U	3.5
12/2011	1 U	96	1 U	110
12/2012	0.5 U	36	0.44 U	230
12/2014	0.76 U	215	0.86 I	145
12/2016	1.4 U	4.2 I	1.7 U	320
06/2018	0.35 U	0.88 I	0.45 I	306
10/2018	1 U	1.0	1 U	1.0
01/2019	0.35 U	0.36 I	0.22 U	0.41 U
04/2019	1 U	1.0	1 U	3.0
07/2019	0.35 U	0.48 I	0.22 U	0.56 I
10/2019	0.35 U	0.28 I	0.22 U	0.41 U
01/2020	0.35 U	0.28 U	0.22 U	0.41 U
04/2020	0.35 U	0.28 U	0.22 U	0.41 U
07/2020	0.35 U	0.28 U	0.22 U	0.41 U
10/2020	0.35 U	0.28 U	0.22 U	0.41 U
01/2021	0.35 U	0.28 U	0.22 U	0.41 U
04/2021	0.35 U	0.28 U	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	0.53 U	0.73 U	0.71 U

IW0147	TCE	cDCE	tDCE	VC
[20-28]				
03/2019	40 U	4400	40 U	1200
07/2019	0.35 U	29.5	0.68 I	3.1
10/2019	0.35 U	4.6	0.22 U	0.41 U
01/2020	0.35 U	15.1	0.22 U	0.41 U
04/2020	0.35 U	0.74 I	0.22 U	0.41 U
07/2020	0.35 U	1.5	0.22 U	0.41 U
10/2020	0.35 U	0.68 I	0.22 U	0.41 U
01/2021	0.35 U	0.49 I	0.22 U	0.41 U
04/2021	0.35 U	0.28 U	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	0.73 I	0.73 U	0.71 U

IW0144	TCE	cDCE	tDCE	VC
[20-28]				
03/2019	10 U	1900	40	410
07/2019	1.7 U	325	11.8	82.1
10/2019	0.69 U	108	6.2	1.1 I
01/2020	0.35 U	20.3	7.9	16.9
04/2020	0.35 U	20.7	1.7	7
07/2020	0.35 U	10.2	1.2	1.9
10/2020	0.35 U	12.4	1.2	0.66 I
01/2021	0.35 U	6.7	0.82 I	0.41 U
04/2021	0.35 U	5.2	0.72 I	0.41 U
10/2021	0.89 U	3.2	0.73 U	0.71 U
04/2022	0.89 U	2.8	0.73 U	0.71 U
10/2022	0.79 U	3.3	0.95 U	0.64 U
04/2023	0.15 U	1.1	0.50 U	0.50 U
11/2023	0.89 U	1.4	0.73 U	3.7

IW0145	TCE	cDCE	tDCE	VC
[29-34]				
03/2019	20 U	3900	27	930
07/2019	3.5 U	546	44.8	987
10/2019	0.69 U	76.4	16.7	375
01/2020	0.35 U	43	3.1	3.5
04/2020	0.35 U	7.7	2.4	8.6
07/2020	0.35 U	4.8	1.3	11.7
10/2020	0.35 U	2.8	0.92 I	3.5
01/2021	0.35 U	1.6	0.39 I	1.7
04/2021	0.35 U	1.3	0.22 U	1.5
10/2021	0.89 U	1.5 I	0.73 U	1.1 I
04/2022	0.89 U	0.80 I	0.73 U	0.81 I
10/2022	0.79 U	0.71 U	0.95 U	0.87 I
04/2023	0.15 U	0.53 I	0.50 U	0.50 U
11/2023	0.89 U	1.4	0.73 U	3.7

IW0136	TCE	cDCE	tDCE	VC
[20-28]				
03/2019	10 U	240	10 U	520
07/2019	0.35 U	34.9	0.22 U	59.7
10/2019	0.35 U	2.5	0.22 U	7.2
01/2020	0.35 U	5.4	0.22 U	1.5
04/2020	0.35 U	3.9	0.22 U	0.66 I
07/2020	0.35 U	32.6	0.22 U	12.2
10/2020	0.35 U	1.4	0.22 U	0.41 U
01/2021	0.35 U	0.63 I	0.22 U	0.41 U
04/2021	0.35 U	0.33 I	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	1.3 I	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	1.5	0.50 U	0.50 U
11/2023	0.89 U	0.53 U	0.73 U	0.71 U

IW0177	TCE	cDCE	tDCE	VC
[16-21]				
07/2023	0.15 U	120	0.5 U	130
11/2023	4.5 U	280	3.7 U	3.6 U
02/2024	4.5 U	360	3.7 U	17

IW0135	TCE	cDCE	tDCE	VC
[20-28]				
03/2019	290 U	53800	1100	10700
07/2019	35 U	16200	619	15700
10/2019	69 U	10200	491	7330
01/2020	35 U	5330	295	1580
04/2020	35 U	7750	282	166
07/2020	35 U	11900	455	1960
10/2020	69 U	10200	288	580
01/2021	35 U	7440	227	403
04/2021	35 U	5230	228	284
10/2021	18 U	2700	150	190
04/2022	22 U	1400	21 I	380
10/2022	0.79 U	400	6.9	110
04/2023	0.15 U	770	2.1	1100
11/2023	1.8 U	110	7.7	12

IW0137	TCE	cDCE	tDCE	VC
[20-28]				
03/2019	40 U	36600	490	4100
07/2019	86 U	21400	248 I	440
10/2019	69 U	12300	129 I	82 U
01/2020	8.6 U	1980	22.8 I	10 U
04/2020	3.5 U	789	8 I	10.6
07/2020	1.7 U	394	9	7.8
10/2020	0.35 U	97.3	3	1.6
01/2021	0.35 U	21.9	0.55 I	0.43 I
04/2021	0.35 U	13.6	0.39 I	0.41 U
10/2021	0.89 U	5.0	0.73 U	0.71 U
04/2022	0.89 U	4.5	0.73 U	0.71 U
10/2022	0.79 U	2.6	0.95 U	0.64 U
04/2023	0.15 U	5.4	0.50 U	0.58 I
11/2023	0.89 U	2.8	0.73 U	0.71 U

IW0134	TCE	cDCE	tDCE	VC
[23-28]				
03/2019	1 U	20300	220	8900
07/2019	170 U	37100	387 I	12500
10/2019	69 U	24300	344	391
01/2020	69 U	11900	166 I	220
04/2020	35 U	9130	120	207
07/2020	35 U	7590	94.9 I	837
10/2020	69 U	10200	87 I	651
01/2021	69 U	14400	132 I	715
04/2021	69 U	14200	175 I	1230
10/2021	89 U	8700	77 I	1000
04/2022	89 U	11000	73 U	1800
10/2022	0.79 U	6300	30	2500
04/2023	3 U	7300	26	3600
11/2023	22 U	1900	18 U	3700

IW0139	TCE	cDCE	tDCE	VC
[13-23]				
03/2019	10 U	4300	60	1800
07/2019	0.35 U	569	10.5	31.1
10/2019	0.35 U	515	2.6	0.82 U
01/2020	0.35 U	43.3	0.7 I	0.41 U
04/2020	0.35 U	14	0.37 I	0.41 U
07/2020	0.35 U	7.9	0.34 I	0.41 U
10/2020	0.35 U	2.3	0.24 I	0.41 U
01/2021	0.35 U	0.69 I	0.22 U	0.41 U
04/2021	0.35 U	0.29 I	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	0.67 I	0.73 U	0.71 U

IW0140	TCE	cDCE	tDCE	VC
[20-28]				
03/2019	100 U	4000	100 U	3600
07/2019	1.5 I	125	7.7	65.3
10/2019	0.35 U	9.9	1.7	0.41 U
01/2020	0.35 U	1.6	0.57 I	0.41 U
04/2020	0.35 U	0.75 I	0.49 I	0.41 U
07/2020	0.35 U	1.1	0.47 I	0.43 I
10/2020	0.35 U	0.44 I	0.32 I	0.41 U
01/2021	0.35 U	0.28 U	0.22 U	0.41 U
04/2021	0.35 U	0.28 U	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	1.7	0.73 U	0.71 U

IW0126	TCE	cDCE	tDCE	VC
[20-28]				
06/2018	0.35 U	3.4	0.22 U	5.5
10/2018	1 U	2.0	1 U	2.0
01/2019	0.35 U	1.7	0.22 U	0.41 U
04/2019	1 U	2.0	1 U	1 U
07/2019	0.35 U	1.7	0.22 U	0.41 U
10/2019	0.35 U	1.2	0.22 U	0.41 U
01/2020	0.35 U	0.98 I	0.22 U	0.41 U
04/2020	0.35 U	0.96 I	0.22 U	0.41 U
07/2020	0.35 U	1.2	0.22 U	0.41 U
10/2020	0.35 U	1.0	0.22 U	0.41 U
01/2021	0.35 U	0.92 I	0.22 U	0.41 U
04/2021	0.35 U	0.58 I	0.22 U	0.41 U
10/2021	0.89 U	0.64 I	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.36 I	0.50 U	0.50 U
11/2023	0.89 U	0.95 I	0.73 U	0.71 U

IW0141	TCE	cDCE	tDCE	VC
[20-28]				
03/2019	50 U	5600	50 U	5600
07/2019	3.5 U	809	15.3	36.8
10/2019	0.35 U	55.6	3.9	0.41 U
01/2020	0.35 U	4.7	1.3	0.41 U
04/2020	0.35 U	0.51 I	0.22 U	0.41 U
07/2020	0.35 U	1.4	0.3 I	0.41 U
10/2020	0.35 U	0.58 I	0.22 U	0.41 U
01/2021	0.35 U	0.28 U	0.22 U	0.41 U
04/2021	0.35 U	0.28 U	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	1.2	0.73 U	0.71 U

IW-57S	TCE	cDCE	tDCE	VC
[1-11]				
12/2018	0.35 U	62.7	5.1	54.9
10/2019	3 U	63	3 U	73
07/2019	3.5 U	488	6.2 I	4.1 U
10/2019	1.7 U	375	3.9 I	2 U
01/2020	0.35 U	93.1	1.3 I	1.5 I
04/2020	0.35 U	20	0.27 I	0.41 U
07/2020	0.35 U	7.2	0.22 U	0.41 U
10/2020	0.35 U	2	0.22 U	0.41 U
01/2021	0.35 U	1.5	0.22 U	0.41 U
04/2021	0.35 U	0.43 I	0.22 U	0.41 U
10/2021	0.89 U	0.57 I	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.27 I	0.50 U	0.50 U
11/2023	0.89 U	0.53 U	0.73 U	0.71 U
IW-57I	TCE	cDCE	tDCE	VC
[29-38]				
12/2018	0.35 U	13500 LV	271	4430
03/2019	40 U	15400	330	5900
07/2019	17 U	5630	143	2840
10/2019	8.6 U	2310	82.1	857
01/2020	1.7 U	270	29.4	317
04/2020	0.35 U	37.7	14.5	101
07/2020	0.35 U	26.9	13.7	120
10/2020	0.35 U	14.1	5.9	19.5
01/2021	0.35 U	9.8	4.1	12.9
04/2021	0.35 U	11	3.5	7.1
10/2021	0.89 U	6.2	1.8 I	2.6
04/2022	0.89 U	4.0	1.2 I	2.2 I
10/2022	0.79 U	4.4	1.4	1.7 I
04/2023	0.15 U	1.8	0.50 U	0.5 U
11/2023	0.89 U	9.2	1.0	7.6

IW0127	TCE	cDCE	tDCE	VC
[20-28]				
06/2018	0.35 U	32.1	0.33 I	42.8
10/2018	1 U	3	1 U	1 U
01/2019	0.35 U	1.4	0.22 U	0.41 U
04/2019	1 U	4.0	1 U	1 U
07/2019	0.35 U	2.8	0.22 U	0.41 U
10/2019	0.35 U	1.6	0.22 U	0.41 U
01/2020	0.35 U	0.83 I	0.22 U	0.41 U
04/2020	0.35 U	0.5 I	0.22 U	0.41 U
07/2020	0.35 U	0.6 I	0.22 U	0.41 U
10/2020	0.35 U	0.58 I	0.22 U	0.41 U
01/2021	0.35 U	0.28 U	0.22 U	0.41 U
04/2021	0.35 U	0.28 U	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	1.8	0.73 U	0.71 U

IW0142	TCE	cDCE	tDCE	VC
[20-28]				
03/2019	40 U	2900	40 U	6700
07/2019	0.35 U	14.5	1.2	5.7
10/2019	0.35 U	0.84 I	0.22 U	0.41 U
01/2020	0.35 U	0.49 I	0.22 U	0.41 U
04/2020	0.35 U	0.28 U	0.22 U	0.41 U
07/2020	0.35 U	0.44 I	0.22 U	0.41 U
10/2020	0.35 U	0.28 U	0.22 U	0.41 U
01/2021	0.35 U	0.28 U	0.22 U	0.41 U
04/2021	0.35 U	0.28 U	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	0.76 I	0.73 U	0.71 U

SW1004	TCE	cDCE	tDCE	VC
01/2017	1 U	41	8	140
06/2018	0.35 U	1.4	11.5	212
10/2018	1 U	1 U	1 U	1 U
01/2019	0.35 U	0.28 U	0.22 U	0.41 U
04/2019	1 U	1 U	1 U	1 U
07/2019	0.35 U	0.28 U	0.22 U	0.41 U
10/2019	0.35 U	0.28 U	0.22 U	0.41 U
01/2020	0.35 U	0.28 U	0.22 U	0.41 U
04/2020	0.35 U	0.28 U	0.22 U	0.41 U
07/2020	0.35 U	0.28 U	0.22 U	0.41 U
10/2020	0.35 U	0.28 U	0.22 U	0.41 U
01/2021	0.35 U	0.28 U	0.22 U	0.41 U
04/2021	0.35 U	0.28 U	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	0.53 U	0.73 U	0.71 U

SW1002	TCE	cDCE	tDCE	VC
12/2016	1 U	1 U	1 U	1 U
01/2017	1 U	1 U	1 U	1 U
06/2018	0.35 U	22.4	0.22 U	93.7
10/2018	1 U	1	1 U	1 U
01/2019	0.35 U	1.7	0.22 U	0.41 U
04/2019	1 U	1 U	1 U	1 U
07/2019	0.35 U	2.0	0.22 U	0.41 U
10/2019	0.35 U	0.28 U	0.22 U	0.41 U
01/2020	0.35 U	1.1	0.22 U	0.41 U
04/2020	0.35 U	2.8	0.22 U	0.41 U
07/2020	0.35 U	1.9	0.22 U	0.66 I
10/2020	0.35 U	0.78 I	0.22 U	0.6 I
01/2021	0.35 U	0.28 U	0.22 U	0.41 U
04/2021	0.35 U	1.2	0.22 U	0.41 U
10/2021	0.89 U	2.1 I	0.73 U	0.71 U
04/2022	0.89 U	1.6 I	0.73 U	0.71 U
10/2022	0.79 U	1.2	0.95 U	0.64 U
04/2023	0.15 U	0.70 I	0.50 U	0.50 U
11/2023	0.89 U	0.53 U	0.73 U	0.71 U

IW0128	TCE	cDCE	tDCE	VC
[13-23]				
06/2018	17 U	4030	54.9	3050
10/2018	3 U	180	3 U	10
01/2019	0.35 U	21.5	1	2.6
04/2019	1 U	4.0	1 U	33
07/2019	0.35 U	3.3	0.47 I	2.2
10/2019	0.35 U	0.28 U	0.22 U	0.41 U
01/2020	0.35 U	0.81 I	0.22 U	0.49 I
04/2020	0.35 U	0.84 I	0.22 U	1.4
07/2020	0.35 U	1.1	0.22 U	0.59 I
10/2020	0.35 U	0.65 I	0.22 U	0.41 U
01/2021	0.35 U	0.5 I	0.22 U	0.41 U
04/2021	0.35 U	0.28 U	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	0.55 I	0.73 U	0.71 U

IW0125	TCE	cDCE	tDCE	VC
[13-23]				
06/2018	0.35 U	5.0	4.3	2.4
10/2018	4.0	4.0	1 U	1 U
01/2019	0.35 U	3.4	2.4	1.4
04/2019	1 U	4.0	2.0	1.0
07/2019	0.35 U	3.7	2.3	1.7
10/2019	0.35 U	3.0	1.5	2.4
01/2020	0.35 U	3.6	0.91 I	1.4
04/2020	0.35 U	2.3	0.37 I	3.3
07/2020	0.35 U	2.3	0.52 I	3.9
10/2020	0.35 U	1.4	0.22 U	3.6
01/2021	0.35 U	2.0	0.32 I	3.2
04/2021	0.35 U	3.6	0.22 U	3.6
10/2021	0.89 U	2.1 I	0.73 U	2.9
04/2022	0.89 U	2.3 I	0.73 U	2.2 I
10/2022	0.79 U	1.1	0.95 U	1.4 I
04/2023	0.15 U	0.91 I	0.50 U	0.5

SECTION V
RECOMMENDATIONS

This section presents the recommendations for the 2024-2025 LC34 operational period scheduled to occur between April 1, 2024 to March 31, 2025. These recommendations were presented to the KSCRT during the June 13, 2024 meeting and received concurrence from the Team (Meeting Minute 2406-M09, Decisions 2406-D34 through D37). The June 2024 ADP and meeting minutes are included in Appendix A.

5.1 SITE-WIDE LONG-TERM MONITORING STRATEGY

The biennial LTM network was not sampled during the reporting period covered under this report; it is scheduled to be sampled in December 2024 and results will be reported in the next report. The recommendations were detailed in the 2022 PMR (NASA, 2023b) and received concurrence from the KSCRT during the October 2023 (Meeting Minute 2310-M11, Decisions D28 and D29). The recommendations included replacement of a damaged monitoring well (CW0002) and continued biennial sampling of 56 wells for VOCs and one well for PCBs. As of the date of this report, the new well (IW0201) was installed in May 2024. Detail of the well installation will be included in a subsequent PMR. The well locations are listed in Table 5-1 and shown on Figure 5-1.

5.2 HYDRAULIC CONTAINMENT SYSTEM

The IM objectives continue to be achieved, and optimizations have resulted in increased treatment and recovery efficiencies. The following items were recommended at the June 2024 KSCRT meeting for the next year of operation (Year 15) and received concurrence from the Team (2406-D34):

- Continued operation of the HC IM consistent with the current approach.
- HCS System Sampling consistent with current approach
- Biweekly sampling in selected Layer 8 monitoring wells to evaluate RW021D operations;

- Monthly sampling of aqueous effluent from the air strippers and LPGAC;
- Quarterly sampling of combined system influent and influent from active individual recovery wells;
- Annual sampling of vapor-phase CatOx influent and effluent;
- Annual sampling at the nine DPT locations in the DSZ (DPT593 to DPT601) at the same depth intervals as the 2023 event; and
- Annual sampling at 11 Layer 7/8 wells (IW0001D2, IW0042D2, IW0043D2, IW0044D2, IW0045D2, IW0160, IW0161, IW0162, IW0163, IW0164, and IW0165). The next annual event is scheduled for December 2024. The recommended sampling plan for 2024-2025 (Year 15) is included in Table 5-1 and Figure 5-1.
- Once the new Layer 7 air compressor is operational, begin operating recently installed Layer 7 recovery wells.

5.3 HOT SPOT 6 AIR SPARGE SYSTEM

The HS 6 AS system is operating as designed and meeting performance criteria and IM objectives. Continued optimization of the current AS system is recommended to enhance and maintain operational objectives and flow rates will be adjusted as determined by performance monitoring. As of the date of this report, the Phase Three expansion is in progress and details of the construction and startup will be documented in a future PMR.

For this operational period, the following items were recommended at the June 2024 KSCRT meeting for the next year of operation and received concurrence from the Team:

- Continued operation of the 238 active ASWs and routine O&M of the system for the operational period of April 1, 2024 to March 31, 2025 (2406-D35).
- Semi-annual performance monitoring at the 28 wells and 3 surface water locations positioned to monitoring the Phase One configuration (Table 5-1) (2406-D36). The next semi-annual samples are scheduled to be collected in May and November 2024.

- Continued quarterly performance monitoring at the 21 wells positioned to monitor the Phase Two configuration (Table 5-1) (2406-D37).

Table 5-1. LC34 Recommended Sitewide Sampling Plan for 2024-2025

Sample Location (LC34-)	Sampling Function			
	Biennial LTM	Annual HCS PM	Semi-annual HS 6 PM	Quarterly HS 6 PM
IW0001D2		X		
IW0004S	X			
IW0005S	X			
IW0006I	X			
IW0009S	X			
IW0009I	X			
IW0010SR	X			
IW0010IR	X			
IW0011S	X			
IW0013I	X			
IW0014IR	X			
IW0018I	X			
IW0021I	X			
IW0022I	X			
IW0023I	X			
IW0024S	X			
IW0024I	X			
IW0025S	X			
IW0029S	X			
IW0029I	X			
IW0031I	X			
IW0032S	X			
IW0033I	X			
IW0036I	X			
IW0037S	X			
IW0037I	X			
IW0039I	X			
IW0042D2		X		
IW0043D2		X		
IW0044D2*		X		
IW0045D2		X		
IW0051S	X			
IW0051I	X			
IW0054S	X			
IW0055I	X			
IW0057S			X	
IW0057I			X	
IW0058S	X			
IW0059S	X			
IW0059I	X			

Table 5-1. LC34 Recommended Sitewide Sampling Plan for 2024-2025 (continued)

Sample Location (LC34-)	Sampling Function			
	Biennial LTM	Annual HCS PM	Semi-annual HS 6 PM	Quarterly HS 6 PM
IW0061I	X			
IW0062I	X			
IW0063S	X			
IW0063I	X			
IW0064S	X			
IW0064I	X			
IW0074S	X			
IW0095	X			
IW0096	X			
IW0097	X			
IW0098	X			
IW0099	X			
IW0100	X			
IW0101	X			
IW0102	X			
IW0103	X			
IW0104	X			
IW0105	X			
IW0106	X			
IW0107	X			
IW0108			X	
IW0109	X			
IW0110	X			
IW0122[(1)]	X			
IW0201	X			
IW0123			X	
IW0124			X	
IW0125			X	
IW0126			X	
IW0127			X	
IW0128			X	
IW0129			X	
IW0130			X	
IW0131			X	
IW0132			X	
IW0133			X	
IW0134			X	
IW0135			X	
IW0136			X	
IW0137			X	

Table 5-1. LC34 Recommended Sitewide Sampling Plan for 2023-2024 (continued)

Sample Location (LC34-)	Sampling Function			
	Biennial LTM	Annual HCS PM	Semi-annual HS 6 PM	Quarterly HS 6 PM
IW0138			X	
IW0139			X	
IW0140			X	
IW0141			X	
IW0142			X	
IW0143			X	
IW0144			X	
IW0145			X	
IW0146			X	
IW0147			X	
SW1001			X	
SW1002			X	
SW1004			X	
IW0168				X
IW0169				X
IW0170				X
IW0171				X
IW0172				X
IW0173				X
IW0174				X
IW0175				X
IW0176				X
IW0177				X
IW0178				X
IW0179				X
IW0180				X
IW0181				X
IW0182				X
IW0183				X
IW0184				X
IW0185				X
IW0186				X
IW0187				X
IW0188				X
IW0160		X		
IW0161		X		
IW0162		X		
IW0163		X		
IW0164		X		
IW0165		X		

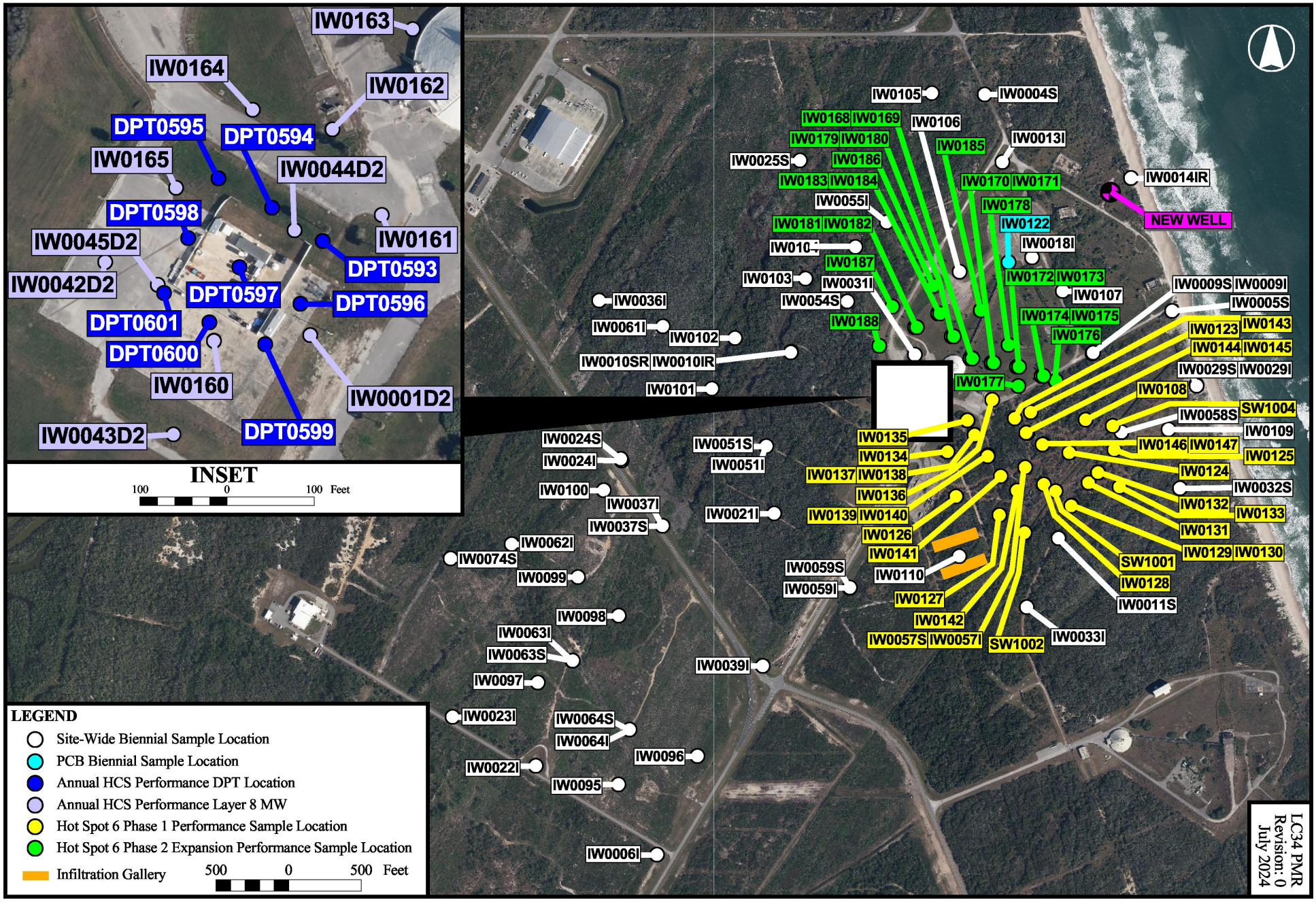
Table 5-1. LC34 Recommended Sitewide Sampling Plan for 2024-2025 (continued)

Sample Location (LC34-)	Sampling Function			
	Biennial LTM	Annual HCS PM	Semi-annual HS 6 PM	Quarterly HS 6 PM
DPT0593		X		
DPT0594		X		
DPT0595		X		
DPT0596		X		
DPT0597		X		
DPT0598		X		
DPT0599		X		
DPT0600		X		
DPT0601		X		

Notes:

Samples are analyzed for VOCs by EPA Method 8260D
(1) - Well IW0122 is only analyzed for PCBs by Method 8082 to monitor the former transformer T-2 Area
* IW0044D2 is currently on a biweekly sampling schedule.
LTM - Long-Term Monitoring
HCS - Hydraulic Capture System
HS 6 - Hot Spot 6
PM - Performance monitoring
At each DPT location 19 depth intervals are sampled; from 8 to 98 feet below land surface

FIGURE 5-1 YEAR 15 GROUNDWATER SAMPLE LOCATIONS
LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION, FLORIDA



SECTION VI
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APPENDIX A

JUNE 13, 2024 ADVANCE DATA PACKAGE AND KSCRT MEETING MINUTES
(PROVIDED IN ELECTRONIC VERSION ONLY)

Launch Complex 34 (LC34), SWMU CC054
2023 DNAPL Source Zone OM&M, Site-Wide LTM, Hot Spot 6 Air Sparge Performance Monitoring, and Hot Spot 6 Phase Two Expansion Construction Completion Report

TETRA TECH



June 2024

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This Advance Data Package (ADP) was prepared for NASA to aid in evaluation of site conditions and remedial actions. This is not a decision document. New information may come to light that makes this ADP outdated.

Objectives

Site Overview

- Background, Remedial History, Site Conditions
- 2023 Sampling Program (Period of performance April 2023 – March 2024)

Hydraulic Containment System (HCS) Operations, Maintenance, and Monitoring (OM&M)

- HCS Operations and Maintenance
- System and Performance Monitoring Sampling Results
- Conclusions / Recommendations

Hot Spot 6 (HS6) Air Sparge (AS) System Phase Two Construction Completion

- Pre-construction DPT sampling
- Performance Monitoring and AS Well Installation
- Trenching, Piping, Conveyance Line Installation
- Startup and Full-Scale Operation

HS6 AS System Performance Monitoring

- Operations and Maintenance (overall system)
- Performance Monitoring Results
- Conclusions / Recommendations

Path Forward

- 2024 System Operations and Sampling Plan

Site Overview: Where we are in the RCRA Process?

Status:

- Site is in Corrective Measures Study for volatile organic compounds (VOCs) in groundwater from a traditional RCRA stand-point
- Adaptive site management is being utilized through on-going assessment, design, and interim measures

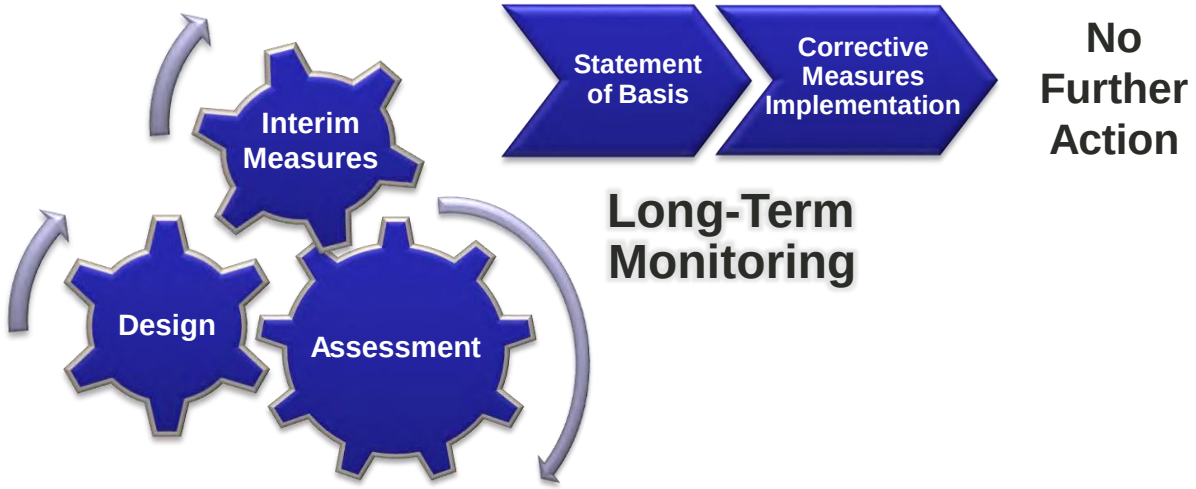
Common terminology:

- Source Zones - areas where dense non aqueous phase liquid (DNAPL) is suspected
- Hot Spot - area where concentrations of VOCs are 10 times greater than Natural Attenuation Default Concentrations (NADCs)
- High Concentration Plume - area where concentrations of VOCs are greater than NADCs
- Low Concentration Plume - area where concentrations of VOCs are greater than Groundwater Cleanup Target Levels (GCTLs)

Traditional Linear Approach to RCRA Corrective Actions



KSC Approach to RCRA Corrective Actions (Engineering Evaluation Process)



Site Overview: Background

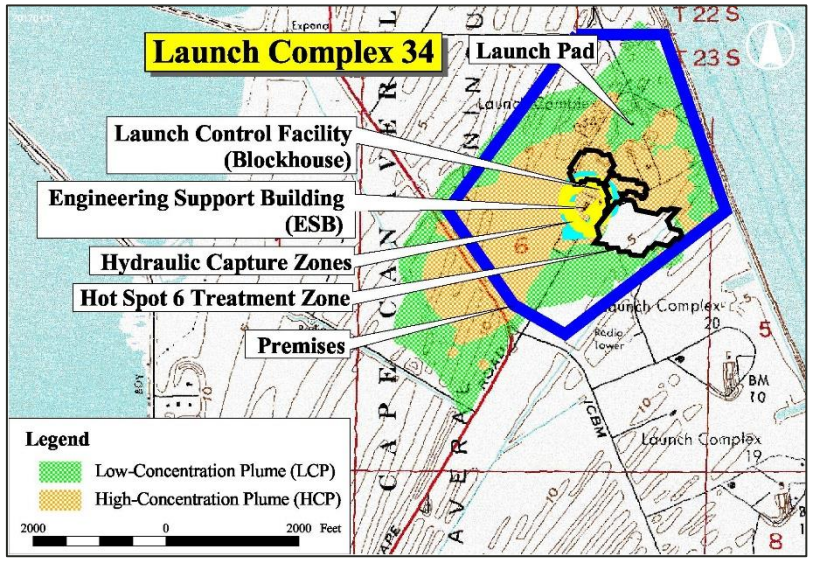
Background:

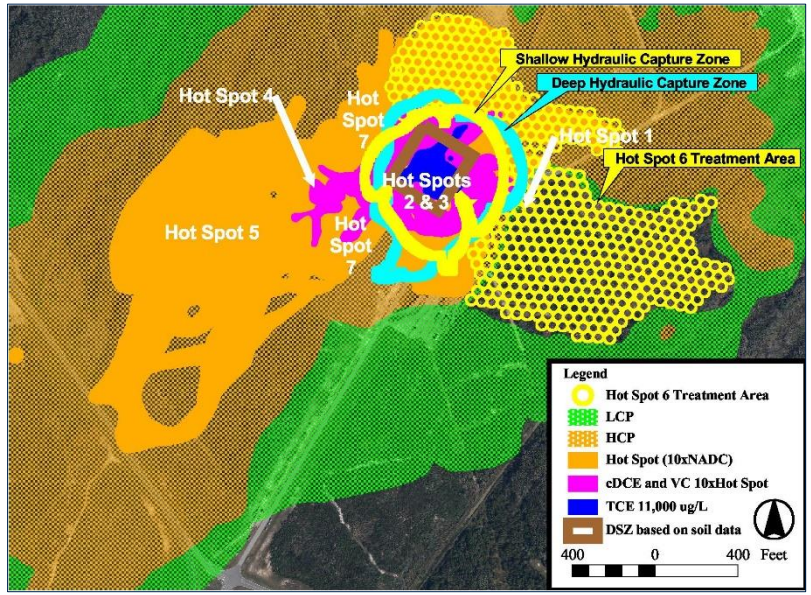
- Located on a barrier island bounded by the Banana River and Atlantic Ocean
- Pedestal is a regular stop for the KSC Visitor Bus and CCSFS tours
- The Air Force has issued NASA a permit granting the privilege for the use of real property and facilities referred to as the “Premises” for environmental restoration
- Current plume footprint:
  - 314 acres ≥ GCTLs, low concentration plume (LCP);
  - 158 acres ≥ NADCs, high concentration plume (HCP)
  - 52.8 acres ≥ 10xNADC, Hot Spot;
  - 9.3 acres ≥ 10x Hot Spot
- The 2.0-acre DNAPL source zone (DSZ) was originally characterized using soil data, included significant dissolved and sorbed mass with TCE > 300 mg/kg and transition zone to 100 mg/kg and recharacterized in 2018-2019 with groundwater data where TCE > 11,000 µg/L



	CHP	HMFN	WC
SZ:	PCE	TCE	TCE
% solubility:	4%	1%	1%
SZ in acres:	0.05	0.26	0.23
LC34 comparison:	28x	5.4x	6.1x

LC34 Source Zone (1.4 acres) comparison to Central Heat Plant, HMF North and Wilson Corners, as presented in DSZ Site Characterization ADP (October 2019)

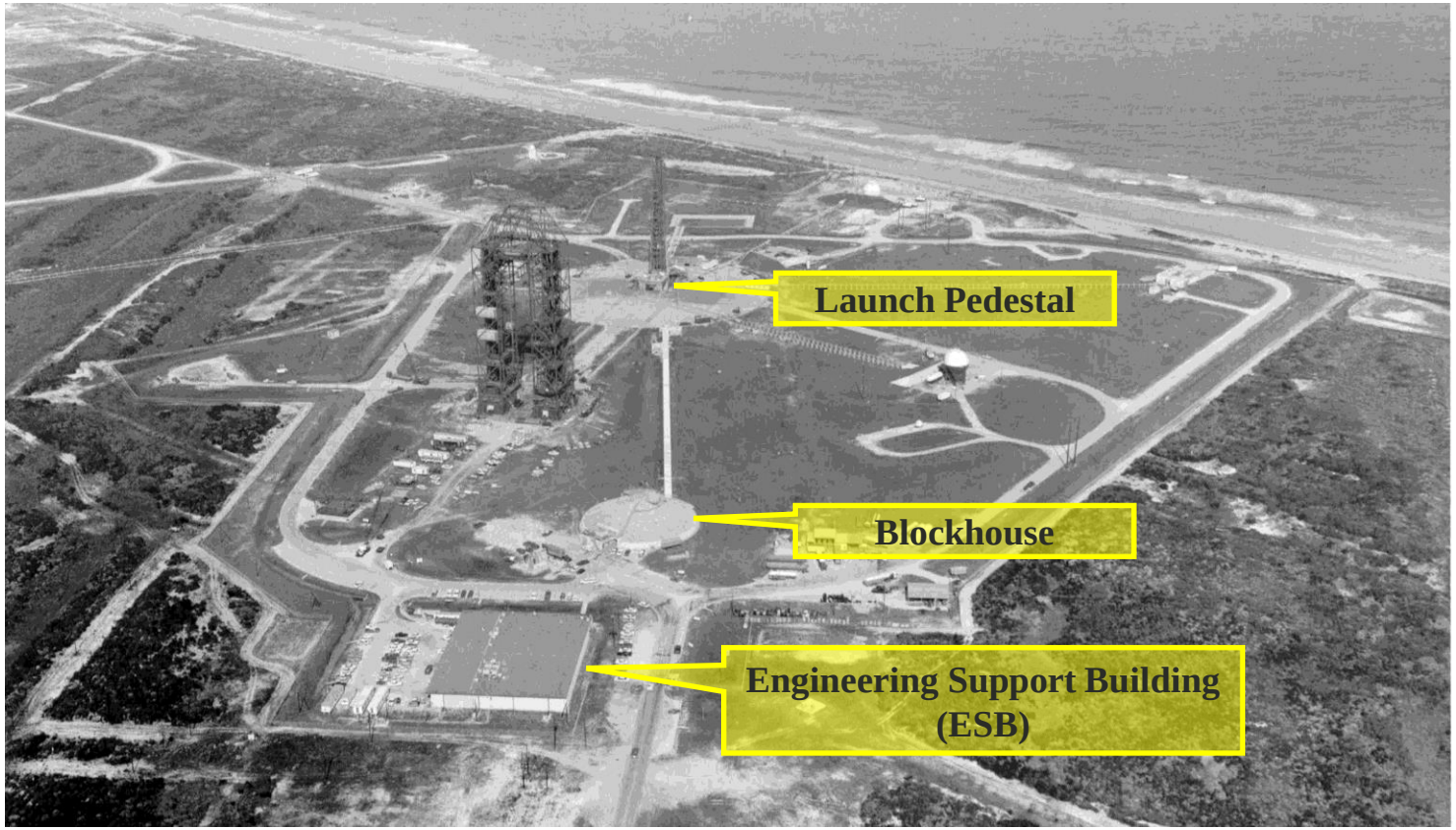




Site Overview: Background

Background (continued):

- Construction of Complex 34 began in 1959, designed to support NASA's Saturn 1 and 1B programs
- Seven launches between 1961 and 1968
  - Historical records suggest TCE used to flush rocket engines and for precision cleaning of spaceflight hardware
- **1967:** Apollo 1 cabin fire during a launch rehearsal test taking the lives of Grissom, White, and Chaffee
- **1972:** Service structures and operational equipment scrapped, leaving majority of on-site buildings and structures abandoned-in-place
- **1984:** Declared part of the Man In Space National historical Landmark



Site Overview: Remedial Timeline

1991-1992

Preliminary Assessments

Identified as a high priority site for further investigation through records search, interviews, and site reconnaissance.

1994-1998

Contamination Assessment Report / Site Assessment Report Addendum

Conducted at Facility #21900H (ESB) to investigate 1993 diesel fuel spill. Chlorinated solvents detected in groundwater.

1997-1999

RCRA Facility Investigation

TCE, cDCE, tDCE, VC are the primary contaminants of concern. TCE present as DNAPL in the former ESB area.

1999/2003

Corrective Measures Study Work Plan

Plan to evaluate data gaps from RFI and potential technologies for the source areas, hot spots, and plume.

2001

PCB-Impacted Soil Interim Measure

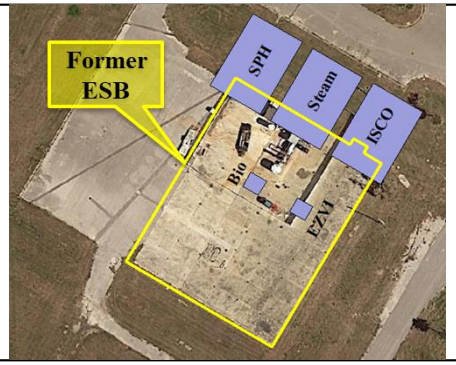
Excavated PCB-impacted soils above industrial SCTL at three identified areas from the RFI.

2002-2003

RFI Addendum

Summarized in situ remediation demonstration projects at the ESB. MIP, soil cores, groundwater sampling In situ remediation demonstration test cells:

Chemical Oxidation (ISCO), TCE reduction of 12,700 pounds (43' bls)
Six-Phase Heating (SPH), TCE reduction of 22,719 pounds (43' bls)
Steam Injection, TCE reduction of 23,629 pounds (43' bls)
Emulsified zero-valent iron (EZVI), TCE reduction of 40 pounds (16' to 24' bls)
Bioaugmentation, TCE reduction of 60 pounds (16' to 24' bls)



Site Overview: Remedial Timeline

2007

Corrective Measures Study Report

Corrective measure alternative included a LUCIP to prohibit groundwater use. Recommended corrective action alternative was pump and treat (P&T) to provide hydraulic containment of the DSZ, MNA with supplemental investigations and follow-up Interim Measures to target CVOC Hot Spots in the HCP, MNA in the LCP.

2008/2009

DSZ Interim Measure Design / Work Plan

IM Design and Work Plan for hydraulic containment of the DSZ and deep TCE groundwater plume. IM objective to hydraulically control the DSZ and TCE HCP within HS 2, 3, 4 by groundwater extraction and ex-situ treatment.

2009

Hot Spot 1 Site Characterization / Addendum

Conducted investigations to delineate TCE to NADC. Field activities included MIP, CPT, DPT, and monitoring well sampling.

2011

Interim Measure Completion Report

Installation and operation of the DSZ Hydraulic Containment System (HCS)



2011

Hot Spots 3 and 4 Site Characterization

Delineated TCE to NADC. Field activities included MIP, CPT, DPT, and monitoring well sampling.

2012

Hot Spot 1 Interim Measure Implementation

Implemented IM of partitioning electron donor (PED) pilot study. Over 1 million gallons of GW were recirculated with an approximately 92% reduction in CVOC mass.

Site Overview: Remedial Timeline

2013

Pumping Optimization and Hot Spots 3 and 4 Expansion Step 4 / Work Plan

Plan for modification and retrofitting of the HCS, proposed recovery well (RW) locations, pumping rates, and expansion construction

2015

HCS Expansion Construction Completion

Implemented expansion of the HC IM including installation of new RWs, new air stripper, refurbishment of the catalytic oxidizer, commissioning and startup.

2016

Hot Spot 6 Site Characterization

Delineated CVOCs using DPTs and monitoring well sampling.

2017-2018

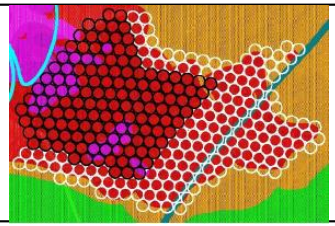
Hot Spot 6 Implementation Work Plan / Expansion Work Plan

Original system and expansion design to install AS system within treatment zone and support transition to MNA.

2019

Hot Spot 6 Construction Completion

Presented construction of the AS system installed in two phases. Initial system operated between July 2018 through January 2019. Expansion completed in April 2019; fully operational in May 2019.



2019

Hot Spot 5 Site Characterization

Delineated cDCE and VC using DPT sampling. Consensus reached for adequate delineation horizontally and vertically of hot spot.

Site Overview: Remedial Timeline

2019

Soil Interim Measure

Excavated soils contaminated with PCBs (less than 50 mg/kg), dioxins/furans, and total recoverable petroleum hydrocarbons from 20 different areas around LC34. No Further Action approved for all areas.



2019

DSZ Supplemental Site Characterization

Delineated TCE to 300 µg/L by collecting horizontal and vertical datasets to support optimization of the HCS and preparing a DSZ Remedial Alternative Evaluation. Consensus reached for adequate delineation.

2020

Electrical Substation T-2 Area Soil Interim Measure

Removed PCB contaminated soil and concrete in the area of a former electrical substation located along the southeast side of the launch pad. Remaining contaminated soil is beneath slab and under LUCIP with groundwater monitoring.

Hot Spot 6 Expansion Phase Two Work Plan

Presented DPT investigation results in support of system expansion. Consensus reached for expansion of system and installation of PM wells.

2022

DNAPL Source Zone (DSZ) and Pilot Study

Pilot study design / implementation from July 2021 to February 2022, in support of ongoing RAE to test air sparging in the DSZ and fine-grained units.

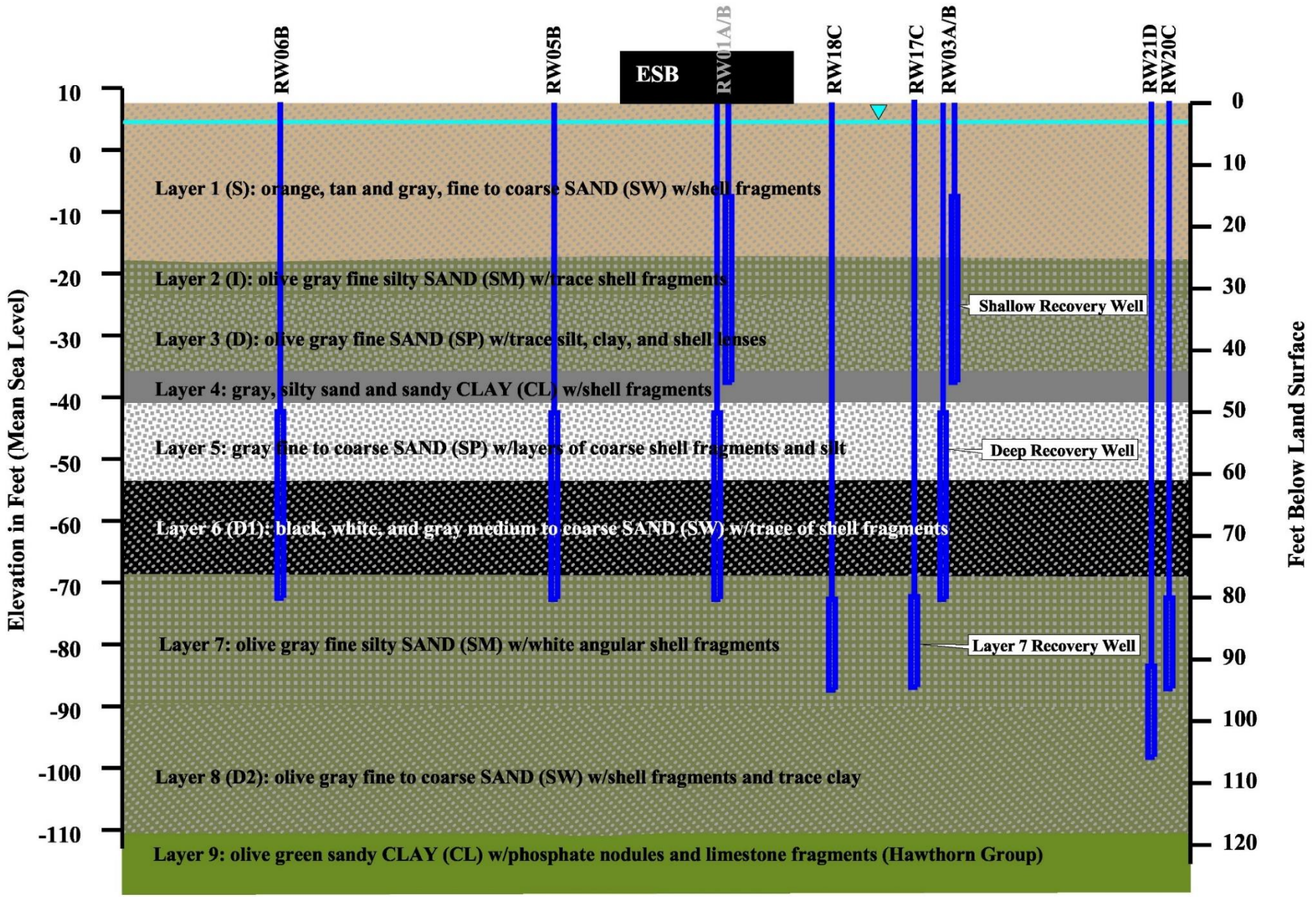
2023

DSZ) Remedial Alternate Evaluation (RAE) and Hot Spot 6 Expansion Phase Two

RAE presented to KSCRT during September 2023 meeting.

Full-scale operation in August 2023, two quarters of PM collected

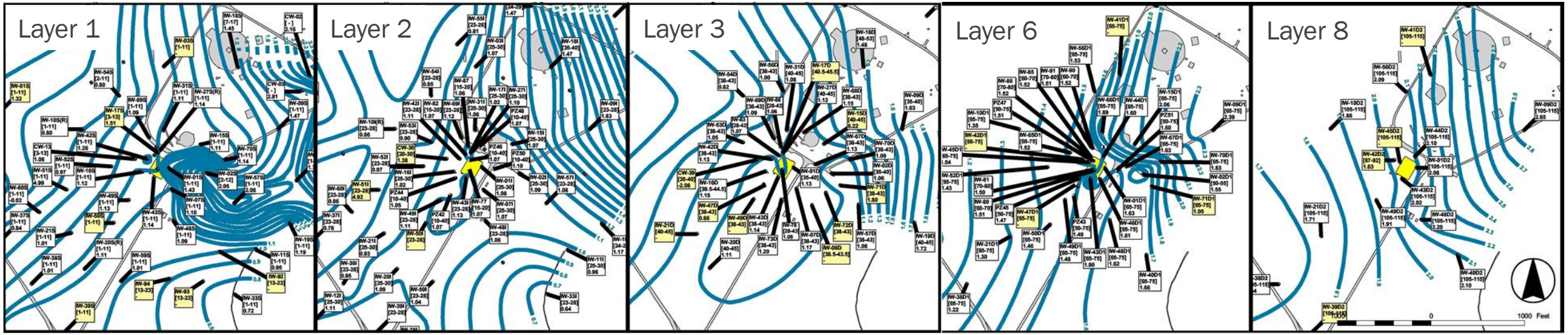
Site Overview: Geology with Recovery Wells



Site Overview: Lithology

Layer	Description	Photo
1 (S)	orange, tan and gray, fine to coarse SAND (SW) w/shell fragments	
2 (I)	olive gray fine silty SAND (SM) w/trace shell fragments	
3 (D)	olive gray fine SAND (SP) w/trace silt, clay, and shell lenses	
4	gray, silty sand and sandy CLAY (CL) w/shell fragments	
5	gray fine to coarse SAND (SP) w/layers of coarse shell fragments and silt	
6 (D1)	black, white, and gray medium to coarse SAND (SW) w/trace shell fragments	
7	olive gray fine silty SAND (SM) w/white angular shell fragments	
8 (D2)	olive gray fine to coarse SAND (SW) w/shell fragments and trace clay	Description from Deep Soil Coring completed in 2002, no photos available
9	olive green sandy CLAY (CL) w/phosphate nodules and limestone fragments (Hawthorn Group)	

Site Overview: Groundwater Contours



Survey datum is North American Vertical Datum of 1988 (NAVD88)

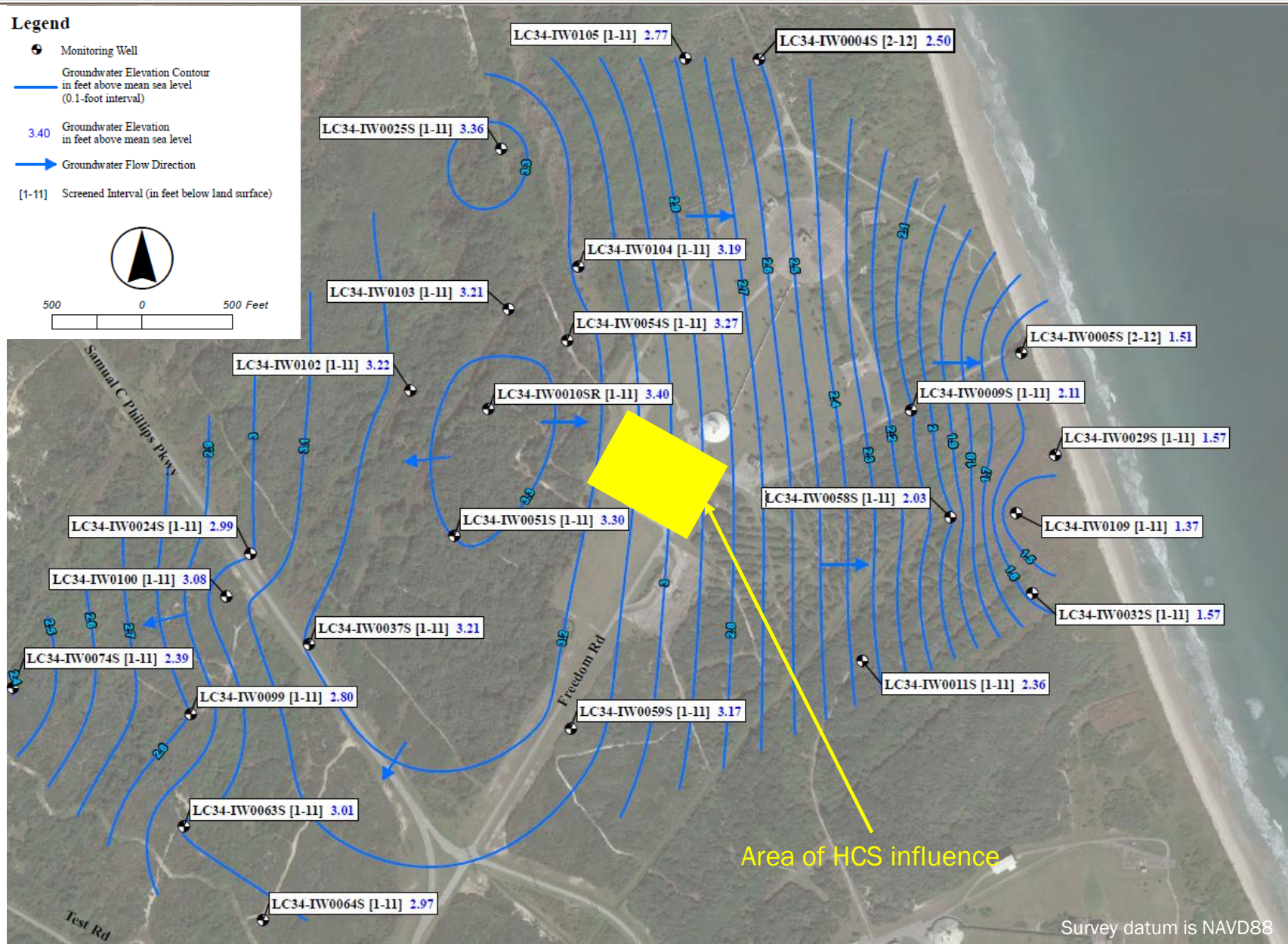
Groundwater Contours:

- Potentiometric maps show groundwater flow patterns prior to HCS operation in December 2009
- In the shallow intervals (Layers 1, 2, and 3) there is localized groundwater mounding near the HCS Compound
- In the deep intervals (Layers 6 and 8) flow is generally to the southeast, southwest, and west
- Decision to discontinue water levels was made during April 2012 KSCRT Meeting (1204-M13, Decision 1204-D24)
- Site-wide water levels collected during biennial LTM events (Layers 1 and 2) contoured to verify consistency with historical readings (most recent February 2023, shown on next slides)

Site Overview: Groundwater Contours – February 2023

Groundwater Contours (continued):

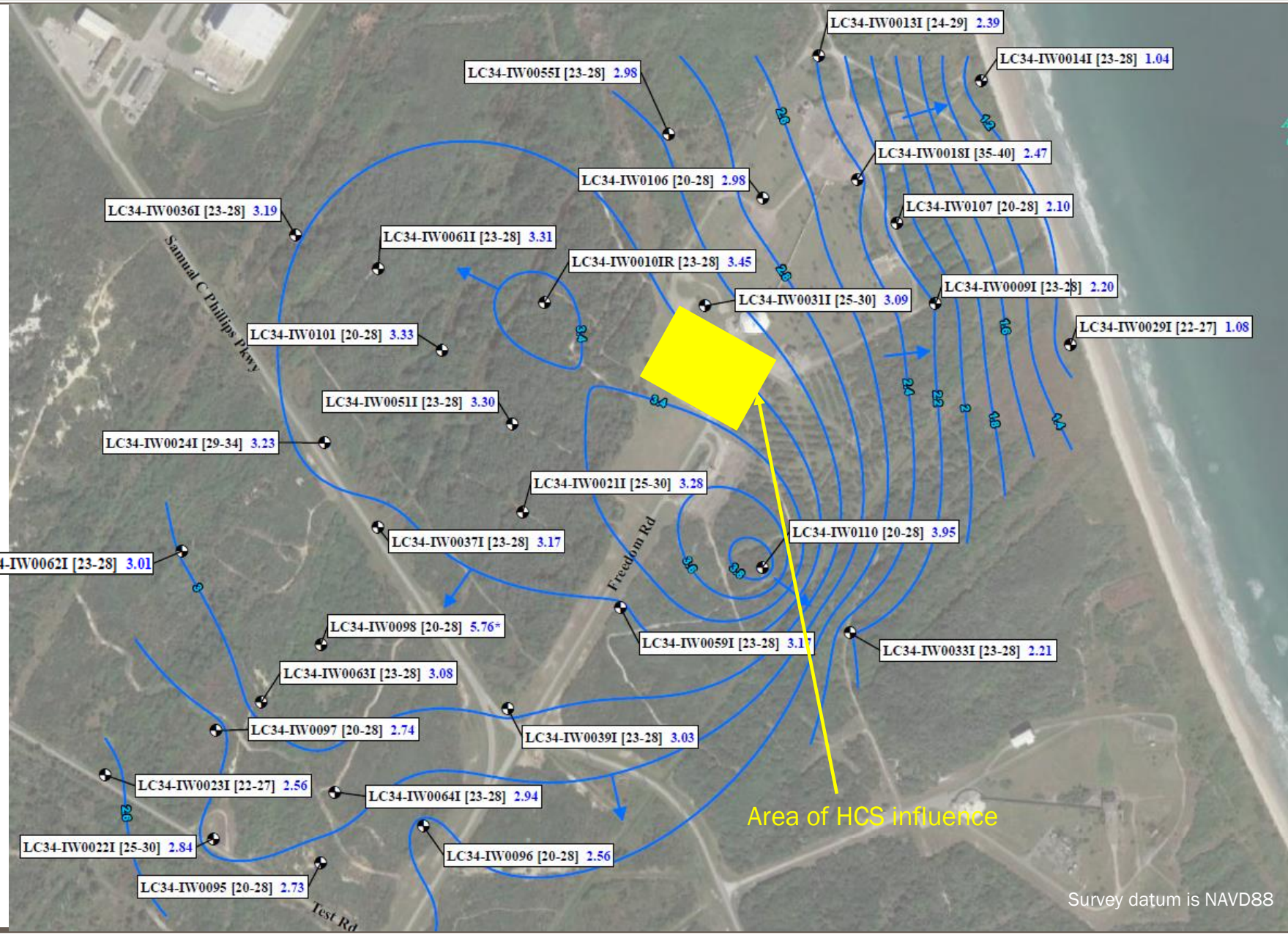
- Layer 1 (screened 0 to 25 ft bls)
- 24 biennial LTM wells used for contouring
- Elevations ranged from 1.37 feet in well IW0109 to 3.40 feet in well IW0010SR
- Flow is radial at wells IW0025S and IW0010SR. Generally, flow is to the east towards the Atlantic Ocean on eastern half of site and generally flows west on western half of site.
- Wells used for contouring were outside of the HCS influence area



Site Overview: Groundwater Contours – February 2023

Groundwater Contours (continued):

- Layer 2 (screened 25 to 30 ft bls)
- 30 biennial LTM wells used for contouring
- IW0098 damaged, not used for contouring
- Elevations ranged from 1.04 feet in well IW0014I to 3.95 feet in well IW0110
- Groundwater flow appears to be radial from wells IW0010IR and IW0110. Generally, flow is to the east towards the Atlantic Ocean on eastern half of site and generally flows southwest on western half of site
- Wells used for contouring were beyond influence of the HCS



Interim Measures and SLC-20C Pad Sitework

Hydraulic Containment System:

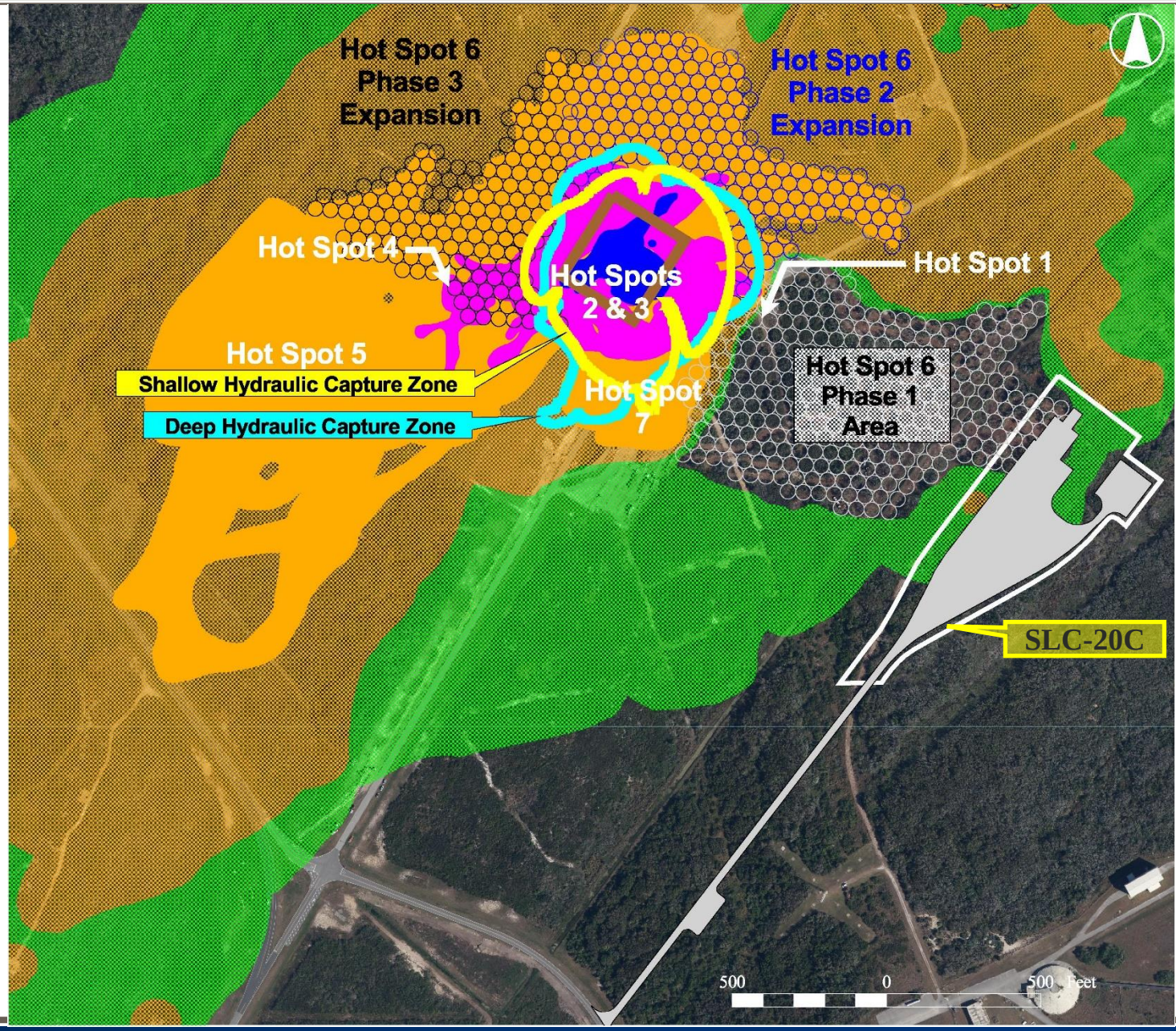
- Start up efforts began in 2009
- Full scale operations since 2010 significantly reducing migration of the DSZ

Hot Spot 6 Air Sparging :

- Original system (Phase One) completed 2019:
  - 300 Air Sparging Wells (ASWs)
  - 14.1 acres of 15.7 acres reduced to <GCTLs
- Expansion (Phase Two) completed 2024:
  - 190 ASWs
  - 11.2-acre treatment zone
- Expansion (Phase Three):
  - Presented to KSCRT in February 2024
  - Two Treatment Areas (Area #1 and Area #2)
  - 192 ASWs
  - 9.4-acres

SLC-20C Pad Sitework :

- 45% Design Development September 2022



2023 - 2024 Sampling Program

Site-wide:

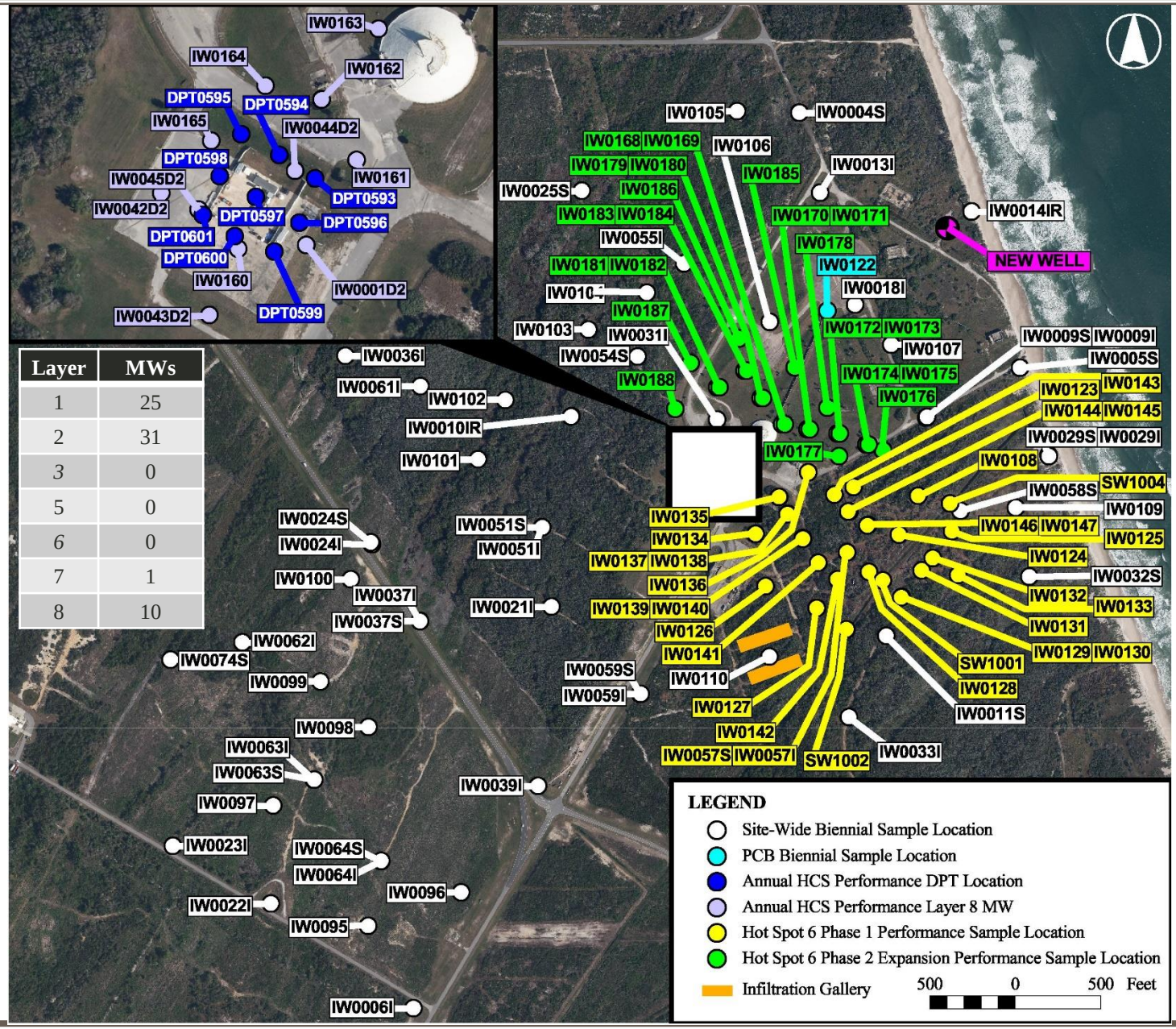
- Biennial (scheduled December 2024):
  - 56 MWs for VOCs, includes new well installation
  - IW0122 for PCBs

HCS OM&M :

- Biweekly, select Layer 8 wells evaluating RW21D operations
- Monthly, air strippers and Liquid-Phase Granular Activated Carbon (LPGAC) effluent samples
- Quarterly, total system influent and active RWs
- Annual:
  - Catalytic Oxidizer (CatOx) influent and effluent
  - DPT Performance Monitoring
    - 9 locations, 5 ft sampling interval 8 to 98 ft bls
  - Performance Layer 8 MWs and Layer 7 IW42D2

Hot Spot 6 Performance Monitoring :

- Quarterly, Phase Two performance monitoring:
  - 21 MWs
- Semi-annual, Phase One performance monitoring:
  - 28 MWs and 3 SWs



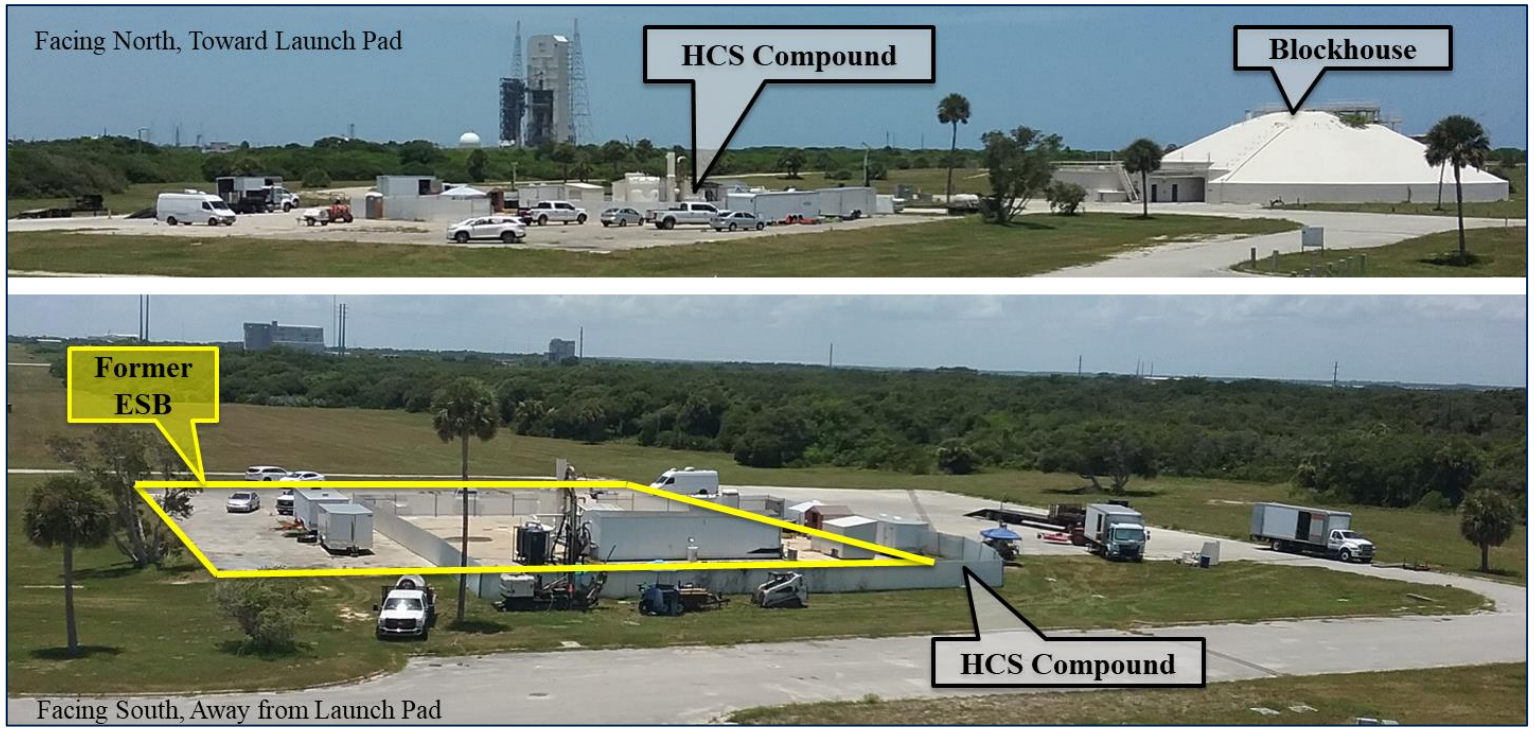
Layer	MWs
1	25
2	31
3	0
5	0
6	0
7	1
8	10

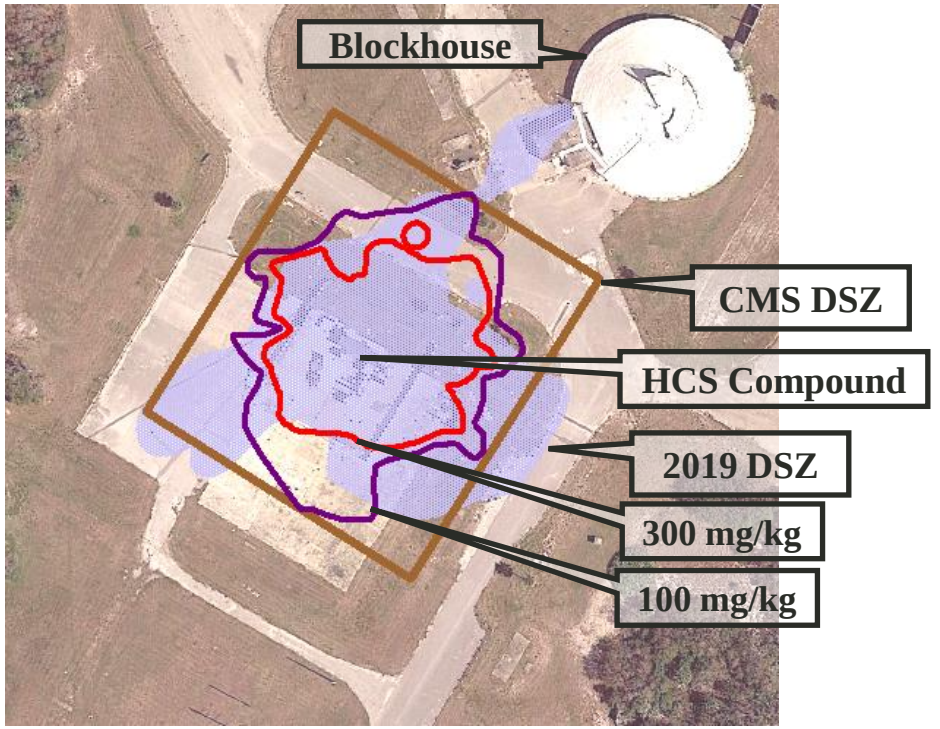
Hydraulic Containment System Update

Hydraulic Containment IM Overview

Site Description:

- DSZ defined in the CMS as a 2-acre area to 75’ bls encompassing the extent of TCE DNAPL determined by soil concentrations of TCE ≥ 300 mg/kg and the transition zone to 100 mg/kg, calculated mass of 74,000 and 12,000 pounds, respectively
- DSZ was re-characterized in 2018-2019 with groundwater data where TCE > 11,000 µg/L investigation area footprint was 4.5 acres, including 2.5 acres mowed and maintained and the remainder paved or covered by Blockhouse
- Elevation of former ESB pad is 10 ft and there is a 2 to 3-foot elevation change in ditches and in the field to southwest
- Depth to groundwater approximately is 5 ft bls and groundwater flow within the capture zone is controlled by HCS





Hydraulic Containment IM Overview

HCS History and Description:

- **Objective:** to attain hydraulic control of the DSZ and TCE HCP within Hot Spots 2, 3, and 4 by groundwater extraction and ex-situ treatment
- **2010:** Full-Scale O&M began May 2010
- **2015:** TCE HCP system expansion
  - Occurred from February 10th to May 15th
  - 7 shallow and 1 deep recovery wells installed
  - Installed 2 new air strippers (replaced original)
  - Replaced EOS control system with Siemens HMI/PLC
  - Refurbished oxidizer
- **2017:** Began DPT PM sampling at 9 locations
- **2019:** DSZ Site Characterization and System optimization
  - 1,196 samples (7 had DNAPL) from 89 DPT locations
  - RW17C installed August 2019 (Screened 80-95 ft bls)
  - Layer 8 MWs installed; included in PM sampling
- **2020:** Pilot study IMWP to test air sparging in DSZ fine-grained layers
- **2021:** Additional RWs installed
  - RW18C, 19C, 20C installed February 2021
  - Screened same as RW17C (80-95 ft bls)
  - Revised pumping rates (Flow = 86 gpm)
- **2021-2022:** Pilot Study Implementation
  - July 2021 to February 2022
  - Results / Findings were presented September 2022
- **2023:** RAE
  - Evaluate next step of treatment train for the DSZ area



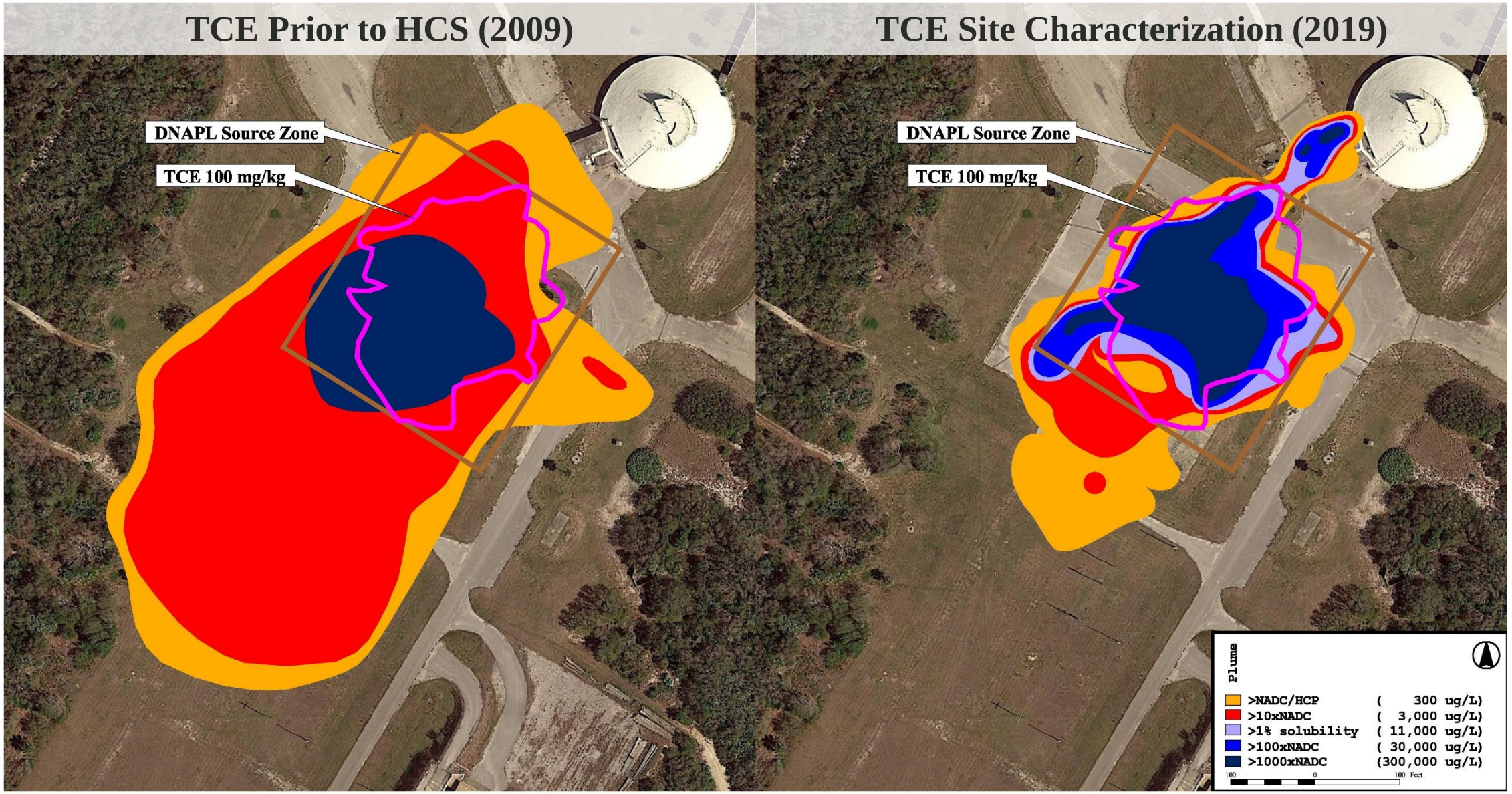
HCS Components

- 10 shallow recovery wells (15 to 45 ft bls)
- 7 deep recovery wells (50 to 80 ft bls)
- 5 deeper recovery wells (80 to 95 ft bls)
- 1 deeper recovery well (86 to 106 ft bls)
- Equalization tank and discharge pump
- 2 air strippers, discharge pump, and carbon treatment for polishing
- Catalytic oxidizer, quench tower, scrubbing unit
- 12 deep injection wells (50 to 80 ft bls) and infiltration gallery discharge



- **2023:** Installed RW21D
  - Installed January 2023 screened 86-106 ft bls
  - RW12A, 13A, 14A, 15A, 05B and 16B turned off to maximize RW21D extraction rate
- **2023-2024:**
  - Upgrading filtration units
  - Installing twenty Layer 7 Recovery Wells

Review of 2019 DSZ Site Characterization

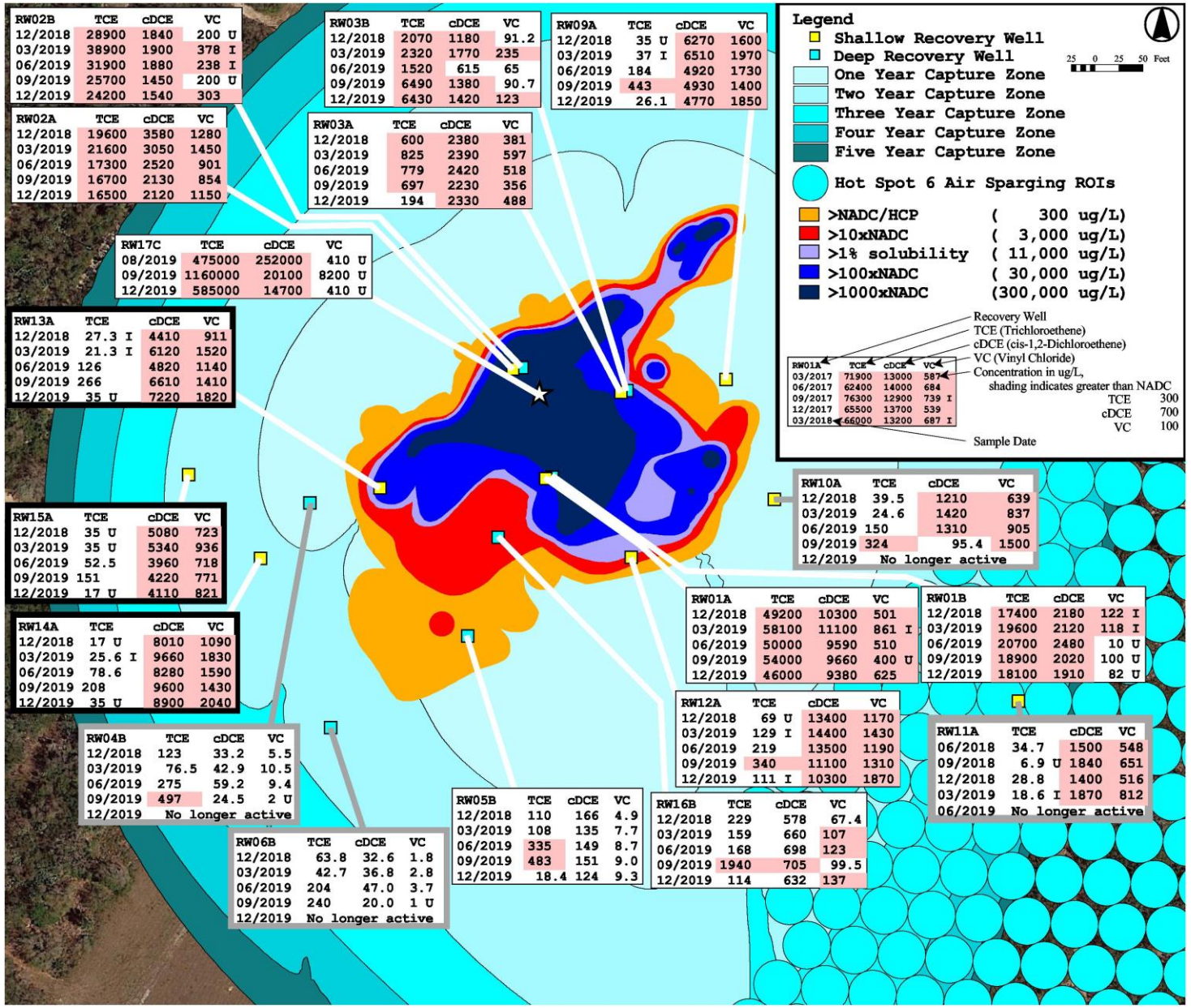


DSZ Footprint Comparison between Historical Delineation and 2019 Site Characterization (Presented in October 2019 KSCRT Meeting)

Review of 2019 DSZ Site Characterization

DSZ Site Characterization (October 2019):

- Focused to delineate TCE to 300 µg/L by collecting a robust horizontal and vertical dataset to support optimization of HCS and DSZ RAE
- Pumping Rate Optimizations
  - RW11 turned off within the influence of Hot Spot 6 Air Sparging Treatment Zone
  - RWs 04B, 06B, 10A turned off based on low TCE concentrations
  - Based on cDCE and VC concentrations RWs 13A, 14A, and 15A operating at 3 GPM each increasing system GPM to 83 GPM
  - Added RW17C to the system



Remedial Alternatives

Remedial alternatives evaluation performed and presented in February 2023

Recommended Alternatives:

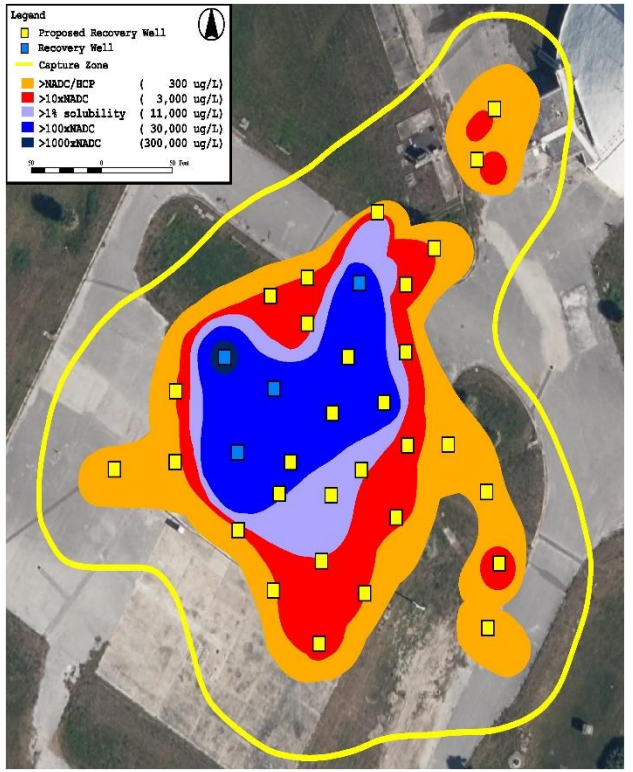
- Short-term: DSZ-1: Pump and Treat
- Long-term: DSZ-3: Large Diameter Auger (LDA) w/Steam and Zero Valent Iron (ZVI), and Air Sparging

DSZ-1: Optimize HCS with Full-Scale Expansion into Layer 7

- Scale up the HCS to accommodate an expansion containing 30 proposed RWs in layer 7 to establish full capture zone of TCE greater than 300 µg/L
- Scale up includes:
  - Increase process piping diameter
  - 50 hp rotary screw air compressor to operate pneumatic pumps
  - Refurbish CatOX unit
  - Install transfer pumps rated for 135 GPM at 50ft of head
  - Replace bag filters with self-cleaning filter system
  - Install a third infiltration trench

DSZ-1 Overall Timeline

Year	DSZ-1
Year 0	RW Installation, System Modifications, CatOx Refurbishment
Years 1-5	HCS operation with system OM&M
Year 6	HCS operation with system OM&M and CatOx Refurbishment
Years 7-10	HCS operation with system OM&M
Year 11	HCS operation with system OM&M; transition to Vapor-Phase Granular Activated Carbon (VPGAC) and replacement of air stripping units
Year 12-30	HCS operation with system OM&M



Proposed Layer 7 Recovery wells

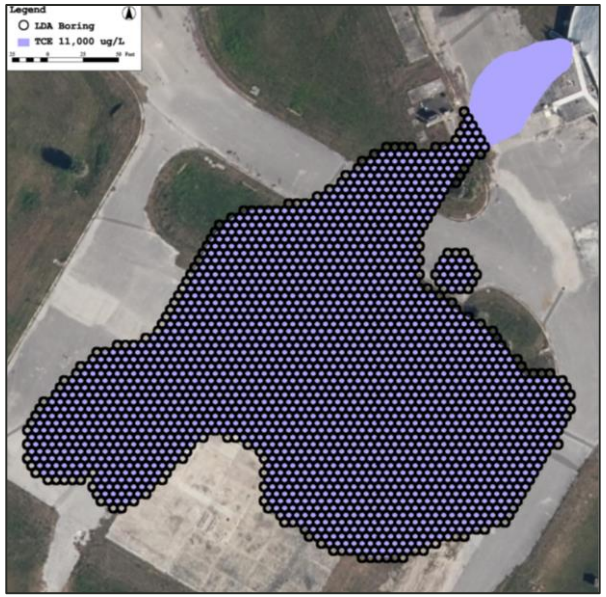
	Capital Costs	Total Annual Costs	Total
Total (DSZ-1)	$2,524,000	$24,205,000	$26,729,000

Remedial Alternatives

DSZ-3: LDA w/Steam and ZVI, and Air Sparging

- 2 Phases of implementation
  - Phase 1 = LDA w/Steam and ZVI: 1.3 acres (vertically to 98 ft bls)
  - Phase 2 = Air Sparging: 1.5 acres (vertically to 98 ft bls)
- Treatment Process:
  - Phase 1 (LDA w/Steam and ZVI):
    - Steam/hot air and ZVI injection where TCE> 11,000 except near blockhouse, approximately 1.3 acres from 18 ft to 98 ft bls
    - **Vapors:** VOCs to be treated by VPGAC prior to discharge to ambient air (carbon change-outs included in vendor unit rate)
    - **Water:** Moisture from off-gases to be collected in condensate tank, treated by Mobile Air Stripping unit, and reused in ZVI batching operation -or- discharged into existing infiltration gallery
  - Phase 2 (Air Sparging):
    - Implemented 2 years after LDA
    - Install AS Wells with focus around LDA perimeter and Blockhouse area to volatilize dissolved phase TCE

	Capital Cost	Total Annual Costs*	Total
Phase 1: LDA w/Steam and ZVI	$48,996,000	$222,000	$49,218,000
Phase 2: Air Sparging	$2,700,000	$3,745,000	$6,445,000
Total (DSZ-3)			$55,664,000



DSZ-3 Overall Timeline

Year	Phase 1: LDA w/Steam and ZVI	Phase 2: Air Sparging
Years 1-2	Implementation	--
Year 3-4	DPT PM	--
Year 5	MW PM	Implementation
Years 6-9	MW PM	OM&M
Years 10-27	--	OM&M
Year 28	--	Decommission AS System

HCS Annual Operations

Reporting Period Runtime (April 1, 2023 – March 31, 2024)

Year	Month	Days In Month	Downtime (days)	Runtime	Downtime Contributing Factor
2023	April	30	0.25	99%	Routine system cleaning
	May	31	0.25	99%	Routine system cleaning
	June	30	4.25	86%	Routine system cleaning; replaced quench cooling water piping
	July	31	0.25	99%	Routine system cleaning
	August	31	2.25	93%	Routine system cleaning; replaced scrubber float
	September	30	2.50	92%	Routine system cleaning; replaed scrubber pump
	October	31	0.25	99%	Routine system cleaning
	November	30	0.25	99%	Routine system cleaning
	December	31	3.50	89%	Routine system cleaning; minor shutodwn to begin bag filter upgrade
2024	January	31	3.35	89%	Routine system cleaning; troubleshoot thermocouple sensor
	February	29	5.60	81%	Routine system cleaning; troubleshoot thermocouple sensor; PLC controller replaced (lightning strike)
	March	31	0.50	98%	Routine system cleaning
Total		**366**	**23.20**	**94%**	

Semi-Routine O&M Items:

- Maintain consumables (bag filters, biodispersent, scrubber packing, sodium hydroxide)
- Calibrate pH sensor in scrubber recirculation line (quarterly)
- Clean air stripper and pump control float (monthly)
- Replace transfer pump seals (as needed)
- Replace totalizer internals (as needed)
- Replace faulty oxidizer heater elements (semi-annual to annual)

System Performance Sampling:

- Biweekly, select Layer 8 wells to evaluate RW21D operations
- Monthly, air strippers and LPGAC effluent samples
- Quarterly, total system influent and active RWs
- Annual:
  - CatOx influent and effluent
  - DPT samples from 9 locations
    - 5 ft sampling interval 8 to 98 ft bls
  - Layer 8 Performance MWs and Layer 7 IW42D2

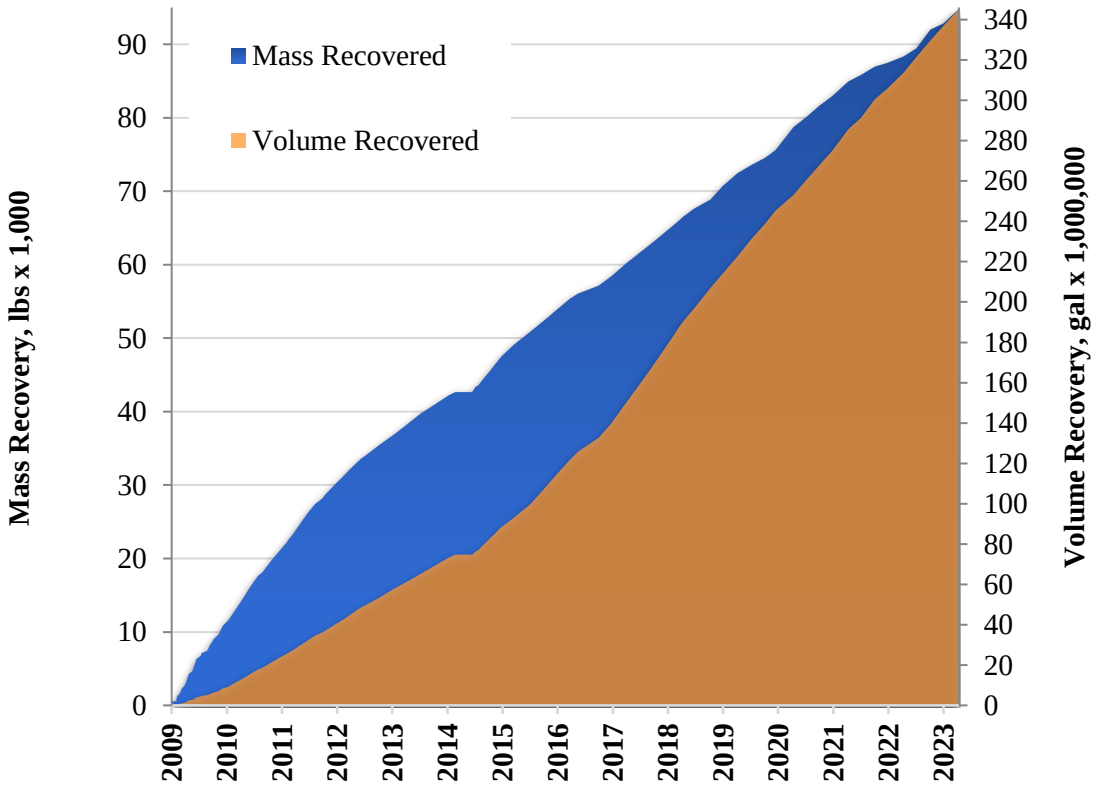
Runtime Comparison based on reporting periods:

- 2018/2019: 81%
- 2019/2020: 89%
- 2020/2021: 85%
- 2021/2022: 94%
- 2022/2023: 90%
- 2023/2024: 94%

HCS Treatment Results

Volume and Mass Recovery

- Reporting Period April 2023 to March 2024:
  - Groundwater recovery: 31,176,393 gallons
  - cVOC mass recovery: 6,319 lbs



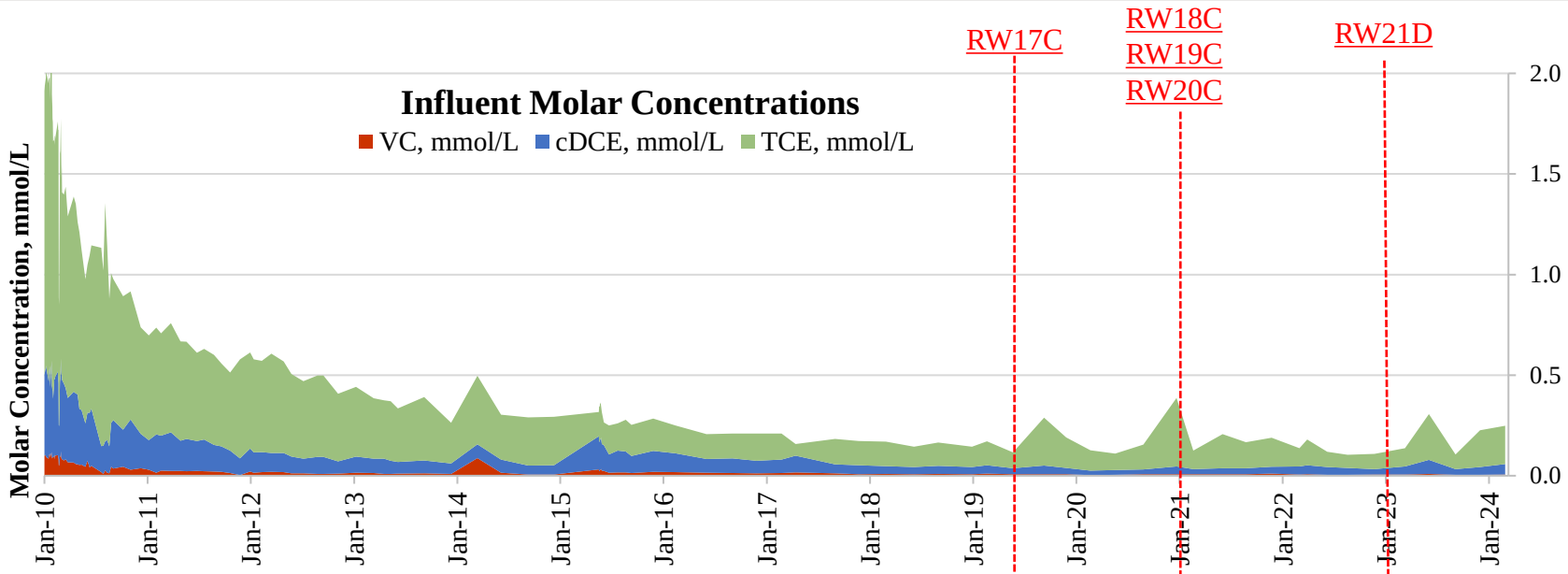
Year	Date	Volume Recovered (gal)		VOC Mass Recovered (lb)	
		Annually	Cumulative	Annually	Cumulative
1	2/21/2011	10,384,456	11,540,001	10,782	13,196
2	3/1/2012	15,768,761	27,308,762	10,070	23,265
3	3/11/2013	17,316,773	44,625,535	8,805	32,071
4	4/3/2014	17,008,141	61,633,676	6,264	38,335
5	2/10/2015	13,145,739	74,779,415	4,323	42,657
6	3/4/2016	18,220,810	93,000,225	6,437	49,095
7	3/15/2017	29,003,352	122,003,577	6,299	55,394
8	3/19/2018	28,032,490	150,036,067	4,785	60,179
9	3/29/2019	40,014,072	190,050,139	6,284	66,464
10	3/26/2020	32,592,916	222,643,055	5,982	72,446
11	3/31/2021	30,358,082	253,001,137	6,293	78,738
12	3/31/2022	32,711,664	285,712,801	6,195	84,933
13	3/31/2023	27,960,440	313,673,241	3,404	88,337
14	3/31/2024	31,176,393	344,849,634	6,319	94,656

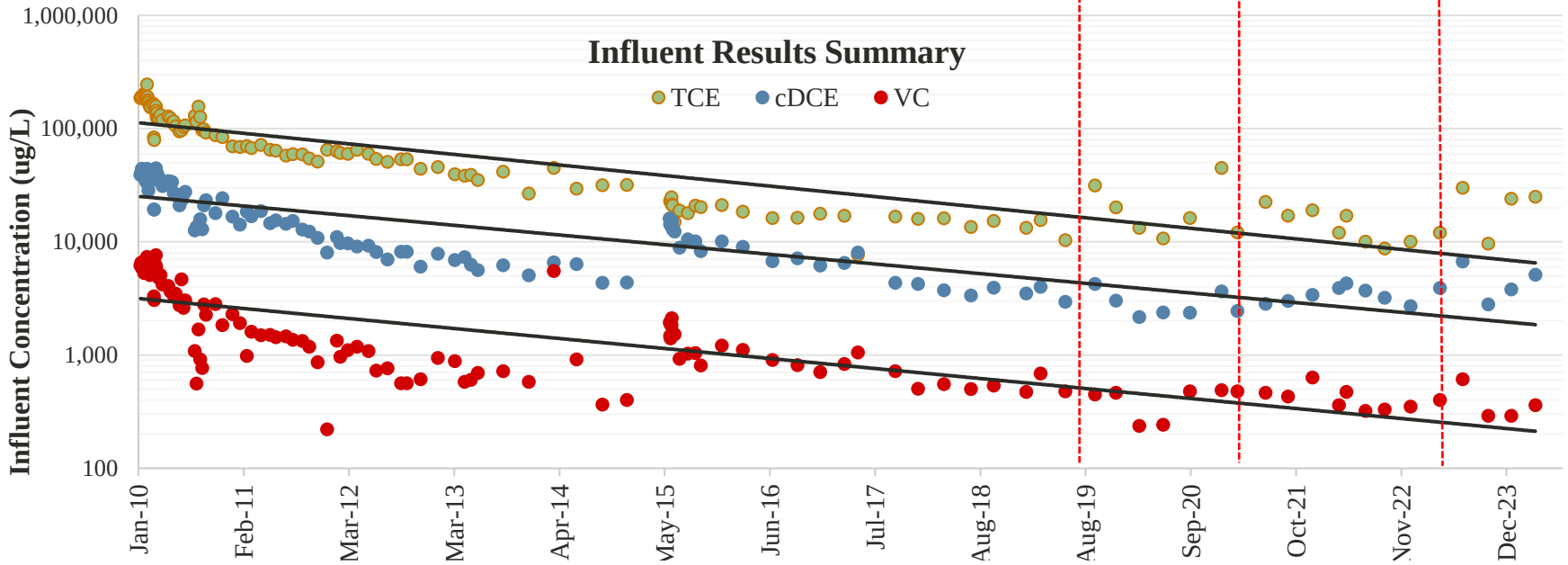
HCS Treatment Results

Influent Trends

Date	Total Molar Concentration (mmol/L)			
	TCE	cDCE	VC	Total
Jan-19	0.10	0.04	0.01	0.15
Mar-19	0.12	0.03	0.01	0.17
Jun-19	0.08	0.03	0.01	0.12
Sep-19	0.24	0.04	0.01	0.29
Dec-19	0.15	0.03	0.01	0.19
Mar-20	0.10	0.02	0.00	0.13
Jun-20	0.08	0.02	0.00	0.11
Sep-20	0.12	0.02	0.01	0.16
Dec-20	0.34	0.04	0.01	0.39
Mar-21	0.09	0.03	0.01	0.13
Jun-21	0.17	0.03	0.01	0.21
Sep-21	0.13	0.03	0.01	0.17
Dec-21	0.14	0.04	0.01	0.19
Mar-22	0.09	0.04	0.01	0.14
Jun-22	0.08	0.04	0.01	0.12
Sep-22	0.07	0.03	0.01	0.11
Dec-22	0.08	0.03	0.01	0.11
Mar-23	0.09	0.04	0.01	0.14
Jun-23	0.23	0.07	0.01	0.31
Sep-23	0.07	0.03	0.00	0.11
Dec-23	0.18	0.04	0.00	0.23
Mar-24	0.19	0.05	0.01	0.25

- Jun-23 (High), Sep-23 (Comparable to 2022), Dec-23 and Mar-24 results display increase





HCS Treatment Results

		Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
TCE	Influent:	**12,000**	**12,000**	**30,000**	**30,000**	**30,000**	**9,600**	**9,600**	**9,600**	**24,000**	**24,000**	**24,000**	**25,000**
	1st AS Effluent:	**64**	**160**	**130**	**100**	**150**	**75**	**170**	**170**	**210**	**320**	**420**	**390**
	2nd AS Effluent:	0.15 U	0.79 U	0.20 U	**5.3**	**0.88 I**	0.20 U	**0.91 I**	**1.1**	**0.93 I**	**5.9**	**9.3**	**13**
	LPGAC Effluent:	0.15 U	0.79 U	0.20 U	0.15 U	0.2 U	0.2 U	**0.32 I**	0.89 U	0.89 U	0.89 U	0.89 U	0.89 U
cDCE	Influent:	**3,900**	**3,900**	**6,700**	**6,700**	**6,700**	**2,800**	**2,800**	**2,800**	**3,800**	**3,800**	**3,800**	**5,100**
	1st AS Effluent:	**47**	**84**	**75**	**57**	**110**	**57**	**75**	**66**	**120**	**210**	**270**	**250**
	2nd AS Effluent:	**0.40 I**	0.71 U	**0.72 I**	**1.9**	**0.99 I**	**0.95 I**	**0.92 I**	**0.60 I**	**0.99 I**	**7.7**	**13**	**16**
	LPGAC Effluent:	0.20 U	0.71 U	0.25 U	0.20 U	0.25 U	**0.71 I**	**0.35 I**	**0.85 I**	0.53 U	0.53 U	0.53 U	0.53 U
tDCE	Influent:	190.0 U	190.0 U	**120 I**	**120 I**	**120 I**	34 U	34 U	34 U	150 U	150 U	150 U	370 U
	1st AS Effluent:	0.50 U	1.9 U	0.34 U	0.50 U	**0.83 I**	0.34 U	0.34 U	3.7 U	0.73 U	0.73 U	7.3 U	3.7 U
	2nd AS Effluent:	0.50 U	0.95 U	0.34 U	0.50 U	0.34 U	0.34 U	0.34 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
	LPGAC Effluent:	0.50 U	0.95 U	0.34 U	0.50 U	0.34 U	0.34 U	0.34 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
VC	Influent:	**400**	**400**	**610**	**610**	**610**	**290**	**290**	**290**	**290**	**290**	**290**	360 U
	1st AS Effluent:	0.50 U	1.3 U	**1.0**	0.50 U	**0.89 I**	0.40 UJ3	**0.44 I**	3.6 U	0.71 U	**1.9**	7.1 U	3.6 U
	2nd AS Effluent:	0.50 U	0.64 U	0.40 U	0.50 U	0.40 U	0.4 UJ3	0.40 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U
	LPGAC Effluent:	0.50 U	0.64 U	0.40 U	0.50 U	0.40 U	0.4 UJ3	0.40 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U

Influent Trends

- Quarterly sampling of system influent and individual recovery wells
- Monthly effluent sampling of air strippers and LPGAC
- LPGAC online for the full duration of reporting period
- TCE detected exceeding GCTL in second stage air stripper in July 2023 and January through March 2024, silt identified in air stripper during monthly cleaning. Issue caused by Drilling IDW entering system beyond bag filters, April 2024 results indicate issue resolved.

April 2004 TCE µg/L	
Influent:	20,000
1st AS Effluent:	90
2nd AS Effluent:	0.89 U
LPGAC:	0.94 U

- Recommend to continue quarterly influent and monthly effluent sampling

Note:
- Results in µg/L.
- Bold indicates detected concentrations.
- Yellow shaded cells indicate concentration greater than GCTL.

AS = Air stripper
LPGAC = Liquid phase granular activated carbon
I = The reported value is between the laboratory MDL and the practical quantitation limit
U = Value below the laboratory MDL.

HCS Treatment Results

CatOx Treatment Performance

Parameter	Influent			
	Result ($\mu g/m^3$)	Calculated Loading		
		(lb/day)	(lb/month)	(lb/year)
Acetone	**1,200 J**	**0.06**	**1.94**	**23.60**
Chlorobenzene	**210 J**	**0.01**	**0.34**	**4.13**
cis-1,2-Dichloroethene	**38,000**	**2.0**	**61**	**747**
Cyclohexane	190 U	0.01	0.15	1.87
Freon 12	360 U	0.01	0.29	3.54
m,p-Xylene	**100 J**	**0.01**	**0.16**	**0.00**
Toluene	**1,800**	**0.10**	**2.91**	**35.40**
trans-1,2-Dichloroethene	**360 J**	**0.02**	**0.58**	**7.08**
Trichloroethene	**230,000**	**12.4**	**372**	**4524**
Vinyl chloride	**2,500**	**0.13**	**4.0**	**49**

Parameter	Effluent				
	Result ($\mu g/m^3$)	Calculated Loading			Destruction Efficiency
		(lb/day)	(lb/month)	(lb/year)	
Acetone	4.3 U	1.2E-04	3.5E-03	0.04	99.82%
Chlorobenzene	0.62 U	1.7E-05	5.0E-04	0.01	99.85%
cis-1,2-Dichloroethene	**12**	**6.5E-04**	**0.02**	**0.24**	99.97%
Cyclohexane	**3.3**	**1.8E-04**	**0.01**	**0.06**	99.13%
Dichlorodifluoromethane	**2.0 J**	**1.1E-04**	**3.2E-03**	**0.04**	99.72%
m,p-Xylene	0.4 U	1.1E-05	3.2E-04	3.9E-03	99.80%
Toluene	0.61 U	1.6E-05	4.9E-04	0.01	99.98%
trans-1,2-Dichloroethene	**3.0**	**1.6E-04**	**4.8E-03**	**0.06**	99.17%
Trichloroethene	**93**	**5.0E-03**	**0.15**	**1.83**	99.96%
Vinyl chloride	1.4 U	3.8E-05	1.1E-03	0.01	99.97%

System loading (vapor influent)

- TCE = 12.4 lbs (pounds)/day
- Total VOCs = 14.8 lbs/day

Daily Hazardous Air Pollutants (HAP) emission

- TCE = 0.0050 lbs/day
- Total VOCs = 0.0063 lbs/day
- Meets permissible daily individual and total HAP levels of 2.7 and 6.8 lbs/day, respectively

Loading calculated using blower flow rate of 600 standard cubic feet per minute
Table includes all analytes that were detected for influent and effluent samples (collected 12/21/2024); all other tested parameters are non-detect.
Bolding indicates a detected result above the laboratory method detection limit (MDL)
Analytes reported as U, ½ the MDL used for loading calculation
J = The reported value is between the laboratory MDL and the practical quantitation limit.
U = Value below the laboratory MDL

HCS Treatment Results

Maintenance Program:

- Routine Items:
  - System inspections (daily)
  - Clean air stripper and pump control float (monthly)
  - Calibrate pH sensor in scrubber recirculation line (quarterly)
- Semi-Routine Items:
  - Maintain consumables (bag filters, biodispersant, scrubber packing, sodium hydroxide)
  - Replace transfer pump seals (as needed)
  - Replace totalizer internals (as needed)
  - Replace oxidizer heater elements (semi-annual to annual)

	Condition	Performance	Current/Recent Issues	Planned Activities
Recovery wells			Flow totalizers cleaned	Normal maintenance
Submersible pumps			Pump maintenance to prevent failure RW03B had controller issues	Normal maintenance Continue monitoring conditions of pumps
Filtration system			No issues; effective biocide program	Continue biocide program and filter maintenance Self cleaning filter upgrade in progress
Equalization tank			No issues	Normal maintenance
EQ transfer pump			No issues	Normal maintenance
Air strippers			Air strippers fouling	Monthly pull-out tray cleaning
AS blowers			No issues	Normal maintenance
AS transfer pumps			No issues	Normal maintenance
Moisture separator			No issues	Normal maintenance
MS transfer pump			No issues	Normal maintenance
Liquid-phase GAC			No issues	Normal maintenance as operated
Catalytic Oxidizer -Heater			Heater replaced as needed	Maintenance of heater elements and additional insulation every six months
Catalyst Module			Demisters cleaned annually	Monitor condition every six months, additional air samples as needed to confirm status
Heat exchanger			No issues	Normal maintenance
Quench nozzle			Quench nozzle replaced Minor repairs to flow fittings	Normal maintenance
Quench tower			No issues	Normal maintenance Inspect for corrosion/material degradation
Scrubber			No issues	Normal maintenance and visual inspection.
Recirculation transfer pump			Replaced pump	Normal maintenance
Discharge transfer pump			No issues	Normal maintenance
Chemical feed pumps			No issues	Normal maintenance
Injection wells			No issues	Normal maintenance
Infiltration gallery			No issues	Normal operation/inspection

Key:
Good
Fair
Poor

Recovery Well Results

Shallow Capture Zone (15 to 45 ft bls):

- 4 RWs currently online

Deep Capture Zone (50 to 80 ft bls):

- 3 RWs currently online

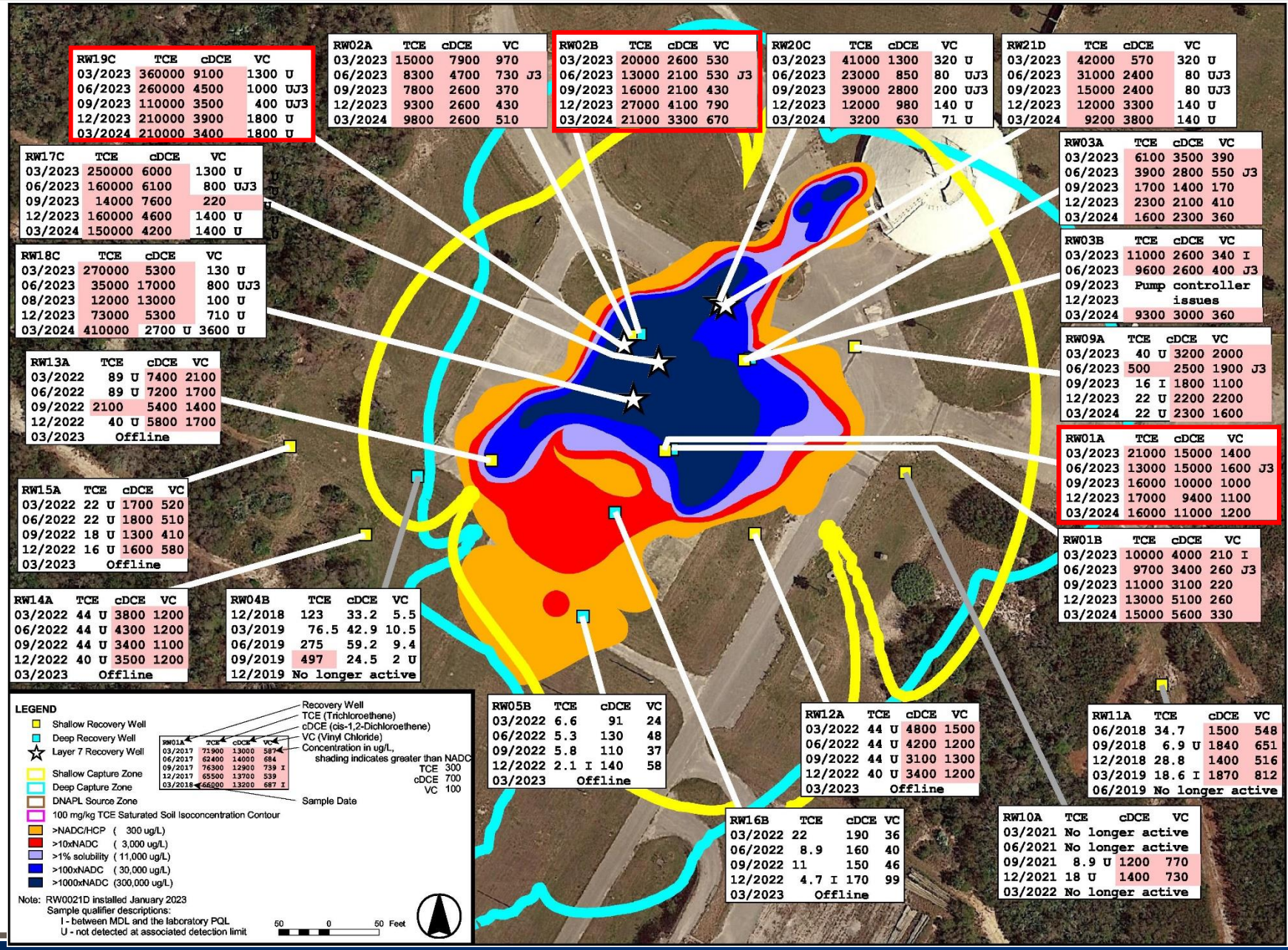
Deeper Zone (80 to 95 ft bls):

- 4 RWs currently online

RW21D (86 to 106 ft bls):

- Installed January 2023, due to IW162 TCE increases

RW	GPM	VOCs #/day	TCE #/day
01A	7	2.6	1.4
02A	7	1.3	0.8
03A	7	0.5	0.3
09A	1	0.1	0.0
10A	-	-	-
11A	-	-	-
12A	-	-	-
13A	-	-	-
14A	-	-	-
15A	-	-	-
01B	15	2.7	2.0
02B	15	4.0	3.4
03B	15	2.4	1.9
04B	-	-	-
05B	-	-	-
06B	-	-	-
16B	-	-	-
17C	0.5	1.1	1.1
18C	0.5	0.8	0.7
19C	0.5	1.7	1.7
20C	0.5	0.3	0.3
21D	15	5.7	5.4
Total:	84	23	19



Layer 7 Recovery Well Results

Layer 7 RWs 17C-20C:

- Screened 80 to 95 ft bls
- Installed:
  - RW17C in August 2019
  - RW18C, 19C, 20C in February 2021
- Each operate at 0.5 GPM:
  - 2% of total influent GPM
  - 20% of TCE mass

Layer 7 RW21D:

- Screened 86 to 106 ft bls, Layers 7 and 8
- Installed January 2023
- Operates at 15 GPM:
  - 18% of total influent GPM
  - 28% of TCE mass

Other zones:

- Shallow Zone:
  - 26% of total influent GPM
  - 14% of TCE mass
- Deep Zone:
  - 54% of total influent GPM
  - 38% of TCE mass

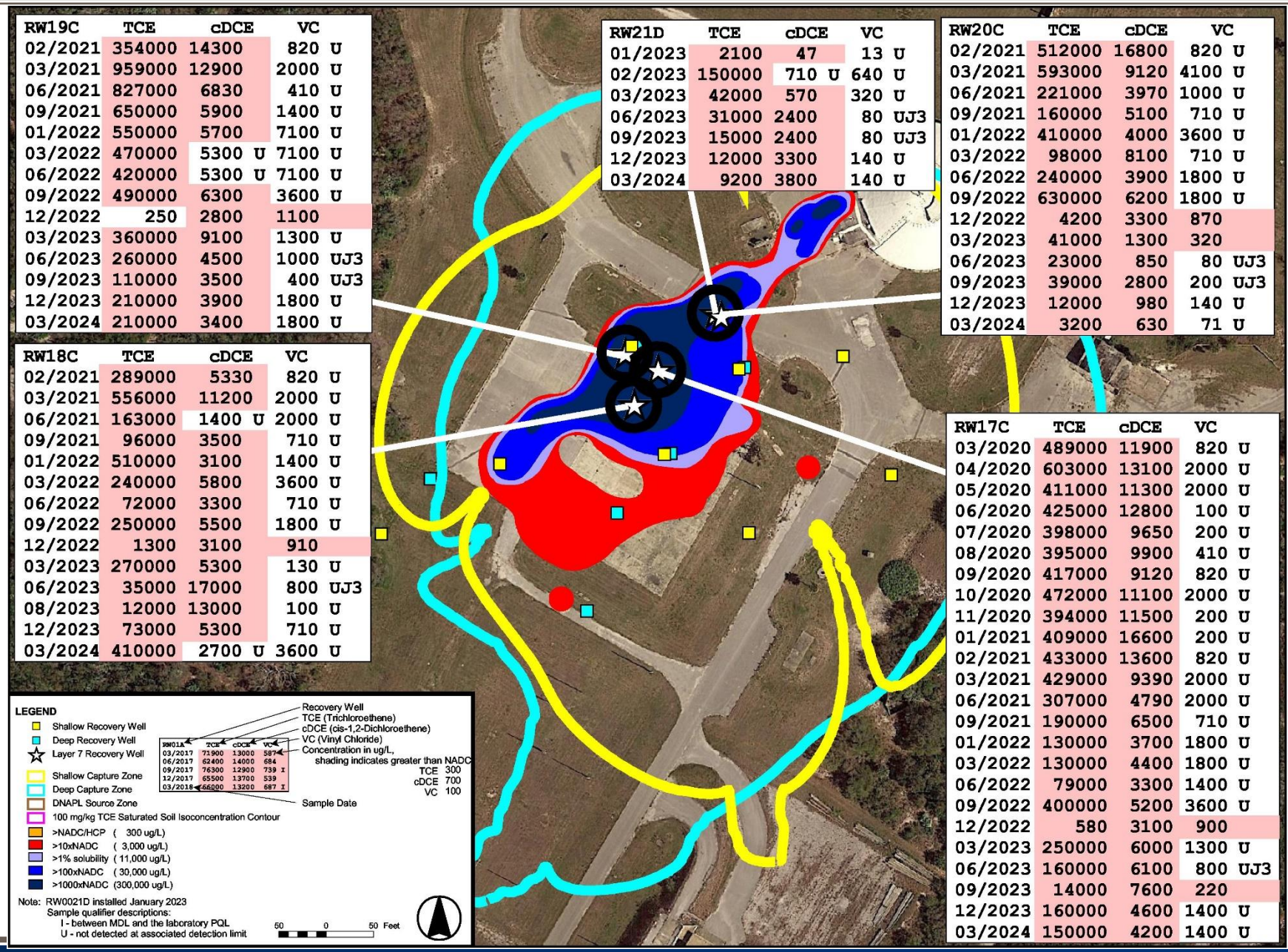
RW19C	TCE	cDCE	VC
02/2021	354000	14300	820 U
03/2021	959000	12900	2000 U
06/2021	827000	6830	410 U
09/2021	650000	5900	1400 U
01/2022	550000	5700	7100 U
03/2022	470000	5300 U	7100 U
06/2022	420000	5300 U	7100 U
09/2022	490000	6300	3600 U
12/2022	250	2800	1100
03/2023	360000	9100	1300 U
06/2023	260000	4500	1000 UJ3
09/2023	110000	3500	400 UJ3
12/2023	210000	3900	1800 U
03/2024	210000	3400	1800 U

RW18C	TCE	cDCE	VC
02/2021	289000	5330	820 U
03/2021	556000	11200	2000 U
06/2021	163000	1400 U	2000 U
09/2021	96000	3500	710 U
01/2022	510000	3100	1400 U
03/2022	240000	5800	3600 U
06/2022	72000	3300	710 U
09/2022	250000	5500	1800 U
12/2022	1300	3100	910
03/2023	270000	5300	130 U
06/2023	35000	17000	800 UJ3
08/2023	12000	13000	100 U
12/2023	73000	5300	710 U
03/2024	410000	2700 U	3600 U

RW21D	TCE	cDCE	VC
01/2023	2100	47	13 U
02/2023	150000	710 U	640 U
03/2023	42000	570	320 U
06/2023	31000	2400	80 UJ3
09/2023	15000	2400	80 UJ3
12/2023	12000	3300	140 U
03/2024	9200	3800	140 U

RW20C	TCE	cDCE	VC
02/2021	512000	16800	820 U
03/2021	593000	9120	4100 U
06/2021	221000	3970	1000 U
09/2021	160000	5100	710 U
01/2022	410000	4000	3600 U
03/2022	98000	8100	710 U
06/2022	240000	3900	1800 U
09/2022	630000	6200	1800 U
12/2022	4200	3300	870
03/2023	41000	1300	320
06/2023	23000	850	80 UJ3
09/2023	39000	2800	200 UJ3
12/2023	12000	980	140 U
03/2024	3200	630	71 U

RW17C	TCE	cDCE	VC
03/2020	489000	11900	820 U
04/2020	603000	13100	2000 U
05/2020	411000	11300	2000 U
06/2020	425000	12800	100 U
07/2020	398000	9650	200 U
08/2020	395000	9900	410 U
09/2020	417000	9120	820 U
10/2020	472000	11100	2000 U
11/2020	394000	11500	200 U
01/2021	409000	16600	200 U
02/2021	433000	13600	820 U
03/2021	429000	9390	2000 U
06/2021	307000	4790	2000 U
09/2021	190000	6500	710 U
01/2022	130000	3700	1800 U
03/2022	130000	4400	1800 U
06/2022	79000	3300	1400 U
09/2022	400000	5200	3600 U
12/2022	580	3100	900
03/2023	250000	6000	1300 U
06/2023	160000	6100	800 UJ3
09/2023	14000	7600	220
12/2023	160000	4600	1400 U
03/2024	150000	4200	1400 U



DPT Performance Sampling TCE Results

Annual DPT Performance Sampling:

- Sampled January 2024
- 9 locations sampled (3 by 3 grid)
- 19 sample intervals from 8 to 98 ft bls

Shallow Capture Zone:

- Recovery wells screened 15 to 45 ft bls
- Highest TCE in DPT599 (38'): 510,000 µg/L

Between Shallow and Deep Capture Zones:

- 45 to 50 ft bls
- Highest TCE in DPT596 (48'): 1,300,000 µg/L

Deep Capture Zone:

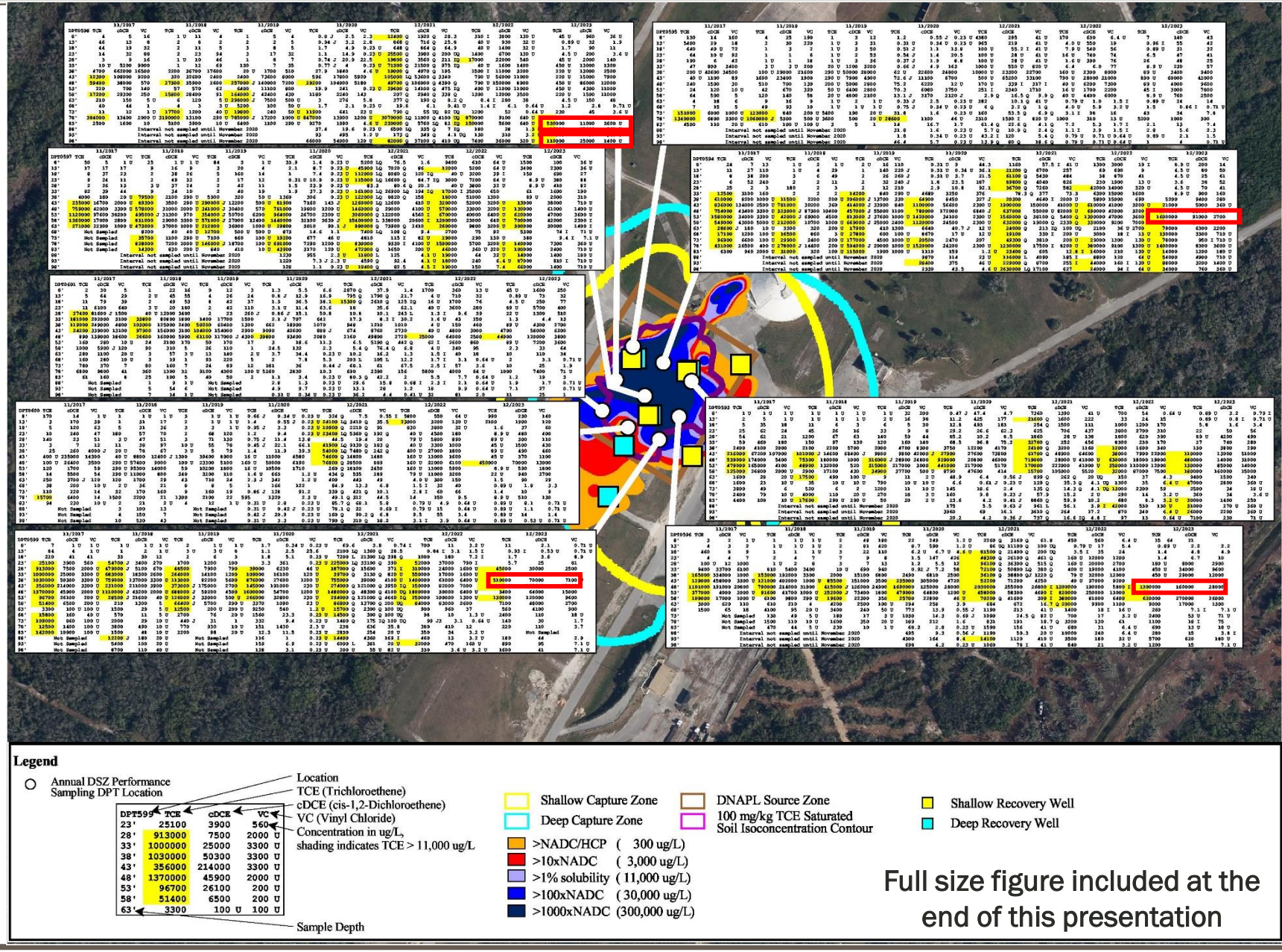
- Recovery wells screened 50 to 80 ft bls
- Highest TCE in DPT594 (53'): 1,600,000 µg/L

Layer 7 Capture Zone:

- Recovery wells screened 80 to 95 ft bls
- Highest TCE in DPT598 (83'): 530,000 µg/L

Below Layer 7 (95-100' depth interval):

- Recovery well screened 86 to 106 ft bls
- Highest TCE in DPT598 (98'): 110,000 µg/L



Full size figure included at the end of this presentation

DPT Performance Sampling TCE Results

	Depth (feet bls)	DPT 593				DPT 594				DPT 595				DPT 596				DPT 597				DPT 598				DPT 599				DPT 600				DPT 601			
		2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023
	8	0%	1%	0%	0%	0%	0%	0%	0%	0%	49%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	19%	0%	0%	12%	5%	0%
	13	0%	2%	0%	0%	0%	0%	0%	0%	0%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	75%	0%	0%	3%	0%	0%
Shallow	18	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	1%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	3%	0%	0%	64%	0%	0%
Shallow	23	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	1%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	7%	1%	0%	0%	8%	0%	0%	0%	0%	0%	0%
Shallow	28	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	1%	2%	0%	1%	5%	7%	4%	0%	0%	0%	0%	0%	0%	0%	0%
Shallow	33	0%	3%	1%	0%	0%	0%	0%	0%	0%	EDL	0%	0%	0%	2%	0%	EDL	0%	1%	0%	0%	0%	2%	0%	0%	4%	1%	12%	31%	0%	14%	0%	0%	0%	0%	0%	0%
Shallow	38	0%	2%	1%	0%	1%	0%	0%	0%	0%	EDL	11%	2%	0%	1%	0%	EDL	0%	1%	0%	0%	0%	1%	0%	0%	29%	22%	30%	45%	0%	17%	1%	0%	1%	4%	0%	0%
Shallow	43	2%	6%	3%	10%	18%	20%	17%	0%	0%	EDL	EDL	EDL	10%	2%	0%	0%	2%	5%	7%	1%	0%	3%	EDL	0%	5%	8%	3%	2%	2%	24%	1%	0%	17%	3%	0%	9%
	48	66%	67%	57%	46%	13%	7%	20%	6%	0%	2%	3%	2%	69%	68%	49%	51%	19%	6%	12%	6%	3%	1%	EDL	EDL	52%	43%	39%	0%	20%	25%	1%	99%	72%	9%	76%	84%
Deep	53	31%	16%	32%	12%	23%	17%	37%	36%	0%	3%	1%	1%	20%	15%	34%	24%	24%	13%	14%	28%	0%	1%	0%	EDL	9%	9%	5%	12%	2%	0%	1%	0%	0%	0%	0%	0%
Deep	58	1%	1%	3%	17%	18%	7%	9%	15%	0%	0%	3%	0%	1%	2%	16%	24%	36%	64%	25%	32%	0%	0%	0%	0%	0%	3%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Deep	63	0%	0%	0%	1%	0%	0%	0%	2%	0%	3%	0%	0%	0%	0%	1%	0%	1%	4%	6%	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Deep	68	0%	0%	0%	4%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
Deep	73	0%	0%	1%	0%	0%	1%	1%	2%	0%	2%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Deep	78	0%	0%	0%	0%	25%	13%	11%	32%	99%	26%	68%	94%	0%	0%	0%	0%	17%	3%	32%	6%	88%	82%	83%	40%	0%	0%	0%	0%	74%	0%	0%	0%	10%	3%	18%	2%
Layer 7	83	0%	1%	0%	3%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	2%	1%	5%	1%	6%	14%	48%	0%	0%	0%	NS	0%	0%	0%	0%	0%	0%	0%	0%
Layer 7	88	0%	0%	1%	3%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Layer 7	93	0%	0%	0%	2%	0%	2%	1%	NA	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	98	0%	0%	0%	1%	0%	28%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	7%	2%	1%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total Conc. (mg/L)	1,415	1,070	1,100	1,054	6,087	9,280	3,493	4,409	29	9	1	6	2,440	2,969	2,442	2,542	4,056	24,081	4,713	2,181	965	3,724	1,051	1,112	3,050	3,406	4,632	1,044	1	309	31	453	55	24	33	50

EDL = Elevated Detection Limit; NS = Not Sampled; NA = Not Applicable; Bold indicates detection

All historical data included as a table at the end of the presentation.

* DPT Sampling occurred in Jan 2024; results shown as the reporting year (2023).

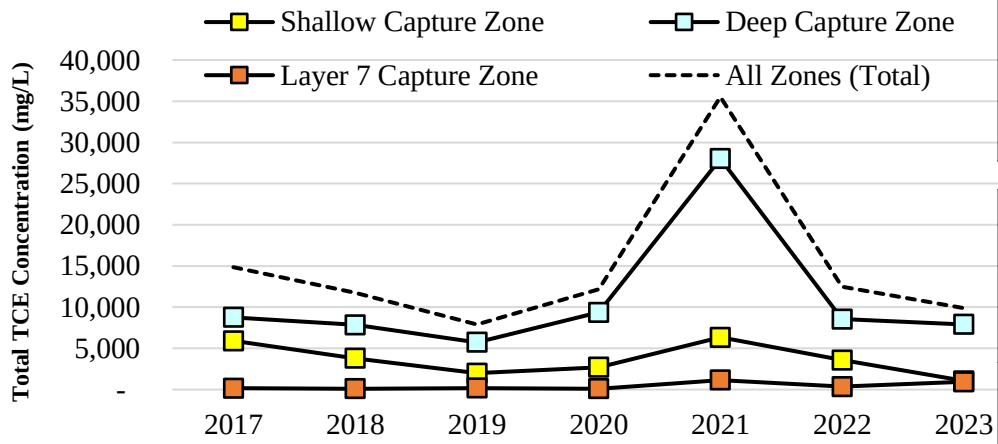
Nine DPT locations sampled annually for high resolution performance monitoring of DSZ:

- Sample depths from 8 to 98 ft bls (83 - 98 ft bls samples were added in 2020)
- Capture zones represents sample depths within RW screen intervals

Tables showing TCE results:

- TCE concentrations shown in percent composition over all sample depths for that year and DPT location
- Average TCE composition over all DPTs shown in table on right
- Bars show the relative magnitudes for the percentages
- Line chart shows total TCE concentrations over time for each zone
- Individual TCE concentrations are provided in a supplemental table at the end of the presentation

DPT PM TCE Trends



	Depth (ft bls)	Average TCE Composition 2020	2021	2022	2023
	8	0.0%	0.1%	0.1%	0.0%
	13	0.0%	0.3%	0.2%	0.0%
Shallow	18	0.0%	0.6%	0.0%	0.0%
Shallow	23	0.0%	1.2%	0.3%	0.0%
Shallow	28	0.2%	0.8%	2.0%	0.3%
Shallow	33	0.6%	1.0%	3.2%	2.6%
Shallow	38	5.2%	2.5%	7.8%	4.2%
Shallow	43	8.8%	9.2%	7.8%	1.4%
	48	32.3%	14.2%	30.0%	21.8%
Deep	53	19.7%	12.2%	18.4%	25.1%
Deep	58	14.4%	35.6%	11.0%	15.8%
Deep	63	0.3%	2.3%	1.5%	2.9%
Deep	68	0.1%	0.1%	0.0%	1.3%
Deep	73	0.3%	0.1%	0.4%	0.6%
Deep	78	17.1%	11.3%	15.0%	14.4%
Layer 7	83	0.3%	1.6%	1.2%	5.5%
Layer 7	88	0.1%	0.3%	0.2%	0.9%
Layer 7	93	0.2%	0.6%	0.5%	1.1%
	98	0.4%	6.0%	0.3%	2.0%

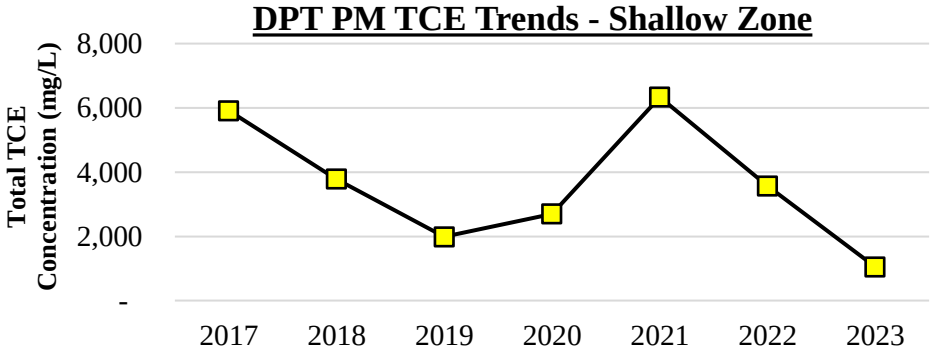
Shallow DPT Performance Sampling TCE Results

	Depth (feet bls)	DPT 593				DPT 594				DPT 595				DPT 596				DPT 597				DPT 598				DPT 599				DPT 600				DPT 601			
		2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023
	8	0%	1%	0%	0%	0%	0%	0%	0%	0%	49%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	19%	0%	0%	12%	5%	0%
	13	0%	2%	0%	0%	0%	0%	0%	0%	0%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	75%	0%	0%	3%	0%	0%
Shallow	18	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	1%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	3%	0%	0%	64%	0%	0%
Shallow	23	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	1%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	7%	1%	0%	0%	8%	0%	0%	0%	0%	0%	0%
Shallow	28	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	1%	2%	0%	1%	5%	7%	4%	0%	0%	0%	0%	0%	0%	0%	0%
Shallow	33	0%	3%	1%	0%	0%	0%	0%	0%	0%	EDL	0%	0%	0%	2%	0%	EDL	0%	1%	0%	0%	0%	2%	0%	0%	4%	1%	12%	31%	0%	14%	0%	0%	0%	0%	0%	0%
Shallow	38	0%	2%	1%	0%	1%	0%	0%	0%	0%	EDL	11%	2%	0%	1%	0%	EDL	0%	1%	0%	0%	0%	1%	0%	0%	29%	22%	30%	49%	0%	17%	1%	0%	1%	4%	0%	0%
Shallow	43	2%	6%	3%	10%	18%	20%	17%	0%	0%	EDL	EDL	EDL	10%	2%	0%	0%	2%	5%	7%	1%	0%	3%	EDL	0%	5%	8%	3%	2%	2%	24%	1%	0%	17%	3%	0%	9%
	48	66%	67%	57%	46%	13%	7%	20%	6%	0%	2%	3%	2%	69%	68%	49%	51%	19%	6%	12%	6%	3%	1%	EDL	EDL	52%	43%	39%	0%	20%	25%	1%	99%	72%	9%	76%	84%
	Shallow Conc.	32	121	65	110	1,170	2,108	664	26	0.1	0.3	0.2	0.1	237	386	0.8	1.6	83	1,770	358	13	0.6	241	20	0.9	1,169	1,488	2,463	897	0.0	205	1.5	0.3	10	17	0.1	4.9

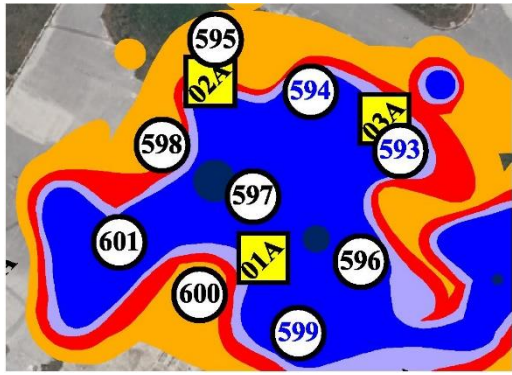
EDL = Elevated Detection Limit

DPT PM Results – Shallow Capture Zone

- TCE percent composition results for sample depths from 8 to 48 ft bls
  - Shallow capture zone sample depths: 18 feet to 43 feet bls (RWs screened 15 to 45 ft bls)
  - Layer 4 (fine grained unit) sample depth: 48 ft bls
  - Total concentration (Conc.) in the above table is the sum of concentrations at all depths in the shallow capture zone (18 – 43 ft bls); depicted on the line chart vs time
- Total TCE concentration in the shallow zone decreased by 70% compared to 2022
  - *3,573 mg/L in 2022 to 1,055 mg/L in 2023*
- No significant total TCE increases at any DPT location compared to 2022
  - *Largest increase at DPT 593, 65.9 mg/L in 2022 to 110 mg/L in 2023, 70% increase*
- DPT 599 had the largest decrease
  - *2,463 mg/L in 2022 to 897 mg/L in 2023, 64% decrease*
- 53 ft bls, just below Layer 4 holds the majority of contamination
- Highest total TCE concentrations located at DPT 593, 594, 599
- Majority of contamination is located at 48 ft bls, above/within Layer 4
  - *TCE concentration decreased by 8.2% from 2022 to 2023*



	Depth (feet	Average TCE Composition 2020	2021	2022	2023
	8	0%	0%	0%	0%
	13	0%	0%	0%	0%
Shallow	18	0%	1%	0%	0%
Shallow	23	0%	1%	0%	0%
Shallow	28	0%	1%	2%	0%
Shallow	33	1%	1%	3%	3%
Shallow	38	5%	3%	8%	4%
Shallow	43	9%	9%	8%	1%
	48	32%	14%	30%	22%
% of Total		15%	15%	21%	9%



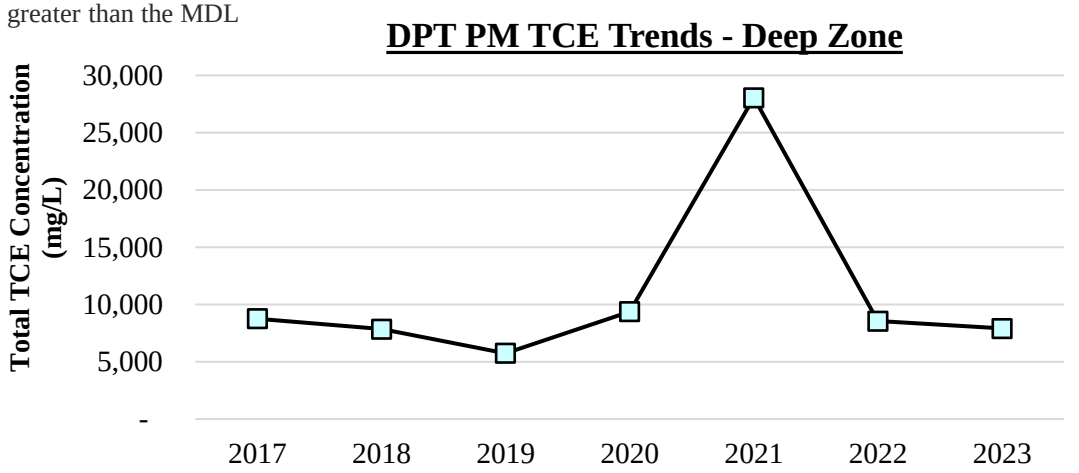
Deep DPT Performance Sampling TCE Results

	Depth (feet bls)	DPT 593				DPT 594				DPT 595				DPT 596				DPT 597				DPT 598				DPT 599				DPT 600				DPT 601			
		2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023
Deep	53	31%	16%	32%	12%	23%	17%	37%	36%	0%	3%	1%	1%	20%	15%	34%	24%	24%	13%	14%	28%	0%	1%	0%	EDL	9%	9%	5%	12%	2%	0%	1%	0%	0%	0%	0%	0%
	58	1%	1%	3%	17%	18%	7%	9%	15%	0%	0%	3%	0%	1%	2%	16%	24%	36%	64%	25%	32%	0%	0%	0%	0%	0%	3%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%
	63	0%	0%	0%	1%	0%	0%	0%	2%	0%	3%	0%	0%	0%	0%	1%	0%	1%	4%	6%	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	68	0%	0%	0%	4%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
	73	0%	0%	1%	0%	0%	1%	1%	2%	0%	2%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	78	0%	0%	0%	0%	25%	13%	11%	32%	99%	26%	68%	94%	0%	0%	0%	0%	17%	3%	32%	6%	88%	82%	83%	40%	0%	0%	0%	0%	74%	0%	0%	0%	10%	3%	18%	2%
Deep Conc. (mg/L)		450	187	397	369	4,096	3,514	2,044	3,957	29	3.0	1.1	5.3	507	532	1,225	1,233	3,145	20,292	3,662	1,766	860	3,101	873	440	281	413	335	140	0.6	1.6	0.3	0.0	5.5	1.0	5.9	1.1

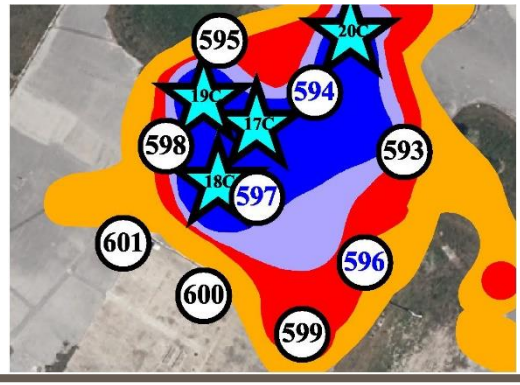
EDL = Elevated method detection limit (MDL); Bolding indicates detection greater than the MDL

DPT PM Results – Deep Capture Zone

- TCE percent composition results for sample depths from 53 to 78 ft bls
  - Deep RWs screened 50 to 80 ft bls
  - Total TCE concentration represents all depths in the deep capture zone
  - Line chart shows Total TCE concentration trend at all DPT locations for the deep capture zone
- Total concentration in the deep zone decreased slightly compared to 2022 values
  - *8,543 mg/L in 2022 to 7,912 mg/L in 2023, 7% decrease*
- DPT 594 had the greatest total concentration increase
  - *2,044 mg/L in 2022 to 3,957 mg/L in 2023, 48% increase*
- DPT 597 had the greatest total concentration decrease
  - *3,662 mg/L in 2022 to 1,765 mg/L in 2023, 107% decrease*
- 53 ft bls, just below Layer 4 holds the majority of contamination
- Highest Total TCE concentrations located at DPT 594, 596, 597



	Depth (feet bls)	Average TCE Composition 2020	2021	2022	2023
Deep	53	20%	12%	18%	25%
	58	14%	36%	11%	16%
	63	0%	2%	2%	3%
	68	0%	0%	0%	1%
	73	0%	0%	0%	1%
	78	17%	11%	15%	14%
% of Total		52%	62%	46%	60%



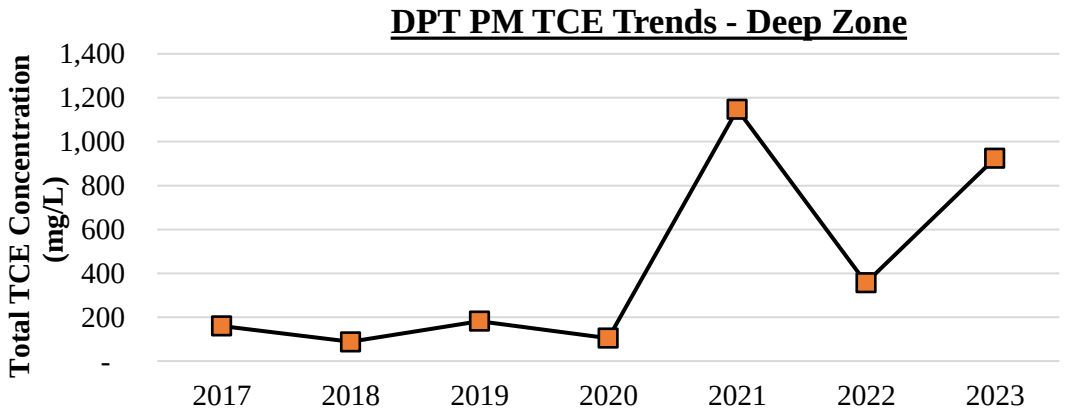
Layer 7 DPT Performance Sampling TCE Results

	Depth (feet bls)	DPT 593				DPT 594				DPT 595				DPT 596				DPT 597				DPT 598				DPT 599				DPT 600				DPT 601			
		2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023
Layer 7	83	0%	1%	0%	3%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	2%	1%	5%	1%	6%	14%	48%	0%	0%	0%	NS	0%	0%	0%	0%	0%	0%	0%	0%
	88	0%	0%	1%	3%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	93	0%	0%	0%	2%	0%	2%	1%	NA	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	98	0%	0%	0%	1%	0%	28%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	7%	2%	1%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Layer 7 Conc. (mg/L)		4.2	13	7.8	87	39	368	69	68	0.0	0.1	0.0	0.0	4.9	17	14	6.7	46	488	83	201	9.4	237	150	561	0.3	23	33	1.1	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0

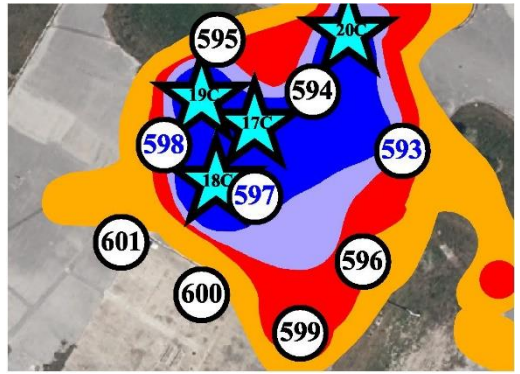
NA= Not Applicable; NS = Not Sampled; Bolding indicates detection

DPT PM Results – Layer 7 Capture Zone

- TCE percent composition results for sample depths from 83 to 98 ft bls
  - Layer 7 capture zone sample depths: 83 to 93 feet bls (RW17-20C screened 80 to 95 ft bls, RW21D screened 86 to 106 feet bls)
  - Total TCE concentration represents all depths in the Layer 7 capture zone
  - Line chart shows total TCE concentration of all DPT locations vs time for the Layer 7 capture zone
- Total concentration in the Layer 7 increased compared to 2022 values
  - *357 mg/L in 2022 to 925 mg/L in 2023*
- Majority of contamination in Layer 7 zone located at 83 feet bls, total average concentration increased from 2022
  - *23 mg/L in 2022 to 84 mg/L in 2023*
- DPT 598 had the greatest total concentration increase
  - *150 mg/L in 2022 to 591 mg/L in 2023*
- Highest Total TCE concentrations located at DPT 593, 597, 598



	Depth (feet bls)	Average TCE Composition			
		2020	2021	2022	2023
Layer 7	83	0%	2%	1%	6%
	88	0%	0%	0%	1%
	93	0%	1%	1%	1%
	98	0%	6%	0%	2%
% of Total		1%	3%	2%	7%



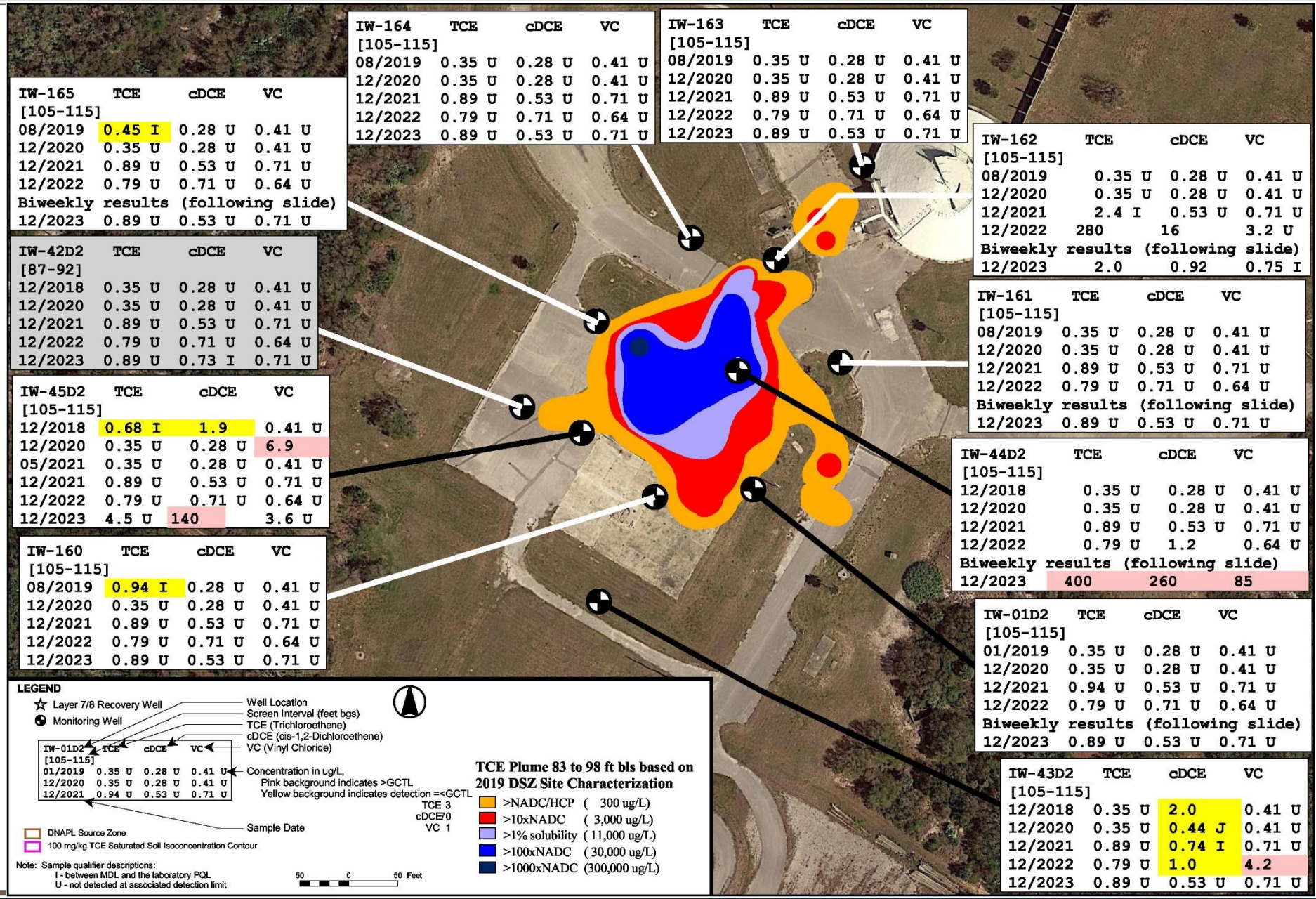
Layer 7 and 8 Annual Groundwater Sampling Results

Annual event:

- Conducted December 2023
- 11 wells sampled annually
  - IW42D2 is screened in Layer 7
  - Remaining wells are Layer 8
  - Detections
    - IW-42D2 low-level cDCE
    - IW-45D2 cDCE at 140 µg/L exceeding GCTL

RW21D (86 to 106 ft bls):

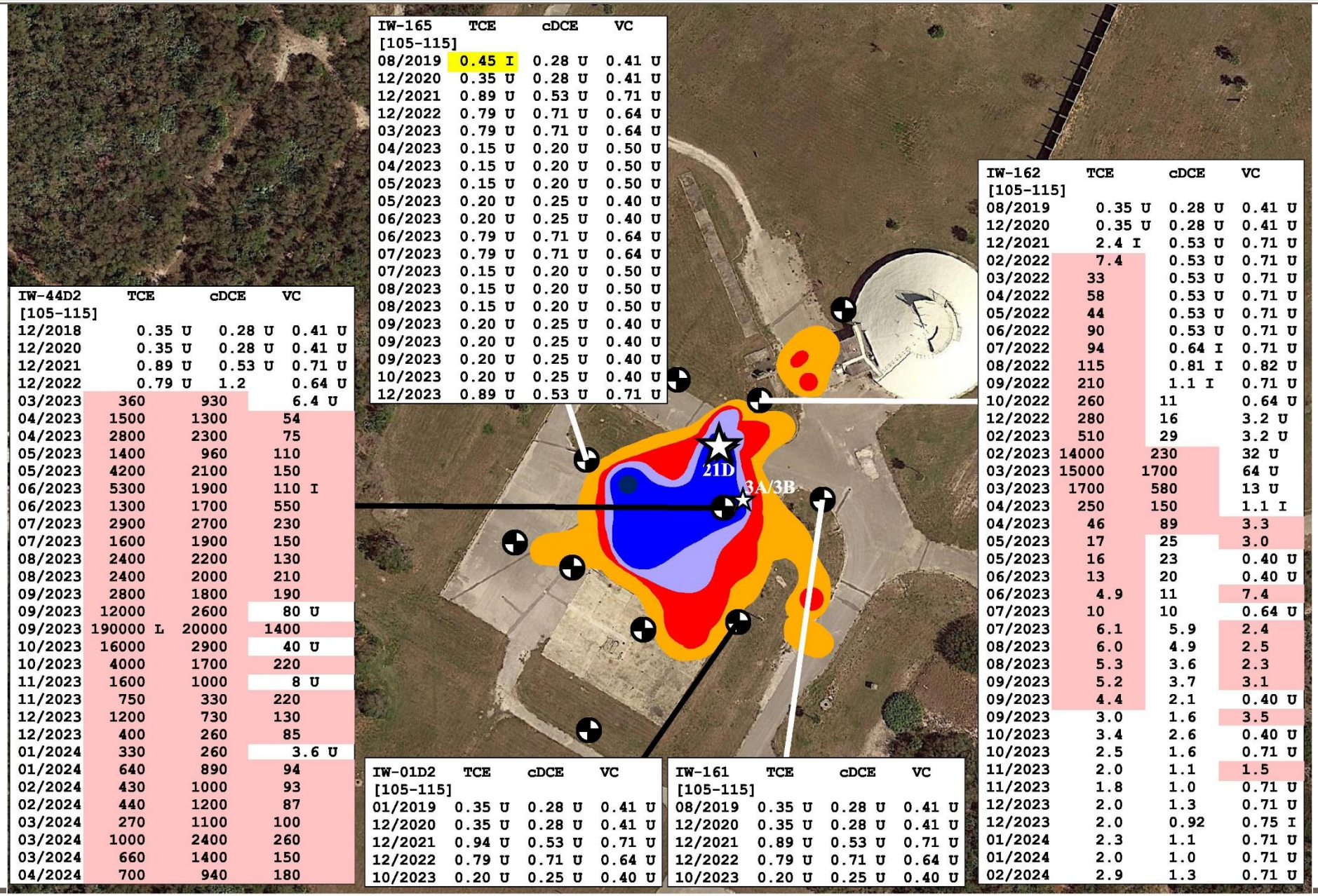
- Installed January 2023 based on DPT0594 98 ft sample having TCE at 59,000 µg/L during Site Characterization and TCE increases in IW162
- Operates at 15 GPM
- Biweekly sampling conducted to evaluate RW21D operations
  - IW-162 sampled initially
  - IWs 44D2 and 165 added
  - At October 2023 meeting FDEP requested IWs 01D2 and 161
  - Following slide presents results



Layer 7 and 8 Groundwater Sampling Results (continued)

RW21D (continued):

- IW-162 TCE was in 2.4 I µg/L December 2021 increased to 280 µg/L in December 2022. Once RW21D began operating TCE increased to maximum 15,000 µg/L then decreased to GCTL in September 2023 and continued to be less than GCTL until February 2024 when sampling was discontinued.
- IWs 44D2 and 165
  - Began sampling March 2023
  - IW-165 less than GCTLs
  - GCTLs exceeded in IW-44D2
    - TCE maximum of 190 L mg/L in September 2023 currently 700 µg/L
    - cDCE and VC follow similar trend
- IWs 01D2 and 161
  - Sampled October 2023 all results less than GCTLs



IW-44D2 [105-115]	TCE	cDCE	VC
12/2018	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	1.2	0.64 U
03/2023	360	930	6.4 U
04/2023	1500	1300	54
04/2023	2800	2300	75
05/2023	1400	960	110
05/2023	4200	2100	150
06/2023	5300	1900	110 I
06/2023	1300	1700	550
07/2023	2900	2700	230
07/2023	1600	1900	150
08/2023	2400	2200	130
08/2023	2400	2000	210
09/2023	2800	1800	190
09/2023	12000	2600	80 U
09/2023	190000 L	20000	1400
10/2023	16000	2900	40 U
10/2023	4000	1700	220
11/2023	1600	1000	8 U
11/2023	750	330	220
12/2023	1200	730	130
12/2023	400	260	85
01/2024	330	260	3.6 U
01/2024	640	890	94
02/2024	430	1000	93
02/2024	440	1200	87
03/2024	270	1100	100
03/2024	1000	2400	260
03/2024	660	1400	150
04/2024	700	940	180

IW-165 [105-115]	TCE	cDCE	VC
08/2019	0.45 I	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
03/2023	0.79 U	0.71 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U
04/2023	0.15 U	0.20 U	0.50 U
05/2023	0.15 U	0.20 U	0.50 U
05/2023	0.20 U	0.25 U	0.40 U
06/2023	0.20 U	0.25 U	0.40 U
06/2023	0.79 U	0.71 U	0.64 U
07/2023	0.79 U	0.71 U	0.64 U
07/2023	0.15 U	0.20 U	0.50 U
08/2023	0.15 U	0.20 U	0.50 U
08/2023	0.15 U	0.20 U	0.50 U
09/2023	0.20 U	0.25 U	0.40 U
09/2023	0.20 U	0.25 U	0.40 U
09/2023	0.20 U	0.25 U	0.40 U
10/2023	0.20 U	0.25 U	0.40 U
12/2023	0.89 U	0.53 U	0.71 U

IW-162 [105-115]	TCE	cDCE	VC
08/2019	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	2.4 I	0.53 U	0.71 U
02/2022	7.4	0.53 U	0.71 U
03/2022	33	0.53 U	0.71 U
04/2022	58	0.53 U	0.71 U
05/2022	44	0.53 U	0.71 U
06/2022	90	0.53 U	0.71 U
07/2022	94	0.64 I	0.71 U
08/2022	115	0.81 I	0.82 U
09/2022	210	1.1 I	0.71 U
10/2022	260	11	0.64 U
12/2022	280	16	3.2 U
02/2023	510	29	3.2 U
02/2023	14000	230	32 U
03/2023	15000	1700	64 U
03/2023	1700	580	13 U
04/2023	250	150	1.1 I
04/2023	46	89	3.3
05/2023	17	25	3.0
05/2023	16	23	0.40 U
06/2023	13	20	0.40 U
06/2023	4.9	11	7.4
07/2023	10	10	0.64 U
07/2023	6.1	5.9	2.4
08/2023	6.0	4.9	2.5
08/2023	5.3	3.6	2.3
09/2023	5.2	3.7	3.1
09/2023	4.4	2.1	0.40 U
09/2023	3.0	1.6	3.5
10/2023	3.4	2.6	0.40 U
10/2023	2.5	1.6	0.71 U
11/2023	2.0	1.1	1.5
11/2023	1.8	1.0	0.71 U
12/2023	2.0	1.3	0.71 U
12/2023	2.0	0.92	0.75 I
01/2024	2.3	1.1	0.71 U
01/2024	2.0	1.0	0.71 U
02/2024	2.9	1.3	0.71 U

IW-01D2 [105-115]	TCE	cDCE	VC
01/2019	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.94 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
10/2023	0.20 U	0.25 U	0.40 U

IW-161 [105-115]	TCE	cDCE	VC
08/2019	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
10/2023	0.20 U	0.25 U	0.40 U

HCS Conclusions/Recommendations

HCS IM

- HCS is operating as designed, effluent groundwater and air results below discharge/emission limits
- RW21D (screened 86-106 ft bls) installed in January 2023 influences on hydraulic control and contaminant capture
  - Bi-weekly sampling results:
    - IW-162 (screened 105-115 ft bls) TCE concentrations reduced to below the GCTL
    - IW-44D2 (screened 105-115 ft bls) TCE concentrations reduced to 700 from 190,000 µg/L (maximum in September 2023)
    - IW-01D2, IW-165, and IW-165 in same screen interval are below GCTLs
- DPT PM results show high TCE concentrations remain in the DSZ, with high percent composition within the fine-grained units (Layers 4 and 7)
- Continue HCS IM OM&M as recommended, with implementation of DSZ-1 from the RAE
  - Expansion of the HCS is on-going with additional RWs being installed within Layer 7

Team Consensus

- Propose continued operations of the hydraulic containment system (April 1, 2024 to March 31, 2025)
- Propose continued OM&M of the HCS consistent with current approach
  - Biweekly, select Layer 8 wells dependent on results
  - Monthly, air strippers and LPGAC effluent samples
  - Quarterly, total system influent and active RWs
  - Annual:
    - CatOx influent and effluent
    - DPT samples from 9 locations (5 ft sampling interval 8 to 98 ft bls)
    - Layer 8 Performance MWs and Layer 7 IW42D2

Hot Spot 6 Phase Two Expansion

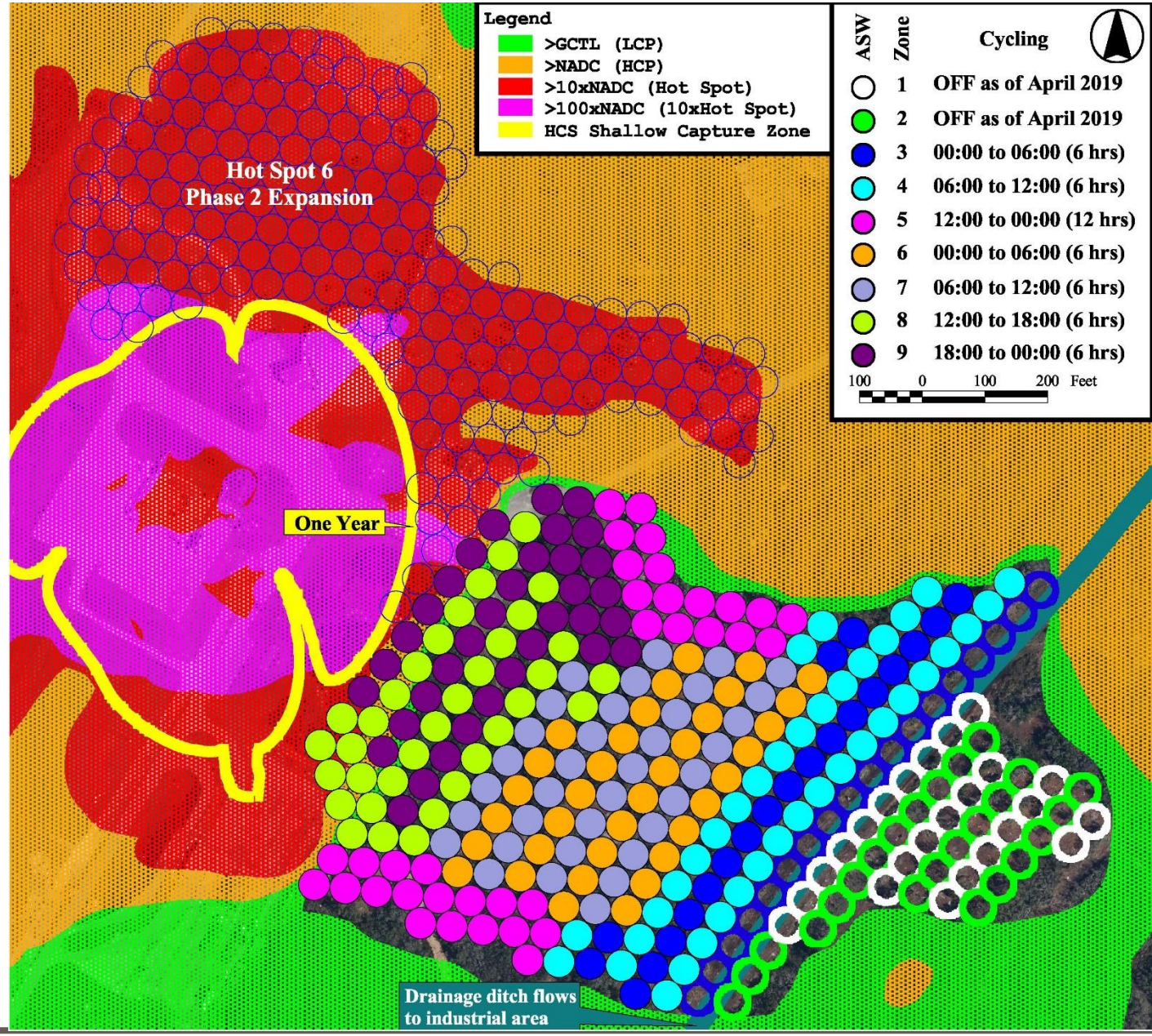
Hot Spot 6 Interim Measure - Overview

COCs: cDCE and VC exceeding 10xNADCs

Objective: To remediate contaminated groundwater within treatment zone to prevent impacts to drainage ditch and support transition to MNA

Phase One:

- Operations:
  - Full-scale operations of Zones 1 to 9:
    - Zones 1 to 5 began July 2018
    - Zones 6 to 9 began May 2019 (Phase One Expansion)
  - System Design:
    - 300 AS Wells (ASWs) in 9 treatment zones
      - Zones 1 and 2 turned off April 2019
      - Selected wells in Zones 3 and 4 turned off January 2020
      - Operated 199 ASWs from January 2020 to July 2023
    - Installation depth ~40' bls (Top of Layer 4)
    - 25' ROI, spaced 50' on center (c/c)
    - 5 CFM per ASW
- Sampling:
  - Baseline sampling events July 2018 and May 2019
  - Performance sampling:
    - 28 MWs and 3 SWs for VOCs and field parameters Quarterly events to January 2021
    - Frequency reduced to semi-annual events based on results



Hot Spot 6 Interim Measure - Overview

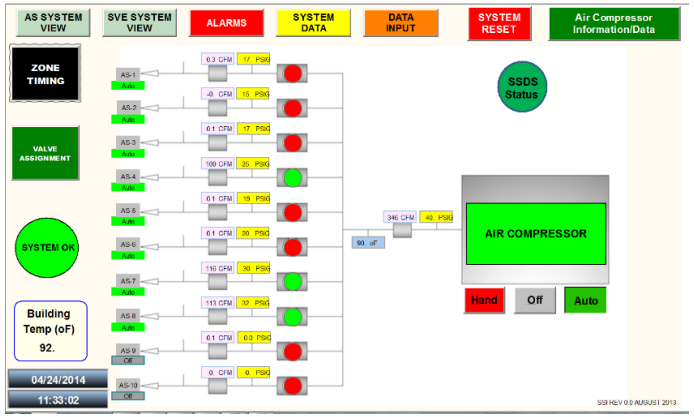
Compressor Trailer

- 75 HP VFD Rotary Screw Air Compressor
- Integrated refrigerated air dryer
- Coalescing and particulate filters
- Oil water separator
- 400 Gallon receiver tank
- 10 manifolds
- Programmable Logic Control and Telemetry
- Compressed air is distributed from compressor trailer via 2” HDPE lines to three manifold trailers to individual ASWs

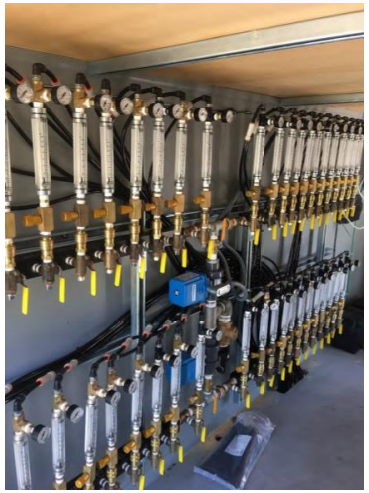
Electrical service from existing transformer MOT-1

- 3-phase, 460-volt, 60-hertz, 800-amp service feed





System HMI

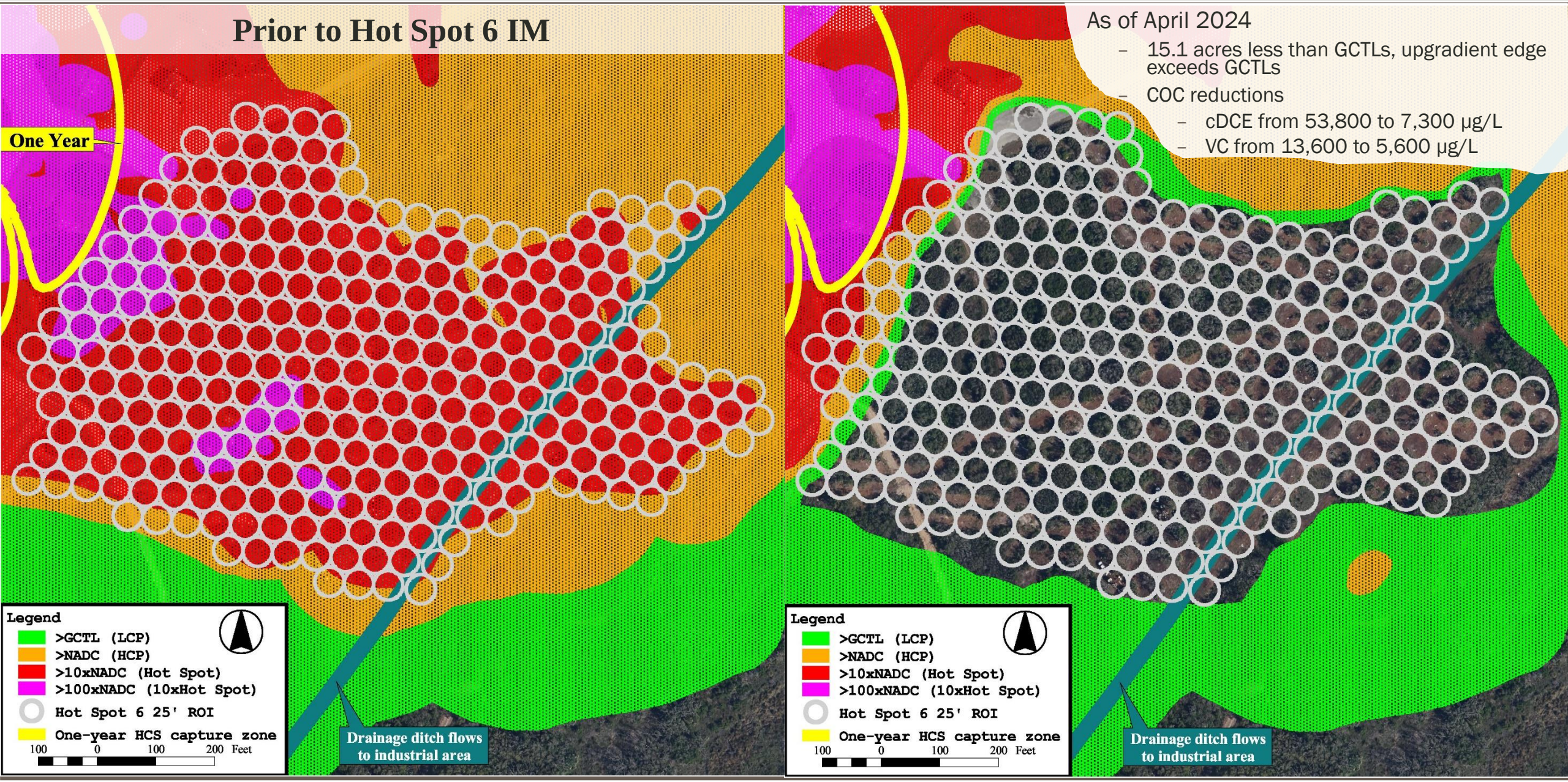


Manifold Trailer

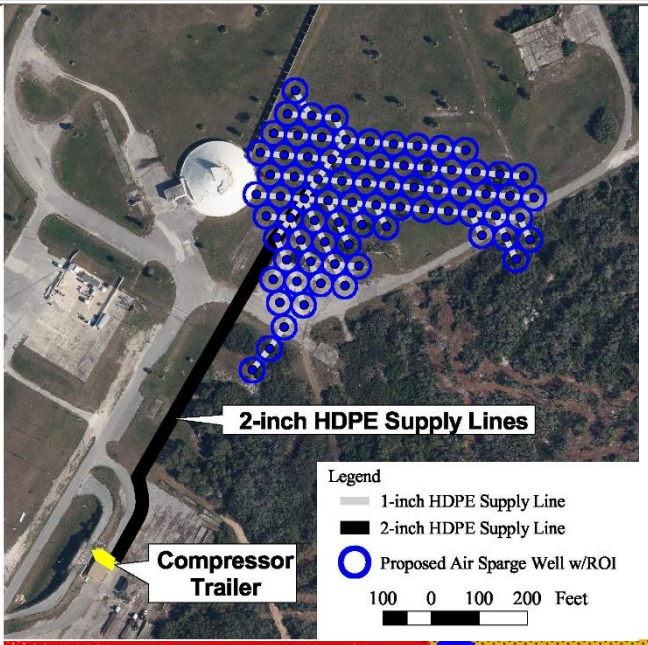


Compressor Trailer

Hot Spot 6 Interim Measure - Overview

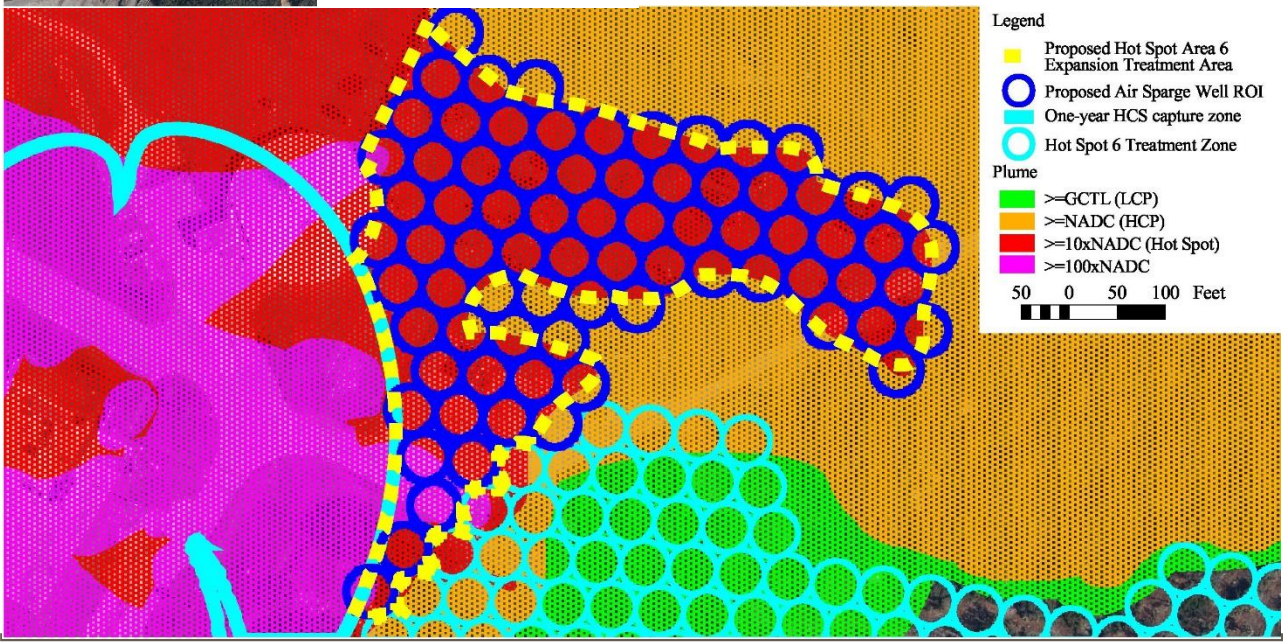


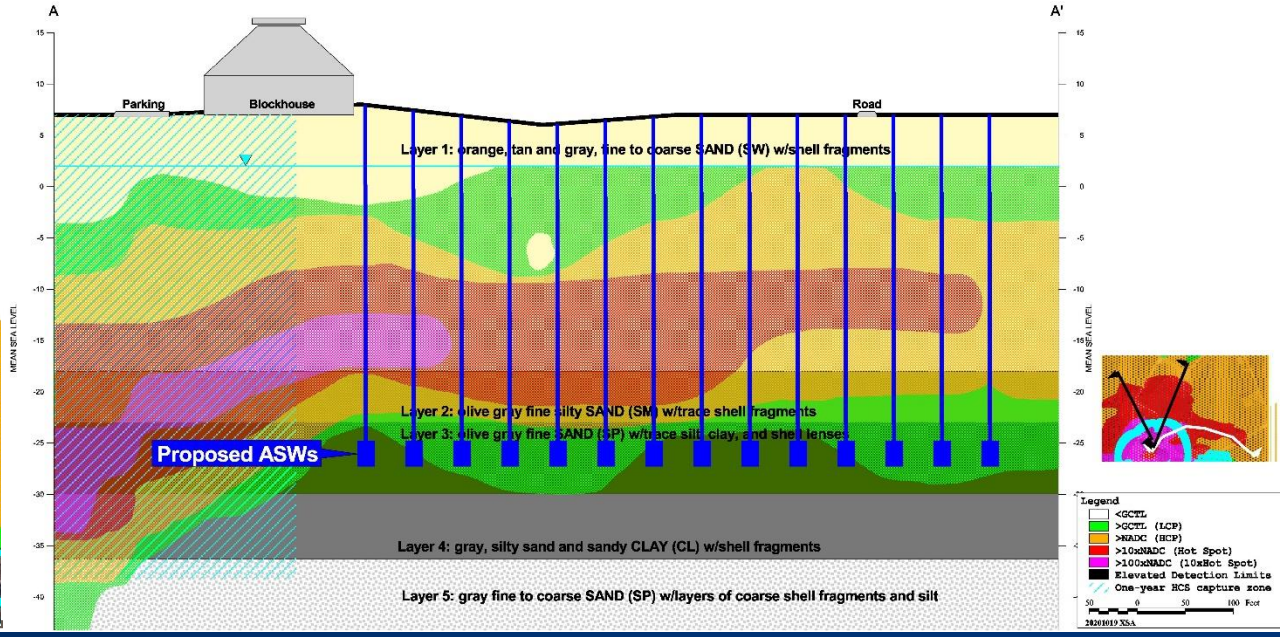
Hot Spot 6 Phase Two Expansion Design



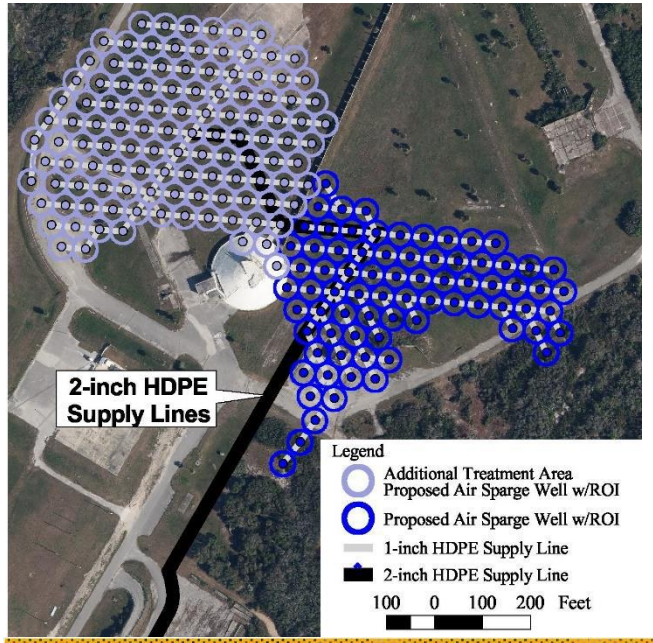
December 2020

- Expansion design included 76 ASWs treating 4 acres, east of blockhouse
- Design parameters:
  - 1-inch ID PVC installed by sonic drilling methods
  - Spaced 50’ c/c based on 25’ radius of influence as proven effective in Hot Spot 6
  - Screen interval 33 to 35 feet bls
  - 5 CFM per ASW
  - 76 ASWs will be split into two manifolded zones supplied by 2-inch diameter HDPE lines
  - 1-inch diameter HDPE lines will supply air to each ASW from the manifold distribution trailer
  - Pressure requirements (33.2 psi):
    - 9.4 psi, pressure loss based on 900 feet of 2-inch HDPE (compressor trailer to manifold trailer)
    - 0.3 psi, pressure loss based on 550 feet of 1-inch HDPE (long run from manifold trailer to ASW)
    - 5.0 psi, ancillary equipment such has elbows, valves, flow meter, pressure gauge, etc.
    - 18.5 psi well head pressure



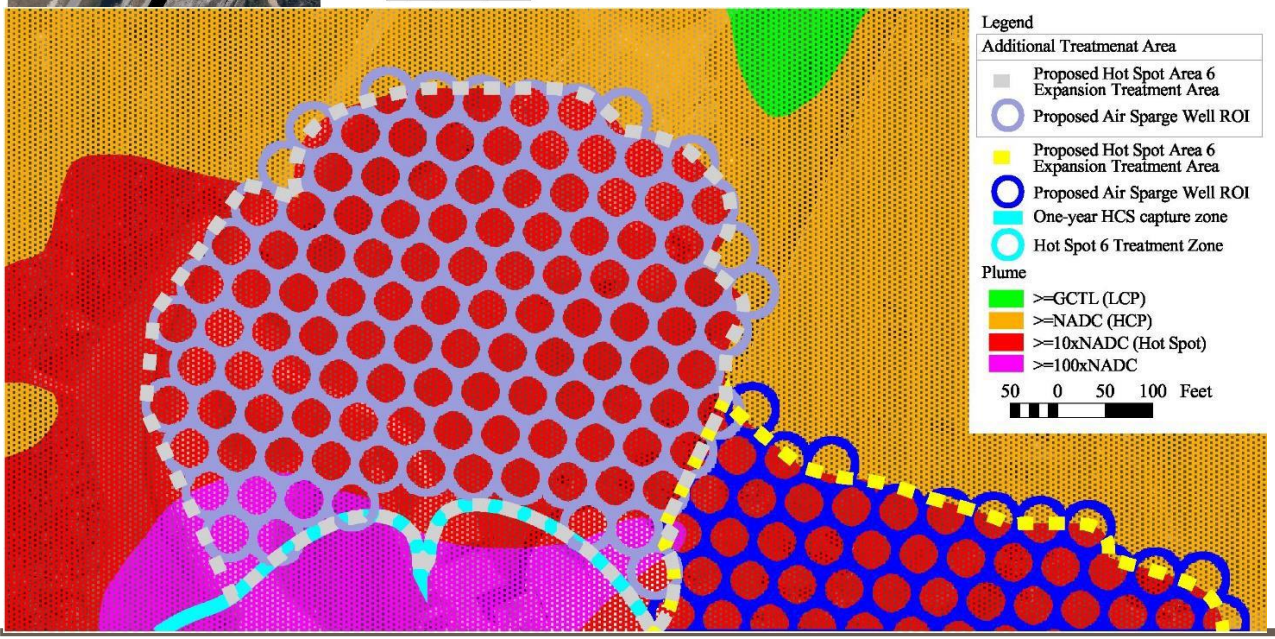


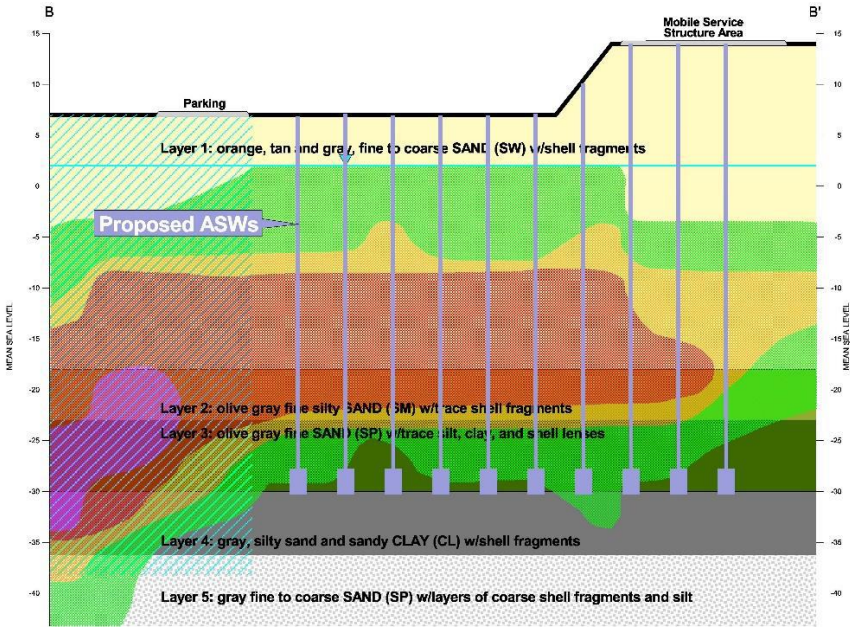
Hot Spot 6 Phase Two Expansion Design

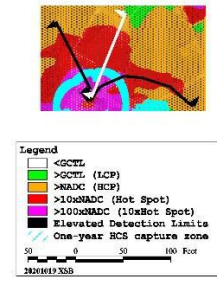


March 2022

- Expansion design included additional 116 ASWs treating 5.7 acres north of blockhouse
- Design parameters:
  - 1-inch ID PVC installed by sonic drilling methods
  - Spaced 50’ c/c based on 25’ radius of influence as proven effective in Hot Spot 6
  - Screen interval 33 to 35 feet bls
  - 5 CFM per ASW
  - 116 ASWs will be split into three manifolded zones supplied by 2-inch diameter HDPE lines
  - 1-inch diameter HDPE lines will supply air to each ASW from the manifold distribution trailer
  - Pressure requirements (33.2 psi):
    - 17.9 psi, pressure loss based on 1,550 feet of 2-inch HDPE (compressor trailer to manifold trailer)
    - 0.4 psi, pressure loss based on 590 feet of 1-inch HDPE (long run from manifold trailer to ASW)
    - 5.0 psi, ancillary equipment such has elbows, valves, flow meter, pressure gauge, etc.
    - 18.5 psi well head pressure



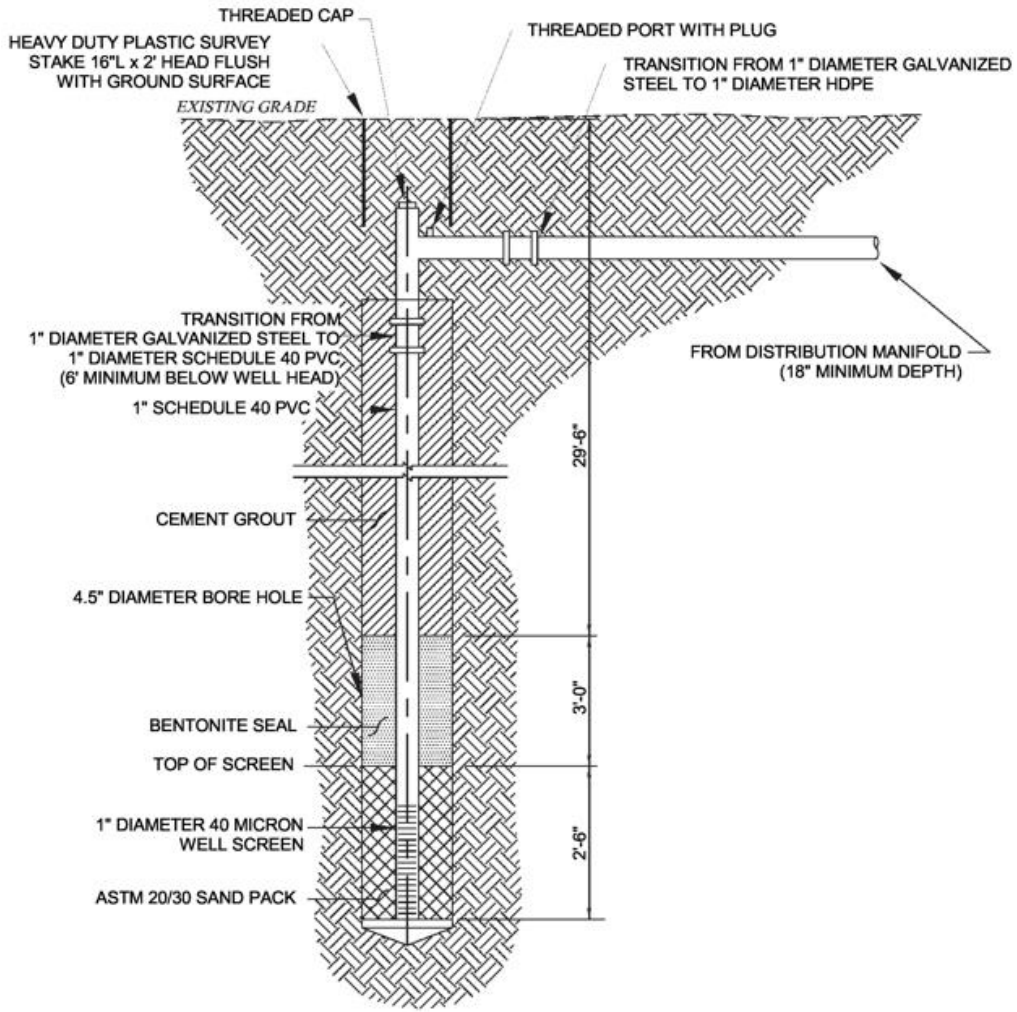




Hot Spot 6 Phase Two Expansion Design

ASW Design

- Rotosonic drilling
- 4.5-inch diameter borehole
- 1-inch ID PVC casing with 1-inch ID Schumasoil® diffuser (20-inches)
- Confirm lithology and place screen on top of confining layer (Layer 4)
- 20/30 silica sand pack to 1.5 feet above screen, and 3-foot bentonite seal, cement/bentonite slurry to surface
- Completion following trenching with direct-buried survey-style hubs above each well
- Angled AS wells in some areas to avoid surface obstructions (roadways, concrete pads)

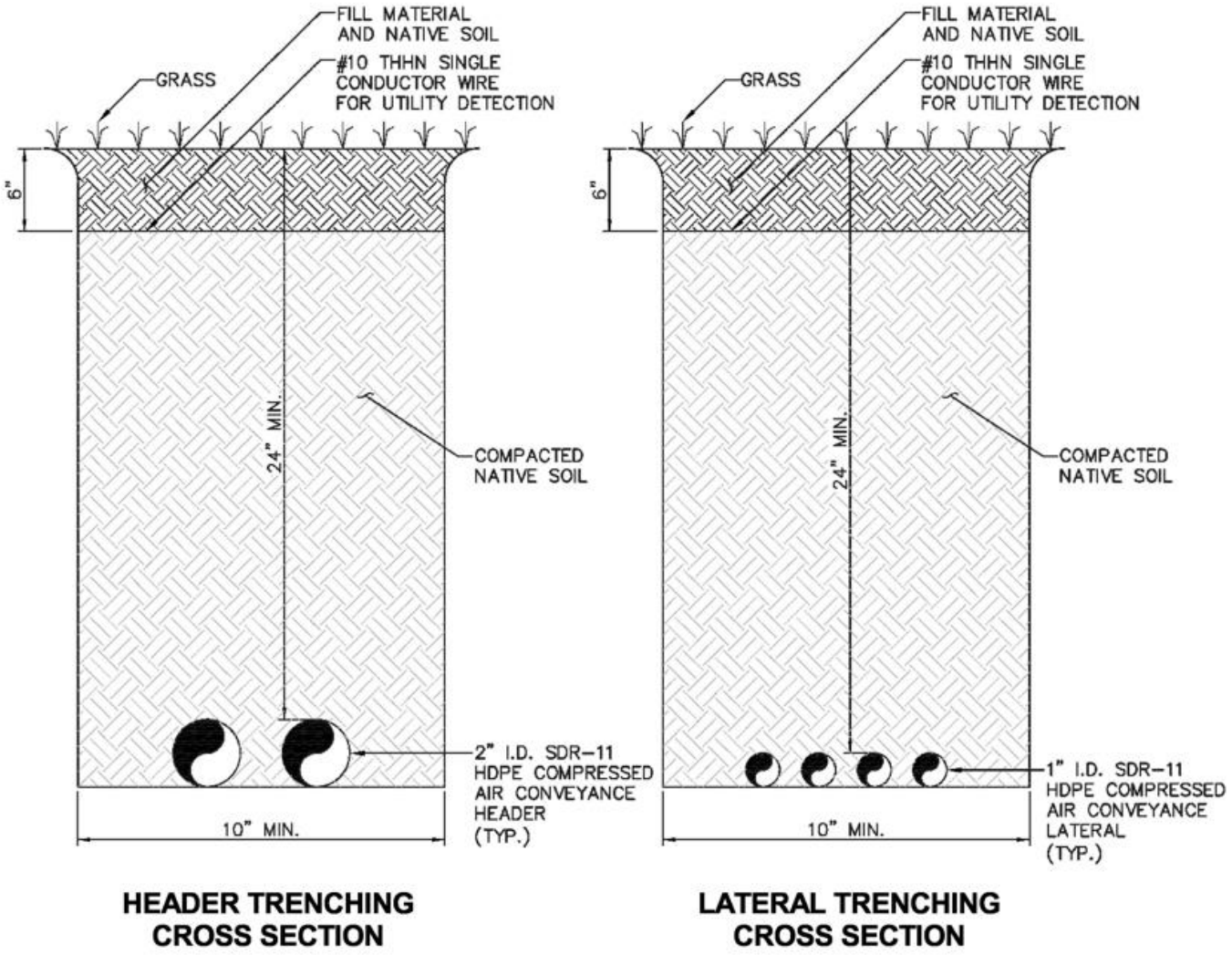


AIR SPARGE WELL DETAIL
NOT TO SCALE

Hot Spot 6 Phase Two Expansion Design

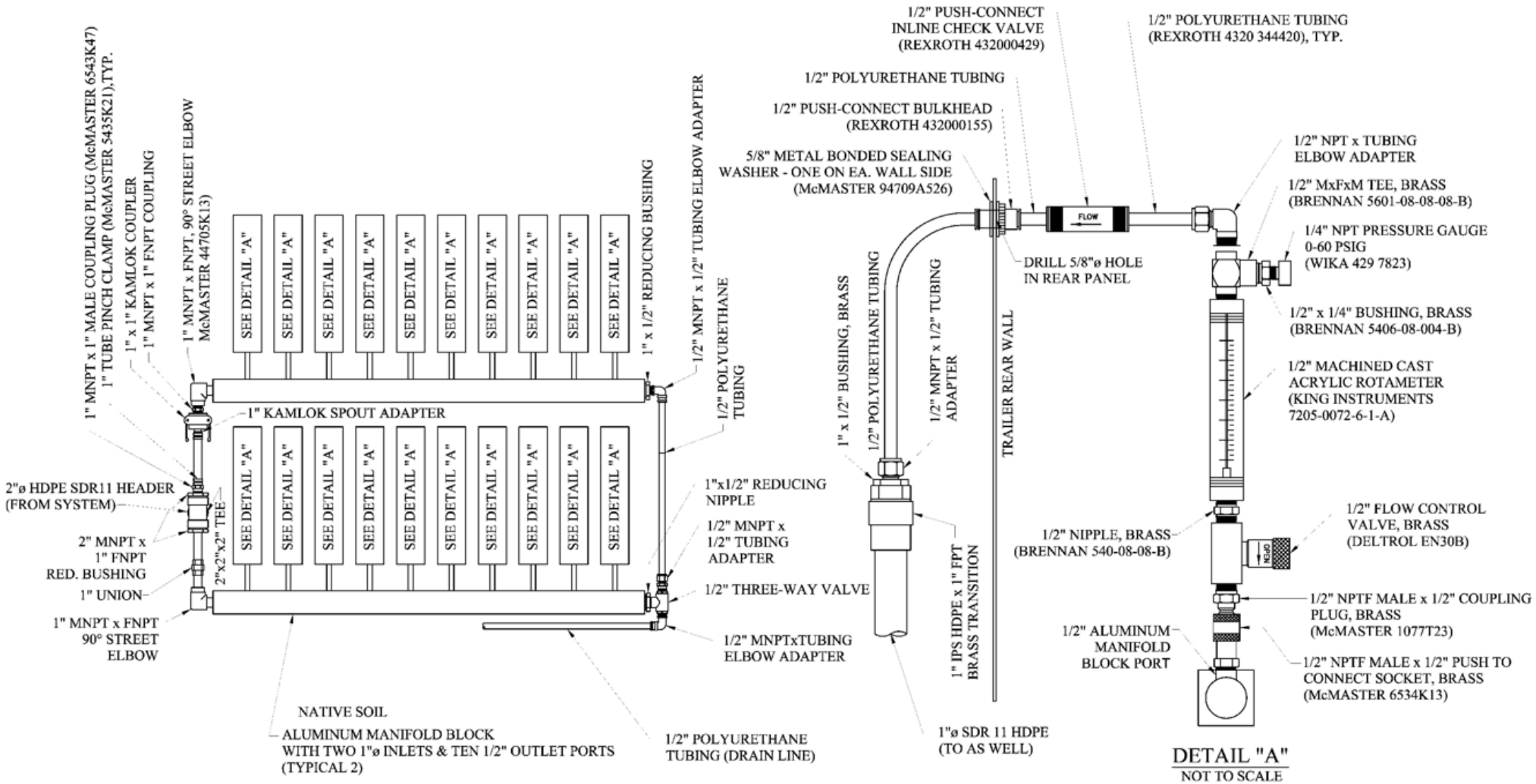
Trench Design

- Approximately 10-inches wide by 30-inches deep
- Excavation using trenching machine
- Hand digging around utilities identified during utility clearance
- 1-inch ID standard dimension ratio (SDR)-11 HDPE lateral air conveyance piping
- 2-inch ID SDR-11 HDPE header air conveyance piping

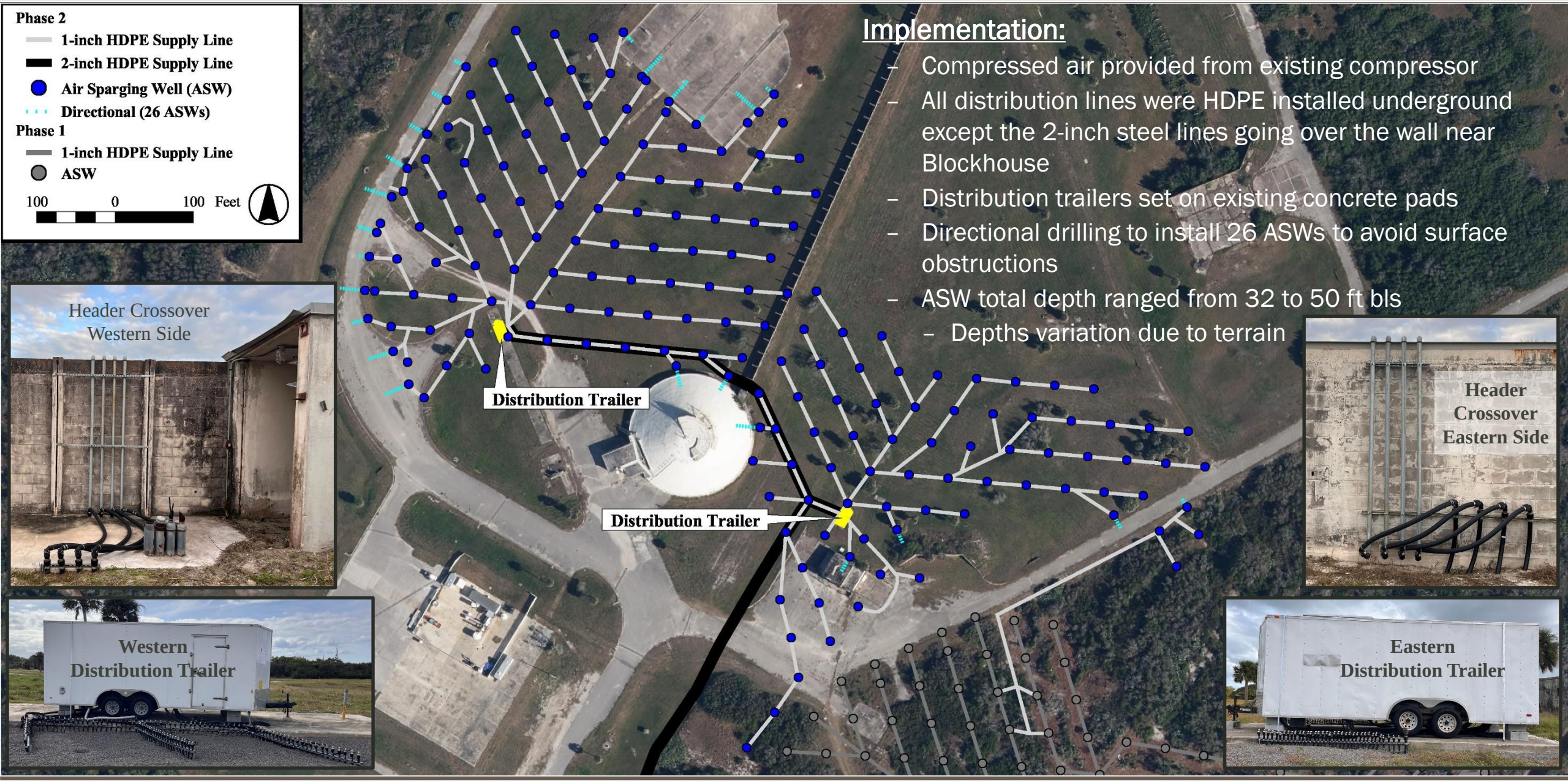


Hot Spot 6 Phase Two Expansion Design

Distribution Manifold Detail



Hot Spot 6 Phase Two Expansion



Implementation:

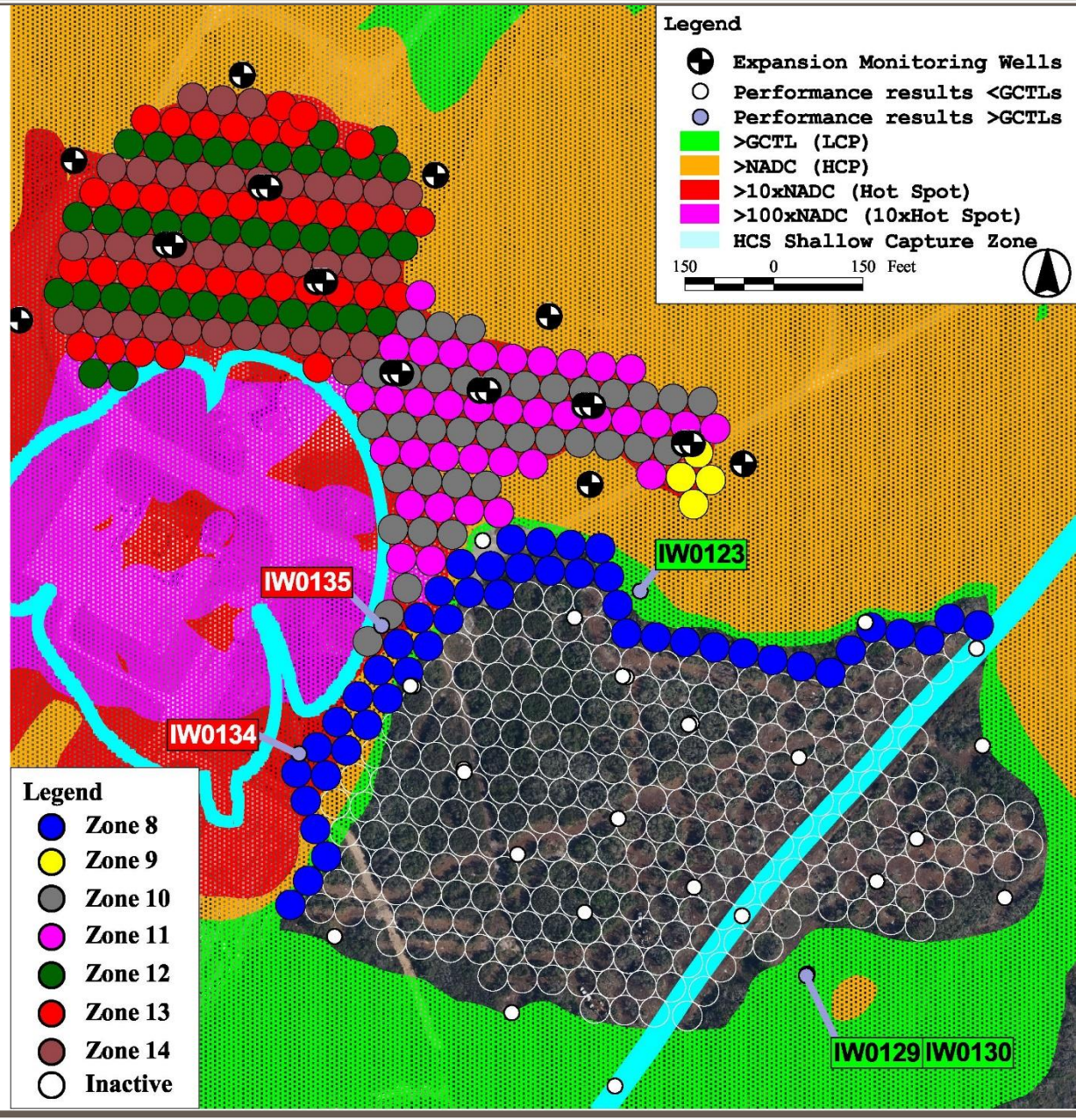
- Compressed air provided from existing compressor
- All distribution lines were HDPE installed underground except the 2-inch steel lines going over the wall near Blockhouse
- Distribution trailers set on existing concrete pads
- Directional drilling to install 26 ASWs to avoid surface obstructions
- ASW total depth ranged from 32 to 50 ft bls
  - Depths variation due to terrain

Hot Spot 6 Phase Two Expansion

Implementation:

- 238 ASWs in 7 treatment zones
- Zone 8 includes 48 existing ASWs reconfigured to prevent upgradient contamination from impacting treated area
- Zones 9 to 14 includes 190 ASWs treating an additional 11.2 acres
- 252 Phase One ASWs shut down where GCTLs have been achieved
- Average installation depth 38 ft bls (Top of Layer 4), soil cores were collected to guide installation depth for each ASW
- 25' ROI, spaced 50' on center (c/c)
- 5 CFM per ASW
- Two of three existing manifold trailers relocated, third trailer supplies air to Zones 8/9
- Existing compressor trailer with supply lines crossing over blockhouse wall

Zone ID	ASWs	Design Pressure (psig)	Well Flow (cfm)	Manifold Flow (cfm)
8/9	52	42	5	260
10	36	35	5	180
11	36	36	5	180
12	38	44	5	190
13	38	43	5	190
14	38	43	5	190



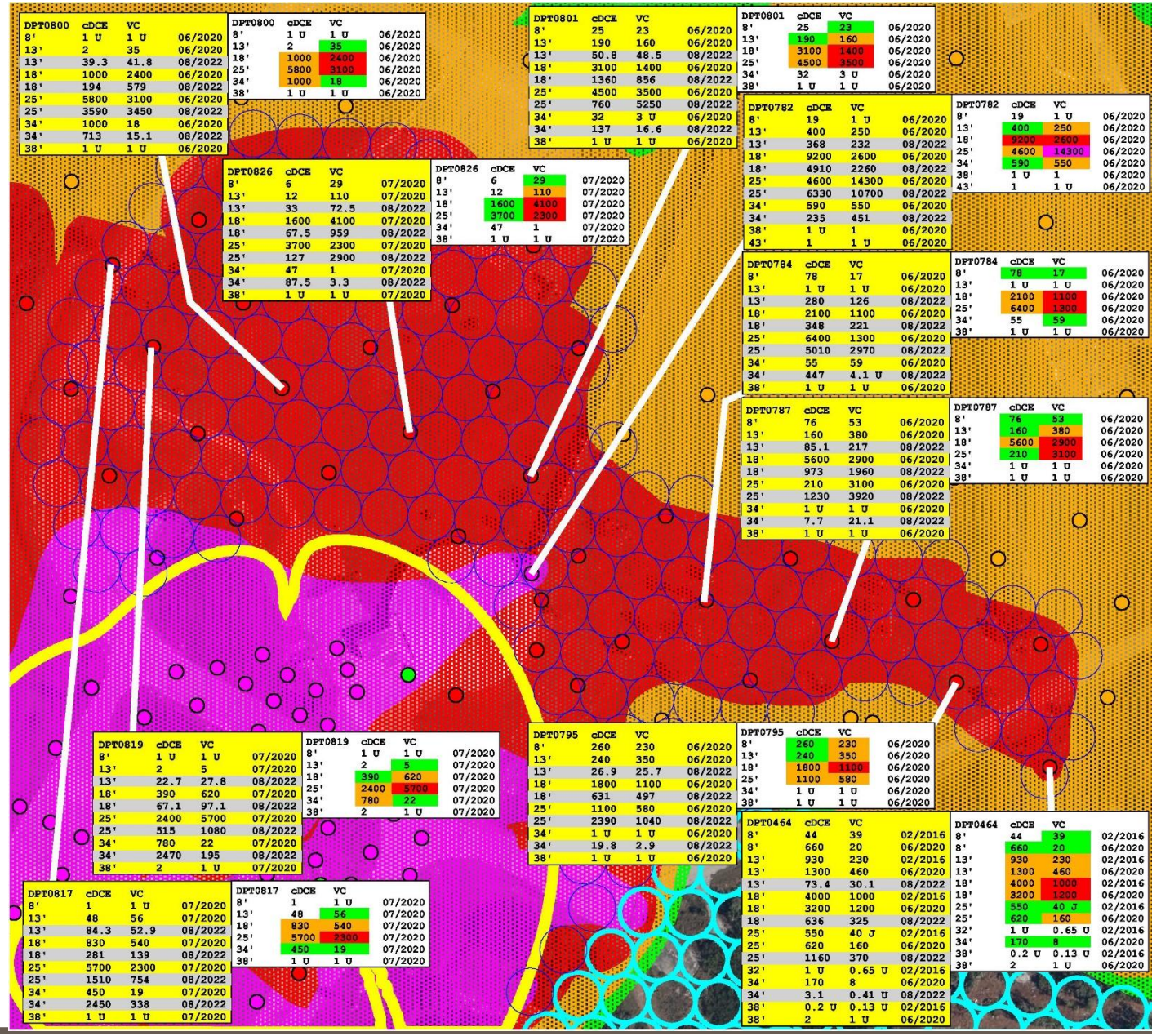
Hot Spot 6 Phase Two Expansion Timeline

Task	Dates
Phase Two Expansion IWP ADP Presented to KSCRT	December 2020
Site-specific Health and Safety Plan	February 2021
Record of Environmental Consideration Issued	March 5, 2021
U.S Fish and Wildlife Survey	Submitted August 12, 2021, Biological Opinion June 22, 2022
Revised Phase Two IWP ADP Presented to KSCRT	March 2022
U.S. Fish and Wildlife Biological Opinion Issued	June 6, 2022
Excavation Permit Issued	July 20, 2022
Pre-Construction DPT Sampling to Verify Plume Centerline	August 17-19, 2022
Revised Record of Environmental Consideration Issued	September 9, 2022
Survey/ Staking Well Locations	September 19-23, 2022
Ecological Survey Conducted by NASA	October 3 - December 7, 2022 (concurrent with drilling)
Air Sparge Well (ASW) Installation	October 17, 2022 - February 9, 2023
Performance Monitoring Well Installation	November 1, 2022 - January 20, 2023
Trenching / Piping / Backfill	January 30 - July 13, 2023
Phase One System Shutdown / Relocate Manifold Trailers	July 7-13, 2023
Baseline Performance Monitoring	July 7-10, 2023
Phase Two System Startup	July 17 - August 25, 2023 (six-week phased startup)
Full Scale Operations	August 28, 2023
First Quarter Performance Monitoring	November 2023
Second Quarter Performance Monitoring	February 2024

Hot Spot 6 Phase Two Expansion

Pre-construction DPT

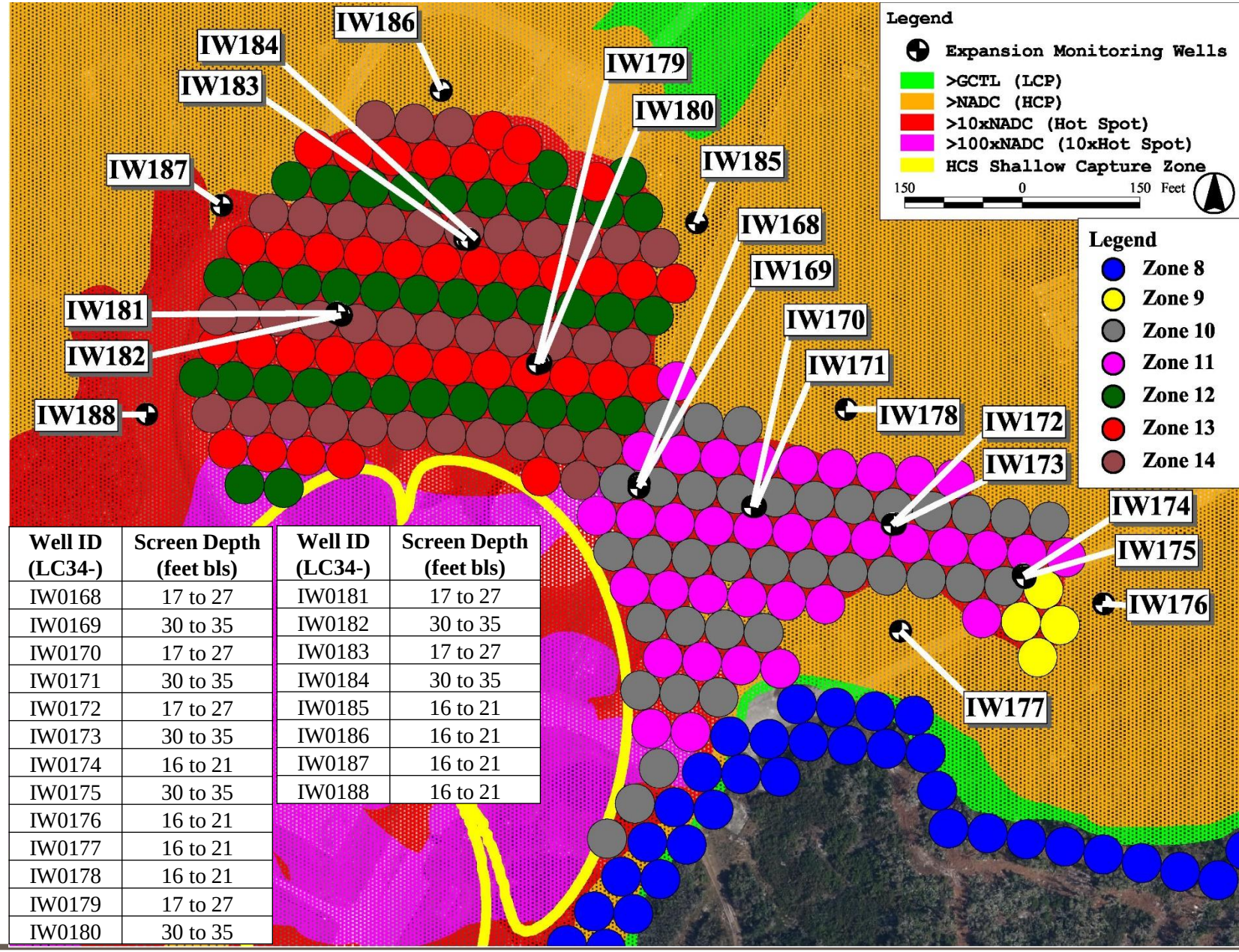
- DPT samples collected August 2022 along plume centerline to verify plume extents in expansion area
- 10 boring locations consistent with DPTs collected during site characterization
  - DPTs 464, 782, 784, 787, 795, 800, 801, 817, 819, 826
  - Four depth intervals (13, 18, 25, and 34 ft bls)
- Results consistent with previous DPTs
  - TCE no detections; some with elevated non-detect values
  - tDCE all results less than GCTL
  - cDCE exceeded GCTL in all locations, some depths exceeded NADC
  - VC exceeded GCTL in all locations, some depths exceeded NADC and 10xNADC
  - Maximum cDCE 6,330 µg/L and VC 10,700 µg/L both in DPT782 (25 ft bls)



Hot Spot 6 Phase Two Expansion

Monitoring Well Installation

- 21 wells installed November 2022
- Varying screen intervals
  - 8 perimeter (16-21 ft bls)
  - 6 interior shallow (17-27 ft bls)
  - 7 interior intermediate (30-35 ft bls)
- Position and depth based on DPT results during site characterization
- Interior well screen depths cover whole treatment zone (17-35 ft bls)
- Sampling
  - Baseline sampling July 2023
  - Quarterly sampling November 2023 (Q1) and February 2024 (Q2)



Well ID (LC34-)	Screen Depth (feet bls)
IW0168	17 to 27
IW0169	30 to 35
IW0170	17 to 27
IW0171	30 to 35
IW0172	17 to 27
IW0173	30 to 35
IW0174	16 to 21
IW0175	30 to 35
IW0176	16 to 21
IW0177	16 to 21
IW0178	16 to 21
IW0179	17 to 27
IW0180	30 to 35

Well ID (LC34-)	Screen Depth (feet bls)
IW0181	17 to 27
IW0182	30 to 35
IW0183	17 to 27
IW0184	30 to 35
IW0185	16 to 21
IW0186	16 to 21
IW0187	16 to 21
IW0188	16 to 21

Hot Spot 6 Phase Two Expansion

ASW Installation

- October 2022 – February 2023
- 190 AS wells in 7 Zones
- 2-foot screen interval placed directly on top of confining layer (Layer 4 ~40 ft bls)
- Lithology verified/logged by geologist at each boring
- Screen depth varied based on lithology ranging from 30-32 to 38-40 ft bls
- Deeper wells in Zones 12/13/14 adjacent to mobile service structure pad with screens ranging from 43-45 ft bls to 48-50 ft bls
- Angled wells at 26 locations to avoid surface obstructions



Installing angled ASW beneath 3-sided structure, facing northwest, 12/7/22

Hot Spot 6 Phase Two Expansion

Trenching / Piping

- January 30 – July 13, 2023
- Trench network excavated to install air conveyance piping to ASWs
- Trenches ~ 10” wide by 30” deep
- 1-inch HDPE lateral air conveyance piping to each ASW
- 2-inch HDPE header piping to connect lines to manifolds
- 2-inch steel piping to connect header lines over blockhouse wall
- Two manifold trailers relocated to east/west of blockhouse
- Backfilling / grading



Lateral trenches north of blockhouse, facing southeast, 4/28/23

HS6 Phase Two Expansion: Trenching / Piping – January 30 – July 13, 2023



ASW trenching, facing west, 4/28/23



ASW trenching, facing north, 4/28/23



ASW graded backfill, facing east, 4/28/23



1-inch lateral piping within trench, facing south, 5/9/23



Temporary pipe rack, facing northeast, 5/12/23



Fitting lateral line to ASW, 5/16/23

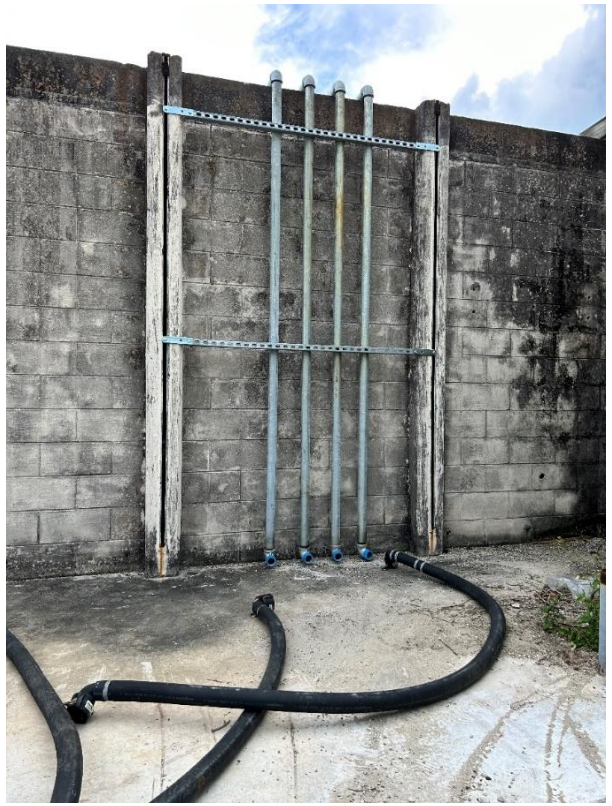
HS6 Phase Two Expansion: Trenching / Piping – January 30 – July 13, 2023



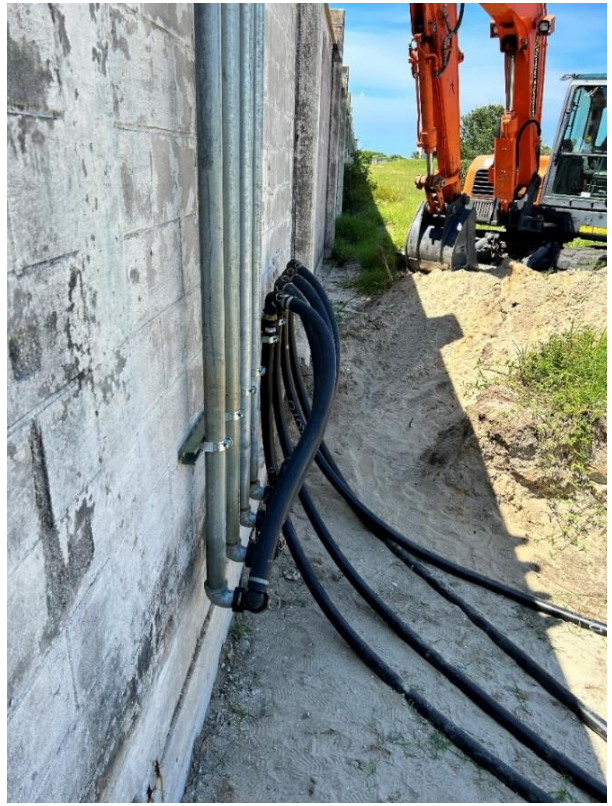
Header trench across Perimeter Road, facing northwest, 6/13/23



Deploying 2-inch header piping, facing northeast, 6/15/23



Installing 2-inch steel piping over blockhouse wall, 6/28/23



Header piping plumbed to steel with 2-inch cam-lock fittings, 7/6/23

HS6 Phase Two Expansion: Trenching / Piping – January 30 – July 13, 2023



West manifold trailer pad - Racked header and lateral piping with ½-inch flex line to manifold trailer, facing west 7/10/23



East manifold trailer pad - Racked header and lateral piping with ½-inch flex line to manifold trailer, facing west 7/10/23



Relocating manifold trailer, facing north, 7/11/23



Plumbing ½-in flex line to manifold trailer, 7/12/23



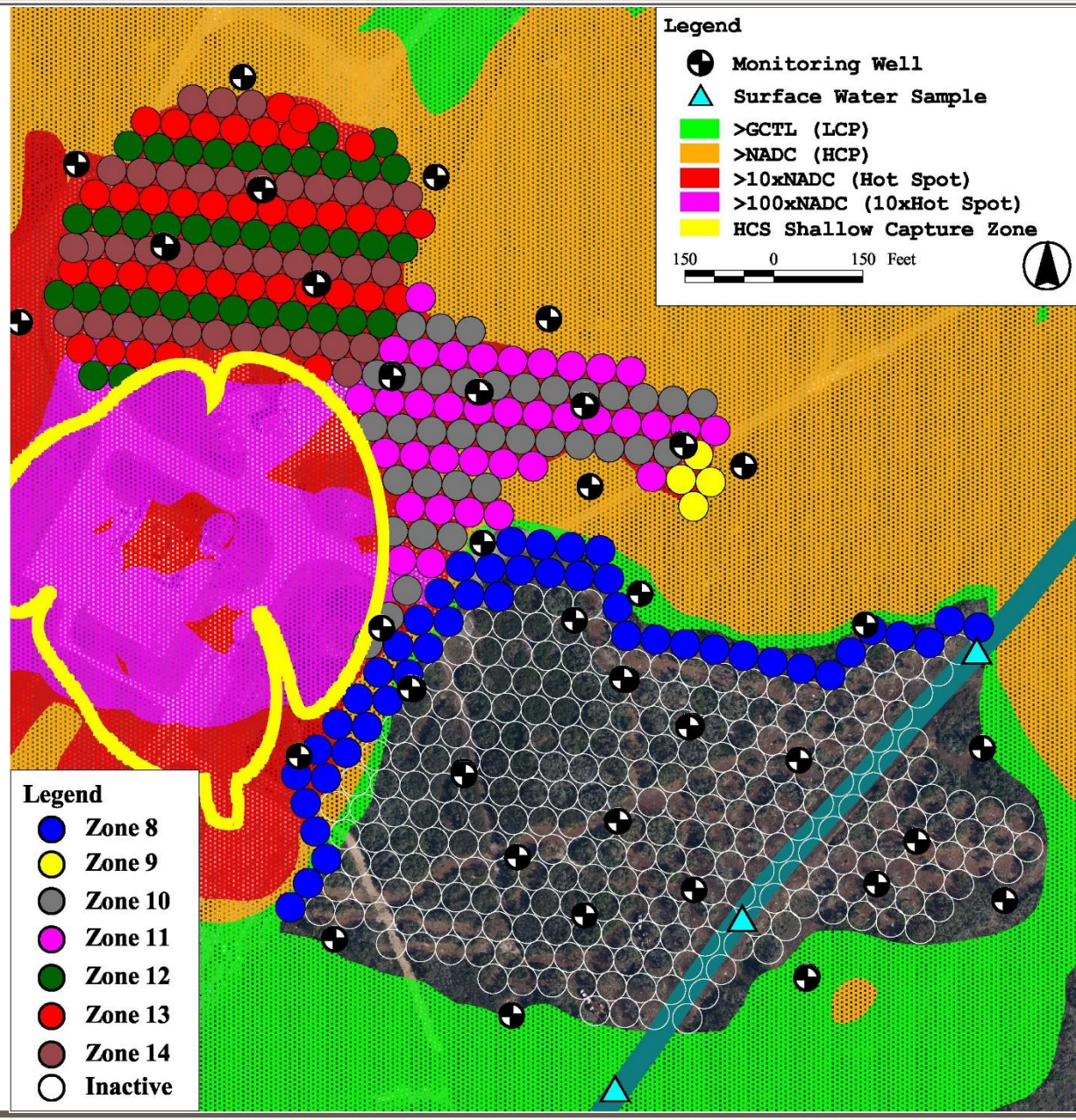
West Trailer hookup complete, 7/13/23

Hot Spot 6 Phase Two Expansion

Phased Startup July 17 – August 25, 2023

- Manifold trailers connected to existing compressor trailer
- Cycle times for each manifold/zone programmed via PLC
- Startup initiated 7/17/23, all ASWs 10 psi; pressure and flow increased incrementally until design achieved
- Fully operational week of August 28, 2023
- Air Monitoring:
  - Photo-ionization detector (PID) used to monitor breathing zone during system installation, Start Up, and Full-Scale Operations
  - No PID detections in breathing zone
    - *At CCB only PID detections at ground surface where bubbling occurs with instrument intake at bubbling with hand cupped over bubbling, when hand removed and moved up six inches nothing detected*
  - Recommend continuing PID sampling during field events

Zone ID	Manifold Trailer	Cycle Time
8/9	Southeast	06:00 – 12:00
10	East	18:00 – 00:00
11	East	12:00 – 18:00
12	West	12:00 – 18:00
13	West	00:00 – 06:00
14	West	06:00 – 12:00



Hot Spot 6 Air Sparging Update

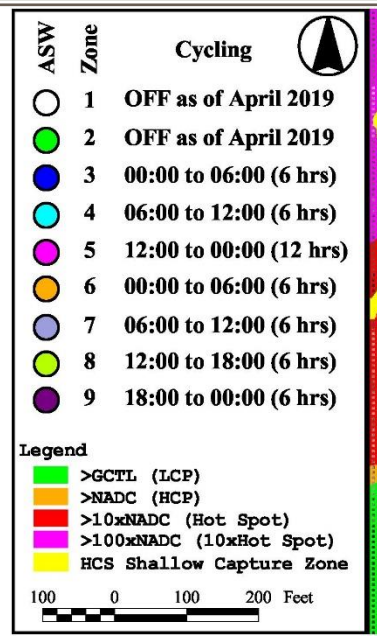
Hot Spot 6 AS System OM&M

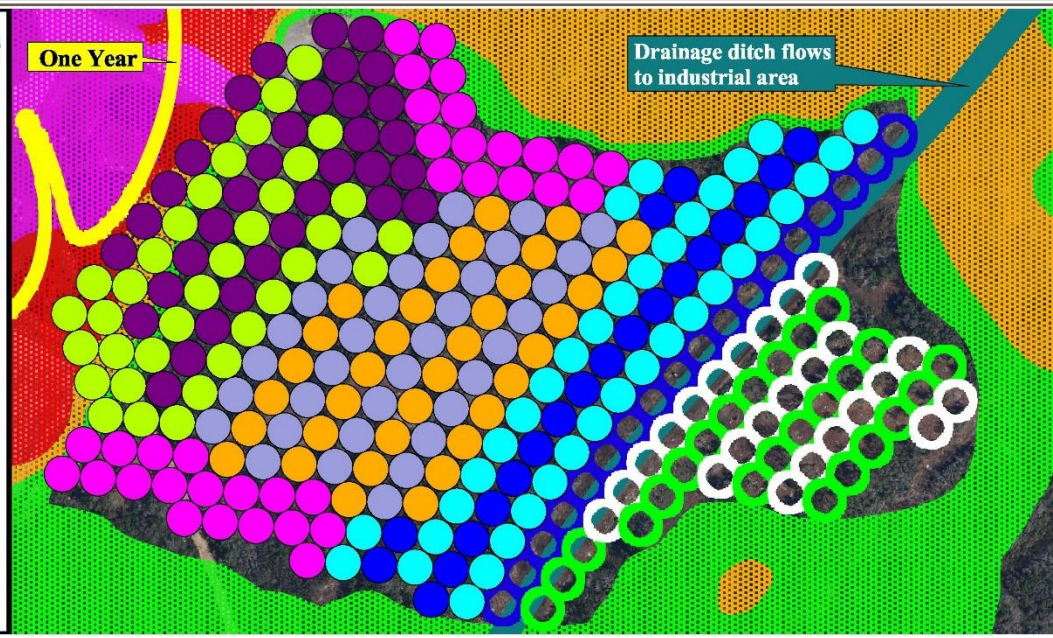
Reporting Period Runtime (April 1, 2023 – March 31, 2024)

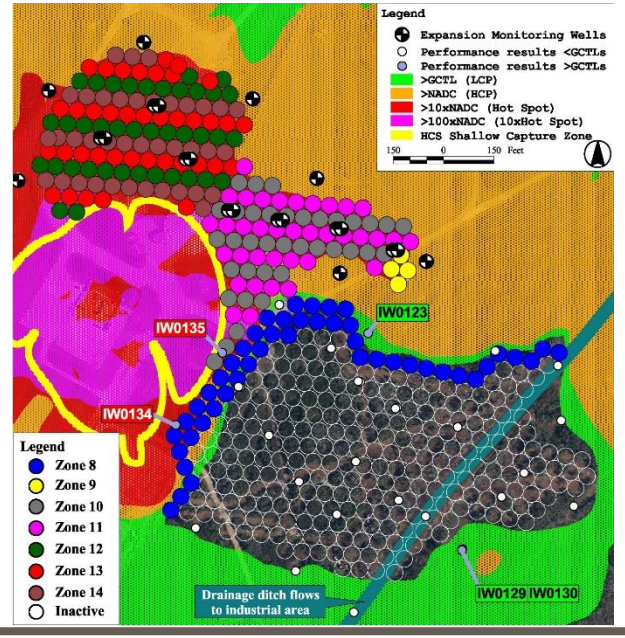
Year / Phase		Month	Days In Month	Downtime (Days)	Runtime	Downtime Contributing Factor
2023	Phase One	April	30	14	53%	Semi-annual Performance Monitoring. Zones 3,4,6,7 running; Zones 5,8 were off so as not to influence the HS6 ASW install.
		May	31	1.5	95%	Shutdown for Phase Two installation
		June	30	0	100%	None
		July	31	1.5	95%	Phase Two baseline monitoring
	Phase Two	August	31	0	100%	Phase Two phased startup
		September	30	0	100%	None
		October	31	18	42%	Shutdown for Phase Three DPT
		November	30	10.5	65%	Semi-annual and quarterly Performance Monitoring
		December	31	2.5	92%	Performance Monitoring continued
2024		January	31	0	100%	None
		February	29	9	69%	Quarterly Performance Monitoring
		March	31	0	100%	None
		Total	**365**	**57**	**84%**	

Notes: 1) Reporting period is from April 1, 2023 to March 31, 2024

2) Phase Two startup 7/17/23 and fully operational 8/28/23







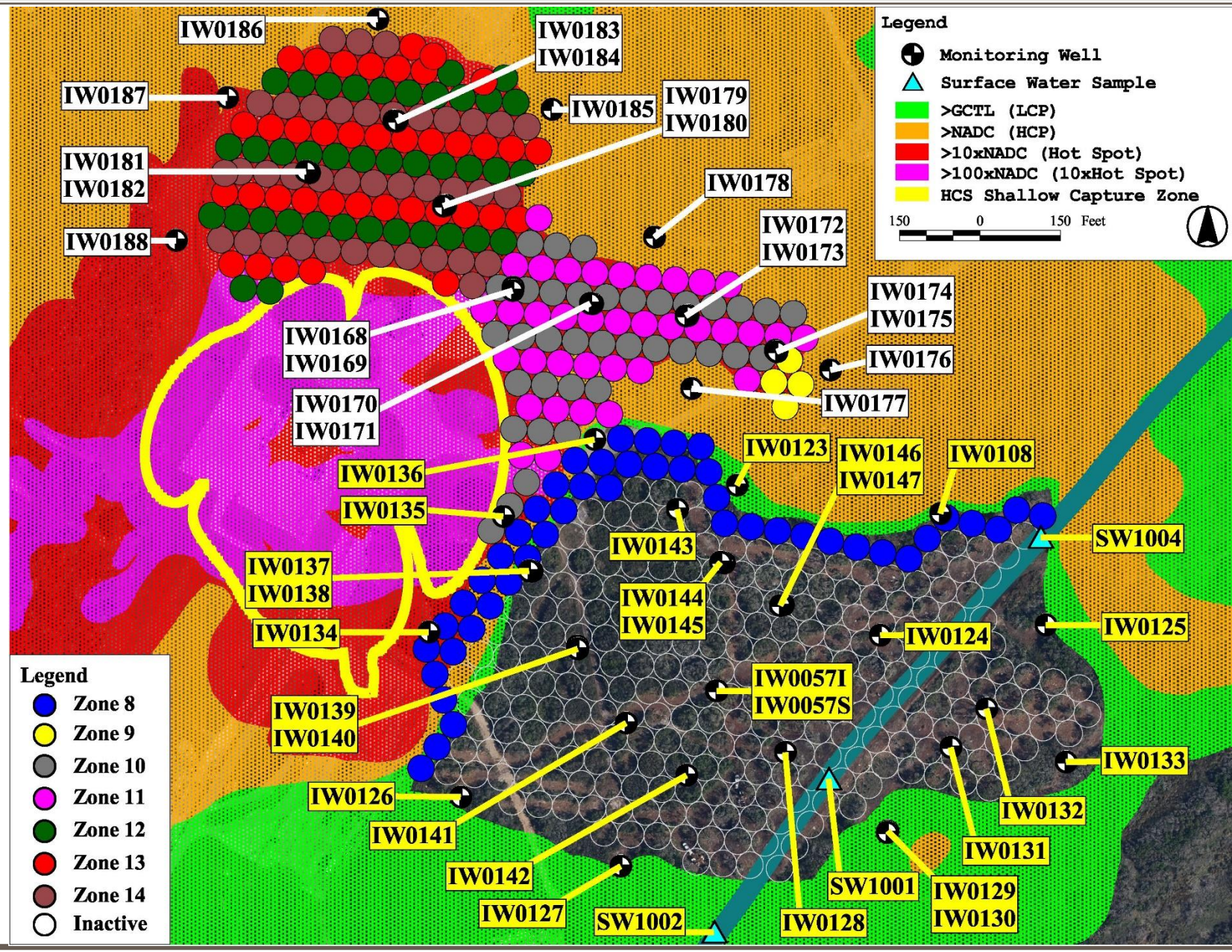
Operations and Maintenance

- Remote monitoring of the system
- Monthly site visits include
  - Inspect system
    - For leakage and excessive vibration, noise, or temperature
    - Oil levels and lubrication, condensate treatment system, refrigerated air dryer
  - Assess differential pressure across filtration units and process equipment
  - Record system operational data and compare to design conditions
  - Balance flow and pressure of manifold zones and individual sparge wells
  - Perform routine maintenance and housekeeping

Hot Spot 6 AS System OM&M – PM Results

Performance Monitoring (PM) Overview

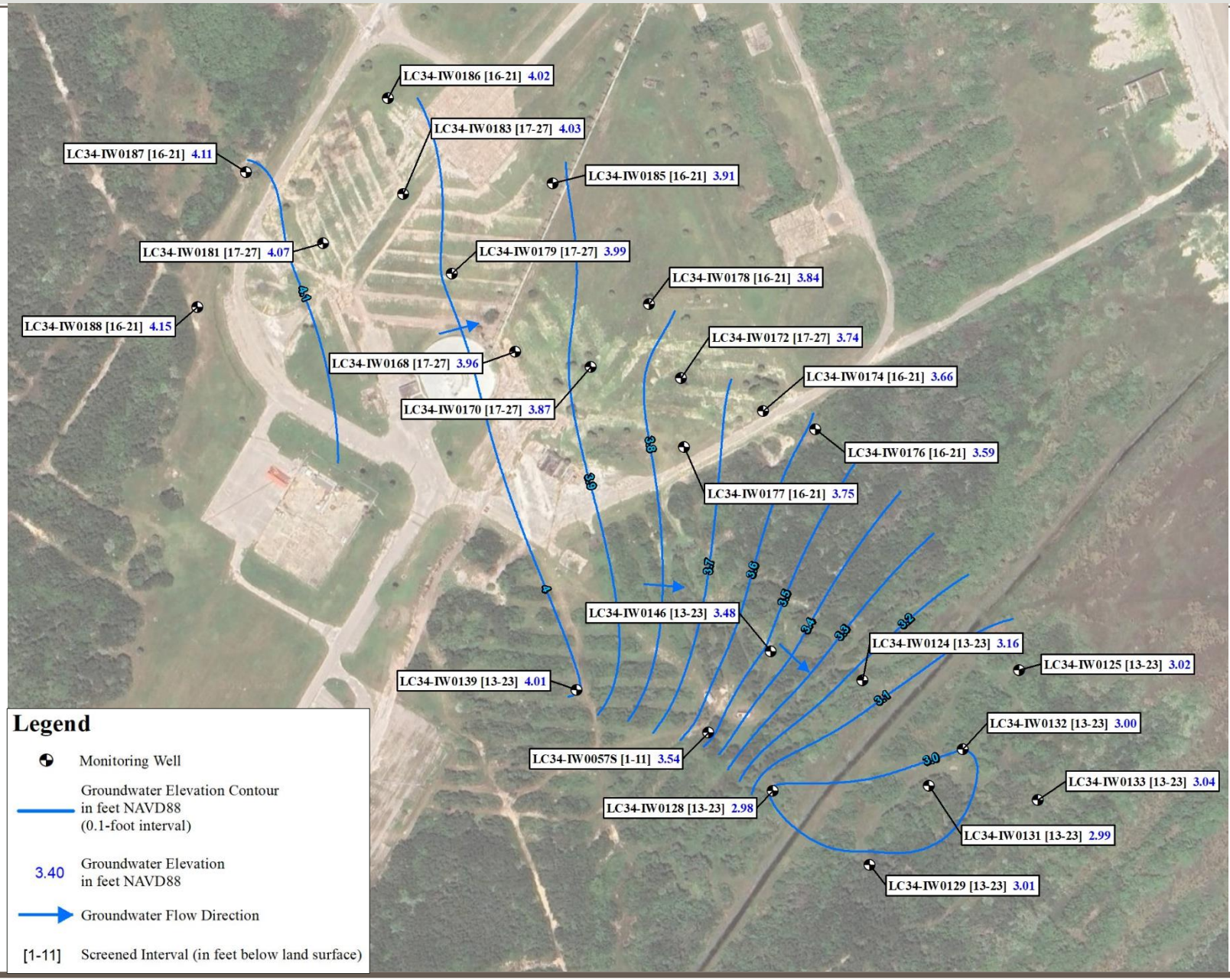
- Phase One (yellow labels):
  - 28 MWs and 3 SWs
  - Semi-annual sampling
    - April 2023 / November 2023
- Phase Two (white labels):
  - 21 MWs
  - Baseline conducted July 2023
  - Quarterly sampling
    - November 2023 / February 2024
- Water Level gauging during each sampling event
- Samples analyzed for VOCs by 8260D



Hot Spot 6 AS System OM&M – PM Results

Groundwater Elevation Contours HS6 Area

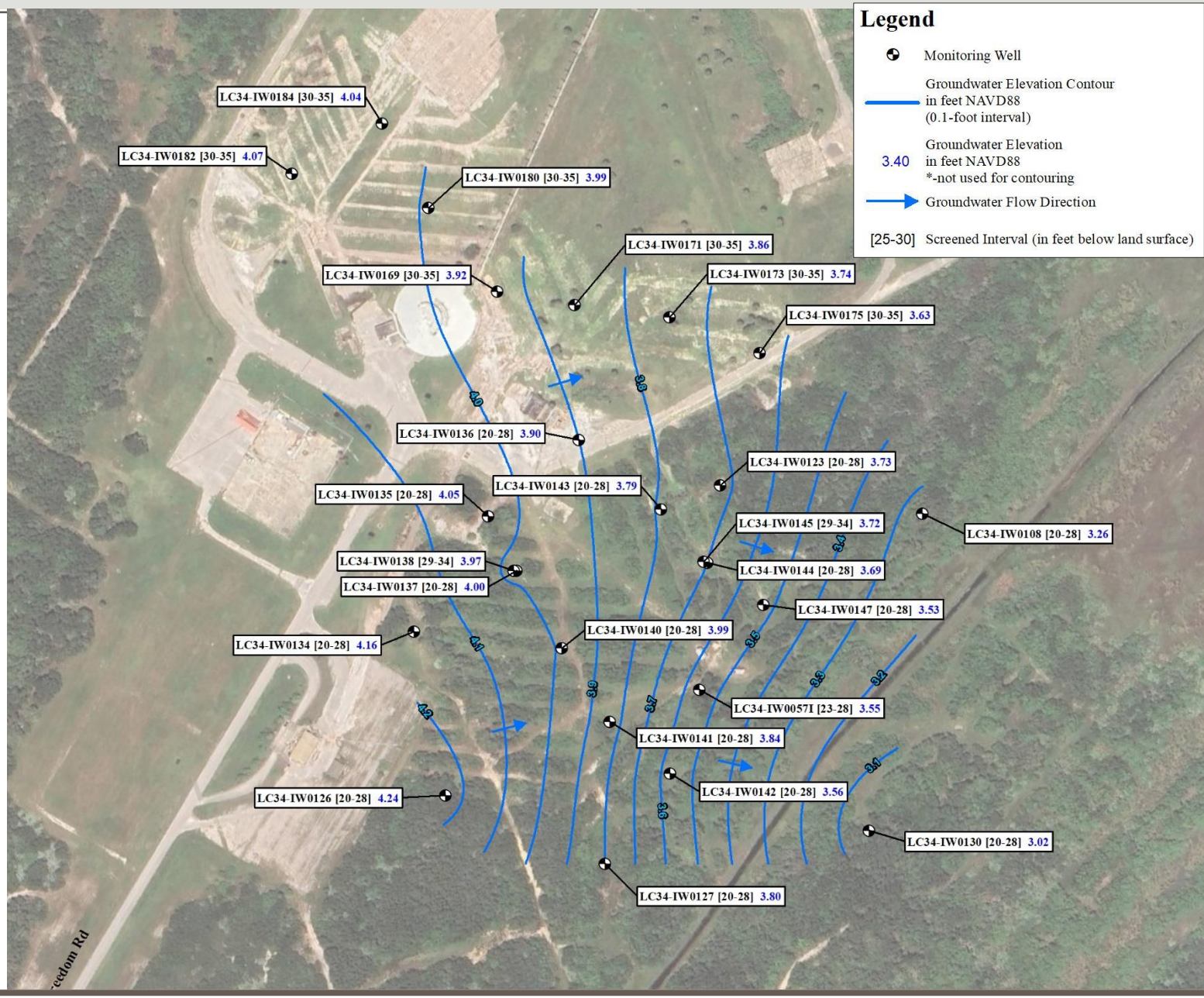
- November 2023 (49 wells gauged):
  - 24 wells screened in Layer 1 (0 to 25 ft bls)
  - Elevations ranged from 4.15 feet (IW0188) to 2.98 feet (IW0128)
  - Contours depict an eastern flow near blockhouse and southeastern flow in southern portion toward drainage ditch



Hot Spot 6 AS System OM&M – PM Results

Groundwater Elevation Contours HS6 Area

- November 2023 (49 wells gauged):
  - 25 wells screened in Layer 2 (25 to 35 ft bls)
  - Elevations ranged from 4.07 feet (IW0182) to 3.02 feet (IW0130)
  - Consistent with Layer 1, contours depict an eastern flow near blockhouse with a southeastern flow toward the drainage ditch



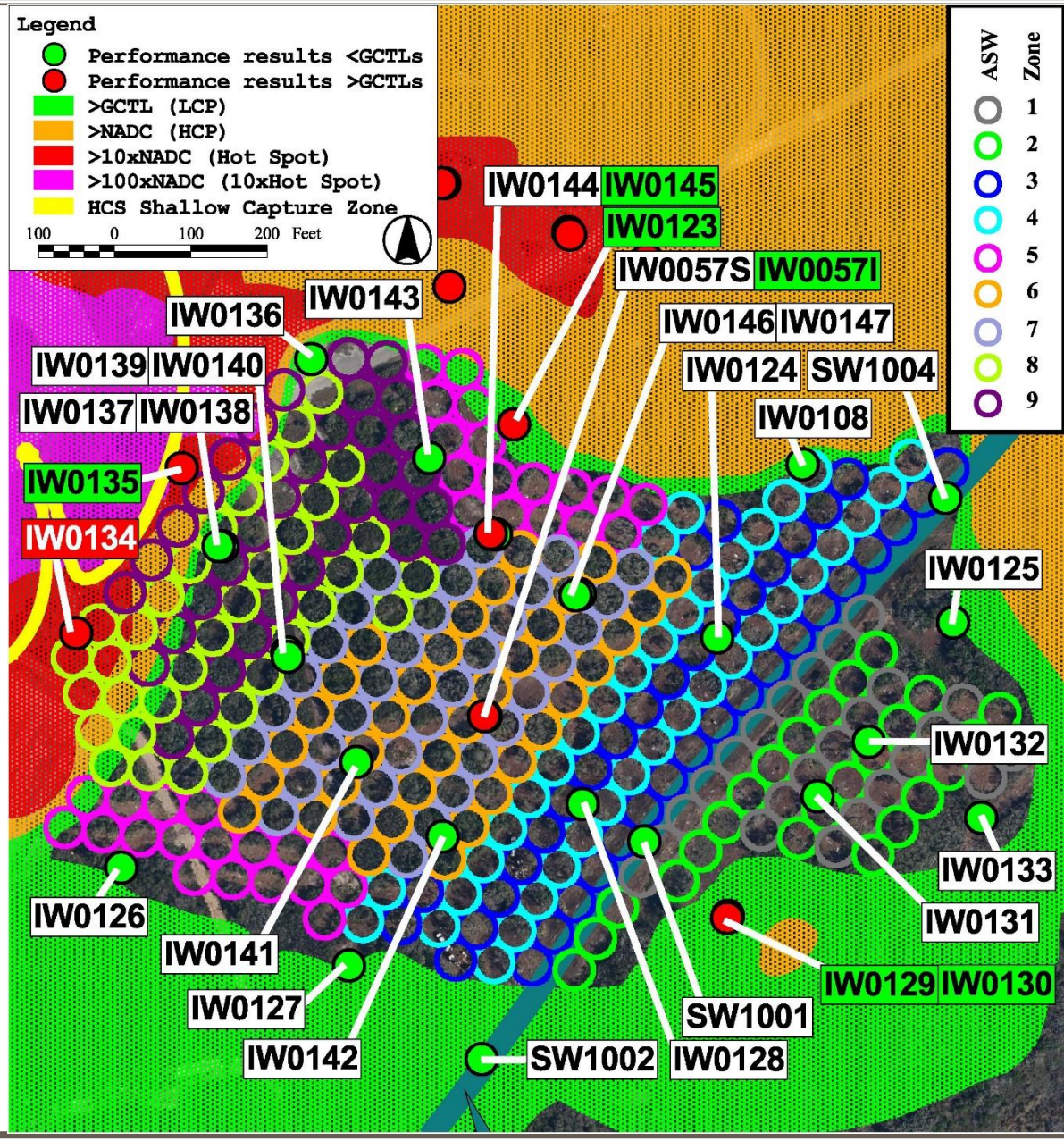
Hot Spot 6 AS System OM&M – Phase One PM Results

	Date:	Jun 2018	Oct 2018	Jan 2019	Mar 2019	Apr 2019	Jul 2019	Oct 2019	Jan 2020	Apr 2020	Jul 2020	Oct 2020	Jan 2021	Apr 2021	Oct 2021	Apr 2022	Oct 2022	Current Apr 2023	Current Nov 2023	Baseline cDCE		Baseline VC		Nov 2023 cDCE	Nov 2023 VC	Reductions cDCE	Reductions VC
Ditch	SW1001	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	37		79		0.53 U	0.73 U	99%	100%
	SW1002	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	22		94		0.53 U	0.71 U	99%	100%
	SW1004	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1.4		212		0.53 U	0.71 U	81%	100%
Treatment	IW0108	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0.88	I	306		0.53 U	0.71 U	70%	100%
	IW0124	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	75		1,280		0.53 U	0.71 U	100%	100%
	IW0128	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4,030		3,050		0.55 I	0.71 U	100%	100%
	IW0131	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15		1,350		0.97 I	0.80 I	93%	100%
	IW0132	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	11		1,130		0.89 I	0.71 U	92%	100%
	IW0123	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4,530		1,000		17	1.8	100%	100%
Perimeter	IW0125	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5.0		2.4		0.55 I	0.71 U	89%	85%
	IW0126	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3.4		5.5		0.95 I	0.71 U	72%	94%
	IW0127	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	32		43		1.8	0.71 U	94%	99%
	IW0129	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0.54	I	54		0.66 I	9.4	-22%	82%
	IW0130	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1.3		69		1.7	30	-31%	56%
	IW0133	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3.6		1.1		3.1	0.71 U	14%	68%
Treatment	IW0057S	-	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	63		73		0.53 U	0.71 U	100%	100%
	IW0057I	-	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15,400		5,900		9.2	7.6	100%	100%
	IW0134	-	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	20,300		8,900		1,900	3,700	91%	58%
	IW0135	-	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	53,800		10,700		110	12	100%	100%
	IW0136	-	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	240		520		0.53 U	0.71 U	100%	100%
	IW0137	-	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	36,600		4,100		2.8	0.71 U	100%	100%
	IW0138	-	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	48,400		13,600		0.78 I	0.71 U	100%	100%
	IW0139	-	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4,300		1,800		0.67 I	0.71 U	100%	100%
	IW0140	-	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4,000		3,600		1.7	0.71 U	100%	100%
	IW0141	-	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5,600		5,600		1.2	0.71 U	100%	100%
	IW0142	-	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2,900		6,700		0.76 I	0.71 U	100%	100%
	IW0143	-	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	650		3.0		4.6	0.71 U	99%	88%
	IW0144	-	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1,900		410		1.8	0.71 U	100%	100%
	IW0145	-	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3,900		930		1.4	3.7	100%	100%
	IW0146	-	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3,000		310		0.81 I	0.71 U	100%	100%
	IW0147	-	-	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4,400		1,200		0.73 I	0.71 U	100%	100%

Average Overall Reduction: 93% 94%

Legend

- \- Not Sampled
- ✓ Less than or equal to GCTLs
- ✓ Exceeds GCTLs
- ✓ Exceeds NADCs
- ✓ Exceeds 10xNADCs
- ✓ Exceeds 100xNADCs
- Maximum detection



Hot Spot 6 AS System OM&M – Phase One PM Results

Summary

- One low level detection in SW samples, November BDLs
- November event was the first sampling event conducted with the modified barrier configuration
- Only IW0134 and IW0135, located upgradient adjacent to HCS capture zone, exceeded cDCE and VC >NADC/10xNADC

April 2023 Results

- 23 MWs less than GCTLs
- 3 MWs exceeded VC GCTL
- IW0134 and IW0135 exceed 10x NADCs (cDCE and VC)
- IW0134 maximum cDCE and VC concentrations
- Only detection in SW1001 cDCE at 0.26 I µg/L

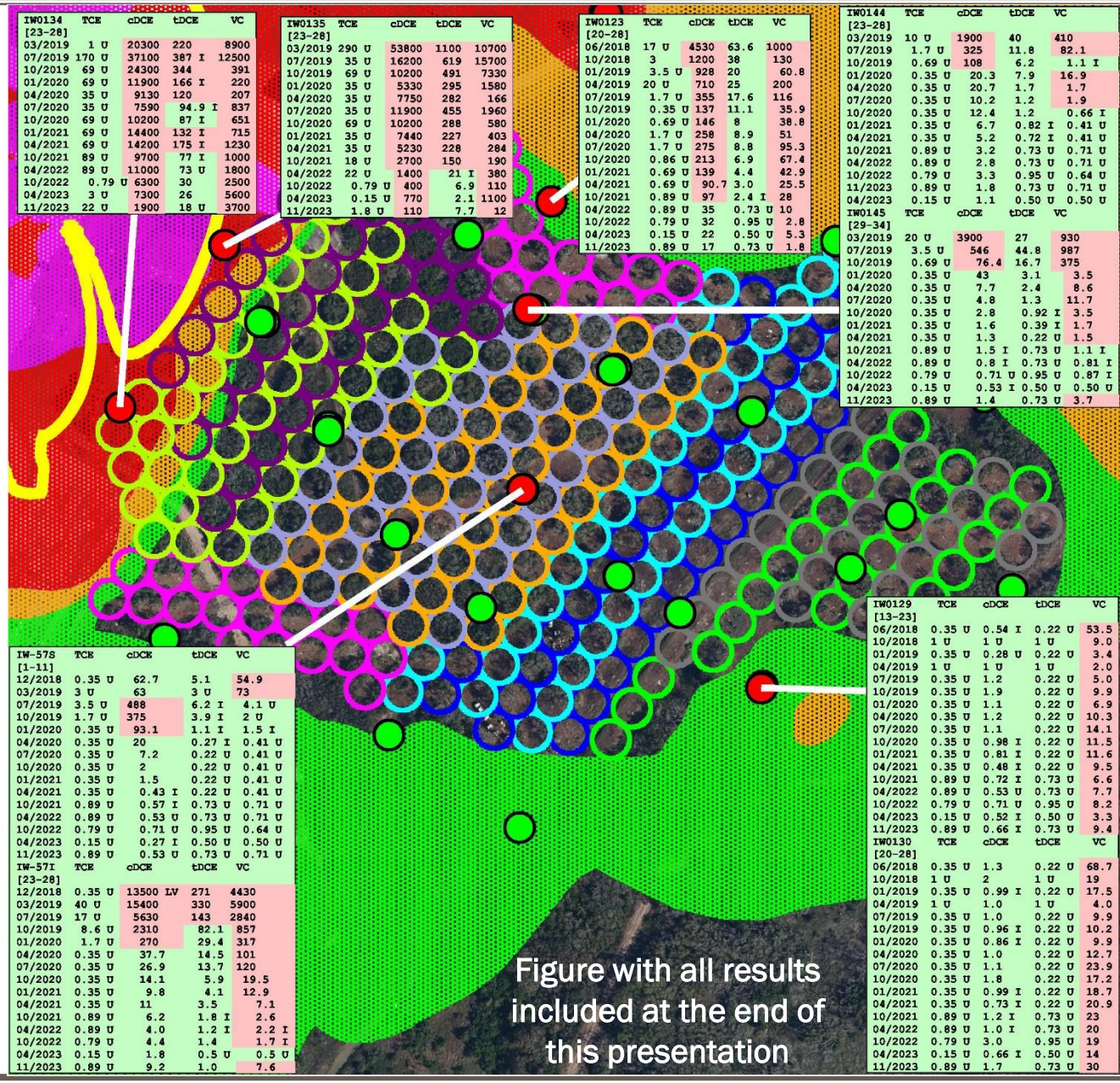
November 2023 Results

- 21 MWs less than GCTLs
- 6 MWs exceeded GCTLs
- IW0134 exceeded 10x NADCs (VC only)
- All SWs BDLs

	Nov 2023		Apr 2024	
	cDCE	VC	cDCE	VC
IW0123	17	1.8	22	5.3
IW0129	0.66 I	9.4	0.52 I	3.3
IW0130	1.7	30	0.66 I	14
IW0057I	9.2	7.6	1.8	0.5 U
IW0134	1,900	3,700	7,300	5,600
IW0135	110	12	770	1,100
IW0145	1.4	3.7	0.53 I	0.5 U

April 2024 Results

- IW057I and IW0145, within former treatment area, decreased to less that GCTLs from November 2023 to April 2024

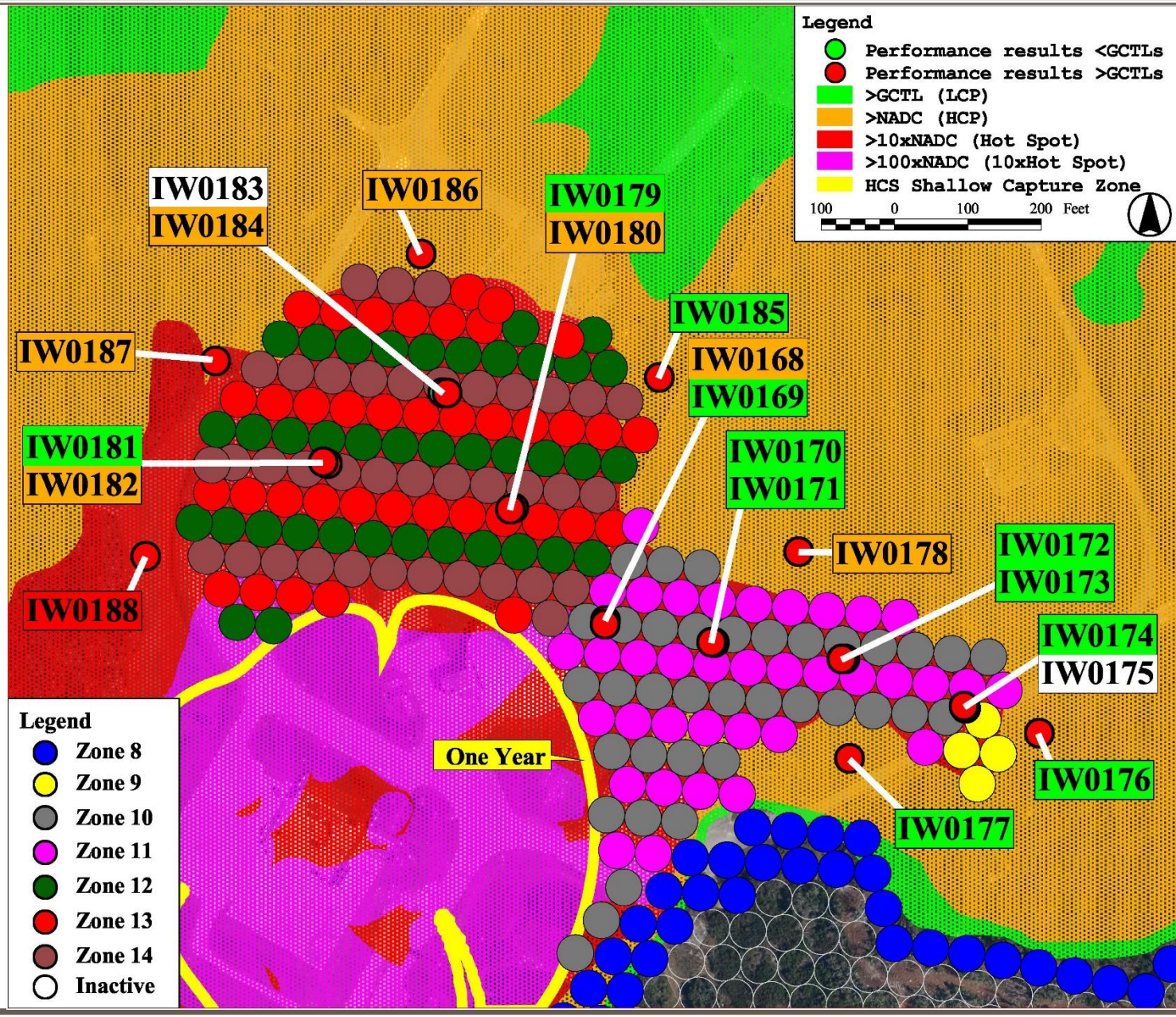


Hot Spot 6 AS System OM&M – Phase Two PM Results

		Baseline	Nov 2023	Feb 2024	Baseline cDCE	Baseline VC	Feb 2024 cDCE	Feb 2024 VC	Reductions cDCE	Reductions VC
Date:		Baseline	Nov 2023	Feb 2024	cDCE	VC	cDCE	VC	cDCE	VC
Perimeter	IW0176	✓	✓	✓	84	50	140	27	-67%	46%
	IW0177	✓	✓	✓	120	130	360	17	-200%	87%
	IW0178	✓	✓	✓	810	510	940	550	-16%	-8%
	IW0185	✓	✓	✓	100	350	61	64	39%	82%
	IW0186	✓	✓	✓	320	330	650	250	-103%	24%
	IW0187	✓	✓	✓	940	560	290	570	69%	-2%
	IW0188	✓	✓	✓	27	160	47	1,100	-74%	-588%
Treatment	IW0168	✓	✓	✓	6,500	3,800	360	180	94%	95%
	IW0169	✓	✓	✓	67	1,400	210	61	-213%	96%
	IW0170	✓	✓	✓	990	710	340	55	66%	92%
	IW0171	✓	✓	✓	890	1,500	4.0	11	100%	99%
	IW0172	✓	✓	✓	2,600	1,700	400	15	85%	99%
	IW0173	✓	✓	✓	23	290	1.4	3.7	94%	99%
	IW0174	✓	✓	✓	110	240	91	27	17%	89%
	IW0175	✓	✓	✓	7.3	26	7.2	1.1	1%	96%
	IW0179	✓	✓	✓	140	800	10	19	93%	98%
	IW0180	✓	✓	✓	1,700	710	500	710	71%	0%
	IW0181	✓	✓	✓	130	540	19	46	85%	91%
	IW0182	✓	✓	✓	1,100	540	1,500	920	-36%	-70%
	IW0183	✓	✓	✓	46	720	4.1	0.71 U	91%	100%
	IW0184	✓	✓	✓	1,600	1,000	770	600	52%	30%
								Average overall reduction:	12%	31%

Legend

- \- Not Sampled
- ✓ Less than or equal to GCTLs
- ✓ Exceeds GCTLs
- ✓ Exceeds NADCs
- ✓ Exceeds 10xNADCs
- ✓ Exceeds 100xNADCs
- Maximum detection



Hot Spot 6 AS System OM&M – Phase Two PM Results

July 2023 Baseline

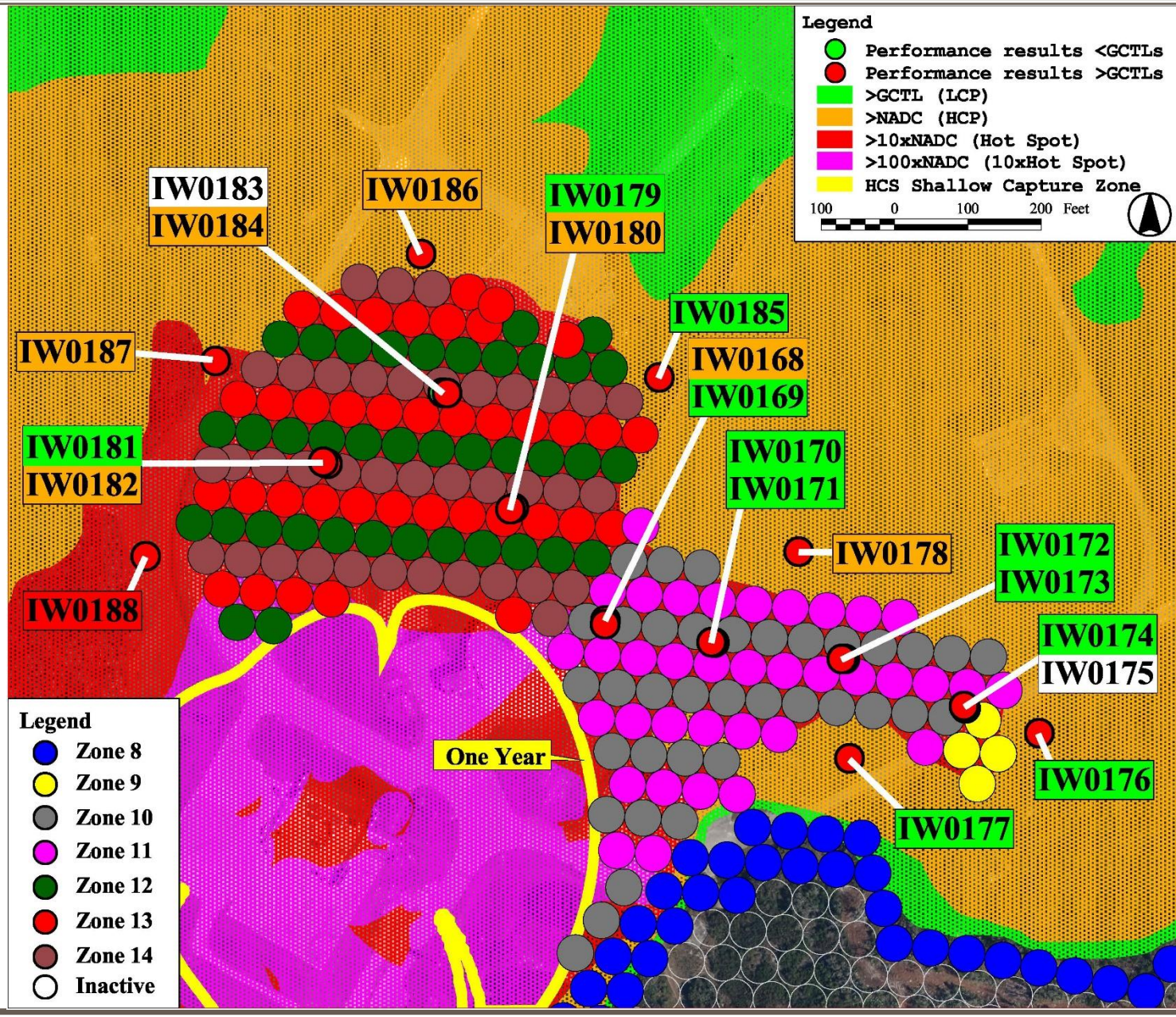
- TCE all results BDL and less than GCTL except IW0169 TCE = 4 U and VC = 1400 µg/L
- tDCE less than GCTL
- IW0175 exceeded GCTL (VC)
- 15 MWs exceeded NADC (cDCE or VC)
- 5 MWs exceeded 10xNADC (VC)
- IW0168 maximum cDCE and VC concentrations

November 2023 Quarter 1

- 8 MWs exceeded GCTLs
- 12 MWs exceeded NADC (cDCE or VC)
- IW0168 exceeded 10x NADCs (VC only)
- IW0168 maximum cDCE and VC concentrations

February 2024 Quarter 2

- IW0175 and IW0183 less than GCTLs
- 11 MWs exceeded GCTLs
- 7 MWs exceeded NADC (cDCE or VC)
- IW0188 exceeded 10x NADCs (VC only)
- Maximum concentrations:
  - cDCE 1,500 µg/L in IW182
  - VC 1,100 µg/L in IW188



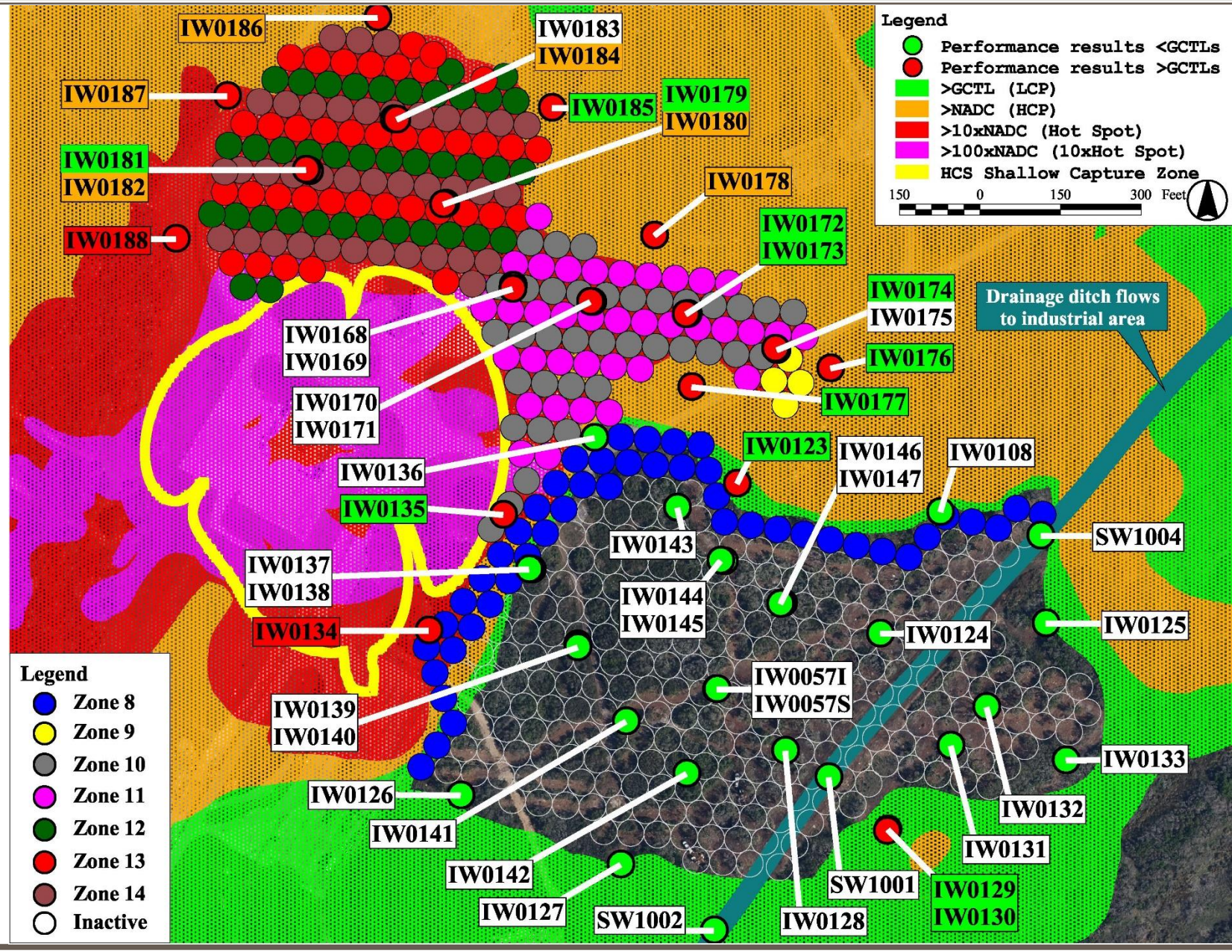
HS6 AS System Conclusions/Recommendations

HS6 IM is operating as designed

- Meeting performance criteria
- Meeting objectives:
  - Remediate contaminated groundwater within treatment zone to prevent impacts to drainage ditch
    - Surface water sampling results indicate impacts to drainage ditch have been eliminated
  - Remediate contaminated groundwater within treatment zone to support transition to MNA
    - Performance monitoring results indicate contamination reduced to less than GCTLs in 90% of treatment area
    - Remaining treatment area has substantial contamination reduction

Team Consensus

- Propose continued operations of the air sparing system
- Propose continued semi-annual sampling of 28 monitoring wells and 3 surface water locations in Phase One for VOCs and field parameters,
- Propose continued quarterly sampling of 21 monitoring wells in Phase Two (Q3 and Q4), then present results and plan to reduce sampling frequency to semi-annual.



Path Forward – Site Wide LTM, HCS OM&M, HS6 IM

System Operations:

- Operate HCS and Air Sparging System as described

HCS System Sampling:

- Biweekly, select Layer 8 wells to evaluate RW21D operations
- Monthly, air strippers and LPGAC effluent samples
- Quarterly, total system influent and active RWs
- Annual:
  - CatOx influent and effluent
  - DPT samples from 9 locations
    - 5 ft sampling interval 8 to 98 ft bls
  - Layer 8 Performance MWs and Layer 7 IW42D2

Hot Spot 6 Sampling:

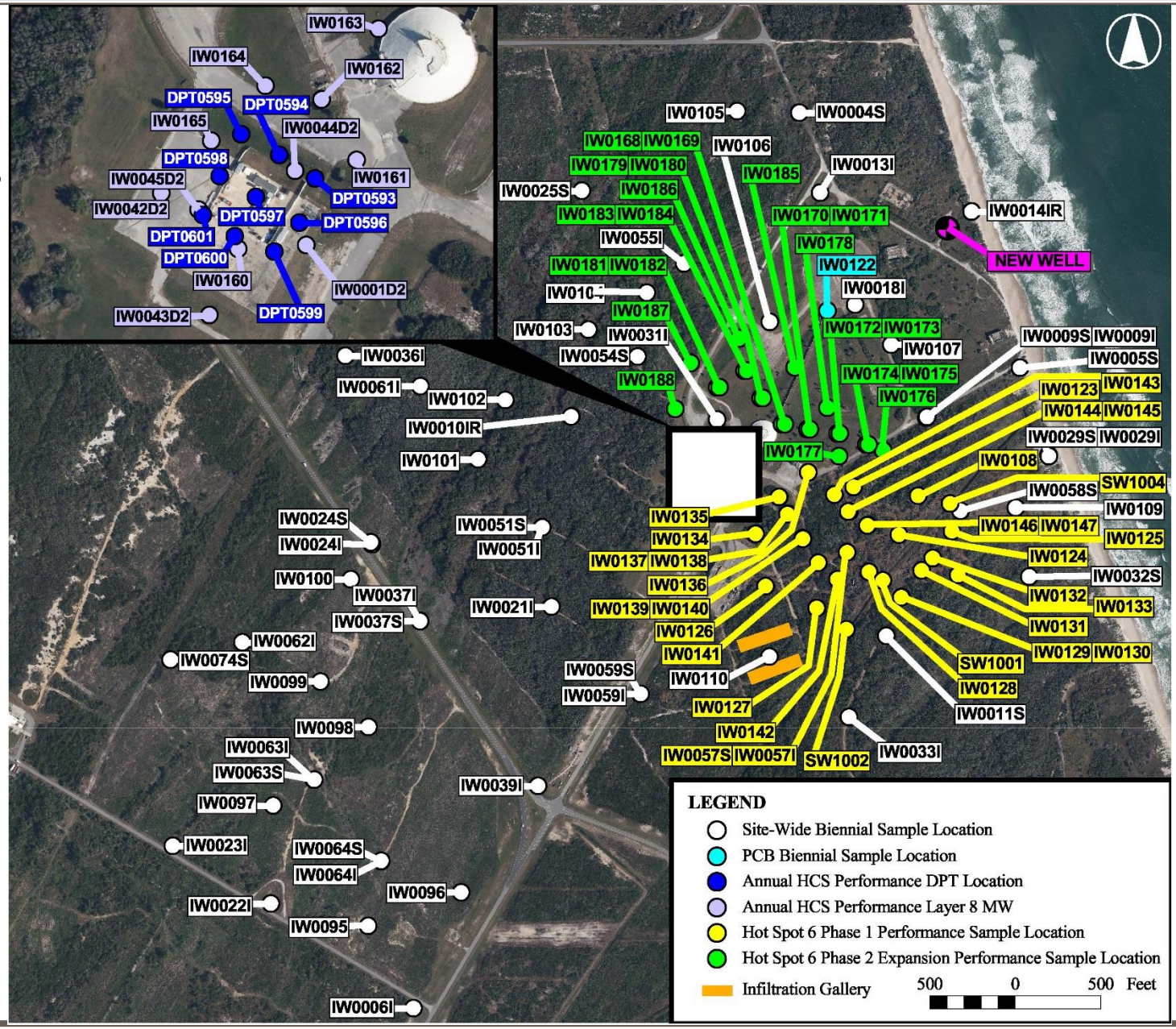
- Quarterly, Phase Two performance monitoring:
  - 21 MWs
- Semi-annual, Phase One performance monitoring:
  - 28 MWs and 3 SWs

Site-wide:

- Biennial:
  - 56 MWs for VOCs, includes new well installation
  - IW0122 for PCBs

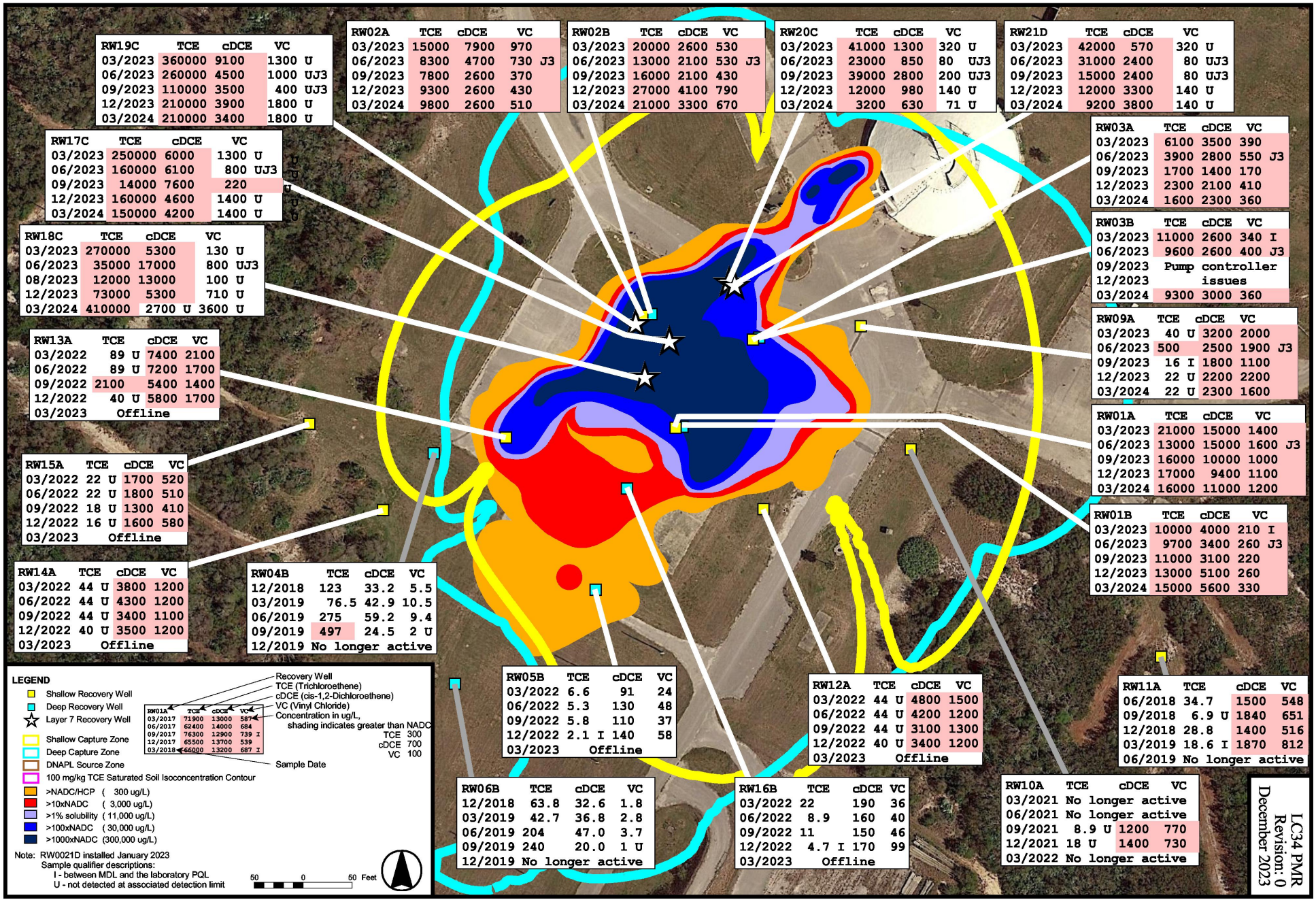
Reporting:

- Submit PMR to FDEP to document the activities and results presented in this ADP, April 2024 results will be reported in next year's PMR



Full Size Figures

FIGURE 3-5 YEAR 13 INDIVIDUAL RECOVERY WELL RESULTS
LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION, FLORIDA



DPT0598	TCE	11/2017 cDCE	VC	TCE	11/2018 cDCE	VC	TCE	11/2019 cDCE	VC	TCE	11/2020 cDCE	VC	TCE	12/2021 cDCE	VC	TCE	12/2022 cDCE	VC	TCE	12/2023 cDCE	VC
8'	4	5	16	1 U	11	4	1	5	4	0.8 J	2.5	2.3	12400 Q	1920 Q	28.3	310 I	3800	130 U	45 U	960	36 U
13'	46	13	8	2	8	2	2	2	5	0.94 J	3.2	2.8	868 Q	716 Q	25.8	40 U	930	32 U	0.89 U	32	1.9
18'	44	19	32	2	11	5	3	8	5	1.7	4.9	0.23 U	648 Q	864 Q	64.9	40 U	1400	32 U	1.7	90	11
23'	14	32	80	2	23	94	3	17	32	1.1	14.9	0.23 U	25500 Q	3980 Q	200 UQ	1400	6700	130 U	4.5 U	200	3.6 U
28'	3	9	16	1 U	10	46	1	8	7	0.74 J	20.9	22.5	19800 Q	3560 Q	211 IQ	17000	22000	540	45 U	2000	140
33'	10 U	5200	9000	1	12	69	130	7	35	0.77 J	4	0.23 U	71300 Q	21500 Q	975 IQ	40 U	1600	1400	450 U	13000	1300
38'	4700	662000	16500	2200	36700	17600	20 U	1700	510	27.9	1840	4.6 U	19000 Q	4070 Q	195	1500 I	11000	3200	220 U	13000	2500
43'	12300	108000	9200	320	32600	2400	2400	73600	8000	596	17800	5920	105000 LQ	53600 Q	3340	790 U	56000	11000	220 U	15000	7900
48'	59400	38000	570	27300	35900	2600	257000 J	140000	7200	29200	104000	5180	49700 Q	106000 Q	4390 Q	790 U	150000	8900	450 U	86000	12000
53'	220	700	140	57	570	62	6400	11100	800	15.9	241	0.23 U	29600 Q	14100 Q	475 IQ	400 U	11000	11000	450 U	4300	11000
58'	17200	29300	250	15800	28400	91	164000 J	42400	430	1180	2240	143	207 Q	2940 Q	338 Q	1300	12000	3500	220 U	1500	11000
63'	210	150	5 U	6	120	5	5 U 298000 J	7500	500 U	3	276	5.8	377 Q	190 Q	8.2 Q	8.4 I	280	38	4.5 U	150	48
68'	40	44	1	4	3	3 U	5200	100	50 U	1.7	2.1	0.23 U	19.6	6.1	0.41 U	1.4 I	6.1	0.64 U	1.2	2.8	0.71 U
73'	11	12	1 U	17700	1200	40 U	19800	240	50 U	11900	641	23 U	790 Q	55 UQ	82 UQ	1200	52	0.64 U	230	45	3.6 U
78'	384000	13400	2000 U	3190000 J	13000	1200 U	785000 J	17200	1000 U	847000	13900	1200 U	3070000 LQ	11000 Q	4100 UQ	870000	9100	640 U	440000	5900	3600 U
83'	2500	1600	10	5100	3900	10 U	6400	1100	290 U	9270	1990	4.6 U	230000 Q	5760 LQ	82 IQ	150000	5600	640 U	530000	11000	3600 U
88'				Interval not sampled until November 2020						37.4	19.6	0.23 U	6500 LQ	335 Q	7 IQ	180	28	1.3 U	19000	25000	360 U
93'				Interval not sampled until November 2020						93	495	1.2 U	173 Q	349 Q	4.1 UQ	130	310	3.2 U	12000	24000	360 U
98'				Interval not sampled until November 2020						66000	54000	120 U	82000 Q	37100 Q	410 UQ	7400	36000	320 U	110000	25000	1400 U

DPT0595	TCE	11/2017 cDCE	VC	TCE	11/2018 cDCE	VC	TCE	11/2019 cDCE	VC	TCE	11/2020 cDCE	VC	TCE	12/2021 cDCE	VC	TCE	12/2022 cDCE	VC	TCE	12/2023 cDCE	VC
8'	130	14	160	4	25	190	1	3	12	1.2	0.55 J	0.23 U	4380	295	41 U	170	630	6.4 U	7	140	43
13'	5400	29	18	2	30	220	1 U	3	31	0.31 U	0.34 U	0.23 U	965	219	41 U	4.0 U	550	19	0.96 I	55	42
18'	640	40 U	72	1	3	2	1 U	3	50	0.51 J	1.1	13.8	100 U	55.2 I	41 U	7.9 U	540	56	0.89 U	31	32
23'	64	10 U	92	1	1	6	1 U	2	53	0.54 J	1.4	20.5	100 U	28 U	41 U	16 U	740	74	6.5	47	41
28'	190	6	42	1 U	1	18	1 U	3	36	0.37 J	1.9	8.8	100 U	28 U	41 U	1.6 U	390	76	26	48	25
33'	47	800	3400	3 U	3 U	200	20 U	1200	3200	0.66 J	4.9	163	1000 U	550 U	820 U	6.4	6.0	77	8.9 U	230	57
38'	200 U	42600	34500	100 U	29000	21600	290 U	50000	28000	62 U	22600	24800	10000 U	23300	22700	160 U	2300	8000	89 U	3400	9400
43'	40 U	1100	89	1600	23400	1900	290 U	7900	4900	72.6 J	11100	6700	500 U	65200	33100	790 U	28000	21000	890 U	60000	42000
48'	240	1500	30	510	700	130	200 U	7900	2800	75.2	6220	12 U	170 U	339 I	317 I	40 U	6200	7300	89 U	4000	9600
53'	24	120	10 U	42	670	320	50 U	6400	2800	70.3	6080	3750	251 I	2340	1710	16 U	1700	2200	45 I	3000	7800
58'	64	590	5	120	140	58	20 U	4800	2100	13.1 J	3170	2120 J	2.9 Q	16.5 Q	9.9 Q	40 U	4400	6000	8.9 U	760	2500
63'	4	18	6	9	16	9	1 U	2	1 U	0.33 J	2.5	0.23 U	282	10.1 Q	41 U	0.79 U	1.0	1.5 I	0.89 U	24	14
68'	7	15	5	4	49	93	10	1 U	1 U	0.75 J	0.34 U	0.23 U	6 Q	3.2 Q	1 Q	4.0 U	5.9	3.2 U	1.5	0.86 I	0.71 U
73'	151000	6800	100 U	123000	840	200 U	5400	190	20 U	31.8	1.6	0.23 U	160	53.5 Q	6.9 Q	3.1 I	98	16	43	34	7.8
78'	1340000	6800	3300 U	1060000 J	5300	500 U	3600	500	20 U	28600	1100	46 U	2310	1590 I	820 U	1000	310	13 U	5200	1000	300
83'	4500	110	20 U	610	100 U	100 U	3	5	1	14	16.7	1.7	61.4 Q	22.6 Q	4.1 Q	7.2	5.3	1.7 I	2.1	13	7.4
88'				Interval not sampled until November 2020						31.8	1.6	0.23 U	5.7 Q	10.9 Q	2.4 Q	1.1 I	3.9	1.5 I	2.8	5.6	2.3
93'				Interval not sampled until November 2020						1.8	0.34 U	0.23 U	43.2 I	120	5.4 Q	0.79 U	0.71 U	0.64 U	0.89 U	2.1	1.5
98'				Interval not sampled until November 2020						46.4	5.7	0.23 U	13.9 Q	80 Q	18.6 Q	0.79 U	0.71 U	0.64 U	1	4	0.71 U

DPT0597	TCE	11/2017 cDCE	VC	TCE	11/2018 cDCE	VC	TCE	11/2019 cDCE	VC	TCE	11/2020 cDCE	VC	TCE	12/2021 cDCE	VC	TCE	12/2022 cDCE	VC	TCE	12/2023 cDCE	VC
8'	50	5	1 U	25	1 U	1 U	84	3	1 U	33.9	1.4	0.23 U	5200 LQ	76.5	1.6	9400	610	64 U	1500	100	36 U
13'	17	17	17	9	16	9	3	20	4	2.1	8.7	0.23 U	45900 LQ	7020 Q	86	12000	5200	64 U	3400	2300	36 U
18'	8	37	23	2	38	26	5	160	14	1	7.4	0.23 U	112000 LQ	8080 Q	120 IQ	4000	3200	39 I	150	690	27
23'	9	24	11	2	49	32	2	17	12	0.31 U	10.9	0.23 U	115000 LQ	16600 Q	84.7 IQ	3000	7200	64 U	8.9 U	380	88
28'	2	26	13	3 U	37	24	2	42	11	1.5	23.9	0.23 U	83.3	80.6 Q	20.2	40 U	3800	32 U	8.9 U	410	82
33'	82	39	44	9	34	10	2	40	19	1.9	37.3	0.23 U	161000 LQ	26900 LQ	194 IQ	17000 I	35000	650	61	1600	190
38'	4000	180	20 U	79500	2100	290 U	5900	320	50 U	1360	306	0.23 U	122000 LQ	8820 Q	158	18000	51000	1300	89 U	2000	310
43'	235000	16700	2000 U	893000	3500	290 U	290000 J	12200	500 U	81900	7160	143 J	1260000 LQ	12600	410 U	320000	52000	3200 U	13000	38000	710 U
48'	759000	42000	3300 U	578000	31000	2000 U	341000 J	30400	570	781000	19800	1200 U	1460000 Q	29000	4100 U	570000	33000	3200 U	130000	61000	1400 U
53'	1120000	97600	38200	495000 J	31300	970	354000 J	50700	6200	964000	26700	2300 U	3060000 Q	122000	4560 I	670000	40000	6400 U	620000	47000	3600 U
58'	1360000	17000	2800	811000	29000	3300 U	571000 J	27000	12400	1440000	32100	3630 J	15400000 L	338000	20600 I	1200000	23000	640 U	700000	42000	2300 I
63'	271000	22300	1000 U	473000	37000	1000 U	212000	36000	1000 U	29800	3010	90.1 J	990000 Q	73900 Q	2410	260000	9800	3200 U	300000	30000	1400 I
68'	Not Sampled		8200	40	40 U	12700	500	500 U	873	14.6	1.1	7400 LQ	108 Q	9.4	2700	75	92	5300	74 I	71 U	
73'	Not Sampled		35700	1100	290 U	7100	860	100 U	19200	677	46 U	4810	115 I	82 U	29000	290	130 U	380	9.4 I	7.1 U	
78'	Not Sampled		828000	7200	2000 U	146000 J	18700	100 U	691000	7290	1200 U	830000	9330 I	4100 U	1500000	5700	3200 U	140000	7300	360 U	
83'	Not Sampled		14300	830	200 U	840	410	10 U	43900	3170	120 U	472000 Q	1650	200 U	46000	360 U	320 U	100000	2400	710 U	
88'				Interval not sampled until November 2020						1230	955	2.3 U	11800 L	125	4.1 U	19000	64	32 U	14000	1400	180 U
93'				Interval not sampled until November 2020						1220	7.3 J	2.3 U	4590 Q	92.4	4.1 U	18000	240	6.4 U	87000	810 I	710 U
98'				Interval not sampled until November 2020						128	1.1	0.23 U	19400 Q	82.5	4.5 I	19000	150	7.4	66000	1400	710 U

DPT0594	TCE	11/2017 cDCE	VC	TCE	11/2018 cDCE	VC	TCE	11/2019 cDCE	VC	TCE	11/2020 cDCE	VC	TCE	12/2021 cDCE	VC	TCE	12/2022 cDCE	VC	TCE	12/2023 cDCE	VC
8'	24	7	13	1 U	2	1 U	2 U	16	110	0.31 U	9	44.3	1160	57.5 I	41 U	1300	3000	19 I	8.9 U	200	14
13'	11	27	110	1 U	4	29	1	140	220 J	0.31 U	0.34 U	36.1	21200 Q	6700	257	69	690	9	4.5 U	80	50
18'	8	38	200	3	6	49	2	26	260 J	0.31 U	3.7	21.5	61100 Q	5430	484	38	870	41	4.5 U	25	61
23'	6	52	240	2	2	11	2	32	240 J	1.8	23.5	187	89800 Q	4040	826	230	1900	13 U	3.6	38	52
28'	25	2	3	180	2	3	2	12	210	2.9	10.8	92.1	36700 Q	7260	582	42000	14000	320 U	4.5 U	70	41
33'	12500	3100	160	2	2	2 U	14200	840	290 U	4680	3250	376	78.3 Q	377	73.3	6300	15000	1600	8.9 U	900	160
38'	610000	8200	1000 U	11500	2200	200 U	206000 J	13700	330	64900	8450	327 J	20300	4640 I	2000 U	5800	15000	690	5200	9400	280
43'	836000	134000	2500 U	781000	32000	360 U	414000 J	33900	840	1100000	56600	2300 U	1900000	135000	41000 U	61000	41000	3200 U	21000	5300	360 U
48'	754000	43400	3300 U	323000 J	87300	10400	457000 J	55000	1100	780000	172000	6840 J	637000	55000 U	82000 U	690000	42000	3200 U	270000	33000	1100
53'	1580000	34000	3300 U	42000 J	69000	4500	813000 J	37600	1000 U	1420000	34100	2300 U	1560000 Q	38100 Q	5400 Q	1300000	47000	3600 I	1600000	91000	2700
58'	549000	43000	5000 U	212000	10700	1000 U	669000 J	25000	2400	1120000	24500	2300 U	632000 Q	19000 Q	2330 Q	330000	9200	7000	670000	51000	2900
63'	28600 J	180	10 U	3300	320	200 U	17900	410	1300	6640	40.7 J	12 U	24000 Q	213 IQ	100 UQ	2100	36 U	2700	79000	6300	2200
68'	17100	1200	100 U	1650	300	3 U	27800	600	100 U	8670	17 U	12 U	19100	330 I	200 U	3000	18 I	13 U	130000	3300	710 U
73'	96900	6600	100 U	29900	2400	200 U	177000	4500	1000 U	20500	2470	207	49300 Q	3810	200 U	29000	1300	130 U	78000	950 I	710 U
78'	431000	26500	400 U	278000 J	14400	200 U	594000 J	20000	1000 U	1520000	24200	2300 U	1230000	17500 I	8200 U	380000	9100	1300 U	1400000	8300	3600 U
83'	6300	940	2000 U	31000	320	100 U	115000	1900	1000 U	1110	159	1.2 U	23400 Q	605	12.8 I	16000	210	130 U	14000	1200	180 U
88'				Interval not sampled until November 2020						9870	114	23 U	116000 L	4090	185 I	8800	120	64 U	54000	4900	710 U
93'				Interval not sampled until November 2020						28400	375	46 U	229000 Q	8700	255 I	44000	160 I	130 U	88000	3200	1400 U
98'				Interval not sampled until November 2020						2330	43.5	4.6 U	2630000 LQ	17100	627	24000	94 I	64 U	34000	760	360 U

DPT0596	TCE	11/2017 cDCE	VC	TCE	11/2018 cDCE	VC	TCE	11/2019 cDCE	VC	TCE	11/2020 cDCE	VC	TCE	12/2021 cDCE	VC	TCE	12/2022 cDCE	VC	TCE	12/2023 cDCE	VC
8'	3	2	1 U	1	1 U	1 U	2	48	180	22	249	1.2 U	2260 Q	3160 Q	61.8	450	560	6.4 U	15 64	21	
13'	4	3	2	1 U	1 U	1 U	2	81	420	8.7	590	1.2 U	86 UQ	11100 Q	100 UQ	0.79 U	17	5.4	0.89 U	2.2	2.2
18'	460	8	9	1	1	1 U	3	22	110	6.2 U	6.7 U	4.6 U	81500 Q	21400 Q	200 UQ	3.5 I	35	24	1.4	4.8	4.9
23'	4	4	7	2	4	7	7	9	8	1.5	147	426	48300 Q	26100 Q	461 Q	160 U	12000	1200	1.4	6.7	10
28'	100 U	12	1000	1 U	2	8	3	7	13	1.2	5.5	12	96100 Q	36300 Q	515 Q	160 U	20000	2700	180 U	8000	2900
33'	9400	33700	6100	810	5400	3400	10 U	690	940	0.92 J	7.2	58	72100 Q	50800 LQ	380 Q	400 U	19000	4100	450 U	34000	9600
38'	165000	334000	1000	153000	192000	3300	2000	15100	6800	2490	6810	2500	36100 Q	38800 QJ	1220 Q	79 U	32000	12000	450 U	29000	12000
43'	129000	458000	3300 U	121000	402000	1000 U	85500	151000	3500	235000	305000	4720	52200	71200	4250	40 U	37000	9200	890 U	59000	24000
48'	1101000	191000	20800	790000	214000	31900	415000 J	126000	24900	1690000	125000	28000	2030000	255000	26800 I	1200000	190000	5800 I	1300000	160000	28000
53'	377000	4000	2000 U	91600	41700	1000 U	252000 J	73400	1800	479000	64800	1200 U	4580000	58300	4690 I	820000	250000	13000	6000000	160000	24000
58'	109000	17000	1000 U	6100	9800	290 U	19600	22300	350	25700	22800	46 U	70200 Q	41600	309 I	380000	81000	6400	6200000	270000	26000
63'	3000	620	110	610	210	4	4200	2500	100 U	294	258	3.9	684	672	16.7 Q	20000	9900	1100	9000	17000	1300
68'	1500	65	18	4100	95	20 U	3400	240	50 U	773	13.9	0.55 J	1190	213	41 U	1400	18 I	16 U	260	7.1 I	7.1 U
73'		Not Sampled		130	49	5 U	180	17	3 U	1030	14.3	0.69 J	1090	24.5 Q	82 U	700	17	3.2 U	2400	53 U	71 U
78'		Not Sampled		1500	110	100 U	1600	350	20 U	169	212	1.6	831	191	18.7 Q	3200	130	61	1100	18 I	75
83'		Not Sampled		470	44	5 U	230	10	1 U	68.2	2.8	0.23 U	1590	156	41 U	680	31	6.4 U	690	13 U	18 U
88'				Interval not sampled until November 2020						495	9.3	0.56 J	1190	59.3	20 U	10000	240	6.4 U	280	15	3.8 I
93'				Interval not sampled until November 2020						4300	164	8.4	14100	1120	410 U	3500	180	32 U	5700	620	180 U
98'				Interval not sampled until November 2020						698	4.2	0.23 U	1060	78 I	41 U	840	21	3.2 U	1200	15	7.1 U

DPT0593	TCE	11/2017 cDCE	VC	TCE	11/2018 cDCE	VC	TCE	11/2019 cDCE	VC	TCE	11/2020 cDCE	VC	TCE	12/2021 cDCE	VC	TCE	12/2022 cDCE	VC	TCE	12/2023 cDCE	VC
8'	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2	1 U	1.7	0.34 U	0.23 U	69 6	3.8	0.74 I	700	11	3.2 U	11	2.1	0.71 U
13'	84	4	1 U	1	2	1 U	3 U	3	8	1.1	2.5	25.6	2100 LQ	1360 Q	28.5	0.84 I	5.1	1.5 I	0.93 I	0.53 U	0.71 U
18'	220	41	41	33	30	12	2	6	3	1.8	5.1	0.23 U	7200 L	21300 LQ	398 Q	1000	180	7.2 I	1.7	3.6	8.9
23'	25100	3900	560	54700 J	3400	270	1700	1200	100	3.3	361	0.23 U	225000 LQ	33100 Q	390	52000	37000	790 I	5.7	25	81
28'	913000	7500	2000 U	479000 J	5100	670	48500	7900	790	39000	6230	46 U	187000 Q	15600	371 I	310000	24000	1600 U	45000	30000	2500
33'	1000000	25000	3300 U	683000	18300	2600	264000	14100	1200	109000	16100	120 U	39700 Q	3130 Q	820 U	550000	17000	1600 U	320000	74000	1300
38'	1030000	50300	3300 U	759000	137000	3300 U	113000	82200	5600	876000	27600	1200 U	755000	39000	4100 U	1400000	61000	6400 U	510000	70000	7100 U
43'	356000	214000	3300 U	231000	211000	3900	373000 J	175000	2700	145000	191000	230 U	274000 Q	121000 Q	3950 IQ	150000	82000	7000 U	220000	160000	25000
48'	1370000	45900	2000 U	1110000 J	43200	2000 U	688000 J	59200	4500	1600000	54700	1200 U	1480000 Q	48300 Q	4100 UQ	1800000	30000	6400 U	3400	64000	15000
53'	96700	26100	200 U	28500 J	21600	40 U	126000 J	33000	500 U	266000	32800	230 U	294000 Q	121000 Q	4660 IQ	250000	100000	1300 U	130000	120000	9600
58'	51400	6500	200 U	210	1300	5	66400 J	5700	290 U	3370	1090	23 U	86800 Q	13700 Q	200 UQ	84000	83000	2600	7100	48000	2700
63'	3300	100 U	100 U	1500	29	5 U	12500	200 U	200 U	9250	540	1.2 U	15700 Q	2300 Q	100 UQ	900	960	37	560	4100	900
68'	15800	160	40 U	570	11	5 U	2700	76	20 U	1560	23.3	0.23 U	14500 Q	300 Q	100 UQ	98	10	1.3 U	2400	110	18 U
73'	109000	860	100 U	2000	29	10 U	440 J	31	1	332	9.4	0.23 U	1480 Q	175 IQ	100 UQ	99 J3	3.1	0.64 U	140	30	1.7
78'	12500	1400	100 U	3800	490	10 U	770	930	10 U	151	1430	2.3 U	238	636	35.8	380	410	12	220	110	3.7
83'	142000	10900	100 U	1500	48	10 U	2200	98	20 U	12.3	11.5	0.23 U	2830	254	20 U	350	34	3.2 U		Not Sampled	
88'	Not Sampled			12200 J	180	20 U	Not Sampled			116	1	0.23 U	14400	4360	169 I	460	13	3.2 U	180	44	2.9
93'	Not Sampled			5400	100	20 U	Not Sampled			159	6.9	0.23 U	6090 L	381	20 U	32000	470	160 U	890	95	7.1 U
98'	Not Sampled			8700	110	40 U	Not Sampled			128	3.1	0.23 U	200 U	55 U	82 U	330	3.6 U	3.2 U	1600	41	7.1 U

DPT0601	TCE	11/2017 cDCE	VC	TCE	11/2018 cDCE	VC	TCE	11/2019 cDCE	VC	TCE	11/2020 cDCE	VC	TCE	12/2021 cDCE	VC	TCE	12/2022 cDCE	VC	TCE	12/2023 cDCE	VC
8'	2	30	5	1	22	16	9	12	3	1.3	5.5	6.6	2870 Q	37.9	1.4	1700	360	13 U	45 U	1600	250
13'	5	64	29	2	49	53	8	42	37	1.3	36.5	38.1	15300 Q	2610 Q	125 IQ	16 U	1700	76	4.5 U	250	77
18'	11	79	39	2	49	53	8	42	37	1.3	36.5	38.1	15300 Q	2610 Q	125 IQ	16 U	1700	76	4.5 U	250	77
23'	13	6100	640	3 U	220	180	2	42	110	3.1 U	11.4	63.6	18	35.6	62.1	40 U	3600	280	89 U	5700	600
28'	27400	81600	J 1500	40 U	12000	3400	23	260	J 0.86 J	15.1	50.8	10.8	10.1	243 I	1.3 I	9.6	39	22 U	1300	510	
33'	181000	202000	3100	33800	80800	1800	1400	17700	1500	2.1 J	707	642	17.3	8.2 I	30.2	1.6 U	43	250	1.3	4.4	13
38'	119000	249000	4800	103000	125000	2400	50200	60400	1300	662	18900	1070	948	1210	1010	4 U	150	460	89 U	4300	2700
43'	24200	339000	13100	97900	156000	3100	104000	154000	2900	9090	42600	888 J	674	8760	2730	40 U	4800	3000	4700	58000	6200
48'	890	139000	18600	26600	160000	5900	61100	117000 J	4300	39800	93400	2080	2160	49800	2720	25000	64000	2500	44000	120000	3800
53'	160	280	10 U	24	2100	170	50	170	17	3	18.6	11.3	6.5	5190 Q	442 Q	62 I	2600	860	89 U	7200	3600
58'	1000	5900	J 120	90	310	5	26	110	1	24.5	132	2.3	5.4 Q	76.4 Q	6.8	4 U	340	95	2.3	33	64
63'	280	1100	20 U	3	57	3 U	13	140	2 U	3.7	34.4	0.23 U	10.2	16.2	1.3	1.5 I	40	18	10	110	34
68'	160	280	10 U	3	19	1	93	220	5	2	7.8	5.3	203 L	105 L	12.2	1.7 I	3.1	0.64 U	2	3.1	0.71 U
73'	780	370	7	80	160	7	24	89	12	181	36	0.44 J	68.1	61	67.5	2.5 I	57	3.6	10	25	1.9
78'	6800	9800	41	360	1300	32	9100	4300	100 U	5260	2830	10.3	690	2390	156	5800	4000	64 U	1000	7400	71 U
83'	61	160	8	25	100	5	40	50	2	1.1	3.4	0.23 U	80.3 Q	42.2	2	5.5	7.7	0.64 U	1.2	19	3
88'	Not Sampled			1	9	1 U	Not Sampled			2.8	1.3	0.23 U	29.6	15.8	0.68 I	2.3 I	2.1	0.64 U	1.9	1.7	0.71 U
93'	Not Sampled			5	54	6	Not Sampled			4.9	9.7	0.23 U	13.1	28	1.2	18	9.9	0.64 U	7.1	27	0.71 U
98'	Not Sampled			7	14	1 U	Not Sampled			0.31 U	0.34 U	0.23 U	36.2	4.4	0.41 U

IW-165 [105-115]	TCE	cDCE	VC
08/2019	0.45 I	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
03/2023	0.79 U	0.71 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U
04/2023	0.15 U	0.20 U	0.50 U
05/2023	0.15 U	0.20 U	0.50 U
05/2023	0.20 U	0.25 U	0.40 U
06/2023	0.20 U	0.25 U	0.40 U
06/2023	0.79 U	0.71 U	0.64 U
07/2023	0.79 U	0.71 U	0.64 U
07/2023	0.15 U	0.20 U	0.50 U
08/2023	0.15 U	0.20 U	0.50 U
08/2023	0.15 U	0.20 U	0.50 U
09/2023	0.20 U	0.25 U	0.40 U
09/2023	0.20 U	0.25 U	0.40 U
09/2023	0.20 U	0.25 U	0.40 U
10/2023	0.20 U	0.25 U	0.40 U
12/2023	0.89 U	0.53 U	0.71 U

IW-45D2 [105-115]	TCE	cDCE	VC
12/2018	0.68 I	1.9	0.41 U
12/2020	0.35 U	0.28 U	6.9
05/2021	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
12/2023	4.5 U	140	3.6 U

IW-42D2 [87-92]	TCE	cDCE	VC
12/2018	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
12/2023	0.89 U	0.73 I	0.71 U

IW-160 [105-115]	TCE	cDCE	VC
08/2019	0.94 I	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
12/2023	0.89 U	0.53 U	0.71 U

IW-43D2 [105-115]	TCE	cDCE	VC
12/2018	0.35 U	2.0	0.41 U
12/2020	0.35 U	0.44 J	0.41 U
12/2021	0.89 U	0.74 I	0.71 U
12/2022	0.79 U	1.0	4.2
12/2023	0.89 U	0.53 U	0.71 U

IW-01D2 [105-115]	TCE	cDCE	VC
01/2019	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.94 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
10/2023	0.20 U	0.25 U	0.40 U
12/2023	0.89 U	0.53 U	0.71 U

IW-164 [105-115]	TCE	cDCE	VC
08/2019	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
12/2023	0.89 U	0.53 U	0.71 U

IW-161 [105-115]	TCE	cDCE	VC
08/2019	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
10/2023	0.20 U	0.25 U	0.40 U
12/2023	0.89 U	0.53 U	0.71 U

IW-163 [105-115]	TCE	cDCE	VC
08/2019	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	0.71 U	0.64 U
12/2023	0.89 U	0.53 U	0.71 U

IW-44D2 [105-115]	TCE	cDCE	VC
12/2018	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.89 U	0.53 U	0.71 U
12/2022	0.79 U	1.2	0.64 U
03/2023	360	930	6.4 U
04/2023	1500	1300	54
04/2023	2800	2300	75
05/2023	1400	960	110
05/2023	4200	2100	150
06/2023	5300	1900	110 I
06/2023	1300	1700	550
07/2023	2900	2700	230
07/2023	1600	1900	150
08/2023	2400	2200	130
08/2023	2400	2000	210
09/2023	2800	1800	190
09/2023	12000	2600	80 U
09/2023	190000 L	20000	1400
10/2023	16000	2900	40 U
10/2023	4000	1700	220
11/2023	1600	1000	8 U
11/2023	750	330	220
12/2023	1200	730	130
12/2023	400	260	85
01/2024	330	260	3.6 U
01/2024	640	890	94
02/2024	430	1000	93
02/2024	440	1200	87
03/2024	270	1100	100

IW-162 [105-115]	TCE	cDCE	VC
08/2019	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	2.4 I	0.53 U	0.71 U
02/2022	7.4	0.53 U	0.71 U
03/2022	33	0.53 U	0.71 U
04/2022	58	0.53 U	0.71 U
05/2022	44	0.53 U	0.71 U
06/2022	90	0.53 U	0.71 U
07/2022	94	0.64 I	0.71 U
08/2022	115	0.81 I	0.82 U
09/2022	210	1.1 I	0.71 U
10/2022	260	11	0.64 U
12/2022	280	16	3.2 U
02/2023	510	29	3.2 U
02/2023	14000	230	32 U
03/2023	15000	1700	64 U
03/2023	1700	580	13 U
04/2023	250	150	1.1 I
04/2023	46	89	3.3
05/2023	17	25	3.0
05/2023	16	23	0.40 U
06/2023	13	20	0.40 U
06/2023	4.9	11	7.4
07/2023	10	10	0.64 U
07/2023	6.1	5.9	2.4
08/2023	6.0	4.9	2.5
08/2023	5.3	3.6	2.3
09/2023	5.2	3.7	3.1
09/2023	4.4	2.1	0.40 U
09/2023	3.0	1.6	3.5
10/2023	3.4	2.6	0.40 U
10/2023	2.5	1.6	0.71 U
11/2023	2.0	1.1	1.5
11/2023	1.8	1.0	0.71 U
12/2023	2.0	1.3	0.71 U
12/2023	2.0	0.92	0.75 I
01/2024	2.3	1.1	0.71 U
01/2024	2.0	1.0	0.71 U
02/2024	2.9	1.3	0.71 U

LEGEND

- Monitoring Well
- Well Location
- Screen Interval (feet bgs)
- TCE (Trichloroethene)
- cDCE (cis-1,2-Dichloroethene)
- VC (Vinyl Chloride)
- Concentration in ug/L,
  - Pink background indicates >GCTL
  - Yellow background indicates detection =<GCTL
- Sample Date

IW-01D2 [105-115]	TCE	cDCE	VC
01/2019	0.35 U	0.28 U	0.41 U
12/2020	0.35 U	0.28 U	0.41 U
12/2021	0.94 U	0.53 U	0.71 U

TCE 3
cDCE/0
VC 1

TCE Plume 83 to 98 ft bls based on 2019 DSZ Site Characterization

- >NADC/HCP (300 ug/L)
- >10xNADC (3,000 ug/L)
- >1% solubility (11,000 ug/L)
- >100xNADC (30,000 ug/L)
- >1000xNADC (300,000 ug/L)

Notes: 1) Gray shading indicate Layer 7 monitoring well
2) Sample qualifier descriptions:
I - between MDL and the laboratory PQL
U - not detected at associated detection limit

50 0 50 Feet

20240301

LC34 PMR
Revision: 0
December 2023

IW0183	TCE	cDCE	tDCE	VC
[17-27]				
07/2023	0.3 U	46	1 U	720
11/2023	0.89 U	77	2.4	2.7
02/2024	0.89 U	4.1	0.73 U	0.71 U
IW0184	TCE	cDCE	tDCE	VC
[30-35]				
07/2023	0.75 U	1600	2.8 I	1000
11/2023	45 U	1100	37 U	720
02/2024	22 U	770	18 U	600

IW0186	TCE	cDCE	tDCE	VC
[16-21]				
07/2023	1 U	320	1.9 I	330
11/2023	4.5 U	240	3.7 U	140
02/2024	8.9 U	650	7.3 U	250

IW0185	TCE	cDCE	tDCE	VC
[16-21]				
07/2023	0.15 U	100	0.5 U	350
11/2023	8.9 U	100	7.3 U	250
02/2024	0.89 U	61	0.73 U	64

IW0187	TCE	cDCE	tDCE	VC
[16-21]				
07/2023	2 U	940	9.3 I	560
11/2023	22 U	150	18 U	780
02/2024	22 U	290	18 U	570

IW0168	TCE	cDCE	tDCE	VC
[17-27]				
07/2023	3 U	6500	18 I	3800
11/2023	89 U	3900	73 U	3100
02/2024	4.5 U	360	3.7 U	180
IW0169	TCE	cDCE	tDCE	VC
[30-35]				
07/2023	4 U	67	6.8 U	1400
11/2023	4.5 U	110	3.7 U	370
02/2024	4.5 U	210	6.1	61

IW0181	TCE	cDCE	tDCE	VC
[17-27]				
07/2023	0.3 U	130	1 U	540
11/2023	4.5 U	34	3.7 U	100
02/2024	0.89 U	19	0.73 U	46
IW0182	TCE	cDCE	tDCE	VC
[30-35]				
07/2023	0.75 U	1100	4.1 I	540
11/2023	22 U	850	18 U	760
02/2024	22 U	1500	18 U	920

IW0170	TCE	cDCE	tDCE	VC
[17-27]				
07/2023	0.75 U	990	2.5 U	710
11/2023	8.9 U	740	7.3 U	220
02/2024	4.5 U	340	3.8 I	55
IW0171	TCE	cDCE	tDCE	VC
[30-35]				
07/2023	0.75 U	890	26	1500
11/2023	0.89 U	34	2	39
02/2024	0.89 U	4	0.81 I	11

IW0179	TCE	cDCE	tDCE	VC
[17-27]				
07/2023	0.75 U	140	2.5 U	800
11/2023	0.89 U	57	0.75 I	75
02/2024	0.89 U	10	0.73 U	19
IW0180	TCE	cDCE	tDCE	VC
[30-35]				
07/2023	1.5 U	1700	7.3 I	710
11/2023	22 U	780	18 U	400
02/2024	22 U	500	18 U	710

IW0178	TCE	cDCE	tDCE	VC
[16-21]				
07/2023	0.3 U	810	1.7 I	510
11/2023	8.9 U	730	7.3 U	900
02/2024	22 U	940	18 U	550

IW0172	TCE	cDCE	tDCE	VC
[17-27]				
07/2023	1.5 U	2600	5 U	1700
11/2023	8.9 U	400	7.3 U	110
02/2024	4.5 U	400	3.7 U	15
IW0173	TCE	cDCE	tDCE	VC
[30-35]				
07/2023	0.15 U	23	0.50 U	290
11/2023	0.89 U	1.8	0.73 U	10
02/2024	0.89 U	1.4	0.73 U	3.7

IW0174	TCE	cDCE	tDCE	VC
[16-21]				
07/2023	0.15 U	110	0.5 U	240
11/2023	0.89 U	66	0.73 U	62
02/2024	0.89 U	91	0.73 U	27
IW0175	TCE	cDCE	tDCE	VC
[30-35]				
07/2023	0.15 U	7.3	0.5 U	26
11/2023	0.89 U	12	0.73 U	13
02/2024	0.89 U	7.2	0.73 U	1.1

IW0176	TCE	cDCE	tDCE	VC
[16-21]				
07/2023	0.15 U	84	1.1	50
11/2023	1.8 U	150	1.5 I	38 U
02/2024	1.8 U	140	1.5 U	27

IW0188	TCE	cDCE	tDCE	VC
[16-21]				
07/2023	0.2 U	27	0.34 U	160
11/2023	8.9 U	29	7.3 U	440
02/2024	22 U	47	18 U	1100

IW0136	TCE	cDCE	tDCE	VC
[23-28]				
03/2019	10 U	240	10 U	520
07/2019	0.35 U	34.9	0.22 U	59.7
10/2019	0.35 U	2.5	0.22 U	7.2
01/2020	0.35 U	5.4	0.22 U	1.5
04/2020	0.35 U	3.9	0.22 U	0.66 I
07/2020	0.35 U	32.6	0.22 U	12.2
10/2020	0.35 U	1.4	0.22 U	0.41 U
01/2021	0.35 U	0.63 I	0.22 U	0.41 U
04/2021	0.35 U	0.33 I	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	1.3 I	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	1.5	0.50 U	0.50 U
11/2023	0.89 U	0.53 U	0.73 U	0.71 U

IW0177	TCE	cDCE	tDCE	VC
[16-21]				
07/2023	0.15 U	120	0.5 U	130
11/2023	4.5 U	280	3.7 U	3.6 U
02/2024	4.5 U	360	3.7 U	17

IW0123	TCE	cDCE	tDCE	VC
[20-28]				
06/2018	17 U	4530	63.6	1000
10/2018	3	1200	38	130
01/2019	3.5 U	928	20	60.8
04/2019	20 U	710	25	200
07/2019	1.7 U	355	17.6	116
10/2019	0.35 U	137	11.1	35.9
01/2020	0.69 U	146	8	38.8
04/2020	1.7 U	258	8.9	51
07/2020	1.7 U	275	8.8	95.3
10/2020	0.86 U	213	6.9	67.4
01/2021	0.69 U	139	4.4	42.9
04/2021	0.69 U	90.7	3.0	25.5
10/2021	0.89 U	97	2.4 I	28
04/2022	0.89 U	35	0.73 U	10
10/2022	0.79 U	32	0.95 U	2.8
04/2023	0.15 U	22	0.50 U	5.3
11/2023	0.89 U	17	0.73 U	1.8

IW0143	TCE	cDCE	tDCE	VC
[23-28]				
03/2019	3 U	650	11	3.0
07/2019	0.69 U	697	19.9	3.1
10/2019	1.7 U	247	6.4	4.1 I
01/2020	0.35 U	33.7	2	0.41 U
04/2020	0.35 U	21.2	0.81 I	0.41 U
07/2020	0.35 U	13	0.51 I	0.41 U
10/2020	0.35 U	11.3	0.22 U	0.41 U
01/2021	0.35 U	6.6	0.22 U	0.41 U
04/2021	0.35 U	5.9	0.22 U	0.41 U
10/2021	0.89 U	4.4	0.73 U	0.71 U
04/2022	0.89 U	5.8	0.73 U	0.71 U
10/2022	0.79 U	3.7	0.95 U	0.64 U
04/2023	0.15 U	5.0	0.50 U	0.50 U
11/2023	0.89 U	4.6	0.73 U	0.71 U

IW0146	TCE	cDCE	tDCE	VC
[13-23]				
03/2019	10 U	3000	34	310
07/2019	1.7 U	380	4.3 I	2 U
10/2019	0.35 U	93.3	1.9	2
01/2020	0.35 U	2.9	0.22 U	0.41 U
04/2020	0.35 U	6.8	0.22 U	0.41 U
07/2020	0.35 U	1.5	0.22 U	0.41 U
10/2020	0.35 U	1.0	0.22 U	0.41 U
01/2021	0.35 U	0.8 I	0.22 U	0.41 U
04/2021	0.35 U	0.69 I	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.81 I	0.73 U	0.71 U
11/2023	0.89 U	0.81 I	0.73 U	0.71 U

IW0147	TCE	cDCE	tDCE	VC
[23-28]				
03/2019	40 U	4400	40 U	1200
07/2019	0.35 U	29.5	0.68 I	3.1
10/2019	0.35 U	4.6	0.22 U	0.41 U
01/2020	0.35 U	15.1	0.22 U	0.41 U
04/2020	0.35 U	0.74 I	0.22 U	0.41 U
07/2020	0.35 U	1.5	0.22 U	0.41 U
10/2020	0.35 U	0.68 I	0.22 U	0.41 U
01/2021	0.35 U	0.49 I	0.22 U	0.41 U
04/2021	0.35 U	0.28 U	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	0.73 I	0.73 U	0.71 U

IW0108	TCE	cDCE	tDCE	VC
[20-28]				
12/2010	0.52 U	137	0.7 U	3.5
12/2011	1 U	96	1 U	110
12/2012	0.5 U	36	0.44 U	230
12/2014	0.76 U	215	0.86 I	145
12/2016	1.4 U	4.2 I	1.7 U	320
06/2018	0.35 U	0.88 I	0.45 I	306
10/2018	1 U	1.0	1 U	1.0
01/2019	0.35 U	0.36 I	0.22 U	0.41 U
04/2019	1 U	1.0	1 U	3.0
07/2019	0.35 U	0.48 I	0.22 U	0.56 I
10/2019	0.35 U	0.28 I	0.22 U	0.41 U
01/2020	0.35 U	0.28 U	0.22 U	0.41 U
04/2020	0.35 U	0.28 U	0.22 U	0.41 U
07/2020	0.35 U	0.28 U	0.22 U	0.41 U
10/2020	0.35 U	0.28 U	0.22 U	0.41 U
01/2021	0.35 U	1.2	0.22 U	0.41 U
04/2021	0.35 U	0.28 U	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	0.53 U	0.73 U	0.71 U

IW0144	TCE	cDCE	tDCE	VC
[23-28]				
03/2019	10 U	1900	40	410
07/2019	1.7 U	325	11.8	82.1
10/2019	0.69 U	108	6.2	1.1 I
01/2020	0.35 U	20.3	7.9	16.9
04/2020	0.35 U	20.7	1.7	7
07/2020	0.35 U	10.2	1.2	1.9
10/2020	0.35 U	12.4	1.2	0.66 I
01/2021	0.35 U	6.7	0.82 I	0.41 U
04/2021	0.35 U	5.2	0.72 I	0.41 U
10/2021	0.89 U	3.2	0.73 U	0.71 U
04/2022	0.89 U	2.8	0.73 U	0.71 U
10/2022	0.79 U	3.3	0.95 U	0.64 U
04/2023	0.15 U	1.1	0.50 U	0.50 U
11/2023	0.89 U	1.8	0.73 U	0.71 U

IW0145	TCE	cDCE	tDCE	VC
[29-34]				
03/2019	20 U	3900	27	930
07/2019	3.5 U	546	44.8	987
10/2019	0.69 U	76.4	16.7	375
01/2020	0.35 U	43	3.1	3.5
04/2020	0.35 U	7.7	2.4	8.6
07/2020	0.35 U	4.8	1.3	11.7
10/2020	0.35 U	2.8	0.92 I	3.5
01/2021	0.35 U	1.6	0.39 I	1.7
04/2021	0.35 U	1.3	0.22 U	1.5
10/2021	0.89 U	1.5 I	0.73 U	1.1 I
04/2022	0.89 U	0.8 I	0.73 U	0.81 I
10/2022	0.79 U	0.71 U	0.95 U	0.87 I
04/2023	0.15 U	0.53 I	0.50 U	0.50 U
11/2023	0.89 U	1.4	0.73 U	3.7

IW0137	TCE	cDCE	tDCE	VC
[23-28]				
03/2019	40 U	36600	490	4100
07/2019	86 U	21400	248 I	440
10/2019	69 U	12300	129 I	82 U
01/2020	8.6 U	1980	22.8 I	10 U
04/2020	3.5 U	789	8 I	10.6
07/2020	1.7 U	394	9	7.8
10/2020	0.35 U	97.3	1.6	1.7
01/2021	0.35 U	21.9	0.55 I	0.43 I
04/2021	0.35 U	13.6	0.39 I	0.41 U
10/2021	0.89 U	5.0	0.73 U	0.71 U
04/2022	0.89 U	4.5	0.73 U	0.71 U
10/2022	0.79 U	2.6	0.95 U	0.64 U
04/2023	0.15 U	5.4	0.50 U	0.58 I
11/2023	0.89 U	2.8	0.73 U	0.71 U

IW0135	TCE	cDCE	tDCE	VC
[23-28]				
03/2019	290 U	53800	1100	10700
07/2019	35 U	16200	619	15700
10/2019	69 U	10200	491	7330
01/2020	35 U	5330	295	1580
04/2020	35 U	7750	282	166
07/2020	35 U	11900	455	1960
10/2020	69 U	10200	288	580
01/2021	35 U	7440	227	403
04/2021	35 U	5230	228	284
10/2021	18 U	2700	150	190
04/2022	22 U	1400	21 I	380
10/2022	0.79 U	400	6.9	110
04/2023	0.15 U	770	2.1	1100
11/2023	1.8 U	110	7.7	12

IW0134	TCE	cDCE	tDCE	VC
[23-28]				
03/2019	1 U	20300	220	8900
07/2019	170 U	37100	387 I	12500
10/2019	69 U	24300	344	391
01/2020	69 U	11900	166 I	220
04/2020	35 U	9130	120	207
07/2020	35 U	7590	94.9 I	837
10/2020	69 U	10200	87 I	651
01/2021	69 U	14400	132 I	715
04/2021	69 U	14200	175 I	1230
10/2021	89 U	8700	77 I	1000
04/2022	89 U	11000	73 U	1800
10/2022	0.79 U	6300	30	2500
04/2023	3 U	7300	26	3600
11/2023	22 U	1900	18 U	3700

IW0139	TCE	cDCE	tDCE	VC
[13-23]				
03/2019	10 U	4300	60	1800
07/2019	0.35 U	569	10.5	31.1
10/2019	0.35 U	215	2.6	0.82 U
01/2020	0.35 U	43.3	0.7 I	0.41 U
04/2020	0.35 U	14	0.37 I	0.41 U
07/2020	0.35 U	7.9	0.34 I	0.41 U
10/2020	0.35 U	2.3	0.24 I	0.41 U
01/2021	0.35 U	0.69 I	0.22 U	0.41 U
04/2021	0.35 U	0.29 I	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	0.67 I	0.73 U	0.71 U

IW0140	TCE	cDCE	tDCE	VC
[23-28]				
03/2019	100 U	4000	100 U	3600
07/2019	1.5 I	125	7.7	65.3
10/2019	0.35 U	9.9	1.7	0.41 U
01/2020	0.35 U	1.6	0.57 I	0.41 U
04/2020	0.35 U	0.75 I	0.49 I	0.41 U
07/2020	0.35 U	1.1	0.47 I	0.43 I
10/2020	0.35 U	0.44 I	0.32 I	0.41 U
01/2021	0.35 U	0.28 U	0.22 U	0.41 U
04/2021	0.35 U	0.28 U	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	1.7	0.73 U	0.71 U

IW0126	TCE	cDCE	tDCE	VC
[20-28]				
06/2018	0.35 U	3.4	0.22 U	5.5
10/2018	1 U	2.0	1 U	2.0
01/2019	0.35 U	1.7	0.22 U	0.41 U
04/2019	1 U	2.0	1 U	1 U
07/2019	0.35 U	1.7	0.22 U	0.41 U
10/2019	0.35 U	1.9	0.22 U	0.41 U
01/2020	0.35 U	0.98 I	0.22 U	0.41 U
04/2020	0.35 U	0.96 I	0.22 U	0.41 U
07/2020	0.35 U	1.2	0.22 U	0.41 U
10/2020	0.35 U	1.0	0.22 U	0.41 U
01/2021	0.35 U	0.92 I	0.22 U	0.41 U
04/2021	0.35 U	0.28 U	0.22 U	0.41 U
10/2021	0.89 U	0.64 I	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.36 I	0.50 U	0.50 U
11/2023	0.89 U	0.95 I	0.73 U	0.71 U

IW0141	TCE	cDCE	tDCE	VC
[23-28]				
03/2019	50 U	5600	50 U	5600
07/2019	3.5 U	809	15.3	36.8
10/2019	0.35 U	55.6	3.9	0.41 U
01/2020	0.35 U	4.7	1.3	0.41 U
04/2020	0.35 U	0.51 I	0.22 U	0.41 U
07/2020	0.35 U	1.4	0.3 I	0.41 U
10/2020	0.35 U	0.58 I	0.22 U	0.41 U
01/2021	0.35 U	0.28 U	0.22 U	0.41 U
04/2021	0.35 U	0.28 U	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	1.2	0.73 U	0.71 U

IW-57S	TCE	cDCE	tDCE	VC
[1-11]				
12/2018	0.35 U	62.7	5.1	54.9
10/2019	3 U	63	3 U	73
07/2019	3.5 U	488	6.2 I	4.1 U
10/2019	1.7 U	375	3.9 I	2 U
01/2020	0.35 U	93.1	1.3 I	1.5 I
04/2020	0.35 U	20	0.27 I	0.41 U
07/2020	0.35 U	7.2	0.22 U	0.41 U
10/2020	0.35 U	2	0.22 U	0.41 U
01/2021	0.35 U	1.5	0.22 U	0.41 U
04/2021	0.35 U	0.43 I	0.22 U	0.41 U
10/2021	0.89 U	0.57 I	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.27 I	0.50 U	0.50 U
11/2023	0.89 U	0.53 U	0.73 U	0.71 U

IW-57I	TCE	cDCE	tDCE	VC
[23-28]				
12/2018	0.35 U	13500 LV	271	4430
03/2019	40 U	15400	330	5900
07/2019	17 U	5630	143	2840
10/2019	8.6 U	2310	82.1	957
01/2020	1.7 U	270	29.4	317
04/2020	0.35 U	37.7	14.5	101
07/2020	0.35 U	26.9	13.7	120
10/2020	0.35 U	14.1	5.9	19.5
01/2021	0.35 U	9.8	4.1	12.9
04/2021	0.35 U	11	3.5	7.1
10/2021	0.89 U	6.2	1.8 I	2.6
04/2022	0.89 U	4.0	1.2 I	2.2 I
10/2022	0.79 U	4.4	1.4	1.7
04/2023	0.15 U	1.8	0.5 U	0.5 U
11/2023	0.89 U	9.2	1.0	7.6

IW0127	TCE	cDCE	tDCE	VC
[20-28]				
06/2018	0.35 U	32.1	0.33 I	42.8
10/2018	1 U	3	1 U	1 U
01/2019	0.35 U	1.4	0.22 U	0.41 U
04/2019	1 U	4.0	1 U	1 U
07/2019	0.35 U	2.8	0.22 U	0.41 U
10/2019	0.35 U	1.6	0.22 U	0.41 U
01/2020	0.35 U	0.83 I	0.22 U	0.41 U
04/2020	0.35 U	0.5 I	0.22 U	0.41 U
07/2020	0.35 U	0.6 I	0.22 U	0.41 U
10/2020	0.35 U	0.58 I	0.22 U	0.41 U
01/2021	0.35 U	0.28 U	0.22 U	0.41 U
04/2021	0.35 U	0.28 U	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	1.8	0.73 U	0.71 U

IW0142	TCE	cDCE	tDCE	VC
[23-28]				
03/2019	40 U	2900	40 U	6700
07/2019	0.35 U	14.5	1.2	5.7
10/2019	0.35 U	0.84 I	0.22 U	0.41 U
01/2020	0.35 U	0.49 I	0.22 U	0.41 U
04/2020	0.35 U	0.28 U	0.22 U	0.41 U
07/2020	0.35 U	0.44 I	0.22 U	0.41 U
10/2020	0.35 U	0.28 U	0.22 U	0.41 U
01/2021	0.35 U	0.28 U	0.22 U	0.41 U
04/2021	0.35 U	0.28 U	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	0.76 I	0.73 U	0.71 U

SW1004	TCE	cDCE	tDCE	VC
01/2017	1 U	41	8	140
06/2018	0.35 U	1.4	11.5	212
10/2018	1 U	1 U	1 U	1 U
01/2019	0.35 U	0.28 U	0.22 U	0.41 U
04/2019	1 U	1 U	1 U	1 U
07/2019	0.35 U	0.28 U	0.22 U	0.41 U
10/2019	0.35 U	0.28 U	0.22 U	0.41 U
01/2020	0.35 U	0.28 U	0.22 U	0.41 U
04/2020	0.35 U	0.28 U	0.22 U	0.41 U
07/2020	0.35 U	0.28 U	0.22 U	0.41 U
10/2020	0.35 U	0.28 U	0.22 U	0.41 U
01/2021	0.35 U	0.28 U	0.22 U	0.41 U
04/2021	0.35 U	0.28 U	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.20 U	0.50 U	0.50 U
11/2023	0.89 U	0.53 U	0.73 U	0.71 U

SW1002	TCE	cDCE	tDCE	VC
12/2016	1 U	1 U	1 U	1 U
01/2017	1 U	1 U	1 U	1 U
06/2018	0.35 U	22.4	0.22 U	93.7
10/2018	1 U	1	1 U	1 U
01/2019	0.35 U	1.7	0.22 U	0.41 U
04/2019	1 U	1 U	1 U	1 U
07/2019	0.35 U	2.0	0.22 U	0.41 U
10/2019	0.35 U	0.28 U	0.22 U	0.41 U
01/2020	0.35 U	1.1	0.22 U	0.41 U
04/2020	0.35 U	2.8	0.22 U	0.41 U
07/2020	0.35 U	0.78 I	0.22 U	0.6 I
10/2020	0.35 U	0.28 U	0.22 U	0.41 U
01/2021	0.35 U	1.2	0.22 U	0.41 U
04/2021	0.35 U	1.9	0.22 U	0.66 I
10/2021	0.89 U	2.1 I	0.73 U	0.71 U
04/2022	0.89 U	1.6 I	0.73 U	0.71 U
10/2022	0.79 U	1.1	0.95 U	0.64 U
04/2023	0.15 U	0.70 I	0.50 U	0.50 U
11/2023	0.89 U	0.53 U	0.73 U	0.71 U

SW1001	TCE	cDCE	tDCE	VC
12/2016	1 U	2.0	1 U	9.0
01/2017	1 U	2.0	1 U	3.0
06/2018	0.35 U	37.3	1.7	79.2
10/2018	1 U	1 U	1 U	1 U
01/2019	0.35 U	0.28 U	0.22 U	0.41 U
04/2019	1 U	1 U	1 U	1 U
07/2019	0.35 U	0.94 I	0.22 U	0.41 U
10/2019	0.35 U	0.28 U	0.22 U	0.41 U
01/2020	0.35 U	0.71 I	0.22 U	0.41 U
04/2020	0.35 U	0.58 I	0.22 U	0.41 U
07/2020	0.35 U	0.28 U	0.22 U	0.41 U
10/2020	0.35 U	0.28 U	0.22 U	0.41 U
01/2021	0.35 U	0.28 U	0.22 U	0.41 U
04/2021	0.35 U	0.42 I	0.22 U	0.41 U
10/2021	0.89 U	0.53 U	0.73 U	0.71 U
04/2022	0.89 U	0.53 U	0.73 U	0.71 U
10/2022	0.79 U	0.71 U	0.95 U	0.64 U
04/2023	0.15 U	0.26 I	0.50 U	0.50 U
11/2023	0.89 U	0.53 U	0.73 U	0.71 U

IW0128	TCE	cDCE	tDCE	VC
[13-23]				
06/2018	17 U	4030	54.9	3050
10/2018	3 U	180	3 U	10
01/2019	0.35 U	21.5	1	2.6
04/2019	1 U	4.0	1 U	33
07/2019	0.35 U	3.3	0.47 I	2.2
10/2019	0.35 U	0.28 U	0.22 U	0.41 U
01/2020	0.35 U	0.81 I	0.22 U	0.49 I
04/2020	0.35 U	0.84 I	0.22 U	1.4
07/2020	0.35 U	1.1	0.22 U	0.59 I
10/2020	0.35 U	0.65 I	0.22 U	0.41 U

Revision 2 Meeting Minutes for June 12 & 13, 2024

Attendees:

1. TJ Touran/FDEP
2. Natasha Darre/NASA
3. Deda Johansen/NASA
4. Anne Chrest/NASA
5. Chris Adkison/NASA
6. Mike Deliz/NASA
7. Tammy Clark/NASA
8. Georgina Salazar/US Army
9. Michelle Moore/NEMCON
10. Mark Jonnet/Tetra Tech
11. Mark Speranza/Tetra Tech
12. Debbie Wilson/Tetra Tech
13. Jen Buel/Tetra Tech
14. Chris Hook/Tetra Tech
15. Andrew Walters/Tetra Tech
16. Sarah Damphousse/Tetra Tech
17. Jennifer Gootee/AECOM
18. Chad Lee/AECOM
19. Matthew Zenker/AECOM
20. Megan Garcia/AECOM
21. Richard Smith/HGL
22. Bruce Moore/HGL
23. Scott Anderson/
24. Brad Sperry/HGL
25. Jason Bublitz/HGL
26. Megan Matteazzi/HGL
27. Theresa Thompson/HGL

June 12, 2024

2406-M01 Michelle Moore/NEMCON

Meeting Minutes and Miscellaneous Items

Objective:

Test consensus on the Kennedy Space Center (KSC) Remediation Team (KSCRT) April 2024 meeting minutes and discuss miscellaneous items.

Discussion:

Team consensus was reached that Revision 1 of the meeting minutes and action/decision items for the April 2024 KSCRT meeting will become final. Team members acknowledged and did not object to the fact that these meeting minutes may become public record as part of a final report at a later date **(2406-D01).**

The Team reached consensus to continue semi-annual sampling of SWs 09 and 10 until VC is no longer detected in MW83 and MW84 **(2406-D33).**

Results: Decision Items 2406-D20 through D33

Day 2 - June 13, 2024

2406-M09 Mark Jonnet/Tetra Tech

LC34 Annual Performance Monitoring (SWMU CC054)

Objective: The goal of this ADP is to summarize groundwater interim measures (IMs) and monitoring results for chlorinated volatile organic compounds (CVOCs) from April 1, 2023, through March 31, 2024, that will be documented in the 2024 Performance Monitoring Report.

Discussion: LC34 is located on Cape Canaveral Space Force Station, a barrier island bounded by the Banana River and Atlantic Ocean, with a 314-acre CVOC groundwater plume exceeding State of Florida Groundwater Cleanup Target Levels (GCTLs) referred to as a Low Concentration Plume (LCP). Within the LCP plume is an area of 158 acres that exceeds Florida Department of Environmental Protection (FDEP) Natural Attenuation Default Concentrations (NADCs), 52.8 acres that exceed 10-times NADCs (referred to as Hot Spots), 9.3 acres that exceed 100-times NADCs, and a two-acre trichloroethene (TCE) source zone referred to as the dense non-aqueous phase liquid (DNAPL) Source Zone (DSZ). The DSZ Hydraulic Containment System (HCS) and Hot Spot 6 (HS6) Air Sparging IM were operational during this reporting period and HS6 Air Sparging IM Phase Two Expansion.

A brief site history and background were provided on LC34. The geology at LC34 was shown with the recovery wells intervals. Generally speaking, Layers 1, 2, 3, 5, 6, and 8 are sandy; Layer 4 is clay; Layer 7 is silty; and Layer 9 is the clay of the Hawthorn Group. Layers 4 and 7 have sorbed mass in addition to dissolved mass. Historic site-wide groundwater contours indicate mounding near the HCS compound in the shallow intervals (Layers 1, 2, 3), and flow generally to the southeast, southwest, and west in deeper intervals (Layers 6 and 8). Site-wide potentiometric contours were developed

for Layers 1 and 2 using water level measurements collected in February 2023 from the wells in the biennial sampling program. Groundwater flow in Layer 1 is radial around monitoring wells 10SR and 25S with an easterly component towards the Atlantic Ocean, a southerly component towards Phillips Parkway, and a westerly component. Groundwater flow in Layer 2 is radial around wells 10IR and 110 with a similar easterly component towards the Atlantic Ocean and southeasterly/southwesterly components.

Hydraulic Containment System: The IM objective for the HCS is to attain hydraulic control of the DSZ and TCE HCP within Hot Spots 2, 3, and 4 by hydraulic containment with ex-situ treatment. The HCS began full-scale operation in May 2010, the system was expanded in 2015, and in August 2019 a new recovery well was installed 80 to 95 feet below land surface (ft bls). Three additional recovery wells (80 to 95 ft bls) were installed in February 2021. An additional recovery well (86 to 106 ft bls) was installed in January 2023. The current HCS includes 10 shallow recovery wells (15 to 45 ft bls), 7 deep recovery wells (50 to 80 ft bls), 4 deeper recovery wells (80 to 95 ft bls), 1 recovery well screened 86 to 106 ft bls, equalization tank and discharge pump, 2 air strippers, discharge pump, and liquid-phase granular activated carbon (LPGAC) treatment for polishing (if needed), catalytic oxidizer, quench tower, scrubbing unit, and 12 deep injection wells (50 to 80 ft bls) and an infiltration gallery for discharge of treated water. From January 2024 to March 2024 twenty Layer 7 recovery wells were installed then plumbed to the HCS, once the compressor trailer and additional infiltration gallery are installed these wells will begin operations.

The HCS hydraulically controls the DSZ by utilizing recovery wells to extract contaminated groundwater. The extracted groundwater flows into an equalization tank, which is then treated by two air strippers in series, polished by LPGAC, and subsequently pumped to injection wells and an infiltration gallery. The contaminants in the air stream from the air strippers are destroyed by a catalytic oxidizer. The catalytic oxidizer effluent is cooled in a quench tower and then neutralized by the acid gas scrubber prior to discharge to the atmosphere. During the Year 14 operational period (April 1, 2023, through March 31, 2024), system runtime was 94%. The majority of downtime was due to routine system cleaning, normal maintenance activities, and troubleshooting thermocouple sensor and PLC

controller. Over 31 million gallons of groundwater were treated during Year 14 with 6,505 pounds of CVOCs destroyed. Since HCS operation began, over 345 million gallons of groundwater have been treated with 94,823 pounds of CVOCs destroyed.

Performance sampling is conducted to evaluate the HCS operations. The air strippers' effluent and LPGAC effluent are sampled monthly, individual recovery wells and combined influent are sampled quarterly, and catalytic oxidation influent and effluent (vapor) are sampled annually. In addition, nine locations are sampled annually via direct-push technology (DPT) to evaluate aquifer conditions within the DSZ. At each location, samples were collected in five-foot intervals from 8 to 98 ft bls.

Influent system concentrations varied from 16,490 to 37,430 to 12,724, to 28,240 µg/L over the reporting period. Sample results, as shown on slide 27, indicate that contaminants in groundwater were reduced to less than GCTLs in the GAC effluent during all sampling events in the reporting period.

The catalytic oxidizer influent and effluent sample results were shown on slide 28. The influent results translate to 14.8 lb/day for total VOCs and 12.4 lb/day for TCE, and the effluent results translate to 0.005 lb/day for Total VOCs and 0.0063 lb/day for TCE. Based on the effluent results the catalytic oxidizer continues to meet the permissible daily hazardous air pollutants (HAP) levels of 6.8 lb/day for Total VOCs and 2.7 lb/day for TCE.

Individual recovery wells results, flow rates, and mass recovery rates were summarized on slides 30 and 31. The total recovery well flow rate of 84 gpm was maintained during the reporting period. When recovery well 21D was brought online, recovery wells 12A, 13A, 14A, 15A, and 16B were shut down. TCE was less than detection limits in these wells with the exception of 16B which had TCE detected at 4.7 I µg/L during the December 2022 sampling event. The highest TCE results were detected in RW01A (shallow capture zone), RW02B (deep capture zone), and RW19C (deeper zone), with the highest overall TCE result of 260,000 µg/L from RW19C in June 2023. The four recovery wells in the deeper zone (Layer 7; RWs 17C, 18C, 19C, 20C) are each operating at 0.5 gpm due to the silty lithology in this layer and RW21D operated at 15 gpm a portion of the screen is in Layer 8. As of March 2024, RWs 17C to 20C

represent 2% of total influent GPM and 20% of TCE mass recovered and RW21D represent 18% of total influent GPM and 28% of TCE mass recovered.

Annual DPT sampling was conducted in January2024 to evaluate aquifer conditions within the DSZ. An evaluation of the results by extraction zone was summarized on Slide 32, with the highest TCE results of 510,000 ug/L (shallow capture zone), 1,300,000 µg/L (between shallow and deep capture zones), 1,600,000 µg/L (deep capture zone), 530,000 µg/L (Layer 7 capture zone), and 110,000 µg/L (below Layer 7 capture zone). Sampling results were compared to previous sample events, and tabulated to show TCE concentrations in percent composition over all sample intervals in relation to recovery well capture zone (Slides 33 to 36). Data shows that the majority of contamination is located at 48 ft bls (21.8% above/within Layer 4), 53 ft bls (25.1% directly below Layer 4), and 83 ft bls (5.5% in Layer 7).

Groundwater samples from Layer 7 and 8 monitoring wells were also collected in December 2023 to monitor vertical migration of contamination. All wells sampled were below detection limits, except 42D2, 44D2, 45D2, and 162.

cDCE was detected in 42D2 and 45D2 at 0.73 I and 140 µg/L, the next sampling event for these wells is scheduled for December 2024

TCE has had an increasing trend in IW162 since December 2021. Frequent sampling of this well was implemented in March 2022. TCE increased from 2.4 I to 280 ug/L during the period of December 2021 to December 2022.

RW21D was installed adjacent to RW20C in January 2023 to address the increasing TCE trend in IW162. The planned total depth was 100 ft bls. The materials for this well were a special order by the driller. Prior to the field event Tetra Tech verified the driller received the materials to install the recovery well to 100 feet bls. The driller had an extra 5-foot section of riser they brought onsite. Unaware of the extra 5-foot section, Tetra Tech instructed field person to install the well with the materials driller brought onsite assuming they only had the special ordered materials. RW21D was installed to a depth of 106 ft bls extending approximately five feet into Layer 8. Rather than abandoning the recovery well, NASA decided to operate the

recovery well with a biweekly sampling of IW162 and two additional wells, IW44D2 and IW162. TCE in IW44D2 increased from BDL to 360 µg/L in March 2023 then to a maximum concentration of 190,000 L µg/L in September 2023 decreasing to 250 µg/L in June 2024. TCE in IW162 increased from BDL to 2.4 I µg/L in February 2022 then to a maximum concentration of 15,000 µg/L in March 2023 decreasing to 2.9 µg/L in February 2024, TCE has been equal to or less than GCTL since September 2023. FDEP requested wells 01D2 and 161 be sampled to during the October 2023 KSCRT meeting, these wells were sampled shortly thereafter concentrations were BDL.

The Team reached consensus to continue IM OM&M of the HCS for Year 14, the operational period of April 1, 2024 to March 31, 2025, consistent with the current approach that includes: biweekly samples from select Layer 8 wells dependent on results; monthly sampling of the air stripper's effluent (aqueous), quarterly sampling of the combined influent and individual RW influent (aqueous), and annual sampling of the influent and effluent of the CatOx (vapor), DPT (aqueous), and Layer 7/8 monitoring wells (aqueous) **(2406-D34).**

Hot Spot 6 Phase Two Expansion: The IM objective for the HS6 Air Sparging IM is to remediate contaminated groundwater within the treatment zone to prevent impacts to the drainage ditch and support transition to monitored natural attenuation (MNA). The initial phase of the HS6 IM began full scale operations in July 2018, and was then expanded from 160 air sparging wells (ASWs) to 300 ASWs with full scale operations beginning in May 2019. The 300 ASWs were installed beneath the VOC contamination on the top of Layer 4 (approximately 40 feet bls). The design included an ASW flow rate of 5.0 CFM, and 25 ft radius of influence with ASWs spaced 25 feet apart with no overlap. The system operates in nine treatment zones, with compressed air supplied from a 75-horsepower rotary screw compressor. An expansion including 76 ASWs was presented to the KSCRT at the December 2020 meeting, due to a delay to resolve beach mice being present at the site an additional expansion including 116 ASWs was presented to the KSCRT at the March 2022 meeting was implemented September 2022 to July 2023. System startup activities began July 2023 followed by full scale operations beginning August 28, 2023.

Hot Spot 6 Air Sparging: Phase One and the Phase Two Expansion zones as well as the run time of 84% over the reporting period April 1, 2023, through March 31, 2024. Performance sampling, Phase Two Expansion installation, and Phase Three Expansion DPT delineation efforts contributed to down time. The system is monitored remotely, and if any issues arise a technician is dispatched to troubleshoot and resume operations. Monthly site visits are conducted to ensure the system is operating properly and the system is balanced.

Performance sampling includes semi-annual sampling in the Phase One (28 monitoring wells and 3 surface water locations in the nearby canal/drainage ditch) and Phase Two Expansion baseline and quarterly sampling in November 2023 and February 2024 (21 monitoring wells). The COCs are cDCE and VC that have exceeded GCTLs in the treatment areas. Waterline levels are gauged at all wells sampled during performance sampling events. Slides 63 and 64 depict groundwater elevation contours in the Hot Spot 6 treatment area, groundwater flow is similar to historic flow to the southeast.

Phase One Area performance sampling events were conducted in April and November 2023, all wells within the treatment area were less than GCTLs in April, in November VC in IWs 57I and 145 increase to exceed GCTL at 7.6 and 3.7 µg/L, respectively. The April 2024 results were included to show that both wells decreased to BDL. SW1001 had a detection of cDCE at 0.26 I µg/L, all other surface water samples were BDL. The maximum cDCE and VC of 7,300 and 5,600 µg/L were detected in upgradient IW0134 adjacent to the HCS with concentrations exceeding 10xNADCs during the April event, VC continued to exceed 10xNADC during the November event at 3,700 µg/L. cDCE was also detected in IW0135 at concentrations of 770 (exceeding NADC) and 110 (exceeding GCTL) µg/L during the April and November events. VC was detected exceeding GCTLs in wells 123, 129, 130, and 135 ranging from 1.8 to 30 µg/L and one NADC exceedance of 1,100 µg/L in IW0135 during the April event. All of these wells are beyond the treatment area. The wells with NADC exceedances are on the upgradient side of the treatment area and receive flux from the DSZ.

Phase Two Area baseline and performance sampling events were conducted in July 2023, November 2023, and February 2024. All 21

wells exceeded GCTLs during the baseline event with 14 wells exceeding NADCs and five wells exceeded 10xNADCs with maximum cDCE and VC concentrations occurring in IW0168 at 6,500 and 3,800 µg/L. During the November event all wells exceeded GCTLs with 12 wells exceeding NADCs and IW0168 exceeded 10xNADC. During the February event two wells were less than GCTLs, 11 wells exceeded GCTLs, seven wells exceeded NADCs and IW0188 exceeded 10xNADC with the VC detection and 1,100 µg/L. The average reductions of cDCE and VC from the Baseline to the February events were 12% and 31%.

Test Team consensus to continue operation of the HS6 air sparging system of the active 238 ASWs for the operational period of April 1, 2024, to March 31, 2025 **(2406-D35).**

Test Team consensus to continue semi-annual sampling of 28 monitoring wells and 3 surface water locations associated with previous treatment area for VOCs and field parameters **(2406-D36).**

Test Team consensus to continue quarterly sampling of 21 monitoring wells in Phase Two (Q3 and Q4), then present results and plan to reduce sampling frequency to semi-annual **(2406-D37).**

FDEP noted that an IM Phase 3 Expansion for HS6 was submitted in May 2024. The FDEP is discussing fugitive emissions and submitted for technical review; will see about the technical calculation. What is the timeline on this? NASA responded this was a high priority but not urgent.

Path Forward:
In summary, the path forward will include: (1) Monthly System Sampling will include HCS effluent samples collected from air strippers, LPGAC; (2) Quarterly Sampling will include HCS total system influent, and HCS individual active recovery wells (12 RWs); (3) Quarterly sampling of Hot Spot 6 Expansion Area performance sampling (21 MWs) and semi-annual sampling of Hot Spot 6 performance sampling (28 MWs and 3 SWs); (4) Annual Sampling (December 2024) will include HCS CatOx influent and effluent, HCS DPT samples from 9 locations (8 to 98 ft bls at each boring), and Layer 8 Performance MWs; (5) Biennial Site-Wide LTM Sampling (December 2024) will include sampling of 56 MWs for VOCs and one MW for PCBs.

Results: Decision Items 2406-D34 through D37

2406-M10 Justin Bublitz/HGL

Contractors Road Heavy Equipment Area (SWMU 055) Site Characterization

Objective: The objective of the ADP is to summarize the site assessment history and background, present the updated delineation of chlorinated volatile organic compounds (CVOCs) and distribution of 1,4-dioxane, present screening of remedial technologies and obtain team consensus.

Discussion:
Site Characterization
Preliminary Assessment performed in 1994 which identified CVOCs in groundwater. RCRA Facility Investigation (RFI) activities conducted from 1994 through 1999 identified Trichloroethene (TCE) and degradation breakdown products in groundwater. A Corrective Measures Study and Statement of Basis was completed in 2000 and 2004, respectively. From 2005 through 2009 the site was incorporated into the Vehicle Assembly Building (VAB) Long-Term Monitoring (LTM) program. From 2009 through 2016, Supplemental Site Assessment activities were performed at the site which identified CVOC concentrations exceeding their Florida Department of Environmental Protection (DEP) groundwater cleanup target levels (GCTL), natural attenuation default concentration (NADC) and 10 times the NADC. In 2014, the Statement of Basis was revised to remove polychlorinated biphenyl (PCB) contamination greater than the soil cleanup target levels and include remedies for CVOCs.

Hot Spot 1 Site Characterization and Remedial Alternatives Evaluation ADPs were presented in December 2013 and February 2014, respectively. In May 2014, the Hot Spot 1 Bioremediation Interim Measure (IM) Work Plan was completed. September 2015 through May 2018, bioremediation pre-implementation and implementation were completed at the source zone and hot spot 1. From 2018 through 2020, performance and treatment monitoring were conducted via monitoring well sampling and vapor intrusion monitoring began. From 2021 through present, the site has transitioned into annual groundwater monitoring for VOCs, UIC

APPENDIX B

HCS SAMPLING LOGS AND FIELD DOCUMENTATION
(PRVIDED IN ELECTRONIC VERSION ONLY)

14/Apr/2023 **LC34** **112G08985**

Personnel: Dan Forester
Weather: Sunny
PPE: Level D
Objective: Complete LC34 Bi-Monthly Sampling Event

0645: DF arrives on base, gathers equipment and supplies, calibrates equipment and daily prep

0930: starts purge of LC34-IW0165

1000: Sample LC34-IW0165-110.0 collected for VOC analysis via method 8260D-(MOD) LC34 Custom list.

1000: starts purge of LC34-IW0042D2

1030: Sample LC34-IW0044D2-110.0 collected VOC analysis via method 8260D-(MOD) LC34 Custom list.

1030: starts purge of LC34-IW0162

1100: Sample LC34-IW0162-110.0 collected for VOC analysis via method 8260D-(MOD) LC34 Custom list.

1100: IDW dropped off

14:00 samples transferred to Courier.

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0162	SAMPLE ID: **LC34-IW0162-110.0-20230414** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/14/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 7.98	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 105-115

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): 115

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters. (0.005 x 125) + 0.475 = 1.1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	PURGING INITIATED AT: 1030	PURGING ENDED AT: 1055	TOTAL VOLUME PURGED (Liters): 4.5

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1030	0	0	200	8.34							Clear
1040	2	2	200	8.34	7.20	25.6	2546	0.33	6.15	-184.7	Clear
1050	2	4	200	8.30	7.21	25.6	2550	0.31	4.76	-185.2	Clear
1055	.5	4.5	100	8.30	7.21	25.6	2559	0.31	5.25	-184.1	Clear
1100	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dan Forester/Tetra Tech	SAMPLER(S) SIGNATURES: *Dan Forester*	SAMPLING INITIATED AT: 1055	SAMPLING ENDED AT: 1100
PUMP OR TUBING DEPTH IN WELL (feet): 110.0	SAMPLE PUMP: FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 ml	HCl / 4C	None	<2	8260DTCL SOMO1	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0044D2**	SAMPLE ID: **LC34-IW0044D2-110.0-20230414** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/14/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 8.33	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**

WELL DIAMETER (inches): **3/4**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.0

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 1000	PURGING ENDED AT: 1025	TOTAL VOLUME PURGED (Liters): 4.5

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1000	0	0	200	8.45							Clear
1010	2	2	200	8.56	7.12	25.4	2689	0.20	5.40	-198.7	Clear
1020	2	4	200	8.55	7.12	25.3	2675	0.18	5.99	-196.4	Clear
1025	.5	4.5	100	8.48	7.13	25.4	2668	0.19	5.02	-200.3	Clear
1030	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dan Forester/Tetra Tech	SAMPLER(S) SIGNATURES: Dan Forester	SAMPLING INITIATED AT: 1025	SAMPLING ENDED AT: 1030

PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: T

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0165**	SAMPLE ID: **LC34-IW0165-110.0-20230414** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/14 /2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 9.25	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**

WELL DIAMETER (inches): **3/4**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):**105**	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.0

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 0930	PURGING ENDED AT: 0955	TOTAL VOLUME PURGED (Liters): 4.5

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0930	0	0	200	9.40							Clear
0940	2	2	200	9.38	7.35	25.3	2526	0.35	5.34	-119.0	Clear
0950	2	4	200	9.28	7.35	25.4	2517	0.31	7.64	-124.4	Clear
0955	.5	4.5	100	9.29	7.36	25.4	2564	0.31	6.53	-126.3	Clear
1000	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dan Forester/Tetra Tech	SAMPLER(S) SIGNATURES: *Dan Forester*	SAMPLING INITIATED AT: 0955	SAMPLING ENDED AT: 1000

PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: T

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : NASA-KSC-LC34
SITE NAME: Launch Complex 34
PROJECT NO.: 112G08985

INSTRUMENT NAME/MODEL Pro Quatro / 2020t
MANUFACTURER: YSI / LaMotte
SERIAL NUMBER: **YSI #21D101766 / LaMotte # 1914-4019**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.)			Cond. (µS/cm)	D.O. (mg/L)	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*4.03*	*7.01*	10.07	1427	8.36	24.4	232	Na	0	9.97	***Lot # CC737516***	
4/14/2023	DF	*Post*	*x*	*x*	x	x	x	x	x	Na	x	x	***Exp. Date: 10/23***	pH = 4
		Pre								Na			***Lot # E1022***	
		Post								Na			***Exp. Date: 5/23***	pH = 7
		Pre								Na			***Lot # 1G0689***	
		Post								Na			***Exp. Date: 4/23***	pH = 10
		Pre								Na			***Lot # 6151***	
		Post								Na			***Exp. Date: 2/26***	Conductivity = 1413 µS/cm
		Pre								Na			***Lot # 4801***	
		Post								Na			***Exp. Date: 11/24***	ORP = 238 mV
		Pre								Na			***Lot # 21380229***	
		Post								Na			***Exp. Date: 4/23***	NTU=0
		Pre								Na			***Lot # 2215077***	
		Post								Na			***Exp. Date: 05/23***	Ntu=10
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				

Location: KSC-NASA 04/28/2023
Project name: LC-34
Project number:112G08985 / 212ig-pb-01363
Personnel on site: Robert Siegel, & Sam H

Weather conditions: clear cloudy zero wind 70°F

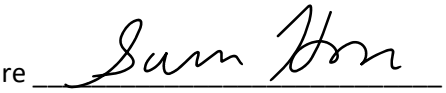
0615 Travel time to site pickup supplies
0700 Onsite POL general set up tailgate safety review scope of work equipment load on vehicles to sample wells
0820 Offsite TT
0840 With Sam H. Setup/start at LC-34 GW sampling. I start at MW-44d reference sample log
0940 End location complete COC, ice samples, decon equipment store all water in system holding tank, remove solid waste materials, & update Dan F.
1045 Offsite travel time

Weather conditions: cloudy 0-5 mph 75°F

Signature_____

Location: KSC-NASA
Project Name: LC-34
Date: 4/28/2023

0730 – Onsite, weather 70s and cloudy, personnel Sam Hone and Rob Siegel
0730-0830 – Tailgate, equipment calibration, call Chuck Sorden, mobilize to LC34 for bi-weekly sampling
0920 – Sampled LC34-IW0162, micro bubbles in VOA
1020 – Sampled LC34-IW0165
1040 – Store wastewater, complete COC and ice samples, call Dan Forester
1045 - Offsite

Signature 

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0162	SAMPLE ID: **LC34-IW0162-110.0-20230428** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/28/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 9.84	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 105-115

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): 115

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters. (0.005 x 125) + 0.475 = 1.1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	PURGING INITIATED AT: 8:50	PURGING ENDED AT: 9:20	TOTAL VOLUME PURGED (Liters): 3.75

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
9:00	1.5	1.50	150	9.91	7.77	23.5	2292	0.30	3.82	-137.0	Clear
9:05	750	2.25	150	9.91	7.79	23.5	2288	0.26	2.35	-166.0	Clear
9:10	750	3.00	150	9.92	7.79	23.5	2281	0.22	2.02	-177.4	Clear
9:15	750	3.75	150	9.92	7.80	23.6	2284	0.18	2.40	-182.6	Clear
9:20			Sample collected								

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Sam Hone/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 9:20	SAMPLING ENDED AT: 9:25
PUMP OR TUBING DEPTH IN WELL (feet): 110.0	SAMPLE PUMP: FLOW RATE (mL per minute): 150	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 ml	HCl / 4C	None	<2	8260D (MOD) NASA LC34 Custom List	APP

REMARKS: Observed micro bubbles in VOA vial, waited to cap to let them dissipate.

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0044D2**	SAMPLE ID: **LC34-IW0044D2-110.0-20230428** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/28/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.40	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**

WELL DIAMETER (inches): **3/4**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.0

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 0900	PURGING ENDED AT: 0919	TOTAL VOLUME PURGED (Liters): 5.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0910	3.0	3.0	300.0	6.00	7.37	25.7	2331.0	0.20	3.62	-199.0	clear
0915	1.5	4.5	|	6.00	7.39	25.6	2349.0	0.17	1.35	-227.0	|
0919	1.2	5.7	300.0	6.00	7.39	25.5	2353.0	0.16	1.49	-235.0	Clear
0920	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0920	SAMPLING ENDED AT: 0925
PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T+HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
110	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMARKS: After sample total depth check from toc not taken 100 FT WL probe sump purge black to clear 0.50 gal
Water put into system storage tank

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**		SITE LOCATION: **Kennedy Space Center (KSC), Florida**
LOCATION ID: **IW0165**	SAMPLE ID: **LC34-IW0165-110.0-20230428** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/28/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 9.74	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**

WELL DIAMETER (inches): **3/4**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):**105**	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.0

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 9:50	PURGING ENDED AT: 10:20	TOTAL VOLUME PURGED (Liters): 3.75

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
10:00	1.5	1.50	150	9.80	7.83	23.6	2165	0.28	2.27	-158.2	Clear
10:05	0.75	2.25	150	9.80	7.82	23.6	2164	0.24	2.42	-165.2	Clear
10:10	0.75	3.00	150	9.81	7.82	23.6	2163	0.20	2.97	-168.6	Clear
10:15	0.75	3.75	150	9.81	7.82	23.5	2164	0.20	1.80	-171.4	Clear
10:20			Sample collected								

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Sam Hone /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 10:20	SAMPLING ENDED AT: 10:25
PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 150	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : KSC-NASA
SITE NAME: LC-34
PROJECT NO.: 112G08985

INSTRUMENT NAME/MODEL YSI 556 MPS / LaMotte 2020t
MANUFACTURER: YSI / LaMotte
SERIAL NUMBER: **YSI s# 113a100066 / LaMotte s# 1914-4019**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.)			Cond. (µS/cm)	D.O. (mg/L)	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*4.08*	*7.02*	9.97	1451	9.02	20.3	250	Na	0	10.12	***Lot # J0822b***	
4/28/2023	RS ccv AM/PM	*Post*	*4.02*	*6.98*	10.02	1455	8.61	23.4	248	Na	0	9.99	***Exp. Date: 9/8/24***	pH = 4
		Pre								Na			***Lot # H1622b***	
		Post								Na			***Exp. Date: 8/16/24***	pH = 7
		Pre								Na			***Lot # J2622A***	
		Post								Na			***Exp. Date: 3/26/24***	pH = 10
		Pre								Na			***Lot # 6151***	
		Post								Na			***Exp. Date: 2/26***	Conductivity = 1413 µS/cm
		Pre								Na			***Lot # 4801***	
		Post								Na			***Exp. Date: 11/24***	ORP = 238 mV
		Pre								Na			***Lot # 22180091***	
		Post								Na			***Exp. Date: 5/23***	NTU=0
		Pre								Na			***Lot # 22150177***	
		Post								Na			***Exp. Date: 5/23***	Ntu=10
		Pre												
		Post												
		Pre												
		Post												
		Pre												
		Post												

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : NASA-KSC-STP1
SITE NAME: LC34
PROJECT NO.: 112G08985

INSTRUMENT NAME/MODEL: YSI professional pro/Lamotte 2020t
MANUFACTURER: YSI/Lamotte
SERIAL NUMBER: Sn1513-2219

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.)			Cond. (µS/cm)	D.O. (mg/L)	Temp. °C	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*4.41*	*7.46*	9.3	1473	10.5	17.9	211.8	Na	0.86	9.83	***Lot # J0822b***	
4/28/2023	Sam Hone	*Post*	*4.00*	*7.00*	10.07	1413	9.41	18.5	223.1	Na	0	10	***Exp. Date: 9/8/24***	pH = 4
		Pre								Na			***Lot # H1622b***	
		Post								Na			***Exp. Date: 8/16/24***	pH = 7
		Pre								Na			***Lot # J2622A***	
		Post								Na			***Exp. Date: 3/26/24***	pH = 10
		Pre								Na			***Lot # 6151***	
		Post								Na			***Exp. Date: 2/26***	Conductivity = 1413 µS/cm
		Pre								Na			***Lot # 4801***	
		Post								Na			***Exp. Date: 11/24***	ORP = 238 mV
		Pre								Na			***Lot # 22180091***	
		Post								Na			***Exp. Date: 5/23***	NTU=0
		Pre								Na			***Lot # 22150177***	
		Post								Na			***Exp. Date: 5/23***	Ntu=10
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0162	SAMPLE ID: **LC34-IW0162-110.0-20230512** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **05/12/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 9.94	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 105-115

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): 115

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters. (0.005 x 125) + 0.475 = 1.1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	PURGING INITIATED AT: 1045	PURGING ENDED AT: 1105	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1055	2.0	2.0	200	10.02	7.56	26.34	3355.1	0.13	7.41	-320.9	Clear
1100	1.0	3.0	200	10.02	7.56	26.15	3351.9	0.11	10.35	-320.0	Clear
1105	1.0	4.0	200	10.02	7.56	26.25	3359.6	0.11	13.41	-319.2	Clear
1110	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Chuck Sorden / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1110	SAMPLING ENDED AT: 1115
PUMP OR TUBING DEPTH IN WELL (feet): 110.0	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 ml	HCl / 4C	None	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**		SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0044D2**	SAMPLE ID: **LC34-IW0044D2-110.0-20230512** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)		DATE: **05/12/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 10.35	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**	
WELL DIAMETER (inches): **3/4**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.0

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 0935	PURGING ENDED AT: 0955	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0945	2.0	2.0	200	10.53	7.64	26.45	3207.1	0.21	3.91	-306.6	Clear
0950	1.0	3.0	200	10.53	7.64	26.53	3220.2	0.15	3.52	-308.3	Clear
0955	1.0	4.0	200	10.53	7.64	26.46	3215.6	0.21	2.08	-306.7	Clear
1000	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Chuck Sorden/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1000	SAMPLING ENDED AT: 1005
PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMAR

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**		SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0165**	SAMPLE ID: **LC34-IW0165-110.0-20230512** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)		DATE: **05/12/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 9.83	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):**105**	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.0

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 1010	PURGING ENDED AT: 1030	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1020	2.0	2.0	200	9.94	7.59	27.06	3226.3	0.18	1.90	-321.5	Clear
1025	1.0	3.0	200	9.94	7.59	27.08	3233.9	0.14	0.84	-324.5	Clear
1030	1.0	4.0	200	9.94	7.59	27.05	3234.0	0.12	1.12	-325.6	Clear
1035	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Chuck Sorden/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1035	SAMPLING ENDED AT: 1040
PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Calibration Report

Instrument	Aqua TROLL 600 Vented
Serial Number	840822
Created	5/12/2023

[redacted]

Serial Number	1014112
Last Calibrated	5/12/2023

Calibration Details

TDS Conversion Factor (ppm)	0.65
Cell Constant	1.184
Reference Temperature	25.00 °C

Pre Measurement

Actual Conductivity	1,303.6 µS/cm
Specific Conductivity	1,194.4 µS/cm

Post Measurement

Actual Conductivity	1,542.3 µS/cm
Specific Conductivity	1,413.0 µS/cm

[redacted]

Serial Number	839497
Last Calibrated	Factory Defaults

[redacted]

Serial Number	982670
Last Calibrated	5/12/2023

Calibration Details

Calibration Point 1

pH of Buffer	4.01 pH
pH mV	170.2 mV
Temperature	30.10 °C

Pre Measurement

pH	4.17 pH
pH mV	170.2 mV

Post Measurement

pH	4.01 pH

pH mV	173.1 mV

Calibration Point 2

pH of Buffer	6.99 pH
pH mV	-3.8 mV
Temperature	29.94 °C

Pre Measurement

pH	7.06 pH
pH mV	-3.8 mV

Post Measurement

pH	6.99 pH
pH mV	-3.9 mV

Calibration Point 3

pH of Buffer	9.95 pH
pH mV	-175.8 mV
Temperature	30.56 °C

Pre Measurement

pH	9.92 pH
pH mV	-176.2 mV

Post Measurement

pH	9.95 pH
pH mV	-179.1 mV

Slope and Offset 1

Slope	-58.38 mV/pH
Offset	-4.4 mV

Slope and Offset 2

Slope	-58.12 mV/pH
Offset	-4.4 mV

ORP

ORP Solution	ORP Standard
Offset	2.7 mV
Temperature	30.92 °C
Pre Measurement	213.0 mV
Post Measurement	215.7 mV

[redacted]

Serial Number	1011684
Last Calibrated	5/12/2023

Calibration Details

Slope	1
Offset	-0.29 NTU

Calibration Point 1

Pre Measurement	0.27 NTU
Post Measurement	0.00 NTU

[redacted]

Serial Number	840822
Last Calibrated	Factory Defaults

[redacted]

Serial Number	825947
Last Calibrated	Factory Defaults

05/12/2023 **LC34** **112G08985**

Personnel: Chuck Sorden (CS) Geologist Tt
Weather: Sunny – 81 degrees F
PPE: Level D
Objective: Complete LC34 Bi-Monthly Sampling Event

0800: CS on base; gathering equipment and supplies; calibrating equipment (See cal sheets); daily prep
0925: CS arrives at LC34; setting up
0935: CS Purging LC34-IW0044D2
0955: Purging Complete on IW0044D2
1000: Sample Collected LC34-IW0044D2-110.0-20230512 8260D
1010: CS Purging LC34-IW0165
1030: Purging Complete on IW0165
1035: Sample Collected LC34-IW0165-110.0-20230512 8260D
1045: CS Purging LC34-IW0162
1105: Purging Complete on IW0162
1110: Sample Collected LC34-IW0162-110.0-20230512 8260D
1130: Site Secured; CS offsite at LC34 to prep samples for delivery to Eurofins Courier

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0044D2	SAMPLE ID: **LC34-IW0044D2-110.0-2023** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **05/26/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):9.94	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 105-115

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): 115

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters. (0.005 x 125) + 0.475 = 1.1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	PURGING INITIATED AT: 0905	PURGING ENDED AT: 0929	TOTAL VOLUME PURGED (Liters): 4.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0915	2	2	200	10.07	7.26	25.8	2336	0.64	4.88	-294.2	Clear
0920	1	3	200	10.07	7.25	25.8	2386	0.58	3.49	-296.4	-
0925	1	4	200	10.07	7.25	25.8	2393	0.58	3.65	-296.5	-
0930	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0930	SAMPLING ENDED AT: 0935
PUMP OR TUBING DEPTH IN WELL (feet): 110.0	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 ml	HCl / 4C	None	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0162	SAMPLE ID: **LC34-IW0162-110.0-20230526** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **05/26/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 9.55	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 105-115

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): 115

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters. (0.005 x 125) + 0.475 = 1.1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	PURGING INITIATED AT: 0935	PURGING ENDED AT:0959	TOTAL VOLUME PURGED (Liters):4.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0945	2	2	200	9.70	7.13	25.7	2552	0.64	4.88	-283.1	Clear
0950	1	3	200	9.70	7.22	25.6	2546	0.58	3.49	-293.4	-
0955	1	4	200	9.70	7.23	25.6	2544	0.58	3.65	-295.6	-
1000	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1000	SAMPLING ENDED AT: 1005
PUMP OR TUBING DEPTH IN WELL (feet): 110.0	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon,s	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 ml	HCl / 4C	None	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0165	SAMPLE ID: **LC34-IW0165-110.0-20230526** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **05/26/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 9.44	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 105-115

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): 115

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters. (0.005 x 125) + 0.475 = 1.1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	PURGING INITIATED AT: 0835	PURGING ENDED AT: 0859	TOTAL VOLUME PURGED (Liters): 4.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0845	2	2	200	9.59	7.27	25.7	2432	0.45	16.5	-273.3	Clear
0850	1	3	200	9.59	7.27	25.7	2419	0.43	5.37	-285.5	-
0855	1	4	200	9.59	7.27	25.7	2418	0.42	4.63	-289.1	-
0900	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:0900	SAMPLING ENDED AT: 0905
PUMP OR TUBING DEPTH IN WELL (feet): 110.0	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon,S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 ml	HCl / 4C	None	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : KSC-NASA
SITE NAME: LC-34
PROJECT NO.: 112G08985

INSTRUMENT NAME/MODEL YSI ProQuatro / LaMotte 2020t
MANUFACTURER: YSI / LaMotte
SERIAL NUMBER: **YSI s# 21d101766 / LaMotte s# 1914-4019**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.)			Cond. (µS/cm)	D.O. (mg/L)	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*3.48*	*6.97*	9.91	1389	8.69	22.2	226.5	Na	0.49	9.67	***Lot # J0822B***	
5/26/2023	AK	*Post*	*4.00*	*7.00*	10.00	1413	8.71	22.2	230	Na	0	10	***Exp. Date: 09/08/24***	pH = 4
		Pre											***Lot # H16223***	
		Post											***Exp. Date: 08/16/24***	pH = 7
		Pre											***Lot # J2622A***	
		Post											***Exp. Date: 03/26/24***	pH = 10
		Pre											***Lot # CC22811***	
		Post											***Exp. Date: 06/13/23***	Conductivity = 1413 µS/cm
		Pre											***Lot # 21M100147***	
		Post											***Exp. Date: 03/12/26***	ORP = 230 mV
		Pre											***Lot # 22180094***	
		Post											***Exp. Date: 05/31/23***	NTU=0
		Pre											***Lot # 22150170***	
		Post											***Exp. Date: 05/31/23***	Ntu=10
		Pre												
		Post												
		Pre												
		Post												
		Pre												
		Post												

05/26/2023 **LC34** **112G08985**

Personnel:	Aaron Kupper	(AK)	Eng	Tt
Weather:	Sunny – 80 degrees F			
PPE:	Level D			
Objective:	Sample Layer 7 wells			

0730: Arrive on site. Performed equipment calibration and sample preparation
0835: Purge initiated at IW0165
0859: Purge complete
0900: LC34-IW0165-110.0-20230526 collected. 3 40ml VOA W/ HCL. Analysis: 8260D NASA LC34 Custom List
0905: Purge initiated at IW0044D2
0929: Purge complete
0930: LC34-IW0162-110.0-20230526 collected. 3 40ml VOA W/ HCL. Analysis: 8260D NASA LC34 Custom List
0935: Purge initiated at IW0162
1044: Purge Complete
1045: LC34-IW0162-110.0-20230331 collected. 3 40ml VOA W/ HCL. Analysis: 8260D NASA LC34 Custom List
Note: IDW transferred into HCS system for treatment.
1145: Off site

06/09/2023 **LC34 Layer 7 sampling** **112G08985**

Personnel:	Aaron Kupper	(AK)	Engineer	Tt

Weather: Cloudy, high of 86 degrees f, chance of thunderstorms
Health and Safety (HAS): Topics: PPE; IDW; Hydration, ticks
PPE: Level D
Objective: Sample 3 bi monthly layer 7 wells at LC34.

0730 – AK arrive at CHP. Calibrated equipment, performed daily prep.
0815 – departed to LC34
0855 – started purge at LC34-IW0165-110.0-20230609
0914 – purge complete
0915 – Sample collected. 3 40ml pres. VOA's. Analysis 8260D-(MOD) NASA LC34 Custom. Decon'd equipment. Placed IDW in bucket.
0925 – started purge at LC34-IW0044D2-110.0-20230609
0944 – purge complete
0945 – Sample collected. 3 40ml pres. VOA's. Analysis 8260D-(MOD) NASA LC34 Custom. Decon'd equipment. Placed IDW in bucket.
1000 – started purge at LC34-IW0162-110.0-20230609
1019 – purge complete
1020 – Sample collected. 3 40ml pres. VOA's. Analysis 8260D-(MOD) NASA LC34 Custom. Decon'd equipment. Placed IDW in bucket.
1030 – IDW was pumped into HCS system for treatment.
1035 – departed site

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0162	SAMPLE ID: **LC34-IW0162-110.0-20230609** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **06/09/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 9.47	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 105-115

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): 115

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters. (0.005 x 125) + 0.475 = 1.1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	PURGING INITIATED AT: 1000	PURGING ENDED AT: 1019	TOTAL VOLUME PURGED (Liters): 3.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1007	1.4	1.4	200	9.49	7.40	26.0	2739	0.33	6.01	-280.7	Clear
1012	1	2.4	200	9.49	7.44	26.0	2736	0.27	3.85	-285.3	-
1017	1	3.4	200	9.49	7.44	26.0	2738	0.23	3.22	-290.7	-
1020	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1020	SAMPLING ENDED AT: 1025
PUMP OR TUBING DEPTH IN WELL (feet): 110.0	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 ml	HCl / 4C	None	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**		SITE LOCATION: **Kennedy Space Center (KSC), Florida**
LOCATION ID: **IW0044D2**	SAMPLE ID: **LC34-IW0044D2-110.0-20230609** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **06/09/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 9.59	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**

WELL DIAMETER (inches): **3/4**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 0925	PURGING ENDED AT: 0944	TOTAL VOLUME PURGED (Liters): 3.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0932	1.4	1.4	200	10.12	7.51	26.3	2556	0.23	8.61	-287.4	Clear
0937	1	2.4	200	10.12	7.52	26.3	2571	0.22	4.15	-289.8	-
0942	1	3.4	200	10.12	7.51	26.3	2588	0.19	2.07	-292.0	-
0945	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0945	SAMPLING ENDED AT: 0950
PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0165**	SAMPLE ID: **LC34-IW0165-110.0-20230609** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **06/09/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 9.23	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):**105**	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 0855	PURGING ENDED AT: 0914	TOTAL VOLUME PURGED (Liters): 3.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0902	1.4	1.4	200	9.42	7.64	26.1	2610	0.17	2.19	-264.7	Clear
0907	1	2.4	200	9.42	7.63	26.1	2607	0.16	2.33	-297.5	-
0912	1	3.4	200	9.42	7.61	26.1	2606	0.15	1.87	-299.0	-
0915	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0915	SAMPLING ENDED AT: 0920
PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : KSC-NASA
SITE NAME: LC-34
PROJECT NO.: 112G08985

INSTRUMENT NAME/MODEL YSI ProQuatro / LaMotte 2020t
MANUFACTURER: YSI / LaMotte
SERIAL NUMBER: **YSI s# 21d101766 / LaMotte s# 1914-4019**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)	pH (S.U.)				Cond. (µS/cm)	D.O. (mg/L)	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*4.13*	*7.10*	9.94	1353	8.86	21	223	Na	0.09	9.87	***Lot # J0822B***	
6/9/2023	AK	*Post*	*4.00*	*7.00*	10.00	1413	8.71	21	230	Na	0	10	***Exp. Date: 09/08/24***	pH = 4
		Pre											***Lot # H16223***	
		Post											***Exp. Date: 08/16/24***	pH = 7
		Pre											***Lot # J2622A***	
		Post											***Exp. Date: 03/26/24***	pH = 10
		Pre											***Lot # CC22811***	
		Post											***Exp. Date: 06/13/23***	Conductivity = 1413 µS/cm
		Pre											***Lot # 21M100147***	
		Post											***Exp. Date: 03/12/26***	ORP = 230 mV
		Pre											***Lot # 22180094***	
		Post											***Exp. Date: 05/31/23***	NTU=0
		Pre											***Lot # 22150170***	
		Post											***Exp. Date: 05/31/23***	Ntu=10
		Pre												
		Post												
		Pre												
		Post												
		Pre												
		Post												

06/23/2023 **LC34** **112G08985**

Personnel: Chuck Sorden (CS) Geologist Tt
Weather: Sunny – 81 degrees F
PPE: Level D
Objective: Complete LC34 Bi-Monthly Sampling Event

0730: CS on base; gathering equipment and supplies; calibrating equipment (See cal sheets); daily prep
0800: CS arrives at LC34; setting up
0835: CS Purging LC34-IW0165
0855: Purging Complete on IW0165
0900: Sample Collected LC34-IW0165-110.0-20230623 8260D
0910: CS Purging LC34-IW0044D2
0930: Purging Complete on IW0044D2
0935: Sample Collected LC34-IW0044D2-110.0-20230623 8260D
0945: CS Purging LC34-IW0162
1005: Purging Complete on IW0162
1010: Sample Collected LC34-IW0162-110.0-20230512 8260D
1030: Site Secured; CS offsite at LC34 to prep samples for delivery to Eurofins Courier

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0162	SAMPLE ID: **LC34-IW0162-110.0-20230623** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **06/23/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.42	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 105-115

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): 115

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters. (0.005 x 125) + 0.475 = 1.1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	PURGING INITIATED AT: 0945	PURGING ENDED AT: 1005	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0955	2.0	2.0	200	6.08	7.45	25.44	3386.0	0.20	4.18	-301.4	Clear
1000	1.0	3.0	200	6.08	7.45	25.37	3378.5	0.14	5.11	-305.3	Clear
1005	1.0	4.0	200	6.08	7.46	25.40	378.9	0.13	4.86	-304.1	Clear
1010	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Charles Sorden / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1010	SAMPLING ENDED AT: 1015
PUMP OR TUBING DEPTH IN WELL (feet): 110.0	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 ml	HCl / 4C	None	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**		SITE LOCATION: **Kennedy Space Center (KSC), Florida**
LOCATION ID: **IW0044D2**	SAMPLE ID: **LC34-IW0044D2-110.0-20230623** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **06/23/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):4.41	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**

WELL DIAMETER (inches): **3/4**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.0

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 0910	PURGING ENDED AT: 0930	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0920	2.0	2.0	200	4.72	7.59	25.92	3194.5	0.14	14.38	-298.0	Clear
0925	1.0	3.0	200	4.72	7.58	25.91	3204.6	0.11	11.58	-297.5	Clear
0930	1.0	4.0	200	4.72	7.58	25.90	3203.6	0.10	10.31	-296.6	Clear
0935	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Charles Sorden /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0935	SAMPLING ENDED AT: 0940
PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMAR

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0165**	SAMPLE ID: **LC34-IW0165-110.0-20230623** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **06/23//2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.24	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):**105**	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.0

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 0835	PURGING ENDED AT: 0855	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0845	2.0	2.0	200	5.73	7.46	25.71	3194.2	0.18	0.67	-288.3	Clear
0850	1.0	3.0	200	5.73	7.46	25.69	3192.1	0.15	0.73	-291.4	Clear
0855	1.0	4.02	200	5.73	7.46	25.62	3190.6	0.13	2.15	-295.4	Clear
0900	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Charles Sorden /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0900	SAMPLING ENDED AT: 0905
PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : NASA-KSC-LC34
SITE NAME: Launch Complex 34
PROJECT NO.: 112G08985

INSTRUMENT NAME/MODEL Pro Quatro / 2020t
MANUFACTURER: YSI / LaMotte
SERIAL NUMBER: **YSI #21D101766 / LaMotte # 1914-4019**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.)			Cond. (µS/cm)	D.O. (mg/L)	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*4.04*	*6.97*	10.03	1424	8.36	24.4	231	Na	0	9.98	***Lot # C0923A***	
6/23/2023	CS	*Post*	*x*	*x*	x	x	x	x	x	Na	x	x	***Exp. Date: 03/09/25***	pH = 4
		Pre								Na			***Lot # C0623D***	
		Post								Na			***Exp. Date: 03/06/25***	pH = 7
		Pre								Na			***Lot # B2123A***	
		Post								Na			***Exp. Date: 08/21/24***	pH = 10
		Pre								Na			***Lot # 8199***	
		Post								Na			***Exp. Date: 10/01/27***	Conductivity = 1413 µS/cm
		Pre								Na			***Lot # 21K100461***	
		Post								Na			***Exp. Date: 11/24***	ORP = 238 mV
		Pre								Na			***Lot # 5210000***	
		Post								Na			***Exp. Date: 05/25***	NTU=0
		Pre								Na			***Lot # 2215089***	
		Post								Na			***Exp. Date: 05/25***	NTU=10
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				

7/Jul/2023 **LC34** **112G08985**

Personnel: Dan Forester
Weather: Sunny
PPE: Level D
Objective: Complete LC34 Bi-Monthly Sampling Event

0545: DF arrives on base, gathers equipment and supplies, calibrates equipment and daily prep

0640: starts purge of LC34-IW0162

0700: Sample LC34-IW0162-110.0 collected for VOC analysis via method 8260D-(MOD) LC34 Custom list.

0710: starts purge of LC34-IW0042D2

0730: Sample LC34-IW0044D2-110.0 collected VOC analysis via method 8260D-(MOD) LC34 Custom list.

0745: starts purge of LC34-IW0165

0800: Sample LC34-IW0165-110.0 collected for VOC analysis via method 8260D-(MOD) LC34 Custom list.

0800: IDW dropped off

14:00 samples transferred to Courier.

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0162	SAMPLE ID: **LC34-IW0162-110.0-20230707** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/07/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.34	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 105-115

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): 115

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters. (0.005 x 125) + 0.475 = 1.1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	PURGING INITIATED AT: 0630	PURGING ENDED AT: 0655	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0640	2.0	2.0	200	6.00	7.41	25.23	3686.1	0.20	7.32	-303.0	Clear
0650	1.0	3.0	200	6.01	7.43	25.30	3629.5	0.18	6.99	-308.8	Clear
0655	1.0	4.0	200	6.01	7.41	25.29	3658.6	0.18	6.86	-304.1	Clear
0700	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dan Forester / Tetra Tech	SAMPLER(S) SIGNATURES: *Dan forester*	SAMPLING INITIATED AT: 0655	SAMPLING ENDED AT: 0700
PUMP OR TUBING DEPTH IN WELL (feet): 110.0	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 ml	HCl / 4C	None	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0044D2**	SAMPLE ID: **LC34-IW0044D2-110.0-20230707** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/07/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):4.52	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**

WELL DIAMETER (inches): **3/4**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.0

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 0700	PURGING ENDED AT: 0725	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0710	2.0	2.0	200	4.92	7.64	26.1	3396.8	0.14	10.8	-279.0	Clear
0720	1.0	3.0	200	4.91	7.64	26.1	3314.9	0.14	12.6	-281.4	Clear
0725	1.0	4.0	200	4.91	7.64	26.0	3333.3	0.13	12.0	-286.5	Clear
0730	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dan Forester /Tetra Tech	SAMPLER(S) SIGNATURES: *Dan Forester*	SAMPLING INITIATED AT: 0725	SAMPLING ENDED AT: 0730
PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMAR

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0165**	SAMPLE ID: **LC34-IW0165-110.0-20230707** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/07/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.41	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):**105**	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.0

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 0730	PURGING ENDED AT: 0755	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0745	2.0	2.0	200	5.95	7.45	26.1	3048.2	0.18	5.78	-300.0	Clear
0750	1.0	3.0	200	5.90	7.45	26.0	3099.9	0.18	6.58	-299.2	Clear
0755	1.0	4.02	200	5.90	7.45	26.0	3170.0	0.16	5.95	-291.7	Clear
0800	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Dan Forester /Tetra Tech	SAMPLER(S) SIGNATURES: *Dan Forester*	SAMPLING INITIATED AT: 0755	SAMPLING ENDED AT: 0800
PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : NASA-KSC-LC34
SITE NAME: Launch Complex 34
PROJECT NO.: 112G08985

INSTRUMENT NAME/MODEL Pro Quatro / 2020t
MANUFACTURER: YSI / LaMotte
SERIAL NUMBER: **YSI #21D101766 / LaMotte # 1914-4019**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.)			Cond. (µS/cm)	D.O. (mg/L)	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*3.98*	*7.04*	9.96	1417	8.69	23.3	231	Na	0	9.99	***Lot # C0923A***	
7/7/2023	DF	*Post*	*x*	*x*	x	x	x	x	x	Na	x	x	***Exp. Date: 03/09/25***	pH = 4
		Pre								Na			***Lot # C0623D***	
		Post								Na			***Exp. Date: 03/06/25***	pH = 7
		Pre								Na			***Lot # B2123A***	
		Post								Na			***Exp. Date: 08/21/24***	pH = 10
		Pre								Na			***Lot # 8199***	
		Post								Na			***Exp. Date: 10/01/27***	Conductivity = 1413 µS/cm
		Pre								Na			***Lot # 21K100461***	
		Post								Na			***Exp. Date: 11/24***	ORP = 238 mV
		Pre								Na			***Lot # 5210000***	
		Post								Na			***Exp. Date: 05/25***	NTU=0
		Pre								Na			***Lot # 2215089***	
		Post								Na			***Exp. Date: 05/25***	NTU=10
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				

07/21/2023 **LC34** **112G08985**

Personnel: Chuck Sorden (CS) Geologist Tt
Weather: Sunny – 81 degrees F
PPE: Level D
Objective: Complete LC34 Bi-Monthly Sampling Event

0730: CS on base; gathering equipment and supplies; calibrating equipment (See cal sheets); daily prep
0915: CS arrives at LC34; setting up
0955: CS Purging LC34-IW0165
1025: Purging Complete on IW0165
1030: Sample Collected LC34-IW0165-110.0-20230721 8260D
1040: CS Purging LC34-IW0044D2
1100: Purging Complete on IW0044D2
1105: Sample Collected LC34-IW0044D2-110.0-20230721 8260D
1110: CS Purging LC34-IW0162
1130: Purging Complete on IW0162
1135: Sample Collected LC34-IW0162-110.0-20230721 8260D
1200: Site Secured; CS offsite at LC34 to prep samples for delivery to Eurofins Courier

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0162	SAMPLE ID: **LC34-IW0162-110.0-20230721** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/21/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 9.00	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 105-115

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): 115

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters. (0.005 x 125) + 0.475 = 1.1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	PURGING INITIATED AT: 1110	PURGING ENDED AT: 1130	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1120	2.0	2.0	200	9.10	7.39	27.1	2659	0.14	2.34	-317.7	Clear
1125	1.0	3.0	200	9.10	7.38	27.1	2661	0.13	2.18	-322.1	Clear
1130	1.0	4.0	200	9.10	7.45	27.1	2667	0.13	2.02	-321.1	Clear
1135	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Charles Sorden / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1135	SAMPLING ENDED AT: 1140
PUMP OR TUBING DEPTH IN WELL (feet): 110.0	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type:	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 ml	HCl / 4C	None	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**		SITE LOCATION: **Kennedy Space Center (KSC), Florida**
LOCATION ID: **IW0044D2**	SAMPLE ID: **LC34-IW0044D2-110.0-20230721** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/21/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 9.38	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**

WELL DIAMETER (inches): **3/4**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.0

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 1040	PURGING ENDED AT: 1100	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1050	2.0	2.0	200	9.46	7.44	26.9	2476	0.16	6.19	-307.7	Clear
1055	1.0	3.0	200	9.46	7.42	27.0	2498	0.15	4.88	-313.5	Clear
1100	1.0	4.0	200	9.46	7.42	27.1	2497	0.14	4.23	-315.4	Clear
1105	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Charles Sorden /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1105	SAMPLING ENDED AT: 1110

PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMAR

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**		SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0165**	SAMPLE ID: **LC34-IW0165-110.0-20230721** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)		DATE: **07/21/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 8.92	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA		WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**
WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):**105**	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.0

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 0955	PURGING ENDED AT: 1025	TOTAL VOLUME PURGED (Liters): 6.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1005	2.0	2.0	200	9.09	7.30	27.3	2507	0.97	4.66	-279.1	Clear
1010	1.0	3.0	200	9.09	7.30	27.3	2507	0.79	4.04	-286.2	Clear
1015	1.0	4.0	200	9.09	7.32	27.3	2509	0.22	3.73	-295.4	Clear
1020	1.0	5.0	200	9.09	7.33	27.3	2510	0.20	4.04	-298.6	Clear
1025	1.0	6.0	200	9.09	7.38	27.2	2509	0.19	3.58	-300.5	Clear
1030	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Charles Sorden /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1030	SAMPLING ENDED AT: 1035
PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : NASA-KSC-LC34
SITE NAME: Launch Complex 34
PROJECT NO.: 112G08985

INSTRUMENT NAME/MODEL Pro Quatro / 2020t
MANUFACTURER: YSI / LaMotte
SERIAL NUMBER: **YSI #21D101766 / LaMotte # 1914-4019**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.)			Cond. (µS/cm)	D.O. (mg/L)	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*3.96*	*7.01*	9.96	1417	8.49	23.5	237	Na	0	9.96	***Lot # C0923A***	
7/21/2024	CS	*Post*	*x*	*x*	x	x	x	x	x	Na	x	x	***Exp. Date: 03/09/25***	pH = 4
		Pre								Na			***Lot # C0623D***	
		Post								Na			***Exp. Date: 03/06/25***	pH = 7
		Pre								Na			***Lot # B2123A***	
		Post								Na			***Exp. Date: 08/21/24***	pH = 10
		Pre								Na			***Lot # 8199***	
		Post								Na			***Exp. Date: 10/01/27***	Conductivity = 1413 µS/cm
		Pre								Na			***Lot # 21K100461***	
		Post								Na			***Exp. Date: 11/24***	ORP = 238 mV
		Pre								Na			***Lot # 5210000***	
		Post								Na			***Exp. Date: 05/25***	NTU=0
		Pre								Na			***Lot # 2215089***	
		Post								Na			***Exp. Date: 05/25***	NTU=10
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				

08/04/2023 **LC34** **112G08985**

Personnel: Chuck Sorden (CS) Geologist Tt
Weather: Sunny – 81 degrees F
PPE: Level D
Objective: Complete LC34 Bi-Monthly Sampling Event

0730: CS on base; gathering equipment and supplies; calibrating equipment (See cal sheets); daily prep
0915: CS arrives at LC34; setting up
0925: CS Purging LC34-IW0165
0945: Purging Complete on IW0165
0950: Sample Collected LC34-IW0165-110.0-20230721 8260D
1000: CS Purging LC34-IW0044D2
1020: Purging Complete on IW0044D2
1025: Sample Collected LC34-IW0044D2-110.0-20230721 8260D
1035: CS Purging LC34-IW0162
1055: Purging Complete on IW0162
1100: Sample Collected LC34-IW0162-110.0-20230721 8260D
1130: Site Secured; CS offsite at LC34 to prep samples for delivery to Eurofins Courier

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0162	SAMPLE ID: **LC34-IW0162-110.0-20230804** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **08/04/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 8.55	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 105-115

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): 115

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters. (0.005 x 125) + 0.475 = 1.1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	PURGING INITIATED AT: 1035	PURGING ENDED AT: 1055	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1045	2.0	2.0	200	8.70	7.20	26.9	2662	0.43	5.30	-263.1	Clear
1050	1.0	3.0	200	8.70	7.20	27.1	2678	0.42	4.89	-265.6	Clear
1055	1.0	4.0	200	8.70	7.19	27.1	2680	0.46	4.51	-264.77	Clear
1100	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Charles Sorden / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1100	SAMPLING ENDED AT: 1105
PUMP OR TUBING DEPTH IN WELL (feet): 110.0	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(**Y**)** N	FIELD-FILTERED: Y **(**N**)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(**N**)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 ml	HCl / 4C	None	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0044D2**	SAMPLE ID: **LC34-IW0044D2-110.0-202308045** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **08/04/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 8.97	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**

WELL DIAMETER (inches): **3/4**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.0

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 1000	PURGING ENDED AT: 1020	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1010	2.0	2.0	200	9.26	7.22	27.4	2481	0.50	2.15	-259.9	Clear
1015	1.0	3.0	200	9.26	7.23	27.3	2504	0.47	2.77	-263.8	Clear
1020	1.0	4.0	200	9.26	7.24	27.5	2523	0.45	4.14	-269.2	Clear
1025	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Charles Sorden /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1025	SAMPLING ENDED AT: 1040
PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMAR

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**		SITE LOCATION: **Kennedy Space Center (KSC), Florida**
LOCATION ID: **IW0165**	SAMPLE ID: **LC34-IW0165-110.0-20230804** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **08/04/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 8.45	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):**105**	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.0

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 0925	PURGING ENDED AT: 0945	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0935	2.0	2.0	200	8.58	7.17	27.1	2510	0.58	4.33	-264.2	Clear
0940	1.0	3.0	200	8.58	7.17	27.3	2518	0.57	3.89	-264.8	Clear
0945	1.0	4.0	200	8.58	7.17	27.3	2525	0.57	3.36	-272.1	Clear
0950	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Charles Sorden/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0950	SAMPLING ENDED AT: 0955

PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : NASA-KSC-LC34
SITE NAME: Launch Complex 34
PROJECT NO.: 112G08985

INSTRUMENT NAME/MODEL Pro Quatro / 2020t
MANUFACTURER: YSI / LaMotte
SERIAL NUMBER: **YSI #21D101766 / LaMotte # 1914-4019**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.)			Cond. (µS/cm)	D.O. (mg/L)	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*4.02*	*7.01*	10.03	1415	8.39	24.1	234	Na	0	9.98	***Lot # C0923A***	
8/4/2023	CS	*Post*	*x*	*x*	x	x	x	x	x	Na	x	x	***Exp. Date: 03/09/25***	pH = 4
		Pre								Na			***Lot # C0623D***	
		Post								Na			***Exp. Date: 03/06/25***	pH = 7
		Pre								Na			***Lot # B2123A***	
		Post								Na			***Exp. Date: 08/21/24***	pH = 10
		Pre								Na			***Lot # 8199***	
		Post								Na			***Exp. Date: 10/01/27***	Conductivity = 1413 µS/cm
		Pre								Na			***Lot # 21K100461***	
		Post								Na			***Exp. Date: 11/24***	ORP = 238 mV
		Pre								Na			***Lot # 5210000***	
		Post								Na			***Exp. Date: 05/25***	NTU=0
		Pre								Na			***Lot # 2215089***	
		Post								Na			***Exp. Date: 05/25***	NTU=10
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				

08/18/2023 **LC34** **112G08985**

Personnel: Chuck Sorden (CS) Geologist Tt
Weather: Sunny – 81 degrees F
PPE: Level D
Objective: Complete LC34 Bi-Monthly Sampling Event

0730: CS on base; gathering equipment and supplies; calibrating equipment (See cal sheets); daily prep
0845: CS arrives at LC34; setting up
0910: CS Purging LC34-IW0165
0930: Purging Complete on IW0165
0935: Sample Collected LC34-IW0165-110.0-20230721 8260D
0945: CS Purging LC34-IW0044D2
1005: Purging Complete on IW0044D2
1010: Sample Collected LC34-IW0044D2-110.0-20230721 8260D
1020: CS Purging LC34-IW0162
1040: Purging Complete on IW0162
1045: Sample Collected LC34-IW0162-110.0-20230721 8260D
1130: Site Secured; CS offsite at LC34 to prep samples for delivery to Eurofins Courier

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0162	SAMPLE ID: **LC34-IW0162-110.0-20230818** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **08/18/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 8.94	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 105-115	
WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): 115

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters. (0.005 x 125) + 0.475 = 1.1

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110.0	PURGING INITIATED AT: 1020	PURGING ENDED AT: 1040	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1030	2.0	2.0	200	9.05	7.51	27.16	3747.9	0.15	5.19	-307.1	Clear
1035	1.0	3.0	200	9.05	7.50	27.23	3763.2	0.14	8.61	-307.9	Clear
1040	1.0	4.0	200	9.05	7.50	27.24	3752.6	0.14	9.90	-309.4	Clear
1045	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Charles Sorden / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1045	SAMPLING ENDED AT: 1050
PUMP OR TUBING DEPTH IN WELL (feet): 110.0	SAMPLE PUMP: FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(**Y**)** N	FIELD-FILTERED: Y **(**N**)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(**N**)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 ml	HCl / 4C	None	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0044D2**	SAMPLE ID: **LC34-IW0044D2-110.0-20230818** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **08/18/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 9.34	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**

WELL DIAMETER (inches): **3/4**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 105	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.0

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 0945	PURGING ENDED AT: 1005	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0955	2.0	2.0	200	9.65	7.56	27.09	3484.8	0.14	6.71	-304.7	Clear
1000	1.0	3.0	200	9.65	7.56	27.09	3486.9	0.12	7.26	-308.5	Clear
1005	1.0	4.0	200	9.65	7.56	27.12	3491.1	0.18	6.08	-306.4	Clear
1010	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Charles Sorden /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1010	SAMPLING ENDED AT: 1015

PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMAR

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0165**	SAMPLE ID: **LC34-IW0165-110.0-20230818** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **08/18/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 8.83	CASING HEIGHT (feet als): **-0.22**	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **105 to 115**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls):**105**	BOTTOM DEPTH (feet bls): **115**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

1.1 Liters (0.005 x 125) + 0.475 = 1.0

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 110	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 110	PURGING INITIATED AT: 0910	PURGING ENDED AT: 0930	TOTAL VOLUME PURGED (Liters): 4.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0920	2.0	2.0	200	9.00	7.51	26.63	3411.1	0.14	2.84	-287.5	Clear
0925	1.0	3.0	200	9.00	7.52	26.67	3391.0	0.26	1.37	-275.8	Clear
0930	1.0	4.0	200	9.00	7.51	26.72	3306.3	0.23	1.75	-288.9	Clear
0935	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Charles Sorden /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0935	SAMPLING ENDED AT: 0940
PUMP OR TUBING DEPTH IN WELL (feet): 110	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: T	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	HCl/4°C	N/A	<2	8260D NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Calibration Report

Instrument	Aqua TROLL 600 Vented
Serial Number	840822
Created	8/18/2023

[redacted]

Serial Number	1014112
Last Calibrated	8/18/2023

Calibration Details

TDS Conversion Factor (ppm)	0.65
Cell Constant	1.186
Reference Temperature	25.00 °C

Pre Measurement

Actual Conductivity	1,349.4 µS/cm
Specific Conductivity	1,412.7 µS/cm

Post Measurement

Actual Conductivity	1,349.7 µS/cm
Specific Conductivity	1,413.0 µS/cm

[redacted]

Serial Number	839497
Last Calibrated	8/18/2023

Calibration Details

Slope	1.072947
Offset	0.00 mg/L

Calibration point 100%

Concentration	8.03 mg/L
Pre Measurement	101.18 %Sat
Post Measurement	100.00 %Sat
Temperature	22.93 °C
Barometric Pressure	1,015.9 mbar

[redacted]

Serial Number	982670
Last Calibrated	8/18/2023

Calibration Details

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	167.7 mV
Temperature	24.69 °C

Pre Measurement

pH	4.01 pH
pH mV	167.8 mV

Post Measurement

pH	4.00 pH
pH mV	167.5 mV

Calibration Point 2

pH of Buffer	7.00 pH
pH mV	-5.3 mV
Temperature	24.27 °C

Pre Measurement

pH	7.04 pH
pH mV	-5.3 mV

Post Measurement

pH	7.00 pH
pH mV	-5.3 mV

Calibration Point 3

pH of Buffer	10.00 pH
pH mV	-177.2 mV
Temperature	24.82 °C

Pre Measurement

pH	10.02 pH
pH mV	-177.3 mV

Post Measurement

pH	10.00 pH
pH mV	-177.1 mV

Slope and Offset 1

Slope	-57.68 mV/pH
Offset	-5.3 mV

Slope and Offset 2

Slope	-57.29 mV/pH
Offset	-5.3 mV

ORP

ORP

ORP Solution	ORP Standard
Offset	-1.0 mV
Temperature	23.70 °C
Pre Measurement	222.9 mV
Post Measurement	223.0 mV

[redacted]

Serial Number	1011684
Last Calibrated	8/18/2023

Calibration Details

Slope	1
Offset	-0.62 NTU

Calibration Point 1

Pre Measurement	0.85 NTU
Post Measurement	0.00 NTU

[redacted]

Serial Number	840822
Last Calibrated	Factory Defaults

[redacted]

Serial Number	825947
Last Calibrated	Factory Defaults

09/01/2023 **LC34** **112G08985**

Personnel: Chuck Sorden (CS) Geologist Tt
Weather: Sunny – 81 degrees F
PPE: Level D
Objective: Complete LC34 Bi-Monthly Sampling Event

0800: CS on base; gathering equipment and supplies; calibrating equipment (See cal sheets); daily prep
0915: CS arrives at LC34; setting up
0950: CS Purging LC34-IW0165
1010: Purging Complete on IW0165
1015: Sample Collected LC34-IW0165-110.0-20230901 8260D
1025: CS Purging LC34-IW0044D2
1045: Purging Complete on IW0044D2
1050: Sample Collected LC34-IW0044D2-110.0-20230901 8260D
1100: CS Purging LC34-IW0162
1120: Purging Complete on IW0162
1125: Sample Collected LC34-IW0162-110.0-20230901 8260D
1145: Site Secured; CS offsite at LC34 to prep samples for delivery to Eurofins Courier

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0162	Sample ID:	LC34-IW0162-110.0-20230901	Date:	9/1/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.21	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.21	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

15.8685 Liters 105 - 9.21 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At: 11:00	Purging Ended At: 11:20	Total Vol. Purged (Liters):	4

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:10	2	2	200	9.30	7.50	27.2	3719	0.31	5.34	-289.9	Clear
11:15	1	3	200	9.30	7.51	27.1	3712	0.26	9.44	-300.2	Clear
11:20	1	4	200	9.30	7.51	27.1	3690	0.23	10.19	-301.3	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 11:25	Sampling Ended At: 11:30
Chuck Sorden	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: Y N	Field Decontamination: Y N
Field Filtered: Y N		Filter Size (µm):		Filtration Equipment Type:	

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0165	Sample ID:	LC34-IW0165-110.0-20230901	Date:	9/1/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.14	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.14	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

15.879 Liters 105 - 9.14 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	9:50	Purging Ended At:	10:10	Total Vol. Purged (Liters):	4		
Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:00	2	2	200	9.27	7.51	26.9	3533	0.30	1.17	-265.4	Clear
10:05	1	3	200	9.27	7.54	26.8	3494	0.34	0.15	-273.4	Clear
10:10	1	4	200	9.27	7.53	26.8	3476	0.22	0.33	-277.5	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 10:15	Sampling Ended At: 10:20
Chuck Sorden	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: Y N	Field Decontamination: Y N
Field Filtered: Y N		Filter Size (µm):		Filtration Equipment Type:	

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0044D2	Sample ID:	LC34-IW0044D2-110.0-20230901	Date:	9/1/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.62	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.62
Well Screen Interval Depth (ft bls):	105 to 115				
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP
Top Depth:	105	Bottom Depth:	115		

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.00888 Liters 105 - 9.62 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	10:25	Purging Ended At:	10:45	Total Vol. Purged (Liters):	4

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:35	2	2	200	10.00	7.76	27.3	3433	0.26	2.45	-261.9	Clear
10:40	1	3	200	10.00	7.57	27.1	3433	0.21	1.93	-288.5	Clear
10:45	1	4	200	10.00	7.56	27.1	3456	0.18	0.48	-299.7	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 10:50	Sampling Ended At: 10:55
Chuck Sorden	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):		Duplicate: Y N	Field Decontamination: Y N
Field Filtered: Y N		Filter Size (µm):		Filtration Equipment Type:	

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : NASA-KSC-LC34
SITE NAME: Launch Complex 34
PROJECT NO.: 112G08985

INSTRUMENT NAME/MODEL Pro Quatro / 2020t
MANUFACTURER: YSI / LaMotte
SERIAL NUMBER: **YSI #21D101766 / LaMotte # 1914-4019**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.)			Cond. (µS/cm)	D.O. (mg/L)	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*4.02*	*7.01*	10.03	1415	8.39	24.1	234	Na	0	9.98	***Lot # C0923A***	
9/1/2023	CS	*Post*	*x*	*x*	x	x	x	x	x	Na	x	x	***Exp. Date: 03/09/25***	pH = 4
		Pre								Na			***Lot # C0623D***	
		Post								Na			***Exp. Date: 03/06/25***	pH = 7
		Pre								Na			***Lot # B2123A***	
		Post								Na			***Exp. Date: 08/21/24***	pH = 10
		Pre								Na			***Lot # 8199***	
		Post								Na			***Exp. Date: 10/01/27***	Conductivity = 1413 µS/cm
		Pre								Na			***Lot # 21K100461***	
		Post								Na			***Exp. Date: 11/24***	ORP = 238 mV
		Pre								Na			***Lot # 5210000***	
		Post								Na			***Exp. Date: 05/25***	NTU=0
		Pre								Na			***Lot # 2215089***	
		Post								Na			***Exp. Date: 05/25***	NTU=10
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				

09/15/2023 LC34 112G08985

Personnel: Natalie Fabbri (NF) Env. Scientist Tt
Weather: Sunny and 80°F
PPE: Level D
Objective: Complete LC34 GW monitoring event
0900 arrived at CHP. Calibrated and gathered equipment.
1000 arrived at LC34. Gathered cooler, bottle wear, and items for sampling.
1030 begin purging IW0162.
1046 Sample Collected LC34-IW0162-110.0-20230915 8260D MOD LC34 Custom
1114 Begin Purging IW00442D
1130 Sample Collected LC34-IW00442D-110.0-20230915 8260D MOD LC34 Custom
1145 Begin Purging IW0165
1202 Sample Collected LC34-IW0165-110.0-20230915 8260D MOD LC4 Custom
1237 LC34 Site secured. Heading to CHP to drop off equipment.
1317 CHP site secured; NF offsite.

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0162	Sample ID:	LC34-IW0162-110.0-20230915	Date:	9/15/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	5.41	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	5.41	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

16.4385 Liters 105 - 5.41 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	10:30	Purging Ended At: 10:45	Total Vol. Purged (Liters): 3.75

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:35	1.25	1.25	250	5.64	7.32	27.5	2111	0.13	3.29	-258.0	Colorless
10:40	1.25	2.5	250	5.64	7.36	27.5	2128	0.09	2.89	-263.0	Colorless
10:45	1.25	3.75	250	5.64	7.38	27.4	2142	0.10	2.6	-268.6	Colorless

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 10:46	Sampling Ended At: 10:50
Natalie Fabbri	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	100	Duplicate: Y N	Field Decontamination: Y N
Field Filtered: Y N		Filter Size (µm):		Filtration Equipment Type:	

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0165	Sample ID:	LC34-IW0165-110.0-20230915	Date:	9/15/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.67	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.67	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

15.7995 Liters 105 - 9.67 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	11:45	Purging Ended At: 12:00	Total Vol. Purged (Liters): 3.75

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:50	1.25	1.25	250	9.70	7.58	29.1	2382	0.29	17.1	-251.8	Colorless
11:55	1.25	2.5	250	9.70	7.55	29.3	2373	0.33	11.43	-253.0	Colorless
12:00	1.25	3.75	250	9.70	7.54	29.2	2374	0.31	5.63	-250.9	Colorless

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 12:02	Sampling Ended At: 12:05
Natalie Fabbri	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):		Duplicate: Y (N)	Field Decontamination: Y (N)
Field Filtered: Y N		Filter Size (µm):		Filtration Equipment Type:	

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0044D2	Sample ID:	LC34-IW0044D2-110.0-20230915	Date:	9/15/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	6.71	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	6.71	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.23004 Liters 105 - 6.71 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	11:14	Purging Ended At:	11:28	Total Vol. Purged (Liters):	3.5		
Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:19	1.25	1.25	250	6.96	7.22	30.1	2193	0.24	17.9	-232.6	Colorless
11:24	1.25	2.5	250	6.96	7.29	30.0	2258	0.21	15.9	-244.4	Colorless
11:28	1	3.5	250	6.96	7.31	30.0	2253	0.23	11.1	-248.8	Colorless

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signature:		Sampling Initiated At: 11:30	Sampling Ended At: 11:35
Natalie Fabbri	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	100	Duplicate: Y N	Field Decontamination: Y N
Field Filtered: Y N		Filter Size (µm):		Filtration Equipment Type:	

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : NASA - KSC
SITE NAME: LC34
PROJECT NO.: 112G08985

INSTRUMENT 1 : YSI-03 SN# Head-21D101770/Cable-PQ01
INSTRUMENT 2: Lamotte-01 SN# 1513-2219
Other/Rental:

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.) 7	4	10	Cond. (µS/cm)	D.O. (%)	mg/L	Temp. °C	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (20) (NTUs)	Calibration Standard Type	Calibration Standard Value	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*6.88*	*4.10*	9.95	1410	99.4		23.3	220	NA	1.2	9.67	pH	4	*Lot # C0923A*	
09/15/2023	NF	*Post*														*Exp. Date 03/09/2025*	
		Pre												pH	7	*Lot # C0623D*	
		Post														*Exp. Date 03/06/2025*	
		Pre												pH	10	*Lot # B2123A*	
		Post														*Exp. Date 08/21/2024*	
		Pre												Cond. (µS/cm)	1413	*Lot # 8554*	
		Post														*Exp. Date 01/01/2028*	
		Pre												ORP mV	223	*Lot # 22C100504*	
		Post														*Exp. Date 03/24/2027*	
		Pre												Turbidity	0	*Lot # 61D*	
		Post														*Exp. Date 05/25/2024*	
		Pre												Turbidity	20	*Lot # 5210000*	
		Post														*Exp. Date 05/25/2024*	
		Pre															
		Post															
		Pre															
		Post															
		Pre															
		Post															

Additional Comments:	

FDEP Acceptance criteria: DO +/- 0.3 mg/L, SPC +/- 5% , ORP +/- 10mV, pH +/- 0.2 SU, NTU (0.1-10) +/- 10%, (11-40) +/- 8%, (41-100) +/- 6.5%, (>100) +/- 5%

Site Location:112G08985 LC34 – 112G08985 **Project Name:** bi-monthly sampling

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Date: 9/29/23 **Weather:** hot, sunny

Personnel: Natalie Volk Engineer

Health and Safety: heat stress, biting insects

PPE: Choose an item. **Objective:** bi-monthly sampling

Equipment: Choose an item. Choose an item. Choose an item. Choose an item.

Field Notes:

0900 on site, gather equipment and perform calibration verification

1016 Begin purge at LC34-IW0165

1032 Sample LC34-IW0165-110.0-20230929 8260 MOD LC34 custom

1105 Begin purge LC34-IW0044D2-20230929

1121 sample LC34-IW0044D2-110.0-20230929 8260 MOD LC34 custom

1140 begin purge LC34-IW0162

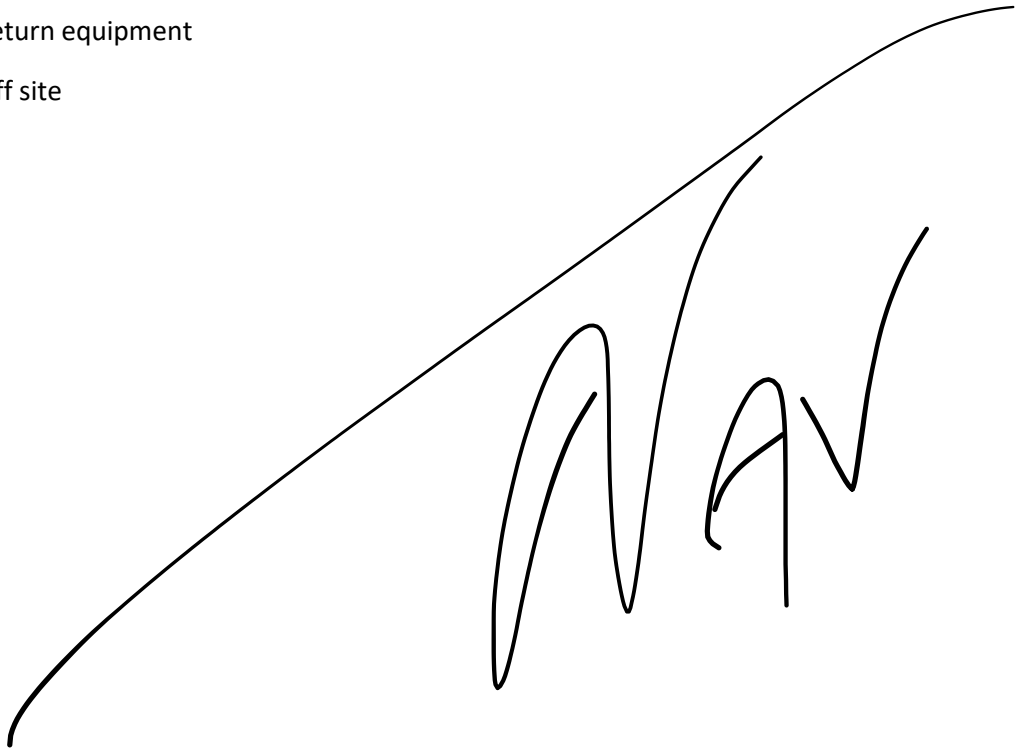
1156 Sample LC34-IW00162-110.0-20230929 8260 MOD LC34 custom

1230 relinquish samples to Chuck Sorden

1240 Return IDW purge water to system

1300 return equipment

1315 off site



Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0162	Sample ID:	LC34-IW0162-110.0-20230929	Date:	9/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	8.05	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	8.05	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

16.0425 Liters 105 - 8.05 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	11:40	Purging Ended At:	11:54	Total Vol. Purged (Liters):	3.8		

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:50	3	3	300	8.15	7.43	27.1	2208	0.20	3.59	-237.6	None
11:52	0.4	3.4	200	8.25	7.43	27.2	2220	0.19	3.46	-238.9	None
11:54	0.4	3.8	200	8.31	7.43	27.2	2240	0.19	3.36	-237.2	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 11:56	Sampling Ended At: 12:01
Natalie Volk	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: Y (N)	Field Decontamination: (Y) N
Field Filtered: Y (N)		Filter Size (µm):	NA	Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0165	Sample ID:	LC34-IW0165-110.0-20230929	Date:	9/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	8.02	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	8.02	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

16.047 Liters 105 - 8.02 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	10:16	Purging Ended At:	10:30	Total Vol. Purged (Liters):	4.2		
Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:26	3	3	300	8.05	7.36	28.4	2296	0.14	2.29	-226.6	None
10:28	0.6	3.6	300	8.05	7.38	28.2	2310	0.13	2.12	-231.1	None
10:30	0.6	4.2	300	8.05	7.40	28.2	2328	0.12	1.87	-232.6	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 10:32	Sampling Ended At: 10:37
Natalie Volk	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	300	Duplicate: Y (N)	Field Decontamination: (Y) N
Field Filtered: Y (N)		Filter Size (µm):	NA	Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0044D2	Sample ID:	LC34-IW0044D2-110.0-20230929	Date:	9/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	4.05	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	4.05	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.4322 Liters 105 - 4.05 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	11:05	Purging Ended At: 11:19	Total Vol. Purged (Liters): 4

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:15	3	3	300	5.52	7.38	28.5	2067	0.27	5.66	-228.7	None
11:17	0.6	3.6	300	5.65	7.41	28.3	2082	0.25	4.02	-229.0	None
11:19	0.4	4	200	5.70	7.43	28.3	2085	0.24	3.91	-229.6	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 11:21	Sampling Ended At: 11:26
Natalie Volk	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: Y (N)	Field Decontamination: (Y) N
Field Filtered: Y (N)		Filter Size (µm):	NA	Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : Launch Complex 34
SITE NAME: LC34
PROJECT NO.: 112G08985

INSTRUMENT 1 : MiniRAE MiniRAE 3000 SN# 592-916169
INSTRUMENT 2: Lamotte 2020t SN# 1513-2219
Other/Rental:

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.) 7	pH (S.U.) 4	pH (S.U.) 10	Cond. (µS/cm)	D.O. (%)	D.O. mg/L	Temp. °C	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Type	Calibration Standard Value	Calibration Standard Lot # / Expiration Date	Remarks
09/29/2023	NAV	*Pre*	*7.04*	*4.15*	10.05	1380	101.2	8.6	24	225.9	NA	0.9	9.47	pH	4	*Lot # C0923A*	3 point calibration performed
		Post														*Exp. Date 03/09/2025*	
		Pre												pH	7	*Lot # C0623D*	
		Post														*Exp. Date 03/06/2025*	
		Pre												pH	10	*Lot # B2123A*	
		Post														*Exp. Date 08/21/2024*	
		Pre												Cond. (µS/cm)	1413	*Lot # 8199*	
		Post														*Exp. Date 10/01/2027*	
		Pre												ORP mV	223	*Lot # 21K100461*	
		Post														*Exp. Date*	
		Pre												Turbidity	0	*Lot #*	
		Post														*Exp. Date*	
		Pre												Turbidity	10	*Lot #*	
		Post														*Exp. Date*	
		Pre															
		Post															
		Pre															
		Post															
		Pre															
		Post															

Additional Comments:	

FDEP Acceptance criteria: DO +/- 0.3 mg/L, SPC +/- 5% , ORP +/- 10mV, pH +/- 0.2 SU, NTU (0.1-10) +/- 10%, (11-40) +/- 8%, (41-100) +/- 6.5%, (>100) +/- 5%

Site Location:112g08985 LC34 – 112G08985 **Project Name:** bi-monthly sampling

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Date: 10/13/2023 **Weather:** hot, sunny

Personnel: Cory O'Brien

Health and Safety: Insects, Slips trips, and Falls

PPE: Level D **Objective:** bi-monthly sampling

Equipment: YSI Pro Quatro Lamotte 2020 **Geopump II**

Field Notes:

0750 on-site, gather equipment and perform calibration verification

0830 start purge on LC34-IWO165

0845 Sample LC34-IWO0165-110.0-20231013 collected. Analysis 8260D (MOD) NASA LC34 Custom List

0900 Start purge on LC34-IWO162

0910 Sample LC34-IWO0162-110.0-20231013 collected. Analysis 8260D (MOD) NASA LC34 Custom List

0938 Start purge on LC34-IWO161

0950 Sample LC34-IWO0161-110.0-20231013 collected. Analysis 8260D (MOD) NASA LC34 Custom List

1010 Start purge on LC34-IWOO44D2

1022 Sample LC34-IWOO44D2-110.0-20231013 collected. Analysis 8260D (MOD) NASA LC34 Custom List

1050 Start purge on LC34-IWOOO1D2

1105 Sample LC34-IWOOO1D2-110.0-20231013 collected. Analysis 8260D (MOD) NASA LC34 Custom List

1115 perform post-sample calibration verification.

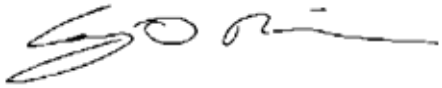
1130 Put IDW next to the system as instructed by Chuck Sorden

1200 Transfer samples to Chuck Sorden

1230 Drive to CHP

1300 Put Equipment away.

1330 Off Base



Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0162	Sample ID:	LC34-IW0162-110.0-20231013	Date:	10/13/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.22	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.22	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

15.867 Liters 105 - 9.22 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	9:00	Purging Ended At: 9:10	Total Vol. Purged (Liters): 2

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:05	1	1	200	9.31	7.33	28.0	2959	0.33	9.18	-193.6	Colorless
9:07	0.4	1.4	200	9.31	7.34	27.9	2954	0.33	5.24	-193.4	Colorless
9:10	0.6	2	200	9.30	7.33	27.9	2944	0.31	4.28	-194.4	Colorless

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 9:10	Sampling Ended At: 9:10
Cory O'Brien	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: Y (N)	Field Decontamination: Y (N)
Field Filtered: Y (N)		Filter Size (µm):	NA	Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0165	Sample ID:	LC34-IW0165-110.0-20231013	Date:	10/13/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	8.95	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	8.95	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

15.9075 Liters 105 - 8.95 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	8:30	Purging Ended At:	8:44	Total Vol. Purged (Liters):	2.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
8:38	1.6	1.6	200	9.09	7.13	27.1	2147	0.12	8.37	-187.2	Colorless
8:41	0.6	2.2	200	9.09	7.17	27.1	2157	0.12	2.73	-188.3	Colorless
8:44	0.6	2.8	200	9.09	7.16	27.2	2156	0.12	2.24	-188.9	Colorless

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 8:45	Sampling Ended At: 8:45
Cory O'Brien	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: Y (N)	Field Decontamination: Y (N)
Field Filtered: Y (N)		Filter Size (µm):	NA	Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0044D2	Sample ID:	LC34-IW0044D2-110.0-20231013	Date:	10/13/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.50	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.5	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.018 Liters 105 - 9.5 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	10:10	Purging Ended At:	10:21	Total Vol. Purged (Liters):	2.2		
Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:15	1	1	200	9.75	7.36	27.7	2590	0.43	19.7	-187.3	Colorless
10:18	0.6	1.6	200	9.75	7.38	27.7	2595	0.43	15.4	-189.4	Colorless
10:21	0.6	2.2	200	9.75	7.38	27.8	2598	0.41	12.15	-190.2	Colorless

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 10:22	Sampling Ended At: 10:22
Cory O'Brien	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: Y (N)	Field Decontamination: Y (N)

Field Filtered: Y (N) Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0161	Sample ID:	LC34-IW0161-110.0-20231013	Date:	10/13/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	8.73	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	8.73	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

15.9405 Liters 105 - 8.73 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	9:38	Purging Ended At: 9:49	Total Vol. Purged (Liters): 2.2

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:43	1	1	200	8.80	7.76	28.4	2823	0.28	7.62	-195.6	Colorless
9:46	0.6	1.6	200	8.80	7.78	28.4	2813	0.30	8.52	-197.3	Colorless
9:49	0.6	2.2	200	8.80	7.78	28.4	2835	0.25	7.51	-200.3	Colorless

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 9:50	Sampling Ended At: 9:50
Cory O'Brien	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: Y (N)	Field Decontamination: Y (N)
Field Filtered: Y (N)		Filter Size (µm):	NA	Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0001D2	Sample ID:	LC34-IW0001D2-110.0-20231013	Date:	10/13/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.09	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.09	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.04916 Liters 105 - 9.09 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	10:50	Purging Ended At: 11:05	Total Vol. Purged (Liters): 3

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:55	1	1	200	9.21	7.39	27.2	2563	0.27	19.4	-197.5	Colorless
10:58	0.6	1.6	200	9.21	7.40	27.3	2616	0.26	19.2	-199.0	Colorless
11:02	0.8	2.4	200	9.21	7.40	27.3	2636	0.26	19	-200.4	Colorless
11:05	0.6	3	200	9.21	7.40	27.2	2641	0.25	15.5	-202.8	Colorless

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation	Cory O'Brien /Tetra Tech	Sampler(s) Signatures:		Sampling Initiated At: 11:05	Sampling Ended At: 11:05
				Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: Y (N)	Field Decontamination: Y (N)
Field Filtered: Y (N)		Filter Size (µm):	NA	Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : Launch Complex 34
SITE NAME: LC34
PROJECT NO.: 112G08985

INSTRUMENT 1 : YSI ProQuatro SN# Head-21D101770/Cable-PQ01
INSTRUMENT 2: Lamotte 2020t SN# 1513-2219
Other/Rental:

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.) 7	4	10	Cond. (µS/cm)	D.O. (%)	mg/L	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Type	Calibration Standard Value	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*7.01*	*4.03*	9.98	1408	96.22	8.2	24	227	-	0.68	9.92	pH	4	*Lot # C0923A*	
10/13/2023	CO	*Post*	*7.06*	*4.01*	9.93	1412	96.35	7.83	25.9	223	-	0.48	9.89			*Exp. Date 03/09/2025*	
		Pre												pH	7	*Lot # C0623D*	
		Post														*Exp. Date 03/06/2025*	
		Pre												pH	10	*Lot # B2123A*	
		Post														*Exp. Date 08/21/2024*	
		Pre												Cond. (µS/cm)	1413	*Lot # 8199*	
		Post														*Exp. Date 10/01/2027*	
		Pre												ORP mV	223	*Lot # 21K100461*	
		Post														*Exp. Date*	
		Pre												Turbidity	0	*Lot #*	
		Post														*Exp. Date*	
		Pre												Turbidity	10	*Lot #*	
		Post														*Exp. Date*	
		Pre															
		Post															
		Pre															
		Post															
		Pre															
		Post															

Additional Comments:

FDEP Acceptance criteria: DO +/- 0.3 mg/L, SPC +/- 5% , ORP +/- 10mV, pH +/- 0.2 SU, NTU (0.1-10) +/- 10%, (11-40) +/- 8%, (41-100) +/- 6.5%, (>100) +/- 5%

Site Location:112g08985 LC34 – 112G08985 **Project Name:** bi-monthly sampling

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Date: 10/27/2023 **Weather:** hot, sunny

Personnel: Cory O'Brien

Health and Safety: Insects, Slips trips, and Falls

PPE: Level D **Objective:** bi-monthly sampling

Equipment: YSI Pro Quatro Lamotte 2020 **Geopump II**

Field Notes:

0830 on-site, gather equipment and perform calibration verification

0918 Start purge on LC34-IW0044D2

0930 Sample LC34-IW0044D2-110.0-20231027 collected. Analysis 8260D (MOD) NASA LC34 Custom List

0940 Start purge on LC34-IW0162

1000 Sample LC34-IW0162-110.0-20231027 collected. Analysis 8260D (MOD) NASA LC34 Custom List

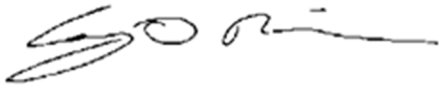
1030 perform post-sample calibration verification.

1030 Put IDW next to the system as instructed by Chuck Sorden

1100 Drive to CHP

1130 Put Equipment away.

1200 Off Base



Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0162	Sample ID:	LC34-IW0162-110.0-20231027	Date:	10/27/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.70	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.7	Well Screen Interval Depth (ft bls):	105 to 115		
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth:	105	Bottom Depth:	115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

15.795 Liters 105 - 9.7 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	9:40	Purging Ended At:	9:59	Total Vol. Purged (Liters):	4.75		
Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:45	1.25	1.25	250	9.78	7.55	26.8	2747	0.12	6.52	-226.8	Colorless
9:47	0.5	1.75	250	9.78	7.56	26.8	2742	0.09	3.94	-228.7	Colorless
9:59	3	4.75	250	9.78	7.56	26.7	2737	0.08	3.73	-229.4	Colorless

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 10:00	Sampling Ended At: 10:00
Cory O'Brien	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):		Duplicate: Y (N)	Field Decontamination: Y (N)

Field Filtered: Y N Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0044D2	Sample ID:	LC34-IW0044D2-110.0-20231027	Date:	10/27/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	10.00	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	10
Well Screen Interval Depth (ft bls):	105 to 115				
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP
Top Depth:	105	Bottom Depth:	115		

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

7.98 Liters 105 - 10 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	9:18
Purging Ended At:	9:30	Total Vol. Purged (Liters):	2.75		

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:23	1.25	1.25	250	10.71	7.59	26.7	2404	0.54	29.8	-216.7	Colorless
9:25	0.5	1.75	250	10.71	7.63	26.7	2442	0.26	31	-225.7	Colorless
9:27	0.4	2.15	200	10.71	7.63	26.7	2446	0.19	31.1	-228.5	Colorless
9:30	0.6	2.75	200	10.71	7.63	26.7	2447	0.16	27.5	-229.4	Colorless

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At:	9:30
Sampling Ended At:	9:30				
Cory O'Brien	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):		Duplicate: Y (N)	Field Decontamination: Y (N)
Field Filtered: Y N	Filter Size (µm):	NA	Filtration Equipment Type:	NA	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : Launch Complex 34
SITE NAME: LC34
PROJECT NO.: 112G08985

INSTRUMENT 1 : YSI ProQuatro SN# Head-21D101770/Cable-PQ01
INSTRUMENT 2: Lamotte 2020t SN# 1513-2219
Other/Rental:

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.) 7	pH (S.U.) 4	pH (S.U.) 10	Cond. (µS/cm)	D.O. (%)	D.O. mg/L	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Type	Calibration Standard Value	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*7.02*	*4.01*	10.01	1469	95.6	8.08	24.4	220.9	-	0.83	9.97	pH	4	*Lot # C0923A*	
10/27/2023	CO	*Post*	*7.03*	*4.00*	10.00	1465	95.8	8.05	24.5	221.1	-	0.91	9.93			*Exp. Date 03/09/2025*	
		Pre												pH	7	*Lot # C0623D*	
		Post														*Exp. Date 03/06/2025*	
		Pre												pH	10	*Lot # G1122C*	
		Post														*Exp. Date 01/11/2024*	
		Pre												Cond. (µS/cm)	1413	*Lot # 8199*	
		Post														*Exp. Date 10/01/2027*	
		Pre												ORP mV	223	*Lot # 21K100461*	
		Post														*Exp. Date*	
		Pre												Turbidity	0	*Lot #*	
		Post														*Exp. Date*	
		Pre												Turbidity	10	*Lot #*	
		Post														*Exp. Date*	
		Pre															
		Post															
		Pre															
		Post															
		Pre															
		Post															

Additional Comments:

FDEP Acceptance criteria: DO +/- 0.3 mg/L, SPC +/- 5% , ORP +/- 10mV, pH +/- 0.2 SU, NTU (0.1-10) +/- 10%, (11-40) +/- 8%, (41-100) +/- 6.5%, (>100) +/- 5%

Site Location:112g08985 LC34 – 112G08985 **Project Name:** bi-monthly sampling

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Date: 11/10/2023 **Weather:** sunny

Personnel: Cory O'Brien

Health and Safety: Slips trips, and Falls

PPE: Level D **Objective:** bi-monthly sampling

Equipment: Aqua Troll 600 Lamotte 2020 **Geopump II**

Field Notes:

0800 on-site, gather equipment and perform calibration verification

0913 Start purge on LC34-IW0044D2

0924 Sample LC34-IW0044D2-110.0-20231110 collected. Analysis 8260D (MOD) NASA LC34 Custom List

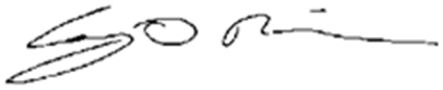
0938 Start purge on LC34-IW0162

0948 Sample LC34-IW0162-110.0-20231110 collected. Analysis 8260D (MOD) NASA LC34 Custom List

1030 perform post-sample calibration verification.

1030 Put IDW next to the system as instructed by Chuck Sorden

1100 Drive to CHP



Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0162	Sample ID:	LC34-IW0162-110.0-20231110	Date:	11/10/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.60	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.6	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

15.81 Liters 105 - 9.6 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	9:38	Purging Ended At: 9:47	Total Vol. Purged (Liters): 2.25

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:43	1.25	1.25	250	9.70	7.43	26.4	2246	0.21	3.72	-262.7	colorless
9:45	0.5	1.75	250	9.70	7.44	26.4	2249	0.18	4.09	-263.4	colorless
9:47	0.5	2.25	250	9.70	7.44	26.3	2262	0.16	3.73	-266.9	colorless

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 9:48	Sampling Ended At:
Cory O'Brien	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):		Duplicate: Y (N)	Field Decontamination: Y (N)

Field Filtered: Y (N) Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0044D2	Sample ID:	LC34-IW0044D2-110.0-20231110	Date:	11/10/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	8.04	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	8.04	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.12896 Liters 105 - 8.04 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	9:13	Purging Ended At: 9:23	Total Vol. Purged (Liters):

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:17	1	1	250	9.25	6.99	27.3	1784	0.67	11.93	-168.3	colorless
9:19	0.5	1.5	250	9.25	7.46	27.4	2035	0.36	12.65	-201.0	colorless
9:21	0.5	2	250	9.25	7.48	27.6	2063	0.28	6.3	-216.8	colorless
9:23	0.5	2.5	250	9.25	7.49	27.6	2069	0.27	5.49	-222.5	colorless

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 9:24	Sampling Ended At: 9:24
Cory O'Brien	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):		Duplicate: Y (N)	Field Decontamination: Y (N)

Field Filtered: Y (N) Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Calibration Report

Instrument	Aqua TROLL 600 Vented
Serial Number	840822
Created	11/10/2023

Sensor	**pH/ORP**
Serial Number	982670
Last Calibrated	11/10/2023

Calibration Details

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	157.7 mV
Temperature	22.82 °C

Pre Measurement

pH	3.92 pH
pH mV	157.7 mV

Post Measurement

pH	4.00 pH
pH mV	156.5 mV

Calibration Point 2

pH of Buffer	7.00 pH
pH mV	-14.7 mV
Temperature	22.71 °C

Pre Measurement

pH	7.05 pH
pH mV	-14.8 mV

Post Measurement

pH	7.00 pH
pH mV	-14.6 mV

Calibration Point 3

pH of Buffer	10.00 pH
pH mV	-181.2 mV
Temperature	22.79 °C

Pre Measurement

pH	10.03 pH
pH mV	-181.2 mV

Post Measurement

pH	10.00 pH
pH mV	-179.8 mV

Slope and Offset 1

Slope	-57.44 mV/pH
Offset	-14.7 mV

Slope and Offset 2

Slope	-55.5 mV/pH
Offset	-14.7 mV

ORP

ORP Solution	Zobell's
Offset	32.1 mV
Temperature	22.72 °C
Pre Measurement	228.3 mV
Post Measurement	232.1 mV

Sensor **Conductivity**

Serial Number	1014112
Last Calibrated	11/10/2023

Calibration Details

TDS Conversion Factor (ppm)	0.65
Cell Constant	0.707
Reference Temperature	25.00 °C

Pre Measurement

Actual Conductivity	1,729.8 µS/cm
Specific Conductivity	1,809.2 µS/cm

Post Measurement

Actual Conductivity	1,350.9 µS/cm
Specific Conductivity	1,413.0 µS/cm

Sensor **RDO**

Serial Number	1053518
Last Calibrated	11/10/2023

Calibration Details

Slope	1.140122
Offset	0.00 mg/L

Calibration point 100%

Concentration	7.63 mg/L
Pre Measurement	99.91 %Sat
Post Measurement	100.00 %Sat
Temperature	22.61 °C
Barometric Pressure	1,019.3 mbar

Sensor **Turbidity**

Serial Number	1011684
Last Calibrated	10/30/2023

Calibration Details

Slope	1
Offset	-0.60 NTU

Calibration Point 1

Pre Measurement	0.00 NTU
Post Measurement	0.00 NTU

Sensor **Barometric Pressure**

Serial Number	840822
Last Calibrated	Factory Defaults

Sensor	**Pressure**
Serial Number	825947
Last Calibrated	Factory Defaults

Project Number:112g08985 Click or tap here to enter text. **Project Name:** LC34 biweekly sampling

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Date: 11/27/2024 **Weather:** warm, clear, sunny

Personnel: Natalie Volk (NAV), Engineer

Health and Safety: heat stress, stinging insects, contaminated water

PPE: Level D **Objective:** Collect Biweekly samples at LC34

Equipment: YSI Pro Quatro Geotech Turbidimeter Geopump II

Field Notes:

0930 onsite begin groundwater sampling

0940 begin purge IW0162

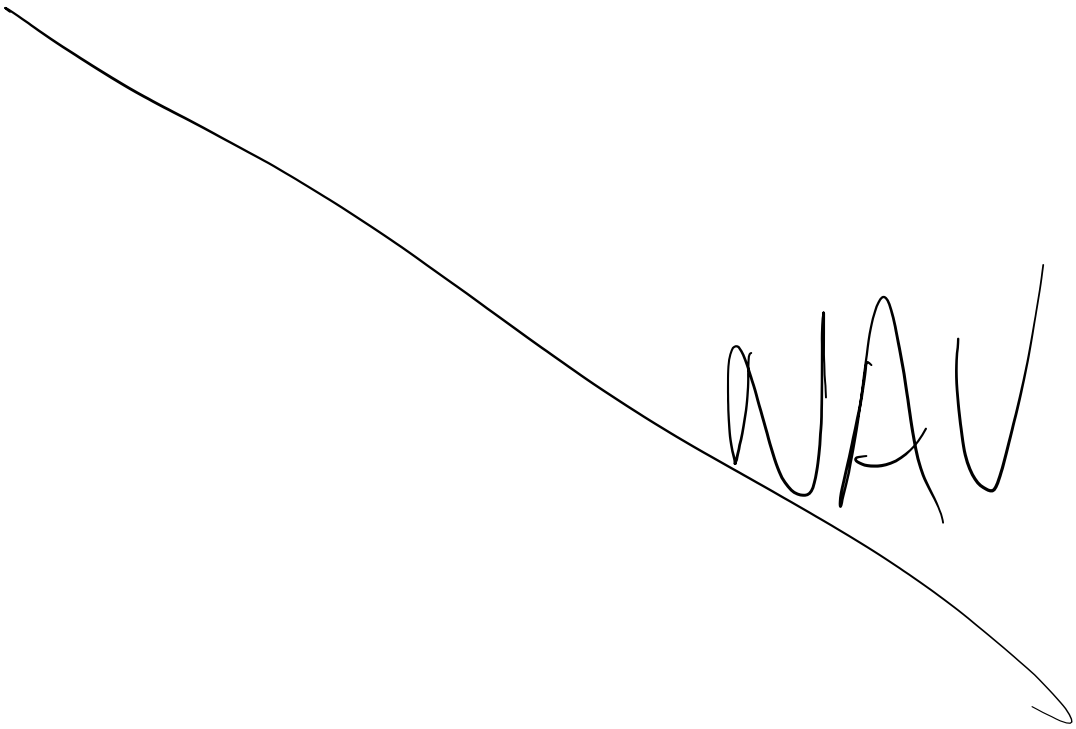
0955 collect sample LC34-IW162-110.0-20231127 8260D LC34 Custom list

1008 begin purge IW0044D2

1023 collect sample LC34-IW0044D2-110.0-20231127 8260D LC34 Custom List

1030 end groundwater sampling. IDW purge water recycled through system

1040 off site



Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0162	Sample ID:	LC34-IW0162-110.0-20231127	Date:	11/27/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	7.02	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	7.02	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

16.197 Liters 105 - 7.02 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	9:40	Purging Ended At:	9:54	Total Vol. Purged (Liters):	4.2		
Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:50	3	3	300	6.59	7.45	24.4	2818	0.24	13.2	-265.0	None
9:52	0.6	3.6	300	6.59	7.46	24.5	2793	0.21	13.8	-268.6	None
9:54	0.6	4.2	300	6.59	7.46	24.4	2788	0.18	11.5	-270.0	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 9:55	Sampling Ended At: 10:00
Natalie Volk	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	100	Duplicate: Y (N)	Field Decontamination: (Y) N
Field Filtered: Y (N)		Filter Size (µm):	NA	Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0044D2	Sample ID:	LC34-IW0044D2-110.0-20231127	Date:	11/27/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	5.83	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	5.83	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.29692 Liters 105 - 5.83 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	10:08	Purging Ended At:	10:21	Total Vol. Purged (Liters):	4.55		
Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:17	3.15	3.15	350	6.03	7.54	24.5	2548	0.39	7.48	-271.6	None
10:19	0.7	3.85	350	6.03	7.55	24.5	2551	0.39	5.22	-273.1	None
10:21	0.7	4.55	350	6.03	7.55	24.4	2550	0.38	3.71	-273.7	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 10:23	Sampling Ended At: 10:27
Natalie Volk	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	100	Duplicate: Y (N)	Field Decontamination: (Y) N
Field Filtered: Y (N)		Filter Size (µm):	NA	Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : Launch complex 34. Hot spot 6
SITE NAME: LC34 HS6
PROJECT NO.: 112G08985

INSTRUMENT 1 : YSI ProQuatro SN# Head-21D101770/Cable-PQ01
INSTRUMENT 2: Geotech turbidimeter SN# 23054681
Other/Rental:

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.) 7	4	10	Cond. (µS/cm)	D.O. (%)	mg/L	Temp. °C	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (20) (NTUs)	Calibration Standard Type	Calibration Standard Value	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*7.07*	*3.98*	9.95	1430	101.7	9.16	20.6	215.2	-	0.02	20.4	pH	4	***Lot #*** ***C0923A***	Calibration verified
11/27/2023	NAV	*Post*									-					***Exp. Date*** ***03/09/2025***	
		Pre	*7.16*	*4.10*	10.12	1413	103.6	10.58	14.5	224.3	-	0.02	19.6	pH	7	***Lot #*** ***C0623D***	Calibration verified
11/28/2023	NAV	*Post*									-					***Exp. Date*** ***03/06/2025***	
		Pre	*7.10*	*4.11*	10.07	1450	104.4	11.35	11.5	228.1	-	0.02	19.4	pH	10	***Lot #*** ***B2123A***	Calibration verified
11/29/2023	NAV	*Post*									-					***Exp. Date*** ***08/21/2024***	
		Pre	7.11	4.13	10.01	1508	104.3	10.69	14.2	223.7	-	0.02	20.1	Cond. (µS/cm)	1413	***Lot #*** ***8199***	Conductivity calibrated
11/30/2023	NAV	*Post*				1416					-					***Exp. Date*** ***10/01/2027***	
		Pre												ORP mV	223	***Lot #*** ***21K100461***	
		Post														***Exp. Date***	
		Pre												Turbidity	0	***Lot #***	
		Post														***Exp. Date***	
		Pre												Turbidity	10	***Lot #***	
		Post														***Exp. Date***	
		Pre															
		Post															
		Pre															
		Post															
		Pre															
		Post															

Additional Comments:

FDEP Acceptance criteria: DO +/- 0.3 mg/L, SPC +/- 5% , ORP +/- 10mV, pH +/- 0.2 SU, NTU (0.1-10) +/- 10%, (11-40) +/- 8%, (41-100) +/- 6.5%, (>100) +/- 5%

12/8/2023 **LC34** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Aaron Kupper	(AK)	Engineer	Tt
Weather:	Sunny – 51 degrees F			
PPE:	Level D			

Objective: Complete LC34 Bi-Monthly Sampling Event

0700: CS/AK on base; gathering equipment and supplies; calibrating equipment (See cal sheets); daily prep

0825:	CS/AK begin purging LC34-IW0001D2		
0855:	CS/AK Collected	LC34-IW0001D2-110.0-20231208	8260D
0905:	CS/AK begin purging LC34-IW060		
0925:	CS/AK Collected	LC34-IW0160-110.0-20231208	8260D
0930:	CS/AK begin purging LC34-IW0045D2		
0950:	CS/AK Collected	LC34-IW0045D2-110.0-20231208	8260D
0955:	CS/AK begin purging LC34-IW0045D2		
1015:	CS/AK Collected	LC34-IW0043D2-110.0-20231208	8260D
1030:	CS/AK begin purging LC34-IW0042D2		
1050:	CS/AK Collected	LC34-IW0042D2-089.5-20231208	8260D
1100:	CS/AK begin purging LC34-IW0165		
1120:	CS/AK Collected	LC34-IW0165-110.0-20231208	8260D
1130:	CS/AK begin purging LC34-IW0165		
1150:	CS/AK collected	LC34-IW0164-110.0-20231208	8260D
1200:	CS/AK begin purging LC34-IW0163		
1225:	CS/AK collected	LC34-IW0163-110.0-20231208	8260D
1235:	CS/AK begin purging LC34-IW0161		
1300:	CS/AK Collected	LC34-IW0161-0110.0-20231208	8260D
1310:	CS/AK begin purging LC34-IW0044D2		
1330:	CS/AK collected	LC34-IW0044D2-110.0-20231208	8260D
1340:	CS/AK begin purging LC34-IW0162		
1400:	CS/AK collected	LC34-IW0162-110.0-20231208	8260D

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Launch Complex 34 (LC34)	Site Location:	Cape Canaveral Space Force Station (CCSFS), Florida		
Location ID:	IW0001D2	Sample ID:	LC34-IW0001D2-110.0-20231208	Date:	12/8/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	8.95	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	8.95	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.0598 Liters 115 - 8.95 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.45 = vol x3 **1.15** Liters + 0.005 X 135 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	8:25	Purging Ended At: 8:54	Total Vol. Purged (Liters): 4.4

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
8:35	2	2	200	8.98	7.48	25.0	2392	0.04	77.1	-272.0	Cloudy gray
8:40	1	3	200	8.98	7.48	25.0	2386	0.06	55.1	-269.0	-
8:50	1	4	100	8.98	7.50	24.9	2403	0.06	19.8	-294.9	Clear
8:52	0.2	4.2	100	8.98	7.50	25.0	2406	0.06	15.8	-295.4	-
8:54	0.2	4.4	100	8.98	7.50	25.0	2406	0.07	17.7	-296.1	-

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation	Sampler(s) Signatures:		Sampling Initiated At: 8:55	Sampling Ended At:	9:00
Aaron Kupper /Tetra Tech			Tubing Material Code:	HDPE	
Pump or Tubing Depth in Well (feet): 110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: No	Field Decontamination:	Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40mL	None	-	see above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Launch Complex 34 (LC34)		Site Location:	Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID:	IW0042D2	Sample ID:	LC34-IW0042D2-089.5-20231208	Date:	12/8/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	6.16	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	6.16	Well Screen Interval Depth (ft bls):	87 to 92
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth: 87	Bottom Depth: 92

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

6.52384 Liters 92 - 6.16 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.955 = vol x3 **0.985** Liters + 0.005 X 102 + 0.475

Initial Pump or Tubing Depth in Well (feet):	89.5	Final Pump or Tubing Depth in Well (feet):	89.5	Purging Initiated At:	10:30	Purging Ended At:	10:49	Total Vol. Purged (Liters):	3.8		
Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:40	2	2	200	18.60	7.62	26.6	2479	0.31	20	-209.8	Clear
10:45	1	3	200	18.60	7.62	26.5	2477	0.31	19.7	-203.7	-
10:49	0.8	3.8	200	18.60	7.63	26.5	2476	0.31	19.6	-203.5	

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 10:50	Sampling Ended At: 10:55
Aaron Kupper	/Tetra Tech			Tubing Material Code:	HDPE
Pump or Tubing Depth in Well (feet):	89.5	Sample Pump Flow Rate (mL per minute):	200	Duplicate: No	Field Decontamination: Yes
Field Filtered: No	Filter Size (µm):	NA	Filtration Equipment Type:	NA	

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40mL	None	-	see above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Launch Complex 34 (LC34)		Site Location:	Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID:	IW0043D2	Sample ID:	LC34-IW0043D2-110.0-20231208	Date:	12/8/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	6.35	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	6.35	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.2574 Liters 115 - 6.35 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	9:55	Purging Ended At:	10:14	Total Vol. Purged (Liters):	3.8		

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:05	2	2	200	6.52	7.58	25.1	2298	0.21	2.31	-266.9	Clear
10:10	1	3	200	6.52	7.60	25.1	2260	0.12	6.73	-321.4	-
10:14	0.8	3.8	200	6.52	7.69	25.0	2274	0.08	4.09	-320.6	-

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 10:15	Sampling Ended At: 10:20
Aaron Kupper	/Tetra Tech			Tubing Material Code:	HDPE
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: No	Field Decontamination: Yes
Field Filtered: No		Filter Size (µm):	NA	Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40mL	None	-	see above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Launch Complex 34 (LC34)		Site Location:	Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID:	IW0044D2	Sample ID:	LC34-IW0043D2-110.0-20231208	Date:	12/8/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.64	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.64	Well Screen Interval Depth (ft bls):	105 to 115		
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth:	105	Bottom Depth:	115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.00736 Liters 115 - 9.64 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	13:10	Purging Ended At:		Total Vol. Purged (Liters):	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
13:20	2	2	200	9.92	7.51	26.0	2429	0.30	5.5	-275.6	Clear
13:25	1	3	200	9.92	7.52	26.0	2440	0.31	3.45	-275.3	-
13:29	0.8	3.8	200	992.00	7.53	26.0	2452	0.29	2.8	-277.0	-

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 13:30	Sampling Ended At: 13:30
Aaron Kupper	/Tetra Tech			Tubing Material Code:	HDPE
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: No	Field Decontamination: Yes
Field Filtered: No	Filter Size (µm):	NA	Filtration Equipment Type:	NA	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40mL	None	-	see above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Launch Complex 34 (LC34)	Site Location:	Cape Canaveral Space Force Station (CCSFS), Florida		
Location ID:	IW0045D2	Sample ID:	LC34-IW0043D2-110.0-20231208	Date:	12/8/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	8.93	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	8.93	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.06132 Liters 115 - 8.93 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	9:30	Purging Ended At: 9:47	Total Vol. Purged (Liters): 3.4

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:40	2	2	200	9.08	7.50	27.2	2557	0.18	10.8	-278.2	Clear
9:45	1	3	200	9.08	7.50	27.1	2555	0.19	5.56	-279.8	-
9:47	0.4	3.4	200	9.08	7.49	27.0	2558	0.17	4.84	281.1	-

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation	Sampler(s) Signatures:		Sampling Initiated At: 9:50	Sampling Ended At:	9:55
Aaron Kupper /Tetra Tech			Tubing Material Code:	HDPE	
Pump or Tubing Depth in Well (feet): 110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: No	Field Decontamination:	Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40mL	None	-	see above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Launch Complex 34 (LC34)		Site Location:	Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID:	IW00160	Sample ID:	LC34-IW0160-110.0-20231208	Date:	12/8/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.96	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.96	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

7.98304 Liters 115 - 9.96 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	9:05	Purging Ended At:	9:24	Total Vol. Purged (Liters):	3.8		
Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:10	1	1	200	9.84	7.63	27.2	2278	0.04	19.3	-302.4	Clear
9:20	2	3	200	9.84	7.64	27.1	2316	0.06	14.4	-301.7	-
9:24	0.8	3.8	200	9.84	7.63	27.1	2378	0.00	10.8	-301.0	-

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 9:25	Sampling Ended At: 9:30
Aaron Kupper	/Tetra Tech			Tubing Material Code:	HDPE
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: No	Field Decontamination: Yes
Field Filtered: No		Filter Size (µm):	NA	Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40mL	None	-	see above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Launch Complex 34 (LC34)		Site Location:	Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID:	IW00161	Sample ID:	LC34-IW0161-110.0-20231208	Date:	12/8/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	8.64	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	8.64	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.08336 Liters 115 - 8.64 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	12:40	Purging Ended At:	12:59
Total Vol. Purged (Liters):	3.8						

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
12:50	2	2	200	8.71	8.94	26.4	2108	0.33	8.72	-306.9	Clear
12:55	1	3	200	8.71	8.79	26.4	2117	0.23	7.67	-304.0	-
12:59	0.8	3.8	200	8.71	8.74	26.4	2192	0.23	5.68	-300.3	-

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 13:00	Sampling Ended At: 13:05
Aaron Kupper	/Tetra Tech			Tubing Material Code:	HDPE
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: No	Field Decontamination: Yes
Field Filtered: No		Filter Size (µm):	NA	Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40mL	None		see above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Launch Complex 34 (LC34)	Site Location:	Cape Canaveral Space Force Station (CCSFS), Florida		
Location ID:	IW00162	Sample ID:	LC34-IW0162-110.0-20231208	Date:	12/8/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.14	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.14	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.04536 Liters 115 - 9.14 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters + 0.005 X 125 + 0.475

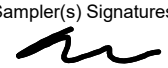
Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	13:40	Purging Ended At:	Total Vol. Purged (Liters):

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
13:50	2	2	200	9.22	7.47	25.2	2686	0.26	9.55	-279.2	Clear
13:55	1	3	200	9.22	7.46	25.3	2686	0.26	8.63	-279.5	-
13:59	0.8	3.8	200	9.22	7.47	25.3	2688	0.26	7.21	-279.3	-

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation	Aaron Kupper /Tetra Tech	Sampler(s) Signatures:		Sampling Initiated At:	Sampling Ended At:
				Tubing Material Code:	HDPE
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):		Duplicate: No	Field Decontamination: Yes
Field Filtered: No		Filter Size (µm): NA		Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40mL	None	-	see above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Launch Complex 34 (LC34)		Site Location:	Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID:	IW00163	Sample ID:	LC34-IW0163-110.0-20231208	Date:	12/8/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	7.16	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	7.16	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.19584 Liters 115 - 7.16 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.425 = vol x3 **0.475** Liters + 0.005 X + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	12:00	Purging Ended At:	Total Vol. Purged (Liters):

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
12:10	2	2	200	7.23	7.50	25.2	2688	0.23	9.23	-289.0	Clear
12:20	2	4	200	7.23	7.50	25.2	2684	0.24	7.51	-289.1	-
12:24	0.8	4.8	200	7.23	7.50	25.2	2684	0.24	5.35	-288.9	-

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 12:25	Sampling Ended At: 12:30
Aaron Kupper	/Tetra Tech			Tubing Material Code:	HDPE
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: No	Field Decontamination: Yes
Field Filtered: No		Filter Size (µm):	NA	Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40mL	None	-	see above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Launch Complex 34 (LC34)	Site Location:	Cape Canaveral Space Force Station (CCSFS), Florida		
Location ID:	IW00164	Sample ID:	LC34-IW0164-110.0-20231208	Date:	12/8/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	7.86	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	7.86	Well Screen Interval Depth (ft bls):	105 to 115		
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth:	105	Bottom Depth:	115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.14264 Liters 115 - 7.86 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	11:30	Purging Ended At:	11:49	Total Vol. Purged (Liters):	3.8

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:40	2	2	200	7.95	7.51	25.0	2588	0.14	6.08	-281.7	Clear
11:45	1	3	200	7.95	7.51	24.9	2588	0.13	4.47	-282.5	-
11:49	0.8	3.8	200	7.95	7.50	24.9	2586	0.11	3.17	-282.9	-

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation	Aaron Kupper /Tetra Tech	Sampler(s) Signatures:		Sampling Initiated At: 11:50	Sampling Ended At: 11:55
				Tubing Material Code:	HDPE
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: No	Field Decontamination: Yes
Field Filtered: No		Filter Size (µm):	NA	Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40mL	None	-	see above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Launch Complex 34 (LC34)	Site Location:	Cape Canaveral Space Force Station (CCSFS), Florida		
Location ID:	IW00165	Sample ID:	LC34-IW0165-110.0-20231208	Date:	12/8/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	7.00	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	7	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.208 Liters 115 - 7 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	11:00	Purging Ended At:	11:19	Total Vol. Purged (Liters):	3.8		
Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:10	2	2	200	8.94	7.49	26.7	2609	0.31	2.46	-272.7	Clear
11:15	1	3	200	8.94	7.49	26.8	2612	0.31	0.35	-273.7	-
11:19	0.8	3.8	200	8.94	7.49	27.0	2631	0.29	0.55	-274.4	-

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 11:20	Sampling Ended At: 11:25
Aaron Kupper	/Tetra Tech			Tubing Material Code:	HDPE
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: No	Field Decontamination: Yes
Field Filtered: No	Filter Size (µm):	NA	Filtration Equipment Type:	NA	

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40mL	None	-	see above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : Launch Complex 34
SITE NAME: LC34
PROJECT NO.: 112G08985

INSTRUMENT 1 : YSI ProQuatro SN# Head-21D101770/Cable-PQ01
INSTRUMENT 2: Geotech Turbidimeter SN# 23054681
Other/Rental:

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.) 7	4	10	Cond. (µS/cm)	D.O. (%)	mg/L	Temp. °C	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (20) (NTUs)	Calibration Standard Type	Calibration Standard Value	Calibration Standard Lot # / Expiration Date	Remarks
12/08/2023	CS	*Pre*	*7.06*	*4.02*	10.10	1545	103.8	10.42	15.3	235	-	0.02	20.1	pH	4	*Lot #* *C0923A*	ORP calibrated all other values in range and verified
		Post				1173	100.9	10.11	15.3	223	-					*Exp. Date* *03/09/2025*	
		Pre									-			pH	7	*Lot #* *C0623D*	Equipment set #2
		Post									-					*Exp. Date* *03/06/2025*	
		Pre									-			pH	10	*Lot #* *B2123A*	
		Post									-					*Exp. Date* *08/21/2024*	
		Pre									-			Cond. (µS/cm)	1173	*Lot #* *8199*	Set # 2 (conductivity recalibrated)
		Post									-					*Exp. Date* *10/01/2027*	
		Pre									-			ORP mV	223	*Lot #* *21K100461*	
		Post									-					*Exp. Date*	
		Pre												Turbidity	0	*Lot #*	
		Post														*Exp. Date*	
		Pre												Turbidity	10	*Lot #*	
		Post														*Exp. Date*	
		Pre															
		Post															
		Pre															
		Post															
		Pre															
		Post															

Additional Comments:

FDEP Acceptance criteria: DO +/- 0.3 mg/L, SPC +/- 5% , ORP +/- 10mV, pH +/- 0.2 SU, NTU (0.1-10) +/- 10%, (11-40) +/- 8%, (41-100) +/- 6.5%, (>100) +/- 5%

12/21/2023 **LC34** **112G08985**

Personnel: Chuck Sorden (CS) Geologist Tt
Weather: Sunny – 81 degrees F
PPE: Level D
Objective: Complete LC34 Bi-Monthly Sampling Event

0700: CS on base; gathering equipment and supplies; calibrating equipment (See cal sheets); daily prep
0815: CS arrives at LC34; setting up; collecting monthly system samples
0945: CS Purging LC34-IW0044D2
1000: Purging Complete on IW0044D2
1005: Sample Collected LC34-IW0044D2-110.0-20231221 8260D
1015: CS Purging LC34-IW0162
1030: Purging Complete on IW0162
1035: Sample Collected LC34-IW0162-110.0-20231221 8260D
1045: Site Secured; CS offsite at LC34 to prep samples for delivery to Eurofins Courier

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0162	Sample ID:	LC34-IW0162-110.0-20231221	Date:	1/21/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	8.36	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	8.36	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

15.996 Liters 105 - 8.36 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	10:15	Purging Ended At: 10:30	Total Vol. Purged (Liters): 4.5

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:25	3	3	300	8.41	7.46	25.0	3314	0.32	7.47	-234.2	Clear
10:27	0.6	3.6	300	8.41	7.46	25.0	3313	0.23	3.42	-239.6	Clear
10:30	0.9	4.5	300	8.41	7.46	25.0	3316	0.21	3.43	-241.4	CLear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 10:35	Sampling Ended At: 10:40
Chuck Sorden	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	300	Duplicate: Y N	Field Decontamination: Y N
Field Filtered: Y N	Filter Size (µm):			Filtration Equipment Type:	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0044D2	Sample ID:	LC34-IW0044D2-110.0-20231221	Date:	12/21/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	8.57	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	8.57	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

8.08868 Liters 105 - 8.57 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	9:45	Purging Ended At: 10:00	Total Vol. Purged (Liters): 4.5

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:55	3	3	300	9.30	7.53	25.3	2943	0.33	12.42	-192.8	Clear
9:57	0.6	3.6	300	9.30	7.55	25.4	3046	0.22	1.34	-221.0	Clear
10:00	0.9	4.5	300	9.30	7.55	25.4	3045	0.19	1.65	-226.4	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 10:05	Sampling Ended At: 10:10
Chuck Sorden	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	300	Duplicate: Y N	Field Decontamination: Y N
Field Filtered: Y N	Filter Size (µm):			Filtration Equipment Type:	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Calibration Report

Instrument	Aqua TROLL 600 Vented
Serial Number	840822
Created	12/21/2023

Sensor	**pH/ORP**
Serial Number	982670
Last Calibrated	12/21/2023

Calibration Details

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	153.8 mV
Temperature	19.18 °C

Pre Measurement

pH	3.97 pH
pH mV	153.7 mV

Post Measurement

pH	4.00 pH
pH mV	150.8 mV

Calibration Point 2

pH of Buffer	7.02 pH
pH mV	-9.4 mV
Temperature	19.19 °C

Pre Measurement

pH	6.82 pH
pH mV	-9.3 mV

Post Measurement

pH	7.02 pH
pH mV	-9.2 mV

Calibration Point 3

pH of Buffer	10.05 pH
pH mV	-175.8 mV
Temperature	19.25 °C

Pre Measurement

pH	9.72 pH
pH mV	-175.6 mV

Post Measurement

pH	10.05 pH
pH mV	-172.4 mV

Slope and Offset 1

Slope	-54.04 mV/pH
Offset	-8.3 mV

Slope and Offset 2

Slope	-54.9 mV/pH
Offset	-8.3 mV

ORP

ORP Solution	ORP Standard
Offset	42.1 mV
Temperature	19.87 °C
Pre Measurement	228.3 mV
Post Measurement	230.4 mV

Sensor	**Conductivity**
Serial Number	1014112
Last Calibrated	12/21/2023

Calibration Details

TDS Conversion Factor (ppm)	0.65
Cell Constant	1.073
Reference Temperature	25.00 °C

Pre Measurement

Actual Conductivity	1,151.5 µS/cm
Specific Conductivity	1,306.6 µS/cm

Post Measurement

Actual Conductivity	1,245.3 µS/cm
Specific Conductivity	1,413.0 µS/cm

Sensor	**RDO**
Serial Number	1053518
Last Calibrated	12/21/2023

Calibration Details

Slope	1.1419029
Offset	-0.00 mg/L

Calibration point 100%

Concentration	8.11 mg/L
Pre Measurement	101.73 %Sat
Post Measurement	100.00 %Sat
Temperature	19.83 °C
Barometric Pressure	1,028.1 mbar

Sensor	**Turbidity**
Serial Number	1011684
Last Calibrated	12/21/2023

Calibration Details

Slope	1
Offset	-0.56 NTU

Calibration Point 1

Pre Measurement	0.00 NTU
Post Measurement	0.00 NTU

Sensor	**Barometric Pressure**
Serial Number	840822
Last Calibrated	Factory Defaults

Sensor	**Pressure**
Serial Number	825947
Last Calibrated	Factory Defaults

01/05/2024 **LC34** **112G08985**

Personnel: Chuck Sorden (CS) Geologist Tt
Weather: Sunny – 81 degrees F
PPE: Level D
Objective: Complete LC34 Bi-Monthly Sampling Event

0700: CS on base; gathering equipment and supplies; calibrating equipment (See cal sheets); daily prep
0815: CS arrives at LC34; setting up; collecting monthly system samples
0910: CS Purging LC34-IW0044D2
0930: Purging Complete on IW0044D2
0935: Sample Collected LC34-IW0044D2-110.0-20240105 8260D
0945: CS Purging LC34-IW0162
1005: Purging Complete on IW0162
1010: Sample Collected LC34-IW0162-110.0-20240105 8260D
1045: Site Secured; CS offsite at LC34 to prep samples for delivery to Eurofins Courier

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0162	Sample ID:	LC34-IW0162-110.0-20240105	Date:	1/5/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.34	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.34	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

15.849 Liters 105 - 9.34 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	9:45
Purging Ended At:	10:05	Total Vol. Purged (Liters):	4		

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:55	2	2	200	9.44	7.55	25.0	3361	0.30	6.67	-266.9	Clear
10:00	1	3	200	9.44	7.54	25.0	3373	0.19	7.74	-275.9	Clear
10:05	1	4	200	9.44	7.54	25.0	3375	0.18	10.4	-278.6	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 10:10	Sampling Ended At: 10:15
Chuck Sorden	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	200	Duplicate: Y N	Field Decontamination: Y N
Field Filtered: Y N		Filter Size (µm):		Filtration Equipment Type:	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0044D2	Sample ID:	LC34-IW0044D2-110.0-20240105	Date:	1/5/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.80	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.8	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

7.9952 Liters 105 - 9.8 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	9:10	Purging Ended At: 9:30	Total Vol. Purged (Liters): 4

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:20	2	2	200	9.87	7.59	25.3	3055	0.27	3.86	-262.0	Clear
9:25	1	3	200	9.87	7.59	25.4	3090	0.26	2.4	-268.0	Clear
9:30	1	4	200	9.87	7.62	25.5	3131	0.20	0.63	-276.5	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 9:35	Sampling Ended At: 9:40
Chuck Sorden	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):		Duplicate: Y N	Field Decontamination: Y N
Field Filtered: Y N		Filter Size (µm):		Filtration Equipment Type:	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : KSC-LC34
SITE NAME: Launch Complex 34
PROJECT NO.: 112G08985

INSTRUMENT 1 : In-Situ Aqua TROLL 600 Vente SN# 840822
INSTRUMENT 2: Name + Model SN# Serial No.
Other/Rental:

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.) 7	pH (S.U.) 4	pH (S.U.) 10	Cond. (µS/cm)	D.O. (%)	D.O. mg/L	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (20) (NTUs)	Calibration Standard Type	Calibration Standard Value	Calibration Standard Lot # / Expiration Date	Remarks
01/05/2024	C. Sorden	*Pre*	*7.04*	*4.01*	10.11	1383	101.8	8.11	25.34	226.8	NA	0.04	NA	pH	4	*Lot # C0923A*	
		Post														*Exp. Date 03/09/2025*	
		Pre												pH	7	*Lot # C0623D*	
		Post														*Exp. Date 03/06/2025*	
		Pre												pH	10	*Lot # B2123A*	
		Post														*Exp. Date 08/21/2024*	
		Pre												Cond. (µS/cm)	1413	*Lot # 8199*	
		Post														*Exp. Date 10/01/2027*	
		Pre												ORP mV	223	*Lot # 21K100461*	
		Post														*Exp. Date*	
		Pre												Turbidity	0	*Lot #*	
		Post														*Exp. Date*	
		Pre												Turbidity	10	*Lot #*	
		Post														*Exp. Date*	
		Pre															
		Post															
		Pre															
		Post															
		Pre															
		Post															

Additional Comments:	

FDEP Acceptance criteria: DO +/- 0.3 mg/L, SPC +/- 5% , ORP +/- 10mV, pH +/- 0.2 SU, NTU (0.1-10) +/- 10%, (11-40) +/- 8%, (41-100) +/- 6.5%, (>100) +/- 5%

Personnel: Cory O'Brien
Weather: Sunny
PPE: Level D
Objective: Complete LC34 Bi-Monthly Sampling Event

0745: CO arrives on base, gathers equipment and supplies, calibrates equipment and daily prep
1006: CO starts purge of LC34-IW0162
1017: Sample LC34-IW0162-110.0-20240119 collected for VOC analysis via method 8260D-(MOD) LC34 Custom list.
1033: CO starts purge of LC34-IW0042D2
1044: Sample LC34-IW0044D2-110.0-20240119 collected VOC analysis via method 8260D-(MOD) LC34 Custom list.
1100: IDW dropped off with Chuck Sorden, samples transferred to Chuck Sorden. CO leaves site to secure sampling equipment at CHP.

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0162	Sample ID:	LC34-IW0162-110.0-2024019	Date:	1/19/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.20	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.2	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

15.87 Liters 105 - 9.2 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	10:06	Purging Ended At:	10:16	Total Vol. Purged (Liters):	3	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:10	1.2	1.2	300	9.37	7.58	25.1	2582	0.15	6.69	-290.9	Colorless
10:13	0.9	2.1	300	9.37	7.58	25.2	2579	0.09	5.3	-302.1	Colorless
10:16	0.9	3	300	9.37	7.59	25.3	2585	0.07	3.18	-303.8	Colorless

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 10:17	Sampling Ended At: 10:17
Cory O'Brien	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	300	Duplicate: Y N	Field Decontamination: Y N
Field Filtered: Y N		Filter Size (µm):	NA	Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0044D2	Sample ID:	LC34-IW0044D2-110.0-20240119	Date:	1/19/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.81	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.81	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

7.99444 Liters 105 - 9.81 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	10:33	Purging Ended At:	10:43	Total Vol. Purged (Liters):	3		
Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:37	1.2	1.2	300	10.24	7.55	25.7	2300	0.35	10.9	-292.8	Colorless
10:40	0.9	2.1	300	10.24	7.57	25.8	2286	0.35	7.91	-296.3	Colorless
10:43	0.9	3	300	10.24	7.59	25.7	2299	0.36	5.51	-300.5	Colorless

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 10:44	Sampling Ended At: 10:44
Cory O'Brien	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	300	Duplicate: Y N	Field Decontamination: Y N
Field Filtered: Y N		Filter Size (µm):	NA	Filtration Equipment Type:	NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : KSC-LC34 **INSTRUMENT 1 :** Name + Model SN# Serial No.

SITE NAME: Launch Complex 34 (LC34) **INSTRUMENT 2:** Name + Model SN# Serial No.

PROJECT NO.: 112G08985 **Other/Rental:**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.) 7	4	10	Cond. (µS/cm)	D.O. (%)	mg/L	Temp. °C	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (20) (NTUs)	Turbidity (100) (NTUs)	Turbidity (800) (NTUs)	Calibration Standard Type	Calibration Standard Value	Calibration Standard Lot # / Expiration Date
		Pre	*7.03*	*4.00*	10.09	1440	98.8	9.53	17.3	226.4	-	0.02	20	100	801	pH	4	*Lot #* *C0923A*
01/19/2024	CO	*Post*	*7.00*	*4.01*	10.02	1445	99.1	9.45	17.8	227.1	-	0.02	19.8	100.1	800			*Exp. Date* *03/09/2025*
		Pre														pH	7	*Lot #* *C0623D*
		Post																*Exp. Date* *03/06/2025*
		Pre														pH	10	*Lot #* *B2123A*
		Post																*Exp. Date* *08/21/2024*
		Pre														Cond. (µS/cm)	1413	*Lot #* *8199*
		Post																*Exp. Date* *10/01/2027*
		Pre														ORP mV	223	*Lot #* *21K100461*
		Post																*Exp. Date*
		Pre														Turbidity	0	*Lot #* *61D*
		Post																*Exp. Date* *05/25/2024*
		Pre														Turbidity	20	*Lot #* *61D*
		Post																*Exp. Date* *05/25/2024*
		Pre														Turbidity	100	*Lot #* *61D*
		Post																*Exp. Date* *05/25/2024*
		Pre														Turbidity	800	*Lot #* *61D*
		Post																*Exp. Date* *05/25/2024*
		Pre																
		Post																

Additional Comments:

FDEP Acceptance criteria: DO +/- 0.3 mg/L, SPC +/- 5% , ORP +/- 10mV, pH +/- 0.2 SU, NTU (0.1-10) +/- 10%, (11-40) +/- 8%, (41-100) +/- 6.5%, (>100) +/- 5%

02/02/2024 **LC34** **112G08985**

Personnel: Chuck Sorden (CS) Geologist Tt
Weather: Sunny – 81 degrees F
PPE: Level D
Objective: Complete LC34 Bi-Monthly Sampling Event

0700: CS at LC34 with drilling crew GPI. Calibrating equipment (See cal sheets); daily preparation.
0845: CS Purging LC34-IW0044D2
0900: Purging Complete on IW0044D2
0905: Sample Collected LC34-IW0044D2-110.0-20240202 8260D
0915: CS Purging LC34-IW0162
0930: Purging Complete on IW0162
0935: Sample Collected LC34-IW0162-110.0-20240202 8260D

- Sampling Complete. CS back to RW install

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: LC34			Site Location: Kennedy Space Center (KSC), Florida		
Location ID:	IW0162	Sample ID:	LC34-IW0162-110.0-20240202	Date:	2/2/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	9.54	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	9.54
Well Screen Interval Depth (ft bls):	105 to 115				
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP
Top Depth:	105	Bottom Depth:	115		

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

15.819 Liters 105 - 9.54 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	9:15	Purging Ended At:	9:30
Total Vol. Purged (Liters):	4						

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:25	2.5	2.5	250	9.71	7.62	24.8	3128	0.37	3.14	-229.9	Clear
9:27	0.5	3	250	9.71	7.62	24.7	3140	0.28	3.2	-237.7	Clear
9:30	0.75	3.75	250	9.71	7.61	25.0	3151	0.26	2.97	-243.0	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 9:35	Sampling Ended At: 9:40
Chuck Sorden	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	250	Duplicate: Y N	Field Decontamination: Y N
Field Filtered: Y N		Filter Size (µm):		Filtration Equipment Type:	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: LC34			Site Location: Kennedy Space Center (KSC), Florida		
Location ID:	IW0044D2	Sample ID:	LC34-IW0044D2-110.0-20240202	Date:	2/2/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	10.14	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	10.14	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

7.96936 Liters 105 - 10.14 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	8:45	Purging Ended At:	9:00	Total Vol. Purged (Liters):	4		
Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
8:55	2.5	2.5	250	10.25	7.70	24.6	3014	0.20	0.78	-220.9	Clear
8:57	0.5	3	250	10.25	7.70	24.6	3014	0.20	1.48	-214.5	Clear
9:00	0.75	3.75	250	10.25	7.70	24.7	3024	0.20	0.69	-221.3	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 9:05	Sampling Ended At: 9:10
Chuck Sorden	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	250	Duplicate: Y N	Field Decontamination: Y N
Field Filtered: Y N		Filter Size (µm):		Filtration Equipment Type:	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : KSC-LC34
SITE NAME: Launch Complex 34
PROJECT NO.: 112G08985

INSTRUMENT 1 : In-Situ Aqua TROLL 600 Ventec SN# 840822
INSTRUMENT 2: Name + Model SN# Serial No.
Other/Rental:

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.) 7	pH (S.U.) 4	pH (S.U.) 10	Cond. (µS/cm)	D.O. (%)	D.O. mg/L	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (20) (NTUs)	Calibration Standard Type	Calibration Standard Value	Calibration Standard Lot # / Expiration Date	Remarks
02/02/2024	C. Sorden	*Pre*	*7.11*	*3.89*	9.88	1423	98.85	8.11	20.14	221.2	NA	0	NA	pH	4	*Lot # C0923A*	
		Post														*Exp. Date 03/09/2025*	
		Pre												pH	7	*Lot # C0623D*	
		Post														*Exp. Date 03/06/2025*	
		Pre												pH	10	*Lot # B2123A*	
		Post														*Exp. Date 08/21/2024*	
		Pre												Cond. (µS/cm)	1413	*Lot # 8199*	
		Post														*Exp. Date 10/01/2027*	
		Pre												ORP mV	223	*Lot # 21K100461*	
		Post														*Exp. Date*	
		Pre												Turbidity	0	*Lot #*	
		Post														*Exp. Date*	
		Pre												Turbidity	10	*Lot #*	
		Post														*Exp. Date*	
		Pre															
		Post															
		Pre															
		Post															
		Pre															
		Post															

Additional Comments:	

FDEP Acceptance criteria: DO +/- 0.3 mg/L, SPC +/- 5% , ORP +/- 10mV, pH +/- 0.2 SU, NTU (0.1-10) +/- 10%, (11-40) +/- 8%, (41-100) +/- 6.5%, (>100) +/- 5%

02/16/2024 **LC34** **112G08985**

Personnel: Chuck Sorden (CS) Geologist Tt
Weather: Sunny – 81 degrees F
PPE: Level D
Objective: Complete LC34 Bi-Monthly Sampling Event

0700: CS at LC34 with drilling crew GPI. Calibrating equipment (See cal sheets); daily preparation.
0830: CS Purging LC34-IW0044D2
0850: Purging Complete on IW0044D2
0855: Sample Collected LC34-IW0044D2-110.0-20240216 8260D

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Component Cleaning Facility (CCF)		Site Location:	Kennedy Space Center (KSC), Florida	
Location ID:	IW0044D2	Sample ID:	LC34-IW0044D2-110.0-20240216	Date:	2/16/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	10.52	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	10.52	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	PP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

7.94048 Liters 105 - 10.52 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	8:30	Purging Ended At:	8:50	Total Vol. Purged (Liters):	4		
Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
8:40	2	2	200	10.77	7.45	25.3	2386	0.26	6.99	-257.4	Clear
8:45	1	3	200	10.77	7.47	25.3	2390	0.23	4.64	-272.9	Clear
8:50	1	4	200	10.77	7.48	25.4	2411	0.21	1.8	-282.6	CLear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): 1/8" = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 8:55	Sampling Ended At: 9:00
Chuck Sorden	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	250	Duplicate: Y N	Field Decontamination: Y N
Field Filtered: Y N		Filter Size (µm):	200	Filtration Equipment Type:	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Calibration Report

Instrument	Aqua TROLL 600 Vented
Serial Number	840822
Created	2/16/2024

Sensor	**pH/ORP**
Serial Number	982670
Last Calibrated	2/16/2024

Calibration Details

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	156.9 mV
Temperature	17.19 °C

Pre Measurement

pH	3.92 pH
pH mV	156.9 mV

Post Measurement

pH	4.00 pH
pH mV	152.8 mV

Calibration Point 2

pH of Buffer	7.02 pH
pH mV	-19.4 mV
Temperature	17.62 °C

Pre Measurement

pH	7.20 pH
pH mV	-19.4 mV

Post Measurement

pH	7.02 pH
pH mV	-18.9 mV

Calibration Point 3

pH of Buffer	10.05 pH
pH mV	-194.7 mV
Temperature	17.52 °C

Pre Measurement

pH	10.41 pH
pH mV	-194.6 mV

Post Measurement

pH	10.05 pH
pH mV	-189.8 mV

Slope and Offset 1

Slope	-58.36 mV/pH
Offset	-18.2 mV

Slope and Offset 2

Slope	-57.86 mV/pH
Offset	-18.2 mV

ORP

ORP Solution	Zobell's
Offset	20.2 mV
Temperature	19.99 °C
Pre Measurement	257.6 mV
Post Measurement	235.7 mV

Sensor	**Conductivity**
Serial Number	1014112
Last Calibrated	2/16/2024

Calibration Details

TDS Conversion Factor (ppm)	0.65
Cell Constant	0.83
Reference Temperature	25.00 °C

Pre Measurement

Actual Conductivity	1,638.2 µS/cm
Specific Conductivity	1,828.3 µS/cm

Post Measurement

Actual Conductivity	1,265.9 µS/cm
Specific Conductivity	1,413.0 µS/cm

Sensor	**RDO**
Serial Number	1053518
Last Calibrated	2/16/2024

Calibration Details

Slope	1.1482536
Offset	-0.00 mg/L

Calibration point 100%

Concentration	8.21 mg/L
Pre Measurement	100.00 %Sat
Post Measurement	100.00 %Sat
Temperature	18.55 °C
Barometric Pressure	1,020.2 mbar

Sensor	**Turbidity**
Serial Number	1011684
Last Calibrated	2/2/2024

Calibration Details

Slope	1
Offset	-0.33 NTU

Calibration Point 1

Pre Measurement	0.00 NTU
Post Measurement	0.00 NTU

Sensor	**Barometric Pressure**
Serial Number	840822
Last Calibrated	Factory Defaults

Sensor	**Pressure**
Serial Number	825947
Last Calibrated	Factory Defaults

03/01/2024 **LC34** **112G08985**

Personnel: Chuck Sorden (CS) Geologist Tt
Weather: Sunny – 81 degrees F
PPE: Level D
Objective: Complete LC34 Bi-Monthly Sampling Event

0700: CS at LC34. Calibrating equipment (See cal sheets); daily preparation.
1120: CS Purging LC34-IW0044D2
1140: Purging Complete on IW0044D2
1145: Sample Collected LC34-IW0044D2-110.0-20240301 8260D
- Sampling Complete.

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Launch Complex 34 (LC 34)		Site Location:	Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID:	IW0044D2	Sample ID:	LC34-IW0044D2-110.0-20240301	Date:	3/1/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	10.09	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	10.09	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

7.97316 Liters 115 - 10.09 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At: 11:20	Purging Ended At: 11:40	Total Vol. Purged (Liters):	5

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:30	2.5	2.5	250	10.49	7.52	26.1	2053	0.23	4.23	-251.4	Clear
11:35	1.25	3.75	250	10.50	7.53	26.1	2058	0.21	3.52	-257.8	Clear
11:40	1.25	5	250	10.50	7.54	26.2	2073	0.19	2.74	-264.3	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation	Sampler(s) Signatures:	Sampling Initiated At: 11:45	Sampling Ended At: 11:50		
Chuck Sorden /Tetra Tech		Tubing Material Code:	Teflon		
Pump or Tubing Depth in Well (feet): 110	Sample Pump Flow Rate (mL per minute): 200	Duplicate: No	Field Decontamination: Yes		

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)				
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH	Intended Analysis and/or Method	Sampling Equipment Code
1	3	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : NASA-KSC-LC34
SITE NAME: Launch Complex 34
PROJECT NO.: 112G08985

INSTRUMENT NAME/MODEL Pro Quatro / 2020t
MANUFACTURER: YSI / LaMotte
SERIAL NUMBER: **YSI #21D101766 / LaMotte # 1914-4019**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.)			Cond. (µS/cm)	D.O. (mg/L)	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*4.03*	*6.98*	9.96	1407	8.56	23.1	229	Na	0	9.97	***Lot # C0923A***	
3/1/2024	CS	*Post*	*x*	*x*	x	x	x	x	x	Na	x	x	***Exp. Date: 03/09/25***	pH = 4
		Pre								Na			***Lot # C0623D***	
		Post								Na			***Exp. Date: 03/06/25***	pH = 7
		Pre								Na			***Lot # B2123A***	
		Post								Na			***Exp. Date: 08/21/24***	pH = 10
		Pre								Na			***Lot # 8199***	
		Post								Na			***Exp. Date: 10/01/27***	Conductivity = 1413 µS/cm
		Pre								Na			***Lot # 21K100461***	
		Post								Na			***Exp. Date: 11/24***	ORP = 238 mV
		Pre								Na			***Lot # 5210000***	
		Post								Na			***Exp. Date: 05/25***	NTU=0
		Pre								Na			***Lot # 2215089***	
		Post								Na			***Exp. Date: 05/25***	NTU=10
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				

Site Location: LC34, CCSFS, Florida **112G08985** **Project Name:** LC34 20240315 Bi-Weekly Sampling

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Date: 3/15/2024 **Weather:** Sunny, 78 degrees F

Personnel: Chuck Sorden

Health and Safety: NA

PPE: Level D **Objective:** Collect LC34 Bi-Weekly Samples

Equipment: Geopump II Choose an item. Choose an item. Choose an item.

Field Notes:

1020 arrived at LC34, set up at IW0044D2

1032 purging IW0044D2

1050 sample collected LC34-IW0044D2-110.0-20240315 8260D/5030C MOD CUSTOM

1100 dropping off IDW, packing cooler

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Launch Complex 34 (LC 34)		Site Location:	Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID:	IW0044D2	Sample ID:	LC34-IW0044D2-110.0-20240315	Date:	3/15/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	10.55	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	10.55	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

7.9382 Liters 115 - 10.55 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	10:32	Purging Ended At:		Total Vol. Purged (Liters):	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:42	2.5	2.5	250	11.05	7.70	26.3	1780	0.11	1.49	-250.6	Colorless
10:45	0.75	3.25	250	11.05	7.71	26.3	1790	0.11	0.69	-252.3	Colorless
10:49	1	4.25	250	11.05	7.71	26.2	1788	0.11	0.18	-254.1	Colorless

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:		Sampling Initiated At: 10:50	Sampling Ended At: 10:55
Natalie Fabbri	/Tetra Tech			Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute):	150	Duplicate: No	Field Decontamination: Yes

Field Filtered No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : NASA-KSC-LC34
SITE NAME: Launch Complex 34
PROJECT NO.: 112G08985

INSTRUMENT NAME/MODEL Pro Quatro / 2020t
MANUFACTURER: YSI / LaMotte
SERIAL NUMBER: **YSI #21D101766 / LaMotte # 1914-4019**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.)			Cond. (µS/cm)	D.O. (mg/L)	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*3.96*	*7.02*	10.03	1407	8.52	23.4	231	Na	0	9.98	***Lot # C0923A***	
3/15/2024	CS	*Post*	*x*	*x*	x	x	x	x	x	Na	x	x	***Exp. Date: 03/09/25***	pH = 4
		Pre								Na			***Lot # C0623D***	
		Post								Na			***Exp. Date: 03/06/25***	pH = 7
		Pre								Na			***Lot # B2123A***	
		Post								Na			***Exp. Date: 08/21/24***	pH = 10
		Pre								Na			***Lot # 8199***	
		Post								Na			***Exp. Date: 10/01/27***	Conductivity = 1413 µS/cm
		Pre								Na			***Lot # 21K100461***	
		Post								Na			***Exp. Date: 11/24***	ORP = 238 mV
		Pre								Na			***Lot # 5210000***	
		Post								Na			***Exp. Date: 05/25***	NTU=0
		Pre								Na			***Lot # 2215089***	
		Post								Na			***Exp. Date: 05/25***	NTU=10
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				
		Pre								Na				
		Post								Na				

Site Location: LC34, CCSFS, Florida **Project Name:** LC34 20240315 Bi-Weekly Sampling

---

Date: 3/29/2024 **Weather:** Sunny, 77 degrees F

Personnel: Chuck Sorden (FOL)

Health and Safety: NA

PPE: Level D **Objective:** Collect LC34 Bi-Weekly Samples

Equipment: Geopump II In-Situ AquaTroll 600 Choose an item. Choose an item.

Field Notes:

1020: CS on site. Assessing access to well though construction area.

1040: CS Purging LC34-IW0044D2

1100: Purging complete on IW0044D2

1105: Sample Collected LC34-IW0044D2-110.0-20240329 8260D

1130: Site secured; Tt offsite

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Launch Complex 34 (LC 34)	Site Location:	Cape Canaveral Space Force Station (CCSFS), Florida		
Location ID:	IW0044D2	Sample ID:	LC34-IW0044D2-110.0-20240329	Date:	3/29/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	10.57	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	10.57	Well Screen Interval Depth (ft bls):	105 to 115
Well Diameter (in)	0.75	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth: 105	Bottom Depth: 115

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

7.93668 Liters 115 - 10.57 X 0.076

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

3.3 = vol x3 **1.1** Liters 0 + 0.005 X 125 + 0.475

Initial Pump or Tubing Depth in Well (feet):	110	Final Pump or Tubing Depth in Well (feet):	110	Purging Initiated At:	10:40	Purging Ended At:	11:00	Total Vol. Purged (Liters):	4		

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:50	2	2	200	11.02	7.52	25.6	2034	0.24	10.18	-283.6	Clear
10:55	1	3	200	11.02	7.55	25.6	2048	0.21	6.42	-289.8	Clear
11:00	1	4	200	11.02	7.56	25.6	2052	0.19	3.26	-292.3	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation		Sampler(s) Signatures:	Sampling Initiated At: 11:05	Sampling Ended At:	11:10
Chuck Sorden	/Tetra Tech		Tubing Material Code:	Teflon	
Pump or Tubing Depth in Well (feet):	110	Sample Pump Flow Rate (mL per minute): 200	Duplicate: No	Field Decontamination:	Yes

Field Filtered No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	3	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : KSC-LC34
SITE NAME: Launch Complex 34
PROJECT NO.: 112G08985

INSTRUMENT 1 : In-Situ Water Level Meter SN# 613564
INSTRUMENT 2: SN#
Other/Rental:

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.) 7	pH (S.U.) 4	pH (S.U.) 10	Cond. (µS/cm)	D.O. (%)	D.O. mg/L	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (20) (NTUs)	Calibration Standard Type	Calibration Standard Value	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*7.05*	*4.00*	9.99	1378	100.4	8.53	23.2	224.1	NA	0.02	NA	pH	4	*Lot # C0923A*	
03/29/2024	CS	*Post*														*Exp. Date 03/09/2025*	
		Pre												pH	7	*Lot # C0623D*	
		Post														*Exp. Date 03/06/2025*	
		Pre												pH	10	*Lot # B2123A*	
		Post														*Exp. Date 08/21/2024*	
		Pre												Cond. (µS/cm)	1413	*Lot # 8199*	
		Post														*Exp. Date 10/01/2027*	
		Pre												ORP mV	223	*Lot # 21K100461*	
		Post														*Exp. Date*	
		Pre												Turbidity	0	*Lot #*	
		Post														*Exp. Date*	
		Pre												Turbidity	10	*Lot #*	
		Post														*Exp. Date*	
		Pre															
		Post															
		Pre															
		Post															
		Pre															
		Post															

Additional Comments:	

FDEP Acceptance criteria: DO +/- 0.3 mg/L, SPC +/- 5% , ORP +/- 10mV, pH +/- 0.2 SU, NTU (0.1-10) +/- 10%, (11-40) +/- 8%, (41-100) +/- 6.5%, (>100) +/- 5%

APPENDIX C

LABORATORY ANALYTICAL REPORTS
(PROVIDED IN ELECTRONIC VERSION ONLY)

National Aeronautics and
Space Administration

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Caitlin Brice, M.S.
Signature

12/27/18
Date

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Date: 2/21/2023

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-18010-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

Job Notes

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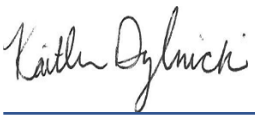

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-18010-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-18010-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-18010-1

Receipt
The samples were received on 4/14/2023 4:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 400-621730 recovered outside acceptance criteria, low biased, for Bromomethane, Chloromethane and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-IW0044D2-110.0-20230414 (670-18010-2) and LC34-IW0162-110.0-20230414 (670-18010-3). Elevated reporting limits (RLs) are provided.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 400-622389 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-RW19C-20230414 (670-18010-9) and LC34-RW20C-20230414 (670-18010-10). Elevated reporting limits (RLs) are provided.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 400-622748 was outside control limits. Sample non-homogeneity is suspected.

Method 8260D: The matrix spike (MS) recoveries for analytical batch 400-622748 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-RW17C-20230414 (670-18010-7), LC34-RW18C-20230414 (670-18010-8) and LC34-RW21D-20230414 (670-18010-11). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18010-1

Client Sample ID: LC34-IW0165-110.0-20230414 — Lab Sample ID: 670-18010-1

No Detections.

Client Sample ID: LC34-IW0044D2-110.0-20230414 — Lab Sample ID: 670-18010-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1300		10	2.0	ug/L	10		8260D	Total/NA
Trichloroethene	1500		10	1.5	ug/L	10		8260D	Total/NA
Vinyl chloride	54		10	5.0	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0162-110.0-20230414 — Lab Sample ID: 670-18010-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	150		2.0	0.40	ug/L	2		8260D	Total/NA
Trichloroethene	250		2.0	0.30	ug/L	2		8260D	Total/NA
Vinyl chloride	1.1	I	2.0	1.0	ug/L	2		8260D	Total/NA

Client Sample ID: LC34-GAC-20230414 — Lab Sample ID: 670-18010-4

No Detections.

Client Sample ID: LC34-AS1-20230414 — Lab Sample ID: 670-18010-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.40	I	1.0	0.20	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-AS2-20230414 — Lab Sample ID: 670-18010-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	47		1.0	0.20	ug/L	1		8260D	Total/NA
Trichloroethene	64		1.0	0.15	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-RW17C-20230414 — Lab Sample ID: 670-18010-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - RA	4700		2000	400	ug/L	2000		8260D	Total/NA
Trichloroethene - RA	200000		2000	300	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-RW18C-20230414 — Lab Sample ID: 670-18010-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - RA	3300		2000	400	ug/L	2000		8260D	Total/NA
Trichloroethene - RA	140000		2000	300	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-RW19C-20230414 — Lab Sample ID: 670-18010-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	6700		2500	500	ug/L	2500		8260D	Total/NA
Trichloroethene	260000		2500	380	ug/L	2500		8260D	Total/NA

Client Sample ID: LC34-RW20C-20230414 — Lab Sample ID: 670-18010-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	860		200	40	ug/L	200		8260D	Total/NA
Trichloroethene	30000		200	30	ug/L	200		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18010-1

Client Sample ID: LC34-RW21D-20230414 — Lab Sample ID: 670-18010-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - RA	350		200	40	ug/L	200		8260D	Total/NA
Trichloroethene - RA	19000		200	30	ug/L	200		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18010-1

Client Sample ID: LC34-IW0165-110.0-20230414
Date Collected: 04/14/23 10:00
Date Received: 04/14/23 16:00

Lab Sample ID: 670-18010-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/21/23 11:09	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/21/23 11:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/21/23 11:09	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/21/23 11:09	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/21/23 11:09	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/21/23 11:09	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/21/23 11:09	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/21/23 11:09	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/21/23 11:09	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/21/23 11:09	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/21/23 11:09	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/21/23 11:09	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/21/23 11:09	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/21/23 11:09	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/21/23 11:09	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/21/23 11:09	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/21/23 11:09	1
Acetone	10	U	25	10	ug/L			04/21/23 11:09	1
Benzene	0.13	U	1.0	0.13	ug/L			04/21/23 11:09	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/21/23 11:09	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/21/23 11:09	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/21/23 11:09	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/21/23 11:09	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/21/23 11:09	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/21/23 11:09	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/21/23 11:09	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/21/23 11:09	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/21/23 11:09	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			04/21/23 11:09	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/21/23 11:09	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/21/23 11:09	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/21/23 11:09	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/21/23 11:09	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/21/23 11:09	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/21/23 11:09	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/21/23 11:09	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/21/23 11:09	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/21/23 11:09	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/21/23 11:09	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/21/23 11:09	1
Styrene	1.0	U	1.0	1.0	ug/L			04/21/23 11:09	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/21/23 11:09	1
Toluene	0.41	U	1.0	0.41	ug/L			04/21/23 11:09	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/21/23 11:09	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/21/23 11:09	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/21/23 11:09	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/21/23 11:09	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			04/21/23 11:09	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/21/23 11:09	1

Client Sample ID: LC34-IW0165-110.0-20230414

Lab Sample ID: 670-18010-1

Date Collected: 04/14/23 10:00

Matrix: Water

Date Received: 04/14/23 16:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*67 - 134*		*04/21/23 11:09*	*1*
Toluene-d8 (Surr)	*92*		*64 - 132*		*04/21/23 11:09*	*1*
Dibromofluoromethane	*106*		*75 - 126*		*04/21/23 11:09*	*1*
4-Bromofluorobenzene	*89*		*72 - 119*		*04/21/23 11:09*	*1*

Client Sample ID: LC34-IW0044D2-110.0-20230414

Lab Sample ID: 670-18010-2

Date Collected: 04/14/23 10:30

Matrix: Water

Date Received: 04/14/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.8	U	10	1.8	ug/L			04/21/23 12:02	10
1,1,2,2-Tetrachloroethane	5.0	U	10	5.0	ug/L			04/21/23 12:02	10
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	10	5.0	ug/L			04/21/23 12:02	10
1,1,2-Trichloroethane	2.1	U	50	2.1	ug/L			04/21/23 12:02	10
1,1-Dichloroethane	5.0	U	10	5.0	ug/L			04/21/23 12:02	10
1,1-Dichloroethene	5.0	U	10	5.0	ug/L			04/21/23 12:02	10
1,2,4-Trichlorobenzene	8.2	U	10	8.2	ug/L			04/21/23 12:02	10
1,2-Dibromo-3-Chloropropane	15	U	50	15	ug/L			04/21/23 12:02	10
1,2-Dibromoethane (EDB)	2.3	U	10	2.3	ug/L			04/21/23 12:02	10
1,2-Dichlorobenzene	5.0	U	10	5.0	ug/L			04/21/23 12:02	10
1,2-Dichloroethane	1.9	U	10	1.9	ug/L			04/21/23 12:02	10
1,2-Dichloropropane	5.0	U	10	5.0	ug/L			04/21/23 12:02	10
1,3-Dichlorobenzene	5.4	U	10	5.4	ug/L			04/21/23 12:02	10
1,4-Dichlorobenzene	6.4	U	10	6.4	ug/L			04/21/23 12:02	10
2-Butanone (MEK)	26	U	250	26	ug/L			04/21/23 12:02	10
2-Hexanone	14	U	250	14	ug/L			04/21/23 12:02	10
4-Methyl-2-pentanone	18	U	250	18	ug/L			04/21/23 12:02	10
Acetone	100	U	250	100	ug/L			04/21/23 12:02	10
Benzene	1.3	U	10	1.3	ug/L			04/21/23 12:02	10
Bromodichloromethane	5.0	U	10	5.0	ug/L			04/21/23 12:02	10
Bromoform	2.5	U	50	2.5	ug/L			04/21/23 12:02	10
Carbon disulfide	5.0	U	10	5.0	ug/L			04/21/23 12:02	10
Carbon tetrachloride	1.9	U	10	1.9	ug/L			04/21/23 12:02	10
Chlorobenzene	1.5	U	10	1.5	ug/L			04/21/23 12:02	10
Chloroethane	7.6	U	10	7.6	ug/L			04/21/23 12:02	10
Chloroform	10	U	10	10	ug/L			04/21/23 12:02	10
Chloromethane	3.2	U	10	3.2	ug/L			04/21/23 12:02	10
cis-1,2-Dichloroethene	**1300**		10	2.0	ug/L			04/21/23 12:02	10
cis-1,3-Dichloropropene	5.0	U	50	5.0	ug/L			04/21/23 12:02	10
Cyclohexane	5.0	U	10	5.0	ug/L			04/21/23 12:02	10
Dibromochloromethane	2.4	U	10	2.4	ug/L			04/21/23 12:02	10
Dichlorodifluoromethane	8.5	U	10	8.5	ug/L			04/21/23 12:02	10
Ethylbenzene	5.0	U	10	5.0	ug/L			04/21/23 12:02	10
Isopropylbenzene	5.3	U	10	5.3	ug/L			04/21/23 12:02	10
m,p-Xylenes	6.3	U	50	6.3	ug/L			04/21/23 12:02	10
Methyl acetate	6.1	U	50	6.1	ug/L			04/21/23 12:02	10
Methyl tert-butyl ether	2.2	U	10	2.2	ug/L			04/21/23 12:02	10
Methylene Chloride	30	U	50	30	ug/L			04/21/23 12:02	10
o-Xylene	6.0	U	50	6.0	ug/L			04/21/23 12:02	10

Client Sample ID: LC34-IW0044D2-110.0-20230414

Lab Sample ID: 670-18010-2

Date Collected: 04/14/23 10:30

Matrix: Water

Date Received: 04/14/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	10	U	10	10	ug/L			04/21/23 12:02	10
Tetrachloroethene	9.0	U	10	9.0	ug/L			04/21/23 12:02	10
Toluene	4.1	U	10	4.1	ug/L			04/21/23 12:02	10
trans-1,2-Dichloroethene	5.0	U	10	5.0	ug/L			04/21/23 12:02	10
trans-1,3-Dichloropropene	2.0	U	50	2.0	ug/L			04/21/23 12:02	10
Trichloroethene	**1500**		10	1.5	ug/L			04/21/23 12:02	10
Trichlorofluoromethane	5.2	U	10	5.2	ug/L			04/21/23 12:02	10
Vinyl chloride	**54**		10	5.0	ug/L			04/21/23 12:02	10
Xylenes, Total	16	U	100	16	ug/L			04/21/23 12:02	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*67 - 134*		*04/21/23 12:02*	*10*
Toluene-d8 (Surr)	*92*		*64 - 132*		*04/21/23 12:02*	*10*
Dibromofluoromethane	*106*		*75 - 126*		*04/21/23 12:02*	*10*
4-Bromofluorobenzene	*90*		*72 - 119*		*04/21/23 12:02*	*10*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	9.8	U	10	9.8	ug/L			04/21/23 15:22	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*67 - 134*		*04/21/23 15:22*	*10*
Toluene-d8 (Surr)	*89*		*64 - 132*		*04/21/23 15:22*	*10*
Dibromofluoromethane	*104*		*75 - 126*		*04/21/23 15:22*	*10*
4-Bromofluorobenzene	*102*		*72 - 119*		*04/21/23 15:22*	*10*

Client Sample ID: LC34-IW0162-110.0-20230414

Lab Sample ID: 670-18010-3

Date Collected: 04/14/23 11:00

Matrix: Water

Date Received: 04/14/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.36	U	2.0	0.36	ug/L			04/21/23 11:36	2
1,1,2,2-Tetrachloroethane	1.0	U	2.0	1.0	ug/L			04/21/23 11:36	2
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	2.0	1.0	ug/L			04/21/23 11:36	2
1,1,2-Trichloroethane	0.42	U	10	0.42	ug/L			04/21/23 11:36	2
1,1-Dichloroethane	1.0	U	2.0	1.0	ug/L			04/21/23 11:36	2
1,1-Dichloroethene	1.0	U	2.0	1.0	ug/L			04/21/23 11:36	2
1,2,4-Trichlorobenzene	1.6	U	2.0	1.6	ug/L			04/21/23 11:36	2
1,2-Dibromo-3-Chloropropane	3.0	U	10	3.0	ug/L			04/21/23 11:36	2
1,2-Dibromoethane (EDB)	0.46	U	2.0	0.46	ug/L			04/21/23 11:36	2
1,2-Dichlorobenzene	1.0	U	2.0	1.0	ug/L			04/21/23 11:36	2
1,2-Dichloroethane	0.38	U	2.0	0.38	ug/L			04/21/23 11:36	2
1,2-Dichloropropane	1.0	U	2.0	1.0	ug/L			04/21/23 11:36	2
1,3-Dichlorobenzene	1.1	U	2.0	1.1	ug/L			04/21/23 11:36	2
1,4-Dichlorobenzene	1.3	U	2.0	1.3	ug/L			04/21/23 11:36	2
2-Butanone (MEK)	5.2	U	50	5.2	ug/L			04/21/23 11:36	2
2-Hexanone	2.8	U	50	2.8	ug/L			04/21/23 11:36	2
4-Methyl-2-pentanone	3.6	U	50	3.6	ug/L			04/21/23 11:36	2
Acetone	20	U	50	20	ug/L			04/21/23 11:36	2
Benzene	0.26	U	2.0	0.26	ug/L			04/21/23 11:36	2

Client Sample ID: LC34-IW0162-110.0-20230414

Lab Sample ID: 670-18010-3

Date Collected: 04/14/23 11:00

Matrix: Water

Date Received: 04/14/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	1.0	U	2.0	1.0	ug/L			04/21/23 11:36	2
Bromoform	0.50	U	10	0.50	ug/L			04/21/23 11:36	2
Bromomethane	2.0	U	2.0	2.0	ug/L			04/21/23 11:36	2
Carbon disulfide	1.0	U	2.0	1.0	ug/L			04/21/23 11:36	2
Carbon tetrachloride	0.38	U	2.0	0.38	ug/L			04/21/23 11:36	2
Chlorobenzene	0.30	U	2.0	0.30	ug/L			04/21/23 11:36	2
Chloroethane	1.5	U	2.0	1.5	ug/L			04/21/23 11:36	2
Chloroform	2.0	U	2.0	2.0	ug/L			04/21/23 11:36	2
Chloromethane	0.64	U	2.0	0.64	ug/L			04/21/23 11:36	2
cis-1,2-Dichloroethene	**150**		2.0	0.40	ug/L			04/21/23 11:36	2
cis-1,3-Dichloropropene	1.0	U	10	1.0	ug/L			04/21/23 11:36	2
Cyclohexane	1.0	U	2.0	1.0	ug/L			04/21/23 11:36	2
Dibromochloromethane	0.48	U	2.0	0.48	ug/L			04/21/23 11:36	2
Dichlorodifluoromethane	1.7	U	2.0	1.7	ug/L			04/21/23 11:36	2
Ethylbenzene	1.0	U	2.0	1.0	ug/L			04/21/23 11:36	2
Isopropylbenzene	1.1	U	2.0	1.1	ug/L			04/21/23 11:36	2
m,p-Xylenes	1.3	U	10	1.3	ug/L			04/21/23 11:36	2
Methyl acetate	1.2	U	10	1.2	ug/L			04/21/23 11:36	2
Methyl tert-butyl ether	0.44	U	2.0	0.44	ug/L			04/21/23 11:36	2
Methylene Chloride	6.0	U	10	6.0	ug/L			04/21/23 11:36	2
o-Xylene	1.2	U	10	1.2	ug/L			04/21/23 11:36	2
Styrene	2.0	U	2.0	2.0	ug/L			04/21/23 11:36	2
Tetrachloroethene	1.8	U	2.0	1.8	ug/L			04/21/23 11:36	2
Toluene	0.82	U	2.0	0.82	ug/L			04/21/23 11:36	2
trans-1,2-Dichloroethene	1.0	U	2.0	1.0	ug/L			04/21/23 11:36	2
trans-1,3-Dichloropropene	0.40	U	10	0.40	ug/L			04/21/23 11:36	2
Trichloroethene	**250**		2.0	0.30	ug/L			04/21/23 11:36	2
Trichlorofluoromethane	1.0	U	2.0	1.0	ug/L			04/21/23 11:36	2
Vinyl chloride	**1.1**	**I**	2.0	1.0	ug/L			04/21/23 11:36	2
Xylenes, Total	3.2	U	20	3.2	ug/L			04/21/23 11:36	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*67 - 134*		*04/21/23 11:36*	*2*
Toluene-d8 (Surr)	*93*		*64 - 132*		*04/21/23 11:36*	*2*
Dibromofluoromethane	*106*		*75 - 126*		*04/21/23 11:36*	*2*
4-Bromofluorobenzene	*89*		*72 - 119*		*04/21/23 11:36*	*2*

Client Sample ID: LC34-GAC-20230414

Lab Sample ID: 670-18010-4

Date Collected: 04/14/23 11:05

Matrix: Water

Date Received: 04/14/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/26/23 20:45	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/26/23 20:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/26/23 20:45	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/26/23 20:45	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/26/23 20:45	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/26/23 20:45	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/26/23 20:45	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18010-1

Client Sample ID: LC34-GAC-20230414
Date Collected: 04/14/23 11:05
Date Received: 04/14/23 16:00

Lab Sample ID: 670-18010-4
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/26/23 20:45	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/26/23 20:45	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/26/23 20:45	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/26/23 20:45	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/26/23 20:45	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/26/23 20:45	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/26/23 20:45	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/26/23 20:45	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/26/23 20:45	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/26/23 20:45	1
Acetone	10	U	25	10	ug/L			04/26/23 20:45	1
Benzene	0.13	U	1.0	0.13	ug/L			04/26/23 20:45	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/26/23 20:45	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/26/23 20:45	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/26/23 20:45	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/26/23 20:45	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/26/23 20:45	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/26/23 20:45	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/26/23 20:45	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/26/23 20:45	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/26/23 20:45	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			04/26/23 20:45	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/26/23 20:45	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/26/23 20:45	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/26/23 20:45	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/26/23 20:45	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/26/23 20:45	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/26/23 20:45	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/26/23 20:45	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/26/23 20:45	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/26/23 20:45	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/26/23 20:45	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/26/23 20:45	1
Styrene	1.0	U	1.0	1.0	ug/L			04/26/23 20:45	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/26/23 20:45	1
Toluene	0.41	U	1.0	0.41	ug/L			04/26/23 20:45	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/26/23 20:45	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/26/23 20:45	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/26/23 20:45	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/26/23 20:45	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			04/26/23 20:45	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/26/23 20:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*67 - 134*		*04/26/23 20:45*	*1*
Toluene-d8 (Surr)	*95*		*64 - 132*		*04/26/23 20:45*	*1*
Dibromofluoromethane	*105*		*75 - 126*		*04/26/23 20:45*	*1*
4-Bromofluorobenzene	*91*		*72 - 119*		*04/26/23 20:45*	*1*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18010-1

Client Sample ID: LC34-AS1-20230414
Date Collected: 04/14/23 11:10
Date Received: 04/14/23 16:00

Lab Sample ID: 670-18010-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/26/23 21:12	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/26/23 21:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/26/23 21:12	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/26/23 21:12	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/26/23 21:12	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/26/23 21:12	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/26/23 21:12	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/26/23 21:12	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/26/23 21:12	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/26/23 21:12	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/26/23 21:12	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/26/23 21:12	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/26/23 21:12	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/26/23 21:12	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/26/23 21:12	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/26/23 21:12	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/26/23 21:12	1
Acetone	10	U	25	10	ug/L			04/26/23 21:12	1
Benzene	0.13	U	1.0	0.13	ug/L			04/26/23 21:12	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/26/23 21:12	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/26/23 21:12	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/26/23 21:12	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/26/23 21:12	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/26/23 21:12	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/26/23 21:12	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/26/23 21:12	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/26/23 21:12	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/26/23 21:12	1
cis-1,2-Dichloroethene	**0.40**	**I**	1.0	0.20	ug/L			04/26/23 21:12	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/26/23 21:12	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/26/23 21:12	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/26/23 21:12	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/26/23 21:12	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/26/23 21:12	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/26/23 21:12	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/26/23 21:12	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/26/23 21:12	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/26/23 21:12	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/26/23 21:12	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/26/23 21:12	1
Styrene	1.0	U	1.0	1.0	ug/L			04/26/23 21:12	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/26/23 21:12	1
Toluene	0.41	U	1.0	0.41	ug/L			04/26/23 21:12	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/26/23 21:12	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/26/23 21:12	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/26/23 21:12	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/26/23 21:12	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			04/26/23 21:12	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/26/23 21:12	1

Client Sample ID: LC34-AS1-20230414

Lab Sample ID: 670-18010-5

Date Collected: 04/14/23 11:10

Matrix: Water

Date Received: 04/14/23 16:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*67 - 134*		*04/26/23 21:12*	*1*
Toluene-d8 (Surr)	*96*		*64 - 132*		*04/26/23 21:12*	*1*
Dibromofluoromethane	*107*		*75 - 126*		*04/26/23 21:12*	*1*
4-Bromofluorobenzene	*89*		*72 - 119*		*04/26/23 21:12*	*1*

Client Sample ID: LC34-AS2-20230414

Lab Sample ID: 670-18010-6

Date Collected: 04/14/23 11:15

Matrix: Water

Date Received: 04/14/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/26/23 21:39	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/26/23 21:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/26/23 21:39	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/26/23 21:39	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/26/23 21:39	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/26/23 21:39	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/26/23 21:39	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/26/23 21:39	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/26/23 21:39	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/26/23 21:39	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/26/23 21:39	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/26/23 21:39	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/26/23 21:39	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/26/23 21:39	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/26/23 21:39	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/26/23 21:39	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/26/23 21:39	1
Acetone	10	U	25	10	ug/L			04/26/23 21:39	1
Benzene	0.13	U	1.0	0.13	ug/L			04/26/23 21:39	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/26/23 21:39	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/26/23 21:39	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/26/23 21:39	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/26/23 21:39	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/26/23 21:39	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/26/23 21:39	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/26/23 21:39	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/26/23 21:39	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/26/23 21:39	1
cis-1,2-Dichloroethene	**47**		1.0	0.20	ug/L			04/26/23 21:39	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/26/23 21:39	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/26/23 21:39	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/26/23 21:39	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/26/23 21:39	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/26/23 21:39	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/26/23 21:39	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/26/23 21:39	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/26/23 21:39	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/26/23 21:39	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/26/23 21:39	1

Client Sample ID: LC34-AS2-20230414

Lab Sample ID: 670-18010-6

Date Collected: 04/14/23 11:15

Matrix: Water

Date Received: 04/14/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.60	U	5.0	0.60	ug/L			04/26/23 21:39	1
Styrene	1.0	U	1.0	1.0	ug/L			04/26/23 21:39	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/26/23 21:39	1
Toluene	0.41	U	1.0	0.41	ug/L			04/26/23 21:39	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/26/23 21:39	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/26/23 21:39	1
Trichloroethene	**64**		1.0	0.15	ug/L			04/26/23 21:39	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/26/23 21:39	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			04/26/23 21:39	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/26/23 21:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*67 - 134*		*04/26/23 21:39*	*1*
Toluene-d8 (Surr)	*96*		*64 - 132*		*04/26/23 21:39*	*1*
Dibromofluoromethane	*103*		*75 - 126*		*04/26/23 21:39*	*1*
4-Bromofluorobenzene	*92*		*72 - 119*		*04/26/23 21:39*	*1*

Client Sample ID: LC34-RW17C-20230414

Lab Sample ID: 670-18010-7

Date Collected: 04/14/23 11:20

Matrix: Water

Date Received: 04/14/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	2000	U	2000	2000	ug/L			04/27/23 01:12	2000
Chloroethane	1500	U	2000	1500	ug/L			04/27/23 01:12	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*67 - 134*		*04/27/23 01:12*	*2000*
Toluene-d8 (Surr)	*96*		*64 - 132*		*04/27/23 01:12*	*2000*
Dibromofluoromethane	*103*		*75 - 126*		*04/27/23 01:12*	*2000*
4-Bromofluorobenzene	*92*		*72 - 119*		*04/27/23 01:12*	*2000*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	360	U	2000	360	ug/L			04/28/23 18:28	2000
1,1,2,2-Tetrachloroethane	1000	U	2000	1000	ug/L			04/28/23 18:28	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	1000	U	2000	1000	ug/L			04/28/23 18:28	2000
1,1,2-Trichloroethane	420	U	10000	420	ug/L			04/28/23 18:28	2000
1,1-Dichloroethane	1000	U	2000	1000	ug/L			04/28/23 18:28	2000
1,1-Dichloroethene	1000	U	2000	1000	ug/L			04/28/23 18:28	2000
1,2,4-Trichlorobenzene	1600	U	2000	1600	ug/L			04/28/23 18:28	2000
1,2-Dibromo-3-Chloropropane	3000	U	10000	3000	ug/L			04/28/23 18:28	2000
1,2-Dibromoethane (EDB)	460	U	2000	460	ug/L			04/28/23 18:28	2000
1,2-Dichlorobenzene	1000	U	2000	1000	ug/L			04/28/23 18:28	2000
1,2-Dichloroethane	380	U	2000	380	ug/L			04/28/23 18:28	2000
1,2-Dichloropropane	1000	U	2000	1000	ug/L			04/28/23 18:28	2000
1,3-Dichlorobenzene	1100	U	2000	1100	ug/L			04/28/23 18:28	2000
1,4-Dichlorobenzene	1300	U	2000	1300	ug/L			04/28/23 18:28	2000
2-Butanone (MEK)	5200	U	50000	5200	ug/L			04/28/23 18:28	2000
2-Hexanone	2800	U	50000	2800	ug/L			04/28/23 18:28	2000
4-Methyl-2-pentanone	3600	U	50000	3600	ug/L			04/28/23 18:28	2000

Client Sample ID: LC34-RW17C-20230414

Lab Sample ID: 670-18010-7

Date Collected: 04/14/23 11:20

Matrix: Water

Date Received: 04/14/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	20000	U	50000	20000	ug/L			04/28/23 18:28	2000
Benzene	260	U	2000	260	ug/L			04/28/23 18:28	2000
Bromodichloromethane	1000	U	2000	1000	ug/L			04/28/23 18:28	2000
Bromoform	500	U	10000	500	ug/L			04/28/23 18:28	2000
Carbon disulfide	1000	U	2000	1000	ug/L			04/28/23 18:28	2000
Carbon tetrachloride	380	U	2000	380	ug/L			04/28/23 18:28	2000
Chlorobenzene	300	U	2000	300	ug/L			04/28/23 18:28	2000
Chloroform	2000	U	2000	2000	ug/L			04/28/23 18:28	2000
Chloromethane	640	U	2000	640	ug/L			04/28/23 18:28	2000
cis-1,2-Dichloroethene	**4700**		2000	400	ug/L			04/28/23 18:28	2000
cis-1,3-Dichloropropene	1000	U	10000	1000	ug/L			04/28/23 18:28	2000
Cyclohexane	1000	U	2000	1000	ug/L			04/28/23 18:28	2000
Dibromochloromethane	480	U	2000	480	ug/L			04/28/23 18:28	2000
Dichlorodifluoromethane	1700	U	2000	1700	ug/L			04/28/23 18:28	2000
Ethylbenzene	1000	U	2000	1000	ug/L			04/28/23 18:28	2000
Isopropylbenzene	1100	U	2000	1100	ug/L			04/28/23 18:28	2000
m,p-Xylenes	1300	U	10000	1300	ug/L			04/28/23 18:28	2000
Methyl acetate	1200	U	10000	1200	ug/L			04/28/23 18:28	2000
Methyl tert-butyl ether	440	U	2000	440	ug/L			04/28/23 18:28	2000
Methylene Chloride	6000	U	10000	6000	ug/L			04/28/23 18:28	2000
o-Xylene	1200	U	10000	1200	ug/L			04/28/23 18:28	2000
Styrene	2000	U	2000	2000	ug/L			04/28/23 18:28	2000
Tetrachloroethene	1800	U	2000	1800	ug/L			04/28/23 18:28	2000
Toluene	820	U	2000	820	ug/L			04/28/23 18:28	2000
trans-1,2-Dichloroethene	1000	U	2000	1000	ug/L			04/28/23 18:28	2000
trans-1,3-Dichloropropene	400	U	10000	400	ug/L			04/28/23 18:28	2000
Trichloroethene	**200000**		2000	300	ug/L			04/28/23 18:28	2000
Trichlorofluoromethane	1000	U	2000	1000	ug/L			04/28/23 18:28	2000
Vinyl chloride	1000	U	2000	1000	ug/L			04/28/23 18:28	2000
Xylenes, Total	3200	U	20000	3200	ug/L			04/28/23 18:28	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 134*		*04/28/23 18:28*	*2000*
Toluene-d8 (Surr)	*94*		*64 - 132*		*04/28/23 18:28*	*2000*
Dibromofluoromethane	*109*		*75 - 126*		*04/28/23 18:28*	*2000*
4-Bromofluorobenzene	*97*		*72 - 119*		*04/28/23 18:28*	*2000*

Client Sample ID: LC34-RW18C-20230414

Lab Sample ID: 670-18010-8

Date Collected: 04/14/23 11:25

Matrix: Water

Date Received: 04/14/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	2000	U	2000	2000	ug/L			04/27/23 01:39	2000
Chloroethane	1500	U	2000	1500	ug/L			04/27/23 01:39	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*		*04/27/23 01:39*	*2000*
Toluene-d8 (Surr)	*95*		*64 - 132*		*04/27/23 01:39*	*2000*
Dibromofluoromethane	*107*		*75 - 126*		*04/27/23 01:39*	*2000*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18010-1

Client Sample ID: LC34-RW18C-20230414
Date Collected: 04/14/23 11:25
Date Received: 04/14/23 16:00

Lab Sample ID: 670-18010-8
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	*91*		*72 - 119*		*04/27/23 01:39*	*2000*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	360	U	2000	360	ug/L			04/28/23 18:47	2000
1,1,2,2-Tetrachloroethane	1000	U	2000	1000	ug/L			04/28/23 18:47	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	1000	U	2000	1000	ug/L			04/28/23 18:47	2000
1,1,2-Trichloroethane	420	U	10000	420	ug/L			04/28/23 18:47	2000
1,1-Dichloroethane	1000	U	2000	1000	ug/L			04/28/23 18:47	2000
1,1-Dichloroethene	1000	U	2000	1000	ug/L			04/28/23 18:47	2000
1,2,4-Trichlorobenzene	1600	U	2000	1600	ug/L			04/28/23 18:47	2000
1,2-Dibromo-3-Chloropropane	3000	U	10000	3000	ug/L			04/28/23 18:47	2000
1,2-Dibromoethane (EDB)	460	U	2000	460	ug/L			04/28/23 18:47	2000
1,2-Dichlorobenzene	1000	U	2000	1000	ug/L			04/28/23 18:47	2000
1,2-Dichloroethane	380	U	2000	380	ug/L			04/28/23 18:47	2000
1,2-Dichloropropane	1000	U	2000	1000	ug/L			04/28/23 18:47	2000
1,3-Dichlorobenzene	1100	U	2000	1100	ug/L			04/28/23 18:47	2000
1,4-Dichlorobenzene	1300	U	2000	1300	ug/L			04/28/23 18:47	2000
2-Butanone (MEK)	5200	U	50000	5200	ug/L			04/28/23 18:47	2000
2-Hexanone	2800	U	50000	2800	ug/L			04/28/23 18:47	2000
4-Methyl-2-pentanone	3600	U	50000	3600	ug/L			04/28/23 18:47	2000
Acetone	20000	U	50000	20000	ug/L			04/28/23 18:47	2000
Benzene	260	U	2000	260	ug/L			04/28/23 18:47	2000
Bromodichloromethane	1000	U	2000	1000	ug/L			04/28/23 18:47	2000
Bromoform	500	U	10000	500	ug/L			04/28/23 18:47	2000
Carbon disulfide	1000	U	2000	1000	ug/L			04/28/23 18:47	2000
Carbon tetrachloride	380	U	2000	380	ug/L			04/28/23 18:47	2000
Chlorobenzene	300	U	2000	300	ug/L			04/28/23 18:47	2000
Chloroform	2000	U	2000	2000	ug/L			04/28/23 18:47	2000
Chloromethane	640	U	2000	640	ug/L			04/28/23 18:47	2000
cis-1,2-Dichloroethene	**3300**		2000	400	ug/L			04/28/23 18:47	2000
cis-1,3-Dichloropropene	1000	U	10000	1000	ug/L			04/28/23 18:47	2000
Cyclohexane	1000	U	2000	1000	ug/L			04/28/23 18:47	2000
Dibromochloromethane	480	U	2000	480	ug/L			04/28/23 18:47	2000
Dichlorodifluoromethane	1700	U	2000	1700	ug/L			04/28/23 18:47	2000
Ethylbenzene	1000	U	2000	1000	ug/L			04/28/23 18:47	2000
Isopropylbenzene	1100	U	2000	1100	ug/L			04/28/23 18:47	2000
m,p-Xylenes	1300	U	10000	1300	ug/L			04/28/23 18:47	2000
Methyl acetate	1200	U	10000	1200	ug/L			04/28/23 18:47	2000
Methyl tert-butyl ether	440	U	2000	440	ug/L			04/28/23 18:47	2000
Methylene Chloride	6000	U	10000	6000	ug/L			04/28/23 18:47	2000
o-Xylene	1200	U	10000	1200	ug/L			04/28/23 18:47	2000
Styrene	2000	U	2000	2000	ug/L			04/28/23 18:47	2000
Tetrachloroethene	1800	U	2000	1800	ug/L			04/28/23 18:47	2000
Toluene	820	U	2000	820	ug/L			04/28/23 18:47	2000
trans-1,2-Dichloroethene	1000	U	2000	1000	ug/L			04/28/23 18:47	2000
trans-1,3-Dichloropropene	400	U	10000	400	ug/L			04/28/23 18:47	2000
Trichloroethene	**140000**		2000	300	ug/L			04/28/23 18:47	2000
Trichlorofluoromethane	1000	U	2000	1000	ug/L			04/28/23 18:47	2000

Client Sample ID: LC34-RW18C-20230414 — **Lab Sample ID: 670-18010-8**
Date Collected: 04/14/23 11:25 — **Matrix: Water**
Date Received: 04/14/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1000	U	2000	1000	ug/L			04/28/23 18:47	2000
Xylenes, Total	3200	U	20000	3200	ug/L			04/28/23 18:47	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 134*		*04/28/23 18:47*	*2000*
Toluene-d8 (Surr)	*96*		*64 - 132*		*04/28/23 18:47*	*2000*
Dibromofluoromethane	*111*		*75 - 126*		*04/28/23 18:47*	*2000*
4-Bromofluorobenzene	*97*		*72 - 119*		*04/28/23 18:47*	*2000*

Client Sample ID: LC34-RW19C-20230414 — **Lab Sample ID: 670-18010-9**
Date Collected: 04/14/23 11:30 — **Matrix: Water**
Date Received: 04/14/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	450	U	2500	450	ug/L			04/27/23 02:05	2500
1,1,2,2-Tetrachloroethane	1300	U	2500	1300	ug/L			04/27/23 02:05	2500
1,1,2-Trichloro-1,2,2-trifluoroethane	1300	U	2500	1300	ug/L			04/27/23 02:05	2500
1,1,2-Trichloroethane	530	U	13000	530	ug/L			04/27/23 02:05	2500
1,1-Dichloroethane	1300	U	2500	1300	ug/L			04/27/23 02:05	2500
1,1-Dichloroethene	1300	U	2500	1300	ug/L			04/27/23 02:05	2500
1,2,4-Trichlorobenzene	2100	U	2500	2100	ug/L			04/27/23 02:05	2500
1,2-Dibromo-3-Chloropropane	3800	U	13000	3800	ug/L			04/27/23 02:05	2500
1,2-Dibromoethane (EDB)	580	U	2500	580	ug/L			04/27/23 02:05	2500
1,2-Dichlorobenzene	1300	U	2500	1300	ug/L			04/27/23 02:05	2500
1,2-Dichloroethane	480	U	2500	480	ug/L			04/27/23 02:05	2500
1,2-Dichloropropane	1300	U	2500	1300	ug/L			04/27/23 02:05	2500
1,3-Dichlorobenzene	1400	U	2500	1400	ug/L			04/27/23 02:05	2500
1,4-Dichlorobenzene	1600	U	2500	1600	ug/L			04/27/23 02:05	2500
2-Butanone (MEK)	6500	U	63000	6500	ug/L			04/27/23 02:05	2500
2-Hexanone	3500	U	63000	3500	ug/L			04/27/23 02:05	2500
4-Methyl-2-pentanone	4500	U	63000	4500	ug/L			04/27/23 02:05	2500
Acetone	25000	U	63000	25000	ug/L			04/27/23 02:05	2500
Benzene	330	U	2500	330	ug/L			04/27/23 02:05	2500
Bromodichloromethane	1300	U	2500	1300	ug/L			04/27/23 02:05	2500
Bromoform	630	U	13000	630	ug/L			04/27/23 02:05	2500
Bromomethane	2500	U	2500	2500	ug/L			04/27/23 02:05	2500
Carbon disulfide	1300	U	2500	1300	ug/L			04/27/23 02:05	2500
Carbon tetrachloride	480	U	2500	480	ug/L			04/27/23 02:05	2500
Chlorobenzene	380	U	2500	380	ug/L			04/27/23 02:05	2500
Chloroethane	1900	U	2500	1900	ug/L			04/27/23 02:05	2500
Chloroform	2500	U	2500	2500	ug/L			04/27/23 02:05	2500
Chloromethane	800	U	2500	800	ug/L			04/27/23 02:05	2500
cis-1,2-Dichloroethene	**6700**		2500	500	ug/L			04/27/23 02:05	2500
cis-1,3-Dichloropropene	1300	U	13000	1300	ug/L			04/27/23 02:05	2500
Cyclohexane	1300	U	2500	1300	ug/L			04/27/23 02:05	2500
Dibromochloromethane	600	U	2500	600	ug/L			04/27/23 02:05	2500
Dichlorodifluoromethane	2100	U	2500	2100	ug/L			04/27/23 02:05	2500
Ethylbenzene	1300	U	2500	1300	ug/L			04/27/23 02:05	2500
Isopropylbenzene	1300	U	2500	1300	ug/L			04/27/23 02:05	2500

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18010-1

Client Sample ID: LC34-RW19C-20230414

Lab Sample ID: 670-18010-9

Date Collected: 04/14/23 11:30
Matrix: Water
Date Received: 04/14/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylenes	1600	U	13000	1600	ug/L			04/27/23 02:05	2500
Methyl acetate	1500	U	13000	1500	ug/L			04/27/23 02:05	2500
Methyl tert-butyl ether	550	U	2500	550	ug/L			04/27/23 02:05	2500
Methylene Chloride	7500	U	13000	7500	ug/L			04/27/23 02:05	2500
o-Xylene	1500	U	13000	1500	ug/L			04/27/23 02:05	2500
Styrene	2500	U	2500	2500	ug/L			04/27/23 02:05	2500
Tetrachloroethene	2300	U	2500	2300	ug/L			04/27/23 02:05	2500
Toluene	1000	U	2500	1000	ug/L			04/27/23 02:05	2500
trans-1,2-Dichloroethene	1300	U	2500	1300	ug/L			04/27/23 02:05	2500
trans-1,3-Dichloropropene	500	U	13000	500	ug/L			04/27/23 02:05	2500
Trichloroethene	**260000**		2500	380	ug/L			04/27/23 02:05	2500
Trichlorofluoromethane	1300	U	2500	1300	ug/L			04/27/23 02:05	2500
Vinyl chloride	1300	U	2500	1300	ug/L			04/27/23 02:05	2500
Xylenes, Total	4000	U	25000	4000	ug/L			04/27/23 02:05	2500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*67 - 134*		*04/27/23 02:05*	*2500*
Toluene-d8 (Surr)	*95*		*64 - 132*		*04/27/23 02:05*	*2500*
Dibromofluoromethane	*106*		*75 - 126*		*04/27/23 02:05*	*2500*
4-Bromofluorobenzene	*92*		*72 - 119*		*04/27/23 02:05*	*2500*

Client Sample ID: LC34-RW20C-20230414

Lab Sample ID: 670-18010-10

Date Collected: 04/14/23 11:35
Matrix: Water
Date Received: 04/14/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	36	U	200	36	ug/L			04/27/23 00:19	200
1,1,2,2-Tetrachloroethane	100	U	200	100	ug/L			04/27/23 00:19	200
1,1,2-Trichloro-1,2,2-trifluoroethane	100	U	200	100	ug/L			04/27/23 00:19	200
1,1,2-Trichloroethane	42	U	1000	42	ug/L			04/27/23 00:19	200
1,1-Dichloroethane	100	U	200	100	ug/L			04/27/23 00:19	200
1,1-Dichloroethene	100	U	200	100	ug/L			04/27/23 00:19	200
1,2,4-Trichlorobenzene	160	U	200	160	ug/L			04/27/23 00:19	200
1,2-Dibromo-3-Chloropropane	300	U	1000	300	ug/L			04/27/23 00:19	200
1,2-Dibromoethane (EDB)	46	U	200	46	ug/L			04/27/23 00:19	200
1,2-Dichlorobenzene	100	U	200	100	ug/L			04/27/23 00:19	200
1,2-Dichloroethane	38	U	200	38	ug/L			04/27/23 00:19	200
1,2-Dichloropropane	100	U	200	100	ug/L			04/27/23 00:19	200
1,3-Dichlorobenzene	110	U	200	110	ug/L			04/27/23 00:19	200
1,4-Dichlorobenzene	130	U	200	130	ug/L			04/27/23 00:19	200
2-Butanone (MEK)	520	U	5000	520	ug/L			04/27/23 00:19	200
2-Hexanone	280	U	5000	280	ug/L			04/27/23 00:19	200
4-Methyl-2-pentanone	360	U	5000	360	ug/L			04/27/23 00:19	200
Acetone	2000	U	5000	2000	ug/L			04/27/23 00:19	200
Benzene	26	U	200	26	ug/L			04/27/23 00:19	200
Bromodichloromethane	100	U	200	100	ug/L			04/27/23 00:19	200
Bromoform	50	U	1000	50	ug/L			04/27/23 00:19	200
Bromomethane	200	U	200	200	ug/L			04/27/23 00:19	200
Carbon disulfide	100	U	200	100	ug/L			04/27/23 00:19	200

Client Sample ID: LC34-RW20C-20230414

Lab Sample ID: 670-18010-10

Date Collected: 04/14/23 11:35

Matrix: Water

Date Received: 04/14/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	38	U	200	38	ug/L			04/27/23 00:19	200
Chlorobenzene	30	U	200	30	ug/L			04/27/23 00:19	200
Chloroethane	150	U	200	150	ug/L			04/27/23 00:19	200
Chloroform	200	U	200	200	ug/L			04/27/23 00:19	200
Chloromethane	64	U	200	64	ug/L			04/27/23 00:19	200
cis-1,2-Dichloroethene	**860**		200	40	ug/L			04/27/23 00:19	200
cis-1,3-Dichloropropene	100	U	1000	100	ug/L			04/27/23 00:19	200
Cyclohexane	100	U	200	100	ug/L			04/27/23 00:19	200
Dibromochloromethane	48	U	200	48	ug/L			04/27/23 00:19	200
Dichlorodifluoromethane	170	U	200	170	ug/L			04/27/23 00:19	200
Ethylbenzene	100	U	200	100	ug/L			04/27/23 00:19	200
Isopropylbenzene	110	U	200	110	ug/L			04/27/23 00:19	200
m,p-Xylenes	130	U	1000	130	ug/L			04/27/23 00:19	200
Methyl acetate	120	U	1000	120	ug/L			04/27/23 00:19	200
Methyl tert-butyl ether	44	U	200	44	ug/L			04/27/23 00:19	200
Methylene Chloride	600	U	1000	600	ug/L			04/27/23 00:19	200
o-Xylene	120	U	1000	120	ug/L			04/27/23 00:19	200
Styrene	200	U	200	200	ug/L			04/27/23 00:19	200
Tetrachloroethene	180	U	200	180	ug/L			04/27/23 00:19	200
Toluene	82	U	200	82	ug/L			04/27/23 00:19	200
trans-1,2-Dichloroethene	100	U	200	100	ug/L			04/27/23 00:19	200
trans-1,3-Dichloropropene	40	U	1000	40	ug/L			04/27/23 00:19	200
Trichloroethene	**30000**		200	30	ug/L			04/27/23 00:19	200
Trichlorofluoromethane	100	U	200	100	ug/L			04/27/23 00:19	200
Vinyl chloride	100	U	200	100	ug/L			04/27/23 00:19	200
Xylenes, Total	320	U	2000	320	ug/L			04/27/23 00:19	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*67 - 134*		*04/27/23 00:19*	*200*
Toluene-d8 (Surr)	*95*		*64 - 132*		*04/27/23 00:19*	*200*
Dibromofluoromethane	*105*		*75 - 126*		*04/27/23 00:19*	*200*
4-Bromofluorobenzene	*93*		*72 - 119*		*04/27/23 00:19*	*200*

Client Sample ID: LC34-RW21D-20230414

Lab Sample ID: 670-18010-11

Date Collected: 04/14/23 11:40

Matrix: Water

Date Received: 04/14/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	200	U	200	200	ug/L			04/27/23 00:45	200
Chloroethane	150	U	200	150	ug/L			04/27/23 00:45	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*67 - 134*		*04/27/23 00:45*	*200*
Toluene-d8 (Surr)	*95*		*64 - 132*		*04/27/23 00:45*	*200*
Dibromofluoromethane	*104*		*75 - 126*		*04/27/23 00:45*	*200*
4-Bromofluorobenzene	*95*		*72 - 119*		*04/27/23 00:45*	*200*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	36	U	200	36	ug/L			04/28/23 18:08	200

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18010-1

Client Sample ID: LC34-RW21D-20230414
Date Collected: 04/14/23 11:40
Date Received: 04/14/23 16:00

Lab Sample ID: 670-18010-11
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	100	U	200	100	ug/L			04/28/23 18:08	200
1,1,2-Trichloro-1,2,2-trifluoroethane	100	U	200	100	ug/L			04/28/23 18:08	200
1,1,2-Trichloroethane	42	U	1000	42	ug/L			04/28/23 18:08	200
1,1-Dichloroethane	100	U	200	100	ug/L			04/28/23 18:08	200
1,1-Dichloroethene	100	U	200	100	ug/L			04/28/23 18:08	200
1,2,4-Trichlorobenzene	160	U	200	160	ug/L			04/28/23 18:08	200
1,2-Dibromo-3-Chloropropane	300	U	1000	300	ug/L			04/28/23 18:08	200
1,2-Dibromoethane (EDB)	46	U	200	46	ug/L			04/28/23 18:08	200
1,2-Dichlorobenzene	100	U	200	100	ug/L			04/28/23 18:08	200
1,2-Dichloroethane	38	U	200	38	ug/L			04/28/23 18:08	200
1,2-Dichloropropane	100	U	200	100	ug/L			04/28/23 18:08	200
1,3-Dichlorobenzene	110	U	200	110	ug/L			04/28/23 18:08	200
1,4-Dichlorobenzene	130	U	200	130	ug/L			04/28/23 18:08	200
2-Butanone (MEK)	520	U	5000	520	ug/L			04/28/23 18:08	200
2-Hexanone	280	U	5000	280	ug/L			04/28/23 18:08	200
4-Methyl-2-pentanone	360	U	5000	360	ug/L			04/28/23 18:08	200
Acetone	2000	U	5000	2000	ug/L			04/28/23 18:08	200
Benzene	26	U	200	26	ug/L			04/28/23 18:08	200
Bromodichloromethane	100	U	200	100	ug/L			04/28/23 18:08	200
Bromoform	50	U	1000	50	ug/L			04/28/23 18:08	200
Carbon disulfide	100	U	200	100	ug/L			04/28/23 18:08	200
Carbon tetrachloride	38	U	200	38	ug/L			04/28/23 18:08	200
Chlorobenzene	30	U	200	30	ug/L			04/28/23 18:08	200
Chloroform	200	U	200	200	ug/L			04/28/23 18:08	200
Chloromethane	64	U	200	64	ug/L			04/28/23 18:08	200
cis-1,2-Dichloroethene	**350**		200	40	ug/L			04/28/23 18:08	200
cis-1,3-Dichloropropene	100	U	1000	100	ug/L			04/28/23 18:08	200
Cyclohexane	100	U	200	100	ug/L			04/28/23 18:08	200
Dibromochloromethane	48	U	200	48	ug/L			04/28/23 18:08	200
Dichlorodifluoromethane	170	U	200	170	ug/L			04/28/23 18:08	200
Ethylbenzene	100	U	200	100	ug/L			04/28/23 18:08	200
Isopropylbenzene	110	U	200	110	ug/L			04/28/23 18:08	200
m,p-Xylenes	130	U	1000	130	ug/L			04/28/23 18:08	200
Methyl acetate	120	U	1000	120	ug/L			04/28/23 18:08	200
Methyl tert-butyl ether	44	U	200	44	ug/L			04/28/23 18:08	200
Methylene Chloride	600	U	1000	600	ug/L			04/28/23 18:08	200
o-Xylene	120	U	1000	120	ug/L			04/28/23 18:08	200
Styrene	200	U	200	200	ug/L			04/28/23 18:08	200
Tetrachloroethene	180	U	200	180	ug/L			04/28/23 18:08	200
Toluene	82	U	200	82	ug/L			04/28/23 18:08	200
trans-1,2-Dichloroethene	100	U	200	100	ug/L			04/28/23 18:08	200
trans-1,3-Dichloropropene	40	U	1000	40	ug/L			04/28/23 18:08	200
Trichloroethene	**19000**		200	30	ug/L			04/28/23 18:08	200
Trichlorofluoromethane	100	U	200	100	ug/L			04/28/23 18:08	200
Vinyl chloride	100	U	200	100	ug/L			04/28/23 18:08	200
Xylenes, Total	320	U	2000	320	ug/L			04/28/23 18:08	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 134*		*04/28/23 18:08*	*200*
Toluene-d8 (Surr)	*93*		*64 - 132*		*04/28/23 18:08*	*200*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18010-1

Client Sample ID: LC34-RW21D-20230414
Date Collected: 04/14/23 11:40
Date Received: 04/14/23 16:00

Lab Sample ID: 670-18010-11
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	108		75 - 126		04/28/23 18:08	200
4-Bromofluorobenzene	98		72 - 119		04/28/23 18:08	200

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18010-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	DBFM	BFB
Lab Sample ID	Client Sample ID	(67-134)	(64-132)	(75-126)	(72-119)
400-235945-A-8 MS	Matrix Spike	105	87	102	105
400-235945-A-8 MSD	Matrix Spike Duplicate	107	87	106	103
400-236185-A-3 MS	Matrix Spike	94	96	98	91
400-236185-A-3 MSD	Matrix Spike Duplicate	89	98	96	95
400-236725-A-1 MS	Matrix Spike	107	93	100	99
400-236725-A-1 MSD	Matrix Spike Duplicate	104	95	99	100
670-18010-1	LC34-IW0165-110.0-20230414	99	92	106	89
670-18010-2	LC34-IW0044D2-110.0-20230414	98	92	106	90
670-18010-2 - RA	LC34-IW0044D2-110.0-20230414	102	89	104	102
670-18010-3	LC34-IW0162-110.0-20230414	96	93	106	89
670-18010-4	LC34-GAC-20230414	99	95	105	91
670-18010-5	LC34-AS1-20230414	99	96	107	89
670-18010-6	LC34-AS2-20230414	97	96	103	92
670-18010-7	LC34-RW17C-20230414	99	96	103	92
670-18010-7 - RA	LC34-RW17C-20230414	107	94	109	97
670-18010-8	LC34-RW18C-20230414	101	95	107	91
670-18010-8 - RA	LC34-RW18C-20230414	107	96	111	97
670-18010-9	LC34-RW19C-20230414	100	95	106	92
670-18010-10	LC34-RW20C-20230414	98	95	105	93
670-18010-11	LC34-RW21D-20230414	98	95	104	95
670-18010-11 - RA	LC34-RW21D-20230414	107	93	108	98
752-5580-P-13 MS	Matrix Spike	89	95	97	90
752-5580-P-13 MSD	Matrix Spike Duplicate	89	95	99	91
LCS 400-621730/1002	Lab Control Sample	90	96	98	91
LCS 400-621747/1002	Lab Control Sample	101	89	101	107
LCS 400-622389/1002	Lab Control Sample	91	100	96	92
LCS 400-622748/1002	Lab Control Sample	102	97	98	102
MB 400-621730/4	Method Blank	99	93	107	91
MB 400-621747/4	Method Blank	101	89	104	100
MB 400-622389/4	Method Blank	96	95	100	93
MB 400-622748/4	Method Blank	107	96	110	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane
BFB = 4-Bromofluorobenzene

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 400-621730/4
Matrix: Water
Analysis Batch: 621730

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/21/23 09:23	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/21/23 09:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/21/23 09:23	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/21/23 09:23	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/21/23 09:23	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/21/23 09:23	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/21/23 09:23	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/21/23 09:23	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/21/23 09:23	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/21/23 09:23	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/21/23 09:23	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/21/23 09:23	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/21/23 09:23	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/21/23 09:23	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/21/23 09:23	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/21/23 09:23	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/21/23 09:23	1
Acetone	10	U	25	10	ug/L			04/21/23 09:23	1
Benzene	0.13	U	1.0	0.13	ug/L			04/21/23 09:23	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/21/23 09:23	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/21/23 09:23	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/21/23 09:23	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/21/23 09:23	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/21/23 09:23	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/21/23 09:23	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/21/23 09:23	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/21/23 09:23	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/21/23 09:23	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			04/21/23 09:23	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/21/23 09:23	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/21/23 09:23	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/21/23 09:23	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/21/23 09:23	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/21/23 09:23	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/21/23 09:23	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/21/23 09:23	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/21/23 09:23	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/21/23 09:23	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/21/23 09:23	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/21/23 09:23	1
Styrene	1.0	U	1.0	1.0	ug/L			04/21/23 09:23	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/21/23 09:23	1
Toluene	0.41	U	1.0	0.41	ug/L			04/21/23 09:23	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/21/23 09:23	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/21/23 09:23	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/21/23 09:23	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/21/23 09:23	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			04/21/23 09:23	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-621730/4
Matrix: Water
Analysis Batch: 621730

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.6	U	10	1.6	ug/L			04/21/23 09:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*67 - 134*		*04/21/23 09:23*	*1*
Toluene-d8 (Surr)	*93*		*64 - 132*		*04/21/23 09:23*	*1*
Dibromofluoromethane	*107*		*75 - 126*		*04/21/23 09:23*	*1*
4-Bromofluorobenzene	*91*		*72 - 119*		*04/21/23 09:23*	*1*

Lab Sample ID: LCS 400-621730/1002
Matrix: Water
Analysis Batch: 621730

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	44.2		ug/L		88	68 - 130
1,1,2,2-Tetrachloroethane	50.0	43.8		ug/L		88	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	47.6		ug/L		95	60 - 139
1,1,2-Trichloroethane	50.0	46.0		ug/L		92	70 - 130
1,1-Dichloroethane	50.0	46.5		ug/L		93	70 - 130
1,1-Dichloroethene	50.0	47.9		ug/L		96	63 - 134
1,2,4-Trichlorobenzene	50.0	48.3		ug/L		97	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	41.7		ug/L		83	54 - 135
1,2-Dibromoethane (EDB)	50.0	45.6		ug/L		91	70 - 130
1,2-Dichlorobenzene	50.0	47.5		ug/L		95	67 - 130
1,2-Dichloroethane	50.0	42.0		ug/L		84	69 - 130
1,2-Dichloropropane	50.0	47.8		ug/L		96	70 - 130
1,3-Dichlorobenzene	50.0	47.8		ug/L		96	70 - 130
1,4-Dichlorobenzene	50.0	47.3		ug/L		95	70 - 130
2-Butanone (MEK)	200	185		ug/L		92	61 - 145
2-Hexanone	200	170		ug/L		85	65 - 137
4-Methyl-2-pentanone	200	174		ug/L		87	69 - 138
Acetone	200	191		ug/L		95	43 - 160
Benzene	50.0	48.4		ug/L		97	70 - 130
Bromodichloromethane	50.0	45.6		ug/L		91	67 - 133
Bromoform	50.0	41.7		ug/L		83	57 - 140
Bromomethane	50.0	38.5		ug/L		77	10 - 160
Carbon disulfide	50.0	46.4		ug/L		93	61 - 137
Carbon tetrachloride	50.0	45.2		ug/L		90	61 - 137
Chlorobenzene	50.0	47.8		ug/L		96	70 - 130
Chloroethane	50.0	49.3		ug/L		99	55 - 141
Chloroform	50.0	45.4		ug/L		91	69 - 130
Chloromethane	50.0	38.4		ug/L		77	58 - 137
cis-1,2-Dichloroethene	50.0	45.6		ug/L		91	68 - 130
cis-1,3-Dichloropropene	50.0	45.8		ug/L		92	69 - 132
Cyclohexane	50.0	46.8		ug/L		94	70 - 130
Dibromochloromethane	50.0	45.5		ug/L		91	67 - 135
Dichlorodifluoromethane	50.0	33.5		ug/L		67	41 - 146
Ethylbenzene	50.0	47.0		ug/L		94	70 - 130
Isopropylbenzene	50.0	48.1		ug/L		96	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-621730/1002
Matrix: Water
Analysis Batch: 621730

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	45.8		ug/L		92	70 - 130
Methyl acetate	100	87.5		ug/L		88	45 - 159
Methyl tert-butyl ether	50.0	42.8		ug/L		86	66 - 130
Methylene Chloride	50.0	49.1		ug/L		98	66 - 135
o-Xylene	50.0	46.3		ug/L		93	70 - 130
Styrene	50.0	48.0		ug/L		96	70 - 130
Tetrachloroethene	50.0	47.6		ug/L		95	65 - 130
Toluene	50.0	44.8		ug/L		90	70 - 130
trans-1,2-Dichloroethene	50.0	48.7		ug/L		97	70 - 130
trans-1,3-Dichloropropene	50.0	43.3		ug/L		87	63 - 130
Trichloroethene	50.0	48.0		ug/L		96	70 - 130
Trichlorofluoromethane	50.0	49.7		ug/L		99	65 - 138
Vinyl chloride	50.0	47.4		ug/L		95	59 - 136
Xylenes, Total	100	92.2		ug/L		92	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*67 - 134*
Toluene-d8 (Surr)	*96*		*64 - 132*
Dibromofluoromethane	*98*		*75 - 126*
4-Bromofluorobenzene	*91*		*72 - 119*

Lab Sample ID: 752-5580-P-13 MS
Matrix: Water
Analysis Batch: 621730

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	38.0		ug/L		76	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	38.8		ug/L		78	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	39.3		ug/L		79	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	41.3		ug/L		83	66 - 131
1,1-Dichloroethane	0.50	U	50.0	41.3		ug/L		83	61 - 144
1,1-Dichloroethene	0.50	U	50.0	40.2		ug/L		80	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	38.7		ug/L		77	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	37.0		ug/L		74	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	40.4		ug/L		81	64 - 132
1,2-Dichlorobenzene	0.50	U	50.0	39.6		ug/L		79	52 - 137
1,2-Dichloroethane	0.19	U	50.0	38.2		ug/L		76	60 - 141
1,2-Dichloropropane	0.50	U	50.0	43.6		ug/L		87	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	38.2		ug/L		76	54 - 135
1,4-Dichlorobenzene	0.64	U	50.0	38.7		ug/L		77	53 - 135
2-Butanone (MEK)	6.1	I	200	166		ug/L		80	55 - 150
2-Hexanone	1.4	U	200	142		ug/L		71	65 - 140
4-Methyl-2-pentanone	1.8	U	200	150		ug/L		75	63 - 146
Acetone	680		200	802		ug/L		63	43 - 150
Benzene	0.55	I	50.0	42.9		ug/L		85	56 - 142
Bromodichloromethane	0.50	U	50.0	39.7		ug/L		79	59 - 143
Bromoform	0.25	U	50.0	36.7		ug/L		73	50 - 140
Bromomethane	0.98	U	50.0	39.2		ug/L		78	10 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 752-5580-P-13 MS
Matrix: Water
Analysis Batch: 621730

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	0.50	U	50.0	40.6		ug/L		81	48 - 150
Carbon tetrachloride	0.19	U	50.0	38.9		ug/L		78	55 - 145
Chlorobenzene	0.30	I	50.0	40.0		ug/L		79	64 - 130
Chloroethane	0.76	U	50.0	45.5		ug/L		91	50 - 150
Chloroform	1.0	U	50.0	39.9		ug/L		80	60 - 141
Chloromethane	0.32	U	50.0	33.6		ug/L		67	49 - 148
cis-1,2-Dichloroethene	0.21	I	50.0	40.5		ug/L		81	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	40.0		ug/L		80	57 - 140
Cyclohexane	0.50	U	50.0	38.6		ug/L		77	58 - 141
Dibromochloromethane	0.24	U	50.0	39.6		ug/L		79	56 - 143
Dichlorodifluoromethane	0.85	U	50.0	30.8		ug/L		62	16 - 150
Ethylbenzene	0.50	U	50.0	38.2		ug/L		76	58 - 131
Isopropylbenzene	0.53	U	50.0	37.8		ug/L		76	56 - 133
m,p-Xylenes	0.63	U	50.0	36.8		ug/L		74	57 - 130
Methyl acetate	0.61	U	100	79.8		ug/L		80	21 - 150
Methyl tert-butyl ether	0.22	U	50.0	38.1		ug/L		76	59 - 137
Methylene Chloride	3.0	U	50.0	43.6		ug/L		87	60 - 146
o-Xylene	0.60	U	50.0	37.8		ug/L		76	61 - 130
Styrene	1.0	U	50.0	39.4		ug/L		79	58 - 131
Tetrachloroethene	0.90	U	50.0	37.9		ug/L		76	52 - 133
Toluene	0.41	U	50.0	37.8		ug/L		76	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	41.7		ug/L		83	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	37.1		ug/L		74	53 - 133
Trichloroethene	0.15	U	50.0	41.2		ug/L		82	64 - 136
Trichlorofluoromethane	0.52	U	50.0	45.0		ug/L		90	54 - 150
Vinyl chloride	2.8		50.0	45.9		ug/L		86	46 - 150
Xylenes, Total	1.6	U	100	74.5		ug/L		75	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*67 - 134*
Toluene-d8 (Surr)	*95*		*64 - 132*
Dibromofluoromethane	*97*		*75 - 126*
4-Bromofluorobenzene	*90*		*72 - 119*

Lab Sample ID: 752-5580-P-13 MSD
Matrix: Water
Analysis Batch: 621730

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	43.4		ug/L		87	57 - 142	13	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	43.1		ug/L		86	66 - 135	11	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	46.7		ug/L		93	55 - 150	17	30
1,1,2-Trichloroethane	0.21	U	50.0	46.1		ug/L		92	66 - 131	11	30
1,1-Dichloroethane	0.50	U	50.0	46.4		ug/L		93	61 - 144	12	30
1,1-Dichloroethene	0.50	U	50.0	46.6		ug/L		93	54 - 147	15	30
1,2,4-Trichlorobenzene	0.82	U	50.0	42.5		ug/L		85	39 - 148	9	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	40.9		ug/L		82	45 - 135	10	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	44.9		ug/L		90	64 - 132	11	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 752-5580-P-13 MSD
Matrix: Water
Analysis Batch: 621730

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichlorobenzene	0.50	U	50.0	43.1		ug/L		86	52 - 137	8	30
1,2-Dichloroethane	0.19	U	50.0	42.7		ug/L		85	60 - 141	11	30
1,2-Dichloropropane	0.50	U	50.0	48.5		ug/L		97	66 - 137	11	30
1,3-Dichlorobenzene	0.54	U	50.0	42.1		ug/L		84	54 - 135	10	30
1,4-Dichlorobenzene	0.64	U	50.0	42.6		ug/L		85	53 - 135	10	30
2-Butanone (MEK)	6.1	I	200	190		ug/L		92	55 - 150	13	30
2-Hexanone	1.4	U	200	161		ug/L		80	65 - 140	12	30
4-Methyl-2-pentanone	1.8	U	200	171		ug/L		85	63 - 146	13	30
Acetone	680		200	837		ug/L		80	43 - 150	4	30
Benzene	0.55	I	50.0	48.0		ug/L		95	56 - 142	11	30
Bromodichloromethane	0.50	U	50.0	44.6		ug/L		89	59 - 143	12	30
Bromoform	0.25	U	50.0	40.9		ug/L		82	50 - 140	11	30
Bromomethane	0.98	U	50.0	51.4		ug/L		103	10 - 150	27	50
Carbon disulfide	0.50	U	50.0	46.2		ug/L		92	48 - 150	13	30
Carbon tetrachloride	0.19	U	50.0	44.6		ug/L		89	55 - 145	14	30
Chlorobenzene	0.30	I	50.0	44.2		ug/L		88	64 - 130	10	30
Chloroethane	0.76	U	50.0	44.2		ug/L		88	50 - 150	3	30
Chloroform	1.0	U	50.0	44.9		ug/L		90	60 - 141	12	30
Chloromethane	0.32	U	50.0	38.5		ug/L		77	49 - 148	13	31
cis-1,2-Dichloroethene	0.21	I	50.0	45.6		ug/L		91	59 - 143	12	30
cis-1,3-Dichloropropene	0.50	U	50.0	45.4		ug/L		91	57 - 140	13	30
Cyclohexane	0.50	U	50.0	43.9		ug/L		88	58 - 141	13	30
Dibromochloromethane	0.24	U	50.0	44.6		ug/L		89	56 - 143	12	30
Dichlorodifluoromethane	0.85	U	50.0	35.0		ug/L		70	16 - 150	13	31
Ethylbenzene	0.50	U	50.0	42.9		ug/L		86	58 - 131	12	30
Isopropylbenzene	0.53	U	50.0	43.0		ug/L		86	56 - 133	13	30
m,p-Xylenes	0.63	U	50.0	41.6		ug/L		83	57 - 130	12	30
Methyl acetate	0.61	U	100	86.0		ug/L		86	21 - 150	7	30
Methyl tert-butyl ether	0.22	U	50.0	43.4		ug/L		87	59 - 137	13	30
Methylene Chloride	3.0	U	50.0	48.8		ug/L		98	60 - 146	11	32
o-Xylene	0.60	U	50.0	42.6		ug/L		85	61 - 130	12	30
Styrene	1.0	U	50.0	44.3		ug/L		89	58 - 131	12	30
Tetrachloroethene	0.90	U	50.0	43.1		ug/L		86	52 - 133	13	30
Toluene	0.41	U	50.0	42.8		ug/L		86	65 - 130	12	30
trans-1,2-Dichloroethene	0.50	U	50.0	47.5		ug/L		95	61 - 143	13	30
trans-1,3-Dichloropropene	0.20	U	50.0	41.6		ug/L		83	53 - 133	11	30
Trichloroethene	0.15	U	50.0	45.9		ug/L		92	64 - 136	11	30
Trichlorofluoromethane	0.52	U	50.0	49.1		ug/L		98	54 - 150	9	30
Vinyl chloride	2.8		50.0	51.7		ug/L		98	46 - 150	12	30
Xylenes, Total	1.6	U	100	84.2		ug/L		84	59 - 130	12	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*67 - 134*
Toluene-d8 (Surr)	*95*		*64 - 132*
Dibromofluoromethane	*99*		*75 - 126*
4-Bromofluorobenzene	*91*		*72 - 119*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-621747/4
Matrix: Water
Analysis Batch: 621747

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	0.98	U	1.0	0.98	ug/L			04/21/23 14:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*		*04/21/23 14:59*	*1*
Toluene-d8 (Surr)	*89*		*64 - 132*		*04/21/23 14:59*	*1*
Dibromofluoromethane	*104*		*75 - 126*		*04/21/23 14:59*	*1*
4-Bromofluorobenzene	*100*		*72 - 119*		*04/21/23 14:59*	*1*

Lab Sample ID: LCS 400-621747/1002
Matrix: Water
Analysis Batch: 621747

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Bromomethane			25.0	21.2		ug/L		85	10 - 160		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*
Toluene-d8 (Surr)	*89*		*64 - 132*
Dibromofluoromethane	*101*		*75 - 126*
4-Bromofluorobenzene	*107*		*72 - 119*

Lab Sample ID: 400-235945-A-8 MS
Matrix: Water
Analysis Batch: 621747

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Bromomethane	0.98	U	25.0	13.2		ug/L		53	10 - 150		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*67 - 134*
Toluene-d8 (Surr)	*87*		*64 - 132*
Dibromofluoromethane	*102*		*75 - 126*
4-Bromofluorobenzene	*105*		*72 - 119*

Lab Sample ID: 400-235945-A-8 MSD
Matrix: Water
Analysis Batch: 621747

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Bromomethane	0.98	U	25.0	12.1		ug/L		49	10 - 150	9	50

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 134*
Toluene-d8 (Surr)	*87*		*64 - 132*
Dibromofluoromethane	*106*		*75 - 126*
4-Bromofluorobenzene	*103*		*72 - 119*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-622389/4
Matrix: Water
Analysis Batch: 622389

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/26/23 16:18	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/26/23 16:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/26/23 16:18	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/26/23 16:18	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/26/23 16:18	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/26/23 16:18	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/26/23 16:18	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/26/23 16:18	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/26/23 16:18	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/26/23 16:18	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/26/23 16:18	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/26/23 16:18	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/26/23 16:18	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/26/23 16:18	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/26/23 16:18	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/26/23 16:18	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/26/23 16:18	1
Acetone	10	U	25	10	ug/L			04/26/23 16:18	1
Benzene	0.13	U	1.0	0.13	ug/L			04/26/23 16:18	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/26/23 16:18	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/26/23 16:18	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/26/23 16:18	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/26/23 16:18	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/26/23 16:18	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/26/23 16:18	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/26/23 16:18	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/26/23 16:18	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/26/23 16:18	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			04/26/23 16:18	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/26/23 16:18	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/26/23 16:18	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/26/23 16:18	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/26/23 16:18	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/26/23 16:18	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/26/23 16:18	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/26/23 16:18	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/26/23 16:18	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/26/23 16:18	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/26/23 16:18	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/26/23 16:18	1
Styrene	1.0	U	1.0	1.0	ug/L			04/26/23 16:18	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/26/23 16:18	1
Toluene	0.41	U	1.0	0.41	ug/L			04/26/23 16:18	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/26/23 16:18	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/26/23 16:18	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/26/23 16:18	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/26/23 16:18	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			04/26/23 16:18	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-622389/4
Matrix: Water
Analysis Batch: 622389

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.6	U	10	1.6	ug/L			04/26/23 16:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*67 - 134*		*04/26/23 16:18*	*1*
Toluene-d8 (Surr)	*95*		*64 - 132*		*04/26/23 16:18*	*1*
Dibromofluoromethane	*100*		*75 - 126*		*04/26/23 16:18*	*1*
4-Bromofluorobenzene	*93*		*72 - 119*		*04/26/23 16:18*	*1*

Lab Sample ID: LCS 400-622389/1002
Matrix: Water
Analysis Batch: 622389

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	45.3		ug/L		91	68 - 130
1,1,2,2-Tetrachloroethane	50.0	47.5		ug/L		95	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	49.7		ug/L		99	60 - 139
1,1,2-Trichloroethane	50.0	49.8		ug/L		100	70 - 130
1,1-Dichloroethane	50.0	46.7		ug/L		93	70 - 130
1,1-Dichloroethene	50.0	47.9		ug/L		96	63 - 134
1,2,4-Trichlorobenzene	50.0	50.2		ug/L		100	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	47.0		ug/L		94	54 - 135
1,2-Dibromoethane (EDB)	50.0	49.8		ug/L		100	70 - 130
1,2-Dichlorobenzene	50.0	50.3		ug/L		101	67 - 130
1,2-Dichloroethane	50.0	43.8		ug/L		88	69 - 130
1,2-Dichloropropane	50.0	48.6		ug/L		97	70 - 130
1,3-Dichlorobenzene	50.0	50.2		ug/L		100	70 - 130
1,4-Dichlorobenzene	50.0	50.8		ug/L		102	70 - 130
2-Butanone (MEK)	200	189		ug/L		94	61 - 145
2-Hexanone	200	181		ug/L		90	65 - 137
4-Methyl-2-pentanone	200	179		ug/L		89	69 - 138
Acetone	200	167		ug/L		83	43 - 160
Benzene	50.0	48.9		ug/L		98	70 - 130
Bromodichloromethane	50.0	45.7		ug/L		91	67 - 133
Bromoform	50.0	47.1		ug/L		94	57 - 140
Bromomethane	50.0	59.8		ug/L		120	10 - 160
Carbon disulfide	50.0	47.4		ug/L		95	61 - 137
Carbon tetrachloride	50.0	46.7		ug/L		93	61 - 137
Chlorobenzene	50.0	50.8		ug/L		102	70 - 130
Chloroethane	50.0	47.7		ug/L		95	55 - 141
Chloroform	50.0	45.6		ug/L		91	69 - 130
Chloromethane	50.0	42.8		ug/L		86	58 - 137
cis-1,2-Dichloroethene	50.0	45.7		ug/L		91	68 - 130
cis-1,3-Dichloropropene	50.0	48.0		ug/L		96	69 - 132
Cyclohexane	50.0	45.5		ug/L		91	70 - 130
Dibromochloromethane	50.0	49.1		ug/L		98	67 - 135
Dichlorodifluoromethane	50.0	48.6		ug/L		97	41 - 146
Ethylbenzene	50.0	49.4		ug/L		99	70 - 130
Isopropylbenzene	50.0	49.6		ug/L		99	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-622389/1002
Matrix: Water
Analysis Batch: 622389

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	49.1		ug/L		98	70 - 130
Methyl acetate	100	85.4		ug/L		85	45 - 159
Methyl tert-butyl ether	50.0	46.2		ug/L		92	66 - 130
Methylene Chloride	50.0	48.7		ug/L		97	66 - 135
o-Xylene	50.0	49.4		ug/L		99	70 - 130
Styrene	50.0	51.0		ug/L		102	70 - 130
Tetrachloroethene	50.0	51.0		ug/L		102	65 - 130
Toluene	50.0	48.9		ug/L		98	70 - 130
trans-1,2-Dichloroethene	50.0	48.3		ug/L		97	70 - 130
trans-1,3-Dichloropropene	50.0	47.7		ug/L		95	63 - 130
Trichloroethene	50.0	48.9		ug/L		98	70 - 130
Trichlorofluoromethane	50.0	50.9		ug/L		102	65 - 138
Vinyl chloride	50.0	56.6		ug/L		113	59 - 136
Xylenes, Total	100	98.5		ug/L		98	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*67 - 134*
Toluene-d8 (Surr)	*100*		*64 - 132*
Dibromofluoromethane	*96*		*75 - 126*
4-Bromofluorobenzene	*92*		*72 - 119*

Lab Sample ID: 400-236185-A-3 MS
Matrix: Water
Analysis Batch: 622389

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	45.5		ug/L		91	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	49.0		ug/L		98	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	48.0		ug/L		96	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	49.7		ug/L		99	66 - 131
1,1-Dichloroethane	0.50	U	50.0	46.6		ug/L		93	61 - 144
1,1-Dichloroethene	0.50	U	50.0	48.2		ug/L		96	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	51.0		ug/L		102	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	49.5		ug/L		99	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	50.4		ug/L		101	64 - 132
1,2-Dichlorobenzene	0.50	U	50.0	51.4		ug/L		103	52 - 137
1,2-Dichloroethane	0.19	U	50.0	45.0		ug/L		90	60 - 141
1,2-Dichloropropane	0.50	U	50.0	49.6		ug/L		99	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	50.4		ug/L		101	54 - 135
1,4-Dichlorobenzene	0.64	U	50.0	50.2		ug/L		100	53 - 135
2-Butanone (MEK)	2.6	U	200	204		ug/L		102	55 - 150
2-Hexanone	1.4	U	200	183		ug/L		91	65 - 140
4-Methyl-2-pentanone	1.8	U	200	192		ug/L		96	63 - 146
Acetone	10	U J3	200	197		ug/L		99	43 - 150
Benzene	0.31	I	50.0	49.4		ug/L		98	56 - 142
Bromodichloromethane	0.50	U	50.0	46.6		ug/L		93	59 - 143
Bromoform	0.25	U	50.0	47.5		ug/L		95	50 - 140
Bromomethane	0.98	U	50.0	38.3		ug/L		77	10 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-236185-A-3 MS
Matrix: Water
Analysis Batch: 622389

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	0.50	U	50.0	49.2		ug/L		98	48 - 150
Carbon tetrachloride	0.19	U	50.0	47.2		ug/L		94	55 - 145
Chlorobenzene	0.15	U	50.0	50.2		ug/L		100	64 - 130
Chloroethane	0.76	U	50.0	45.3		ug/L		91	50 - 150
Chloroform	1.0	U	50.0	46.5		ug/L		93	60 - 141
Chloromethane	0.32	U	50.0	39.7		ug/L		79	49 - 148
cis-1,2-Dichloroethene	0.20	U	50.0	46.6		ug/L		93	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	48.3		ug/L		97	57 - 140
Cyclohexane	1.1		50.0	46.5		ug/L		91	58 - 141
Dibromochloromethane	0.24	U	50.0	48.9		ug/L		98	56 - 143
Dichlorodifluoromethane	0.85	U	50.0	46.4		ug/L		93	16 - 150
Ethylbenzene	0.50	U	50.0	48.7		ug/L		97	58 - 131
Isopropylbenzene	0.53	U	50.0	49.6		ug/L		99	56 - 133
m,p-Xylenes	0.63	U	50.0	48.1		ug/L		96	57 - 130
Methyl acetate	0.61	U	100	87.0		ug/L		87	21 - 150
Methyl tert-butyl ether	2.9		50.0	50.9		ug/L		96	59 - 137
Methylene Chloride	3.0	U	50.0	49.9		ug/L		100	60 - 146
o-Xylene	0.60	U	50.0	48.9		ug/L		98	61 - 130
Styrene	1.0	U	50.0	51.0		ug/L		102	58 - 131
Tetrachloroethene	0.90	U	50.0	48.9		ug/L		98	52 - 133
Toluene	0.41	U	50.0	47.5		ug/L		95	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	48.8		ug/L		98	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	46.3		ug/L		93	53 - 133
Trichloroethene	0.24	I	50.0	48.9		ug/L		97	64 - 136
Trichlorofluoromethane	0.52	U	50.0	50.6		ug/L		101	54 - 150
Vinyl chloride	0.50	U	50.0	53.9		ug/L		108	46 - 150
Xylenes, Total	1.6	U	100	97.0		ug/L		97	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*67 - 134*
Toluene-d8 (Surr)	*96*		*64 - 132*
Dibromofluoromethane	*98*		*75 - 126*
4-Bromofluorobenzene	*91*		*72 - 119*

Lab Sample ID: 400-236185-A-3 MSD
Matrix: Water
Analysis Batch: 622389

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	40.7		ug/L		81	57 - 142	11	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	43.9		ug/L		88	66 - 135	11	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	43.8		ug/L		88	55 - 150	9	30
1,1,2-Trichloroethane	0.21	U	50.0	44.1		ug/L		88	66 - 131	12	30
1,1-Dichloroethane	0.50	U	50.0	42.4		ug/L		85	61 - 144	10	30
1,1-Dichloroethene	0.50	U	50.0	42.8		ug/L		86	54 - 147	12	30
1,2,4-Trichlorobenzene	0.82	U	50.0	39.8		ug/L		80	39 - 148	25	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	42.7		ug/L		85	45 - 135	15	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	44.3		ug/L		89	64 - 132	13	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-236185-A-3 MSD
Matrix: Water
Analysis Batch: 622389

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichlorobenzene	0.50	U	50.0	40.2		ug/L		80	52 - 137	24	30
1,2-Dichloroethane	0.19	U	50.0	39.6		ug/L		79	60 - 141	13	30
1,2-Dichloropropane	0.50	U	50.0	44.1		ug/L		88	66 - 137	12	30
1,3-Dichlorobenzene	0.54	U	50.0	39.7		ug/L		79	54 - 135	24	30
1,4-Dichlorobenzene	0.64	U	50.0	40.2		ug/L		80	53 - 135	22	30
2-Butanone (MEK)	2.6	U	200	171		ug/L		85	55 - 150	18	30
2-Hexanone	1.4	U	200	159		ug/L		80	65 - 140	14	30
4-Methyl-2-pentanone	1.8	U	200	164		ug/L		82	63 - 146	15	30
Acetone	10	U J3	200	131	J3	ug/L		65	43 - 150	41	30
Benzene	0.31	I	50.0	44.2		ug/L		88	56 - 142	11	30
Bromodichloromethane	0.50	U	50.0	41.4		ug/L		83	59 - 143	12	30
Bromoform	0.25	U	50.0	43.0		ug/L		86	50 - 140	10	30
Bromomethane	0.98	U	50.0	54.2		ug/L		108	10 - 150	34	50
Carbon disulfide	0.50	U	50.0	43.7		ug/L		87	48 - 150	12	30
Carbon tetrachloride	0.19	U	50.0	42.2		ug/L		84	55 - 145	11	30
Chlorobenzene	0.15	U	50.0	42.3		ug/L		85	64 - 130	17	30
Chloroethane	0.76	U	50.0	41.9		ug/L		84	50 - 150	8	30
Chloroform	1.0	U	50.0	41.6		ug/L		83	60 - 141	11	30
Chloromethane	0.32	U	50.0	40.0		ug/L		80	49 - 148	1	31
cis-1,2-Dichloroethene	0.20	U	50.0	41.0		ug/L		82	59 - 143	13	30
cis-1,3-Dichloropropene	0.50	U	50.0	41.7		ug/L		83	57 - 140	15	30
Cyclohexane	1.1		50.0	43.9		ug/L		86	58 - 141	6	30
Dibromochloromethane	0.24	U	50.0	44.2		ug/L		88	56 - 143	10	30
Dichlorodifluoromethane	0.85	U	50.0	47.9		ug/L		96	16 - 150	3	31
Ethylbenzene	0.50	U	50.0	40.4		ug/L		81	58 - 131	19	30
Isopropylbenzene	0.53	U	50.0	39.2		ug/L		78	56 - 133	23	30
m,p-Xylenes	0.63	U	50.0	39.3		ug/L		79	57 - 130	20	30
Methyl acetate	0.61	U	100	64.8		ug/L		65	21 - 150	29	30
Methyl tert-butyl ether	2.9		50.0	46.2		ug/L		87	59 - 137	10	30
Methylene Chloride	3.0	U	50.0	45.5		ug/L		91	60 - 146	9	32
o-Xylene	0.60	U	50.0	39.9		ug/L		80	61 - 130	20	30
Styrene	1.0	U	50.0	41.0		ug/L		82	58 - 131	22	30
Tetrachloroethene	0.90	U	50.0	42.2		ug/L		84	52 - 133	15	30
Toluene	0.41	U	50.0	41.7		ug/L		83	65 - 130	13	30
trans-1,2-Dichloroethene	0.50	U	50.0	43.9		ug/L		88	61 - 143	11	30
trans-1,3-Dichloropropene	0.20	U	50.0	41.3		ug/L		83	53 - 133	11	30
Trichloroethene	0.24	I	50.0	43.4		ug/L		86	64 - 136	12	30
Trichlorofluoromethane	0.52	U	50.0	45.4		ug/L		91	54 - 150	11	30
Vinyl chloride	0.50	U	50.0	54.1		ug/L		108	46 - 150	0	30
Xylenes, Total	1.6	U	100	79.2		ug/L		79	59 - 130	20	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*67 - 134*
Toluene-d8 (Surr)	*98*		*64 - 132*
Dibromofluoromethane	*96*		*75 - 126*
4-Bromofluorobenzene	*95*		*72 - 119*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-622748/4
Matrix: Water
Analysis Batch: 622748

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/28/23 15:32	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/28/23 15:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/28/23 15:32	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/28/23 15:32	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/28/23 15:32	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/28/23 15:32	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/28/23 15:32	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/28/23 15:32	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/28/23 15:32	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/28/23 15:32	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/28/23 15:32	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/28/23 15:32	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/28/23 15:32	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/28/23 15:32	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/28/23 15:32	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/28/23 15:32	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/28/23 15:32	1
Acetone	10	U	25	10	ug/L			04/28/23 15:32	1
Benzene	0.13	U	1.0	0.13	ug/L			04/28/23 15:32	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/28/23 15:32	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/28/23 15:32	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/28/23 15:32	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/28/23 15:32	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/28/23 15:32	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/28/23 15:32	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/28/23 15:32	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			04/28/23 15:32	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/28/23 15:32	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/28/23 15:32	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/28/23 15:32	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/28/23 15:32	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/28/23 15:32	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/28/23 15:32	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/28/23 15:32	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/28/23 15:32	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/28/23 15:32	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/28/23 15:32	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/28/23 15:32	1
Styrene	1.0	U	1.0	1.0	ug/L			04/28/23 15:32	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/28/23 15:32	1
Toluene	0.41	U	1.0	0.41	ug/L			04/28/23 15:32	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/28/23 15:32	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/28/23 15:32	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/28/23 15:32	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/28/23 15:32	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			04/28/23 15:32	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/28/23 15:32	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-622748/4
Matrix: Water
Analysis Batch: 622748

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		67 - 134		04/28/23 15:32	1
Toluene-d8 (Surr)	96		64 - 132		04/28/23 15:32	1
Dibromofluoromethane	110		75 - 126		04/28/23 15:32	1
4-Bromofluorobenzene	99		72 - 119		04/28/23 15:32	1

Lab Sample ID: LCS 400-622748/1002
Matrix: Water
Analysis Batch: 622748

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	43.7		ug/L		87	68 - 130
1,1,2,2-Tetrachloroethane	50.0	47.6		ug/L		95	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	47.9		ug/L		96	60 - 139
1,1,2-Trichloroethane	50.0	48.8		ug/L		98	70 - 130
1,1-Dichloroethane	50.0	45.2		ug/L		90	70 - 130
1,1-Dichloroethene	50.0	46.7		ug/L		93	63 - 134
1,2,4-Trichlorobenzene	50.0	47.4		ug/L		95	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	41.3		ug/L		83	54 - 135
1,2-Dibromoethane (EDB)	50.0	46.2		ug/L		92	70 - 130
1,2-Dichlorobenzene	50.0	47.3		ug/L		95	67 - 130
1,2-Dichloroethane	50.0	49.5		ug/L		99	69 - 130
1,2-Dichloropropane	50.0	49.5		ug/L		99	70 - 130
1,3-Dichlorobenzene	50.0	47.4		ug/L		95	70 - 130
1,4-Dichlorobenzene	50.0	47.3		ug/L		95	70 - 130
2-Butanone (MEK)	200	176		ug/L		88	61 - 145
2-Hexanone	200	167		ug/L		84	65 - 137
4-Methyl-2-pentanone	200	176		ug/L		88	69 - 138
Acetone	200	194		ug/L		97	43 - 160
Benzene	50.0	48.4		ug/L		97	70 - 130
Bromodichloromethane	50.0	49.8		ug/L		100	67 - 133
Bromoform	50.0	49.1		ug/L		98	57 - 140
Carbon disulfide	50.0	43.5		ug/L		87	61 - 137
Carbon tetrachloride	50.0	46.7		ug/L		93	61 - 137
Chlorobenzene	50.0	47.2		ug/L		94	70 - 130
Chloroform	50.0	45.7		ug/L		91	69 - 130
Chloromethane	50.0	47.2		ug/L		94	58 - 137
cis-1,2-Dichloroethene	50.0	44.3		ug/L		89	68 - 130
cis-1,3-Dichloropropene	50.0	49.9		ug/L		100	69 - 132
Cyclohexane	50.0	45.0		ug/L		90	70 - 130
Dibromochloromethane	50.0	50.1		ug/L		100	67 - 135
Dichlorodifluoromethane	50.0	44.1		ug/L		88	41 - 146
Ethylbenzene	50.0	46.2		ug/L		92	70 - 130
Isopropylbenzene	50.0	45.5		ug/L		91	70 - 130
m,p-Xylenes	50.0	45.5		ug/L		91	70 - 130
Methyl acetate	100	89.8		ug/L		90	45 - 159
Methyl tert-butyl ether	50.0	51.8		ug/L		104	66 - 130
Methylene Chloride	50.0	56.5		ug/L		113	66 - 135
o-Xylene	50.0	46.7		ug/L		93	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-622748/1002
Matrix: Water
Analysis Batch: 622748

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Styrene			50.0	47.3		ug/L		95	70 - 130		
Tetrachloroethene			50.0	46.6		ug/L		93	65 - 130		
Toluene			50.0	46.1		ug/L		92	70 - 130		
trans-1,2-Dichloroethene			50.0	48.5		ug/L		97	70 - 130		
trans-1,3-Dichloropropene			50.0	47.4		ug/L		95	63 - 130		
Trichloroethene			50.0	47.6		ug/L		95	70 - 130		
Trichlorofluoromethane			50.0	51.4		ug/L		103	65 - 138		
Vinyl chloride			50.0	50.9		ug/L		102	59 - 136		
Xylenes, Total			100	92.2		ug/L		92	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*67 - 134*
Toluene-d8 (Surr)	*97*		*64 - 132*
Dibromofluoromethane	*98*		*75 - 126*
4-Bromofluorobenzene	*102*		*72 - 119*

Lab Sample ID: 400-236725-A-1 MS
Matrix: Water
Analysis Batch: 622748

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1,1-Trichloroethane	0.18	U	50.0	34.1		ug/L		68	57 - 142		
1,1,2,2-Tetrachloroethane	0.50	U	50.0	37.9		ug/L		76	66 - 135		
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	41.0		ug/L		82	55 - 150		
1,1,2-Trichloroethane	0.21	U	50.0	39.8		ug/L		80	66 - 131		
1,1-Dichloroethane	0.50	U	50.0	37.5		ug/L		75	61 - 144		
1,1-Dichloroethene	0.50	U	50.0	38.2		ug/L		76	54 - 147		
1,2,4-Trichlorobenzene	0.82	U	50.0	27.6		ug/L		55	39 - 148		
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	30.4		ug/L		61	45 - 135		
1,2-Dibromoethane (EDB)	0.23	U	50.0	36.7		ug/L		73	64 - 132		
1,2-Dichlorobenzene	0.50	U	50.0	30.5		ug/L		61	52 - 137		
1,2-Dichloroethane	0.19	U	50.0	41.9		ug/L		84	60 - 141		
1,2-Dichloropropane	0.50	U	50.0	41.0		ug/L		82	66 - 137		
1,3-Dichlorobenzene	0.54	U	50.0	27.4		ug/L		55	54 - 135		
1,4-Dichlorobenzene	0.64	U	50.0	27.9		ug/L		56	53 - 135		
2-Butanone (MEK)	2.6	U	200	144		ug/L		72	55 - 150		
2-Hexanone	1.4	U	200	134		ug/L		67	65 - 140		
4-Methyl-2-pentanone	1.8	U	200	150		ug/L		75	63 - 146		
Acetone	10	U	200	150		ug/L		75	43 - 150		
Benzene	0.13	U	50.0	38.5		ug/L		77	56 - 142		
Bromodichloromethane	0.50	U	50.0	39.4		ug/L		79	59 - 143		
Bromoform	0.25	U	50.0	37.7		ug/L		75	50 - 140		
Carbon disulfide	0.50	U	50.0	34.8		ug/L		70	48 - 150		
Carbon tetrachloride	0.19	U	50.0	34.4		ug/L		69	55 - 145		
Chlorobenzene	0.15	U	50.0	31.8		ug/L		64	64 - 130		
Chloroform	1.0	U	50.0	38.0		ug/L		76	60 - 141		
Chloromethane	0.32	U	50.0	35.6		ug/L		71	49 - 148		
cis-1,2-Dichloroethene	0.20	U J3	50.0	27.6	J3	ug/L		55	59 - 143		

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-236725-A-1 MS
Matrix: Water
Analysis Batch: 622748

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,3-Dichloropropene	0.50	U	50.0	37.8		ug/L		76	57 - 140
Cyclohexane	0.50	U	50.0	33.7		ug/L		67	58 - 141
Dibromochloromethane	0.24	U	50.0	38.6		ug/L		77	56 - 143
Dichlorodifluoromethane	0.85	U	50.0	33.8		ug/L		68	16 - 150
Ethylbenzene	0.50	U	50.0	28.9		ug/L		58	58 - 131
Isopropylbenzene	0.77	I J3	50.0	26.3	J3	ug/L		51	56 - 133
m,p-Xylenes	0.63	U J3	50.0	27.5	J3	ug/L		55	57 - 130
Methyl acetate	0.61	U	100	71.6		ug/L		72	21 - 150
Methyl tert-butyl ether	0.75	I	50.0	46.0		ug/L		90	59 - 137
Methylene Chloride	3.0	U	50.0	59.5		ug/L		119	60 - 146
o-Xylene	0.60	U J3	50.0	29.4	J3	ug/L		59	61 - 130
Styrene	1.0	U	50.0	30.8		ug/L		62	58 - 131
Tetrachloroethene	0.90	U	50.0	28.3		ug/L		57	52 - 133
Toluene	0.41	U J3	50.0	32.0	J3	ug/L		64	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	33.7		ug/L		67	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	34.7		ug/L		69	53 - 133
Trichloroethene	0.15	U	50.0	35.7		ug/L		71	64 - 136
Trichlorofluoromethane	0.52	U	50.0	41.8		ug/L		84	54 - 150
Vinyl chloride	0.50	U	50.0	39.4		ug/L		79	46 - 150
Xylenes, Total	1.6	U J3	100	56.9	J3	ug/L		57	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 134*
Toluene-d8 (Surr)	*93*		*64 - 132*
Dibromofluoromethane	*100*		*75 - 126*
4-Bromofluorobenzene	*99*		*72 - 119*

Lab Sample ID: 400-236725-A-1 MSD
Matrix: Water
Analysis Batch: 622748

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	40.3		ug/L		81	57 - 142	17	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	42.4		ug/L		85	66 - 135	11	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	44.4		ug/L		89	55 - 150	8	30
1,1,2-Trichloroethane	0.21	U	50.0	44.8		ug/L		90	66 - 131	12	30
1,1-Dichloroethane	0.50	U	50.0	42.2		ug/L		84	61 - 144	12	30
1,1-Dichloroethene	0.50	U	50.0	42.9		ug/L		86	54 - 147	12	30
1,2,4-Trichlorobenzene	0.82	U	50.0	35.0		ug/L		70	39 - 148	23	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	35.4		ug/L		71	45 - 135	15	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	42.3		ug/L		85	64 - 132	14	30
1,2-Dichlorobenzene	0.50	U	50.0	38.6		ug/L		77	52 - 137	24	30
1,2-Dichloroethane	0.19	U	50.0	46.8		ug/L		94	60 - 141	11	30
1,2-Dichloropropane	0.50	U	50.0	46.4		ug/L		93	66 - 137	12	30
1,3-Dichlorobenzene	0.54	U	50.0	37.0		ug/L		74	54 - 135	30	30
1,4-Dichlorobenzene	0.64	U	50.0	36.9		ug/L		74	53 - 135	28	30
2-Butanone (MEK)	2.6	U	200	158		ug/L		79	55 - 150	10	30
2-Hexanone	1.4	U	200	147		ug/L		73	65 - 140	9	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-236725-A-1 MSD
Matrix: Water
Analysis Batch: 622748

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4-Methyl-2-pentanone	1.8	U	200	163		ug/L		82	63 - 146	9	30
Acetone	10	U	200	158		ug/L		79	43 - 150	5	30
Benzene	0.13	U	50.0	44.7		ug/L		89	56 - 142	15	30
Bromodichloromethane	0.50	U	50.0	45.8		ug/L		92	59 - 143	15	30
Bromoform	0.25	U	50.0	43.6		ug/L		87	50 - 140	15	30
Carbon disulfide	0.50	U	50.0	40.0		ug/L		80	48 - 150	14	30
Carbon tetrachloride	0.19	U	50.0	41.0		ug/L		82	55 - 145	18	30
Chlorobenzene	0.15	U	50.0	40.4		ug/L		81	64 - 130	24	30
Chloroform	1.0	U	50.0	42.7		ug/L		85	60 - 141	12	30
Chloromethane	0.32	U	50.0	40.2		ug/L		80	49 - 148	12	31
cis-1,2-Dichloroethene	0.20	U J3	50.0	32.0		ug/L		64	59 - 143	15	30
cis-1,3-Dichloropropene	0.50	U	50.0	46.0		ug/L		92	57 - 140	20	30
Cyclohexane	0.50	U	50.0	39.4		ug/L		79	58 - 141	15	30
Dibromochloromethane	0.24	U	50.0	45.0		ug/L		90	56 - 143	15	30
Dichlorodifluoromethane	0.85	U	50.0	37.5		ug/L		75	16 - 150	10	31
Ethylbenzene	0.50	U	50.0	38.7		ug/L		77	58 - 131	29	30
Isopropylbenzene	0.77	I J3	50.0	37.7	J3	ug/L		74	56 - 133	36	30
m,p-Xylenes	0.63	U J3	50.0	37.3		ug/L		75	57 - 130	30	30
Methyl acetate	0.61	U	100	77.4		ug/L		77	21 - 150	8	30
Methyl tert-butyl ether	0.75	I	50.0	51.1		ug/L		101	59 - 137	11	30
Methylene Chloride	3.0	U	50.0	48.1		ug/L		96	60 - 146	21	32
o-Xylene	0.60	U J3	50.0	39.1		ug/L		78	61 - 130	28	30
Styrene	1.0	U	50.0	39.7		ug/L		79	58 - 131	25	30
Tetrachloroethene	0.90	U	50.0	36.7		ug/L		73	52 - 133	26	30
Toluene	0.41	U J3	50.0	40.0		ug/L		80	65 - 130	22	30
trans-1,2-Dichloroethene	0.50	U	50.0	38.3		ug/L		77	61 - 143	13	30
trans-1,3-Dichloropropene	0.20	U	50.0	41.9		ug/L		84	53 - 133	19	30
Trichloroethene	0.15	U	50.0	42.2		ug/L		84	64 - 136	17	30
Trichlorofluoromethane	0.52	U	50.0	47.8		ug/L		96	54 - 150	13	30
Vinyl chloride	0.50	U	50.0	44.1		ug/L		88	46 - 150	11	30
Xylenes, Total	1.6	U J3	100	76.4		ug/L		76	59 - 130	29	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*67 - 134*
Toluene-d8 (Surr)	*95*		*64 - 132*
Dibromofluoromethane	*99*		*75 - 126*
4-Bromofluorobenzene	*100*		*72 - 119*

GC/MS VOA

Analysis Batch: 621730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-18010-1	LC34-IW0165-110.0-20230414	Total/NA	Water	8260D	
670-18010-2	LC34-IW0044D2-110.0-20230414	Total/NA	Water	8260D	
670-18010-3	LC34-IW0162-110.0-20230414	Total/NA	Water	8260D	
MB 400-621730/4	Method Blank	Total/NA	Water	8260D	
LCS 400-621730/1002	Lab Control Sample	Total/NA	Water	8260D	
752-5580-P-13 MS	Matrix Spike	Total/NA	Water	8260D	
752-5580-P-13 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 621747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-18010-2 - RA	LC34-IW0044D2-110.0-20230414	Total/NA	Water	8260D	
MB 400-621747/4	Method Blank	Total/NA	Water	8260D	
LCS 400-621747/1002	Lab Control Sample	Total/NA	Water	8260D	
400-235945-A-8 MS	Matrix Spike	Total/NA	Water	8260D	
400-235945-A-8 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 622389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-18010-4	LC34-GAC-20230414	Total/NA	Water	8260D	
670-18010-5	LC34-AS1-20230414	Total/NA	Water	8260D	
670-18010-6	LC34-AS2-20230414	Total/NA	Water	8260D	
670-18010-7	LC34-RW17C-20230414	Total/NA	Water	8260D	
670-18010-8	LC34-RW18C-20230414	Total/NA	Water	8260D	
670-18010-9	LC34-RW19C-20230414	Total/NA	Water	8260D	
670-18010-10	LC34-RW20C-20230414	Total/NA	Water	8260D	
670-18010-11	LC34-RW21D-20230414	Total/NA	Water	8260D	
MB 400-622389/4	Method Blank	Total/NA	Water	8260D	
LCS 400-622389/1002	Lab Control Sample	Total/NA	Water	8260D	
400-236185-A-3 MS	Matrix Spike	Total/NA	Water	8260D	
400-236185-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 622748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-18010-7 - RA	LC34-RW17C-20230414	Total/NA	Water	8260D	
670-18010-8 - RA	LC34-RW18C-20230414	Total/NA	Water	8260D	
670-18010-11 - RA	LC34-RW21D-20230414	Total/NA	Water	8260D	
MB 400-622748/4	Method Blank	Total/NA	Water	8260D	
LCS 400-622748/1002	Lab Control Sample	Total/NA	Water	8260D	
400-236725-A-1 MS	Matrix Spike	Total/NA	Water	8260D	
400-236725-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18010-1

Client Sample ID: LC34-IW0165-110.0-20230414
Lab Sample ID: 670-18010-1
Date Collected: 04/14/23 10:00
Matrix: Water
Date Received: 04/14/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	621730	AGW	EET PEN	04/21/23 11:09

Client Sample ID: LC34-IW0044D2-110.0-20230414
Lab Sample ID: 670-18010-2
Date Collected: 04/14/23 10:30
Matrix: Water
Date Received: 04/14/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	10	621747	AGW	EET PEN	04/21/23 15:22
Total/NA	Analysis	8260D		10	621730	AGW	EET PEN	04/21/23 12:02

Client Sample ID: LC34-IW0162-110.0-20230414
Lab Sample ID: 670-18010-3
Date Collected: 04/14/23 11:00
Matrix: Water
Date Received: 04/14/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2	621730	AGW	EET PEN	04/21/23 11:36

Client Sample ID: LC34-GAC-20230414
Lab Sample ID: 670-18010-4
Date Collected: 04/14/23 11:05
Matrix: Water
Date Received: 04/14/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622389	AGW	EET PEN	04/26/23 20:45

Client Sample ID: LC34-AS1-20230414
Lab Sample ID: 670-18010-5
Date Collected: 04/14/23 11:10
Matrix: Water
Date Received: 04/14/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622389	AGW	EET PEN	04/26/23 21:12

Client Sample ID: LC34-AS2-20230414
Lab Sample ID: 670-18010-6
Date Collected: 04/14/23 11:15
Matrix: Water
Date Received: 04/14/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622389	AGW	EET PEN	04/26/23 21:39

Client Sample ID: LC34-RW17C-20230414
Lab Sample ID: 670-18010-7
Date Collected: 04/14/23 11:20
Matrix: Water
Date Received: 04/14/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	2000	622748	WPD	EET PEN	04/28/23 18:28
Total/NA	Analysis	8260D		2000	622389	AGW	EET PEN	04/27/23 01:12

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18010-1

Client Sample ID: LC34-RW18C-20230414

Lab Sample ID: 670-18010-8

Date Collected: 04/14/23 11:25
Date Received: 04/14/23 16:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	2000	622748	WPD	EET PEN	04/28/23 18:47
Total/NA	Analysis	8260D		2000	622389	AGW	EET PEN	04/27/23 01:39

Client Sample ID: LC34-RW19C-20230414

Lab Sample ID: 670-18010-9

Date Collected: 04/14/23 11:30
Date Received: 04/14/23 16:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2500	622389	AGW	EET PEN	04/27/23 02:05

Client Sample ID: LC34-RW20C-20230414

Lab Sample ID: 670-18010-10

Date Collected: 04/14/23 11:35
Date Received: 04/14/23 16:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	622389	AGW	EET PEN	04/27/23 00:19

Client Sample ID: LC34-RW21D-20230414

Lab Sample ID: 670-18010-11

Date Collected: 04/14/23 11:40
Date Received: 04/14/23 16:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	200	622748	WPD	EET PEN	04/28/23 18:08
Total/NA	Analysis	8260D		200	622389	AGW	EET PEN	04/27/23 00:45

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-18010-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E81010	06-30-23

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18010-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18010-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-18010-1	LC34-IW0165-110.0-20230414	Water	04/14/23 10:00	04/14/23 16:00
670-18010-2	LC34-IW0044D2-110.0-20230414	Water	04/14/23 10:30	04/14/23 16:00
670-18010-3	LC34-IW0162-110.0-20230414	Water	04/14/23 11:00	04/14/23 16:00
670-18010-4	LC34-GAC-20230414	Water	04/14/23 11:05	04/14/23 16:00
670-18010-5	LC34-AS1-20230414	Water	04/14/23 11:10	04/14/23 16:00
670-18010-6	LC34-AS2-20230414	Water	04/14/23 11:15	04/14/23 16:00
670-18010-7	LC34-RW17C-20230414	Water	04/14/23 11:20	04/14/23 16:00
670-18010-8	LC34-RW18C-20230414	Water	04/14/23 11:25	04/14/23 16:00
670-18010-9	LC34-RW19C-20230414	Water	04/14/23 11:30	04/14/23 16:00
670-18010-10	LC34-RW20C-20230414	Water	04/14/23 11:35	04/14/23 16:00
670-18010-11	LC34-RW21D-20230414	Water	04/14/23 11:40	04/14/23 16:00

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 2665 | PAGE 1 OF 1

PROJECT NO: 112G08985	FACILITY:	PROJECT MANAGER: MARK SONNET	PHONE NUMBER: 412 921 8622	LABORATORY NAME AND CONTACT: ENCO - EUROFINS
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: IAN FORESTER	PHONE NUMBER: 304-780-1926	ADDRESS
		CARRIER/WAYBILL NUMBER: COURIER		CITY, STATE: ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): G	PRESERVATIVE USED: HCL	TYPE OF ANALYSIS: VOCs 8260	COMMENTS
14 Apr	1000	LC34-IW0165-110.0-20230414		105	115	GW	G	3	X			
	1030	LC34-IW0044D2-110.0-20230414		105	115							
	1100	LC34-IW0162-110.0-20230414		105	115							
	1105	LC34-GAC-20230414		Ø	Ø							
	1110	LC34-AS1-20230414		X	X							
	1115	LC34-AS2-20230414		X	X							
	1120	LC34-RW17C-20230414		X	X							HOT
	1125	LC34-RW18C-20230414		X	X							HOT
	1130	LC34-RW19C-20230414		X	X							HOT
	1135	LC34-RW20C-20230414		X	X							HOT
	1140	LC34-RW21S-20230414		X	X							HOT - HOT

670-18010 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	14 APR 23	1351	1. RECEIVED BY James W Gregory	4/14/23	1351
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY Craig J Senger	4/14/23	1600
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME 1.5/1.0 C -5.86

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

FORM NO. TtNUS-001 5/8/2023

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-7864.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 2
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-18010-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 4/25/2023			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-IW0165-110.0-20230414 (670-18010-1)	4/14/23	10:00 Eastern		Water			X	3	
LC34-IW0044D2-110.0-20230414 (670-18010-2)	4/14/23	10:30 Eastern		Water			X	3	
LC34-IW0162-110.0-20230414 (670-18010-3)	4/14/23	11:00 Eastern		Water			X	3	
LC34-GAC-20230414 (670-18010-4)	4/14/23	11:05 Eastern		Water			X	3	
LC34-AS1-20230414 (670-18010-5)	4/14/23	11:10 Eastern		Water			X	3	
LC34-AS2-20230414 (670-18010-6)	4/14/23	11:15 Eastern		Water			X	3	
LC34-RW17C-20230414 (670-18010-7)	4/14/23	11:20 Eastern		Water			X	3	HOT
LC34-RW18C-20230414 (670-18010-8)	4/14/23	11:25 Eastern		Water			X	3	HOT
LC34-RW19C-20230414 (670-18010-9)	4/14/23	11:30 Eastern		Water			X	3	HOT

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 4/17 1300	Company	Received by:	Date/Time: 4-18-23 901	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.4 °C IR

Ver: 06/08/2021

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-7864.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 2 of 2
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-18010-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 4/25/2023			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-RW20C-20230414 (670-18010-10)	4/14/23	11:35 Eastern		Water			X	3	HOT
LC34-RW21D-20230414 (670-18010-11)	4/14/23	11:40 Eastern		Water			X	3	HOT

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		4/17 1300			4-16-23 901	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.4 IR #10

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-18010-1

Login Number: 18010

List Number: 1

Creator: Ferguson, Craig

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-18010-1

Login Number: 18010
List Number: 2
Creator: Peckinpaugh, Marshall

List Source: Eurofins Pensacola
List Creation: 04/18/23 02:16 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.4°C IR10
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-18773-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

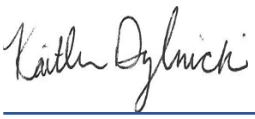
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-18773-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J1	Estimated value; value may not be accurate. Surrogate recovery outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-18773-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-18773-1

Receipt
The samples were received on 4/28/2023 2:30 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.5°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 400-623603 recovered above the upper control limit for Chloromethane and Methyl acetate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: One of four surrogate recoveries for the following samples were outside the upper control limit: LC34-iw00442-110.0-20230428 (670-18773-1) and (MB 400-623768/4). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-623768 recovered above the upper control limit for 1,2-Dichloroethane-d4 (Surr). The percent recovery was within acceptance limits; therefore, the data is reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-iw00442-110.0-20230428 (670-18773-1). Elevated reporting limits (RLs) are provided.

Method 8260D: One of four surrogate recoveries for the following sample was outside the upper control limit: (400-237100-A-15 MS). The target analyte reported was within acceptance limits. Therefore, the data is reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18773-1

Client Sample ID: LC34-iw00442-110.0-20230428 — Lab Sample ID: 670-18773-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2300		25	5.0	ug/L	25		8260D	Total/NA
Trichloroethene	2800		25	3.8	ug/L	25		8260D	Total/NA
Vinyl chloride	75		25	13	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-iw00162-110.0-20230428 — Lab Sample ID: 670-18773-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	0.51	I	1.0	0.50	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	89		1.0	0.20	ug/L	1		8260D	Total/NA
Methylene Chloride	3.1	I	5.0	3.0	ug/L	1		8260D	Total/NA
Trichloroethene	46		1.0	0.15	ug/L	1		8260D	Total/NA
Vinyl chloride	3.3		1.0	0.50	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-iw00165-110.0-20230428 — Lab Sample ID: 670-18773-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	3.5	I	5.0	3.0	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18773-1

Client Sample ID: LC34-iw00442-110.0-20230428
Date Collected: 04/28/23 09:20
Date Received: 04/28/23 14:30

Lab Sample ID: 670-18773-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.5	U	25	4.5	ug/L			05/05/23 13:29	25
1,1,2,2-Tetrachloroethane	13	U	25	13	ug/L			05/05/23 13:29	25
1,1,2-Trichloro-1,2,2-trifluoroethane	13	U	25	13	ug/L			05/05/23 13:29	25
1,1,2-Trichloroethane	5.3	U	130	5.3	ug/L			05/05/23 13:29	25
1,1-Dichloroethane	13	U	25	13	ug/L			05/05/23 13:29	25
1,1-Dichloroethene	13	U	25	13	ug/L			05/05/23 13:29	25
1,2,4-Trichlorobenzene	21	U	25	21	ug/L			05/05/23 13:29	25
1,2-Dibromo-3-Chloropropane	38	U	130	38	ug/L			05/05/23 13:29	25
1,2-Dibromoethane (EDB)	5.8	U	25	5.8	ug/L			05/05/23 13:29	25
1,2-Dichlorobenzene	13	U	25	13	ug/L			05/05/23 13:29	25
1,2-Dichloroethane	4.8	U	25	4.8	ug/L			05/05/23 13:29	25
1,2-Dichloropropane	13	U	25	13	ug/L			05/05/23 13:29	25
1,3-Dichlorobenzene	14	U	25	14	ug/L			05/05/23 13:29	25
1,4-Dichlorobenzene	16	U	25	16	ug/L			05/05/23 13:29	25
2-Butanone (MEK)	65	U	630	65	ug/L			05/05/23 13:29	25
2-Hexanone	35	U	630	35	ug/L			05/05/23 13:29	25
4-Methyl-2-pentanone	45	U	630	45	ug/L			05/05/23 13:29	25
Acetone	250	U	630	250	ug/L			05/05/23 13:29	25
Benzene	13	U	25	13	ug/L			05/05/23 13:29	25
Bromodichloromethane	13	U	25	13	ug/L			05/05/23 13:29	25
Bromoform	6.3	U	130	6.3	ug/L			05/05/23 13:29	25
Bromomethane	25	U	25	25	ug/L			05/05/23 13:29	25
Carbon disulfide	13	U	25	13	ug/L			05/05/23 13:29	25
Carbon tetrachloride	4.8	U	25	4.8	ug/L			05/05/23 13:29	25
Chlorobenzene	3.8	U	25	3.8	ug/L			05/05/23 13:29	25
Chloroethane	19	U	25	19	ug/L			05/05/23 13:29	25
Chloroform	23	U	25	23	ug/L			05/05/23 13:29	25
Chloromethane	23	U	25	23	ug/L			05/05/23 13:29	25
cis-1,2-Dichloroethene	**2300**		25	5.0	ug/L			05/05/23 13:29	25
cis-1,3-Dichloropropene	13	U	130	13	ug/L			05/05/23 13:29	25
Cyclohexane	13	U	25	13	ug/L			05/05/23 13:29	25
Dibromochloromethane	6.0	U	25	6.0	ug/L			05/05/23 13:29	25
Dichlorodifluoromethane	21	U	25	21	ug/L			05/05/23 13:29	25
Ethylbenzene	13	U	25	13	ug/L			05/05/23 13:29	25
Isopropylbenzene	13	U	25	13	ug/L			05/05/23 13:29	25
m,p-Xylenes	16	U	130	16	ug/L			05/05/23 13:29	25
Methyl acetate	15	U	130	15	ug/L			05/05/23 13:29	25
Methyl tert-butyl ether	5.5	U	25	5.5	ug/L			05/05/23 13:29	25
o-Xylene	15	U	130	15	ug/L			05/05/23 13:29	25
Styrene	25	U	25	25	ug/L			05/05/23 13:29	25
Tetrachloroethene	23	U	25	23	ug/L			05/05/23 13:29	25
Toluene	23	U	25	23	ug/L			05/05/23 13:29	25
trans-1,2-Dichloroethene	13	U	25	13	ug/L			05/05/23 13:29	25
trans-1,3-Dichloropropene	5.0	U	130	5.0	ug/L			05/05/23 13:29	25
Trichloroethene	**2800**		25	3.8	ug/L			05/05/23 13:29	25
Trichlorofluoromethane	13	U	25	13	ug/L			05/05/23 13:29	25
Vinyl chloride	**75**		25	13	ug/L			05/05/23 13:29	25
Xylenes, Total	40	U	250	40	ug/L			05/05/23 13:29	25

Client Sample ID: LC34-iw00442-110.0-20230428

Lab Sample ID: 670-18773-1

Date Collected: 04/28/23 09:20

Matrix: Water

Date Received: 04/28/23 14:30

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*67 - 134*		*05/05/23 13:29*	*25*
Toluene-d8 (Surr)	*104*		*64 - 132*		*05/05/23 13:29*	*25*
4-Bromofluorobenzene	*100*		*72 - 119*		*05/05/23 13:29*	*25*
Dibromofluoromethane	*101*		*75 - 126*		*05/05/23 13:29*	*25*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	75	U	130	75	ug/L			05/06/23 10:30	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*144*	*J1*	*67 - 134*		*05/06/23 10:30*	*25*
Toluene-d8 (Surr)	*93*		*64 - 132*		*05/06/23 10:30*	*25*
4-Bromofluorobenzene	*111*		*72 - 119*		*05/06/23 10:30*	*25*
Dibromofluoromethane	*118*		*75 - 126*		*05/06/23 10:30*	*25*

Client Sample ID: LC34-iw00162-110.0-20230428

Lab Sample ID: 670-18773-2

Date Collected: 04/28/23 09:20

Matrix: Water

Date Received: 04/28/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/05/23 12:25	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/05/23 12:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/05/23 12:25	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/05/23 12:25	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/05/23 12:25	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/05/23 12:25	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/05/23 12:25	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/05/23 12:25	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/05/23 12:25	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/05/23 12:25	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/05/23 12:25	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/05/23 12:25	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/05/23 12:25	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/05/23 12:25	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/05/23 12:25	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/05/23 12:25	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/05/23 12:25	1
Acetone	10	U	25	10	ug/L			05/05/23 12:25	1
Benzene	0.50	U	1.0	0.50	ug/L			05/05/23 12:25	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/05/23 12:25	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/05/23 12:25	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/05/23 12:25	1
Carbon disulfide	**0.51**	**I**	1.0	0.50	ug/L			05/05/23 12:25	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/05/23 12:25	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/05/23 12:25	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/05/23 12:25	1
Chloroform	0.90	U	1.0	0.90	ug/L			05/05/23 12:25	1
Chloromethane	0.90	U	1.0	0.90	ug/L			05/05/23 12:25	1
cis-1,2-Dichloroethene	**89**		1.0	0.20	ug/L			05/05/23 12:25	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/05/23 12:25	1

Client Sample ID: LC34-iw00162-110.0-20230428

Lab Sample ID: 670-18773-2

Date Collected: 04/28/23 09:20

Matrix: Water

Date Received: 04/28/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/05/23 12:25	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/05/23 12:25	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/05/23 12:25	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/05/23 12:25	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/05/23 12:25	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/05/23 12:25	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/05/23 12:25	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/05/23 12:25	1
Methylene Chloride	**3.1**	**I**	5.0	3.0	ug/L			05/05/23 12:25	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/05/23 12:25	1
Styrene	1.0	U	1.0	1.0	ug/L			05/05/23 12:25	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/05/23 12:25	1
Toluene	0.90	U	1.0	0.90	ug/L			05/05/23 12:25	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/05/23 12:25	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/05/23 12:25	1
Trichloroethene	**46**		1.0	0.15	ug/L			05/05/23 12:25	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/05/23 12:25	1
Vinyl chloride	**3.3**		1.0	0.50	ug/L			05/05/23 12:25	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/05/23 12:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*05/05/23 12:25*	*1*
Toluene-d8 (Surr)	*96*		*64 - 132*		*05/05/23 12:25*	*1*
4-Bromofluorobenzene	*101*		*72 - 119*		*05/05/23 12:25*	*1*
Dibromofluoromethane	*102*		*75 - 126*		*05/05/23 12:25*	*1*

Client Sample ID: LC34-iw00165-110.0-20230428

Lab Sample ID: 670-18773-3

Date Collected: 04/28/23 10:20

Matrix: Water

Date Received: 04/28/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/05/23 12:45	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/05/23 12:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/05/23 12:45	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/05/23 12:45	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/05/23 12:45	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/05/23 12:45	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/05/23 12:45	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/05/23 12:45	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/05/23 12:45	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/05/23 12:45	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/05/23 12:45	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/05/23 12:45	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/05/23 12:45	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/05/23 12:45	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/05/23 12:45	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/05/23 12:45	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/05/23 12:45	1
Acetone	10	U	25	10	ug/L			05/05/23 12:45	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18773-1

Client Sample ID: LC34-iw00165-110.0-20230428
Date Collected: 04/28/23 10:20
Date Received: 04/28/23 14:30

Lab Sample ID: 670-18773-3
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	ug/L			05/05/23 12:45	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/05/23 12:45	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/05/23 12:45	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/05/23 12:45	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/05/23 12:45	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/05/23 12:45	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/05/23 12:45	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/05/23 12:45	1
Chloroform	0.90	U	1.0	0.90	ug/L			05/05/23 12:45	1
Chloromethane	0.90	U	1.0	0.90	ug/L			05/05/23 12:45	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			05/05/23 12:45	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/05/23 12:45	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/05/23 12:45	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/05/23 12:45	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/05/23 12:45	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/05/23 12:45	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/05/23 12:45	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/05/23 12:45	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/05/23 12:45	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/05/23 12:45	1
Methylene Chloride	**3.5**	**I**	5.0	3.0	ug/L			05/05/23 12:45	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/05/23 12:45	1
Styrene	1.0	U	1.0	1.0	ug/L			05/05/23 12:45	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/05/23 12:45	1
Toluene	0.90	U	1.0	0.90	ug/L			05/05/23 12:45	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/05/23 12:45	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/05/23 12:45	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/05/23 12:45	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/05/23 12:45	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/05/23 12:45	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/05/23 12:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*05/05/23 12:45*	*1*
Toluene-d8 (Surr)	*107*		*64 - 132*		*05/05/23 12:45*	*1*
4-Bromofluorobenzene	*98*		*72 - 119*		*05/05/23 12:45*	*1*
Dibromofluoromethane	*101*		*75 - 126*		*05/05/23 12:45*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18773-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(67-134)	(64-132)	(72-119)	(75-126)
400-236723-B-3 MS	Matrix Spike	102	92	99	101
400-236723-B-3 MSD	Matrix Spike Duplicate	99	94	100	101
400-237100-A-15 MS	Matrix Spike	137 J1	93	111	109
400-237100-A-15 MSD	Matrix Spike Duplicate	128	95	111	107
670-18773-1	LC34-iw00442-110.0-20230428	105	104	100	101
670-18773-1 - RA	LC34-iw00442-110.0-20230428	144 J1	93	111	118
670-18773-2	LC34-iw00162-110.0-20230428	103	96	101	102
670-18773-3	LC34-iw00165-110.0-20230428	103	107	98	101
LCS 400-623603/1002	Lab Control Sample	102	94	94	103
LCS 400-623768/1002	Lab Control Sample	134	95	110	109
MB 400-623603/4	Method Blank	106	105	98	105
MB 400-623768/4	Method Blank	135 J1	95	108	113

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 400-623603/4
Matrix: Water
Analysis Batch: 623603

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/05/23 10:41	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/05/23 10:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/05/23 10:41	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/05/23 10:41	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/05/23 10:41	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/05/23 10:41	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/05/23 10:41	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/05/23 10:41	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/05/23 10:41	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/05/23 10:41	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/05/23 10:41	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/05/23 10:41	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/05/23 10:41	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/05/23 10:41	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/05/23 10:41	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/05/23 10:41	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/05/23 10:41	1
Acetone	10	U	25	10	ug/L			05/05/23 10:41	1
Benzene	0.50	U	1.0	0.50	ug/L			05/05/23 10:41	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/05/23 10:41	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/05/23 10:41	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/05/23 10:41	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/05/23 10:41	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/05/23 10:41	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/05/23 10:41	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/05/23 10:41	1
Chloroform	0.90	U	1.0	0.90	ug/L			05/05/23 10:41	1
Chloromethane	0.90	U	1.0	0.90	ug/L			05/05/23 10:41	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			05/05/23 10:41	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/05/23 10:41	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/05/23 10:41	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/05/23 10:41	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/05/23 10:41	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/05/23 10:41	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/05/23 10:41	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/05/23 10:41	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/05/23 10:41	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/05/23 10:41	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/05/23 10:41	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/05/23 10:41	1
Styrene	1.0	U	1.0	1.0	ug/L			05/05/23 10:41	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/05/23 10:41	1
Toluene	0.90	U	1.0	0.90	ug/L			05/05/23 10:41	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/05/23 10:41	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/05/23 10:41	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/05/23 10:41	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/05/23 10:41	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/05/23 10:41	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-623603/4
Matrix: Water
Analysis Batch: 623603

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.6	U	10	1.6	ug/L			05/05/23 10:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*67 - 134*		*05/05/23 10:41*	*1*
Toluene-d8 (Surr)	*105*		*64 - 132*		*05/05/23 10:41*	*1*
4-Bromofluorobenzene	*98*		*72 - 119*		*05/05/23 10:41*	*1*
Dibromofluoromethane	*105*		*75 - 126*		*05/05/23 10:41*	*1*

Lab Sample ID: LCS 400-623603/1002
Matrix: Water
Analysis Batch: 623603

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	55.0		ug/L		110	68 - 130
1,1,2,2-Tetrachloroethane	50.0	53.8		ug/L		108	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	55.4		ug/L		111	60 - 139
1,1,2-Trichloroethane	50.0	55.4		ug/L		111	70 - 130
1,1-Dichloroethane	50.0	58.7		ug/L		117	70 - 130
1,1-Dichloroethene	50.0	54.4		ug/L		109	63 - 134
1,2,4-Trichlorobenzene	50.0	52.7		ug/L		105	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	47.9		ug/L		96	54 - 135
1,2-Dibromoethane (EDB)	50.0	52.3		ug/L		105	70 - 130
1,2-Dichlorobenzene	50.0	54.9		ug/L		110	67 - 130
1,2-Dichloroethane	50.0	56.5		ug/L		113	69 - 130
1,2-Dichloropropane	50.0	58.9		ug/L		118	70 - 130
1,3-Dichlorobenzene	50.0	56.9		ug/L		114	70 - 130
1,4-Dichlorobenzene	50.0	56.5		ug/L		113	70 - 130
2-Butanone (MEK)	200	208		ug/L		104	61 - 145
2-Hexanone	200	239		ug/L		120	65 - 137
4-Methyl-2-pentanone	200	248		ug/L		124	69 - 138
Acetone	200	265		ug/L		132	43 - 160
Benzene	50.0	53.7		ug/L		107	70 - 130
Bromodichloromethane	50.0	52.3		ug/L		105	67 - 133
Bromoform	50.0	53.3		ug/L		107	57 - 140
Bromomethane	25.0	24.3		ug/L		97	10 - 160
Carbon disulfide	50.0	54.2		ug/L		108	61 - 137
Carbon tetrachloride	50.0	57.6		ug/L		115	61 - 137
Chlorobenzene	50.0	55.0		ug/L		110	70 - 130
Chloroethane	25.0	24.6		ug/L		98	55 - 141
Chloroform	50.0	54.3		ug/L		109	69 - 130
Chloromethane	25.0	33.0		ug/L		132	58 - 137
cis-1,2-Dichloroethene	50.0	56.7		ug/L		113	68 - 130
cis-1,3-Dichloropropene	50.0	50.4		ug/L		101	69 - 132
Cyclohexane	50.0	53.5		ug/L		107	70 - 130
Dibromochloromethane	50.0	55.4		ug/L		111	67 - 135
Dichlorodifluoromethane	25.0	23.0		ug/L		92	41 - 146
Ethylbenzene	50.0	51.0		ug/L		102	70 - 130
Isopropylbenzene	50.0	48.2		ug/L		96	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-623603/1002
Matrix: Water
Analysis Batch: 623603

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	51.1		ug/L		102	70 - 130
Methyl acetate	100	131		ug/L		131	45 - 159
Methyl tert-butyl ether	50.0	46.1		ug/L		92	66 - 130
Methylene Chloride	50.0	58.7		ug/L		117	66 - 135
o-Xylene	50.0	48.6		ug/L		97	70 - 130
Styrene	50.0	49.9		ug/L		100	70 - 130
Tetrachloroethene	50.0	59.0		ug/L		118	65 - 130
Toluene	50.0	50.7		ug/L		101	70 - 130
trans-1,2-Dichloroethene	50.0	55.6		ug/L		111	70 - 130
trans-1,3-Dichloropropene	50.0	46.0		ug/L		92	63 - 130
Trichloroethene	50.0	57.2		ug/L		114	70 - 130
Trichlorofluoromethane	25.0	23.9		ug/L		95	65 - 138
Vinyl chloride	25.0	27.4		ug/L		110	59 - 136
Xylenes, Total	100	99.7		ug/L		100	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*67 - 134*
Toluene-d8 (Surr)	*94*		*64 - 132*
4-Bromofluorobenzene	*94*		*72 - 119*
Dibromofluoromethane	*103*		*75 - 126*

Lab Sample ID: 400-236723-B-3 MS
Matrix: Water
Analysis Batch: 623603

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	50.2		ug/L		100	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	55.7		ug/L		111	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	49.9		ug/L		100	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	55.9		ug/L		112	66 - 131
1,1-Dichloroethane	0.50	U	50.0	57.7		ug/L		115	61 - 144
1,1-Dichloroethene	0.50	U	50.0	50.9		ug/L		102	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	47.6		ug/L		95	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	53.1		ug/L		106	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	54.4		ug/L		109	64 - 132
1,2-Dichlorobenzene	0.50	U	50.0	48.9		ug/L		98	52 - 137
1,2-Dichloroethane	0.19	U	50.0	55.2		ug/L		110	60 - 141
1,2-Dichloropropane	0.50	U	50.0	59.1		ug/L		118	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	48.0		ug/L		96	54 - 135
1,4-Dichlorobenzene	0.64	U	50.0	48.3		ug/L		97	53 - 135
2-Butanone (MEK)	20	I	200	232		ug/L		106	55 - 150
2-Hexanone	3.3	I	200	262		ug/L		129	65 - 140
4-Methyl-2-pentanone	1.8	U	200	270		ug/L		135	63 - 146
Acetone	39		200	300		ug/L		130	43 - 150
Benzene	0.50	U	50.0	50.6		ug/L		101	56 - 142
Bromodichloromethane	0.50	U	50.0	52.3		ug/L		105	59 - 143
Bromoform	0.25	U	50.0	53.3		ug/L		107	50 - 140
Bromomethane	0.98	U	25.0	11.2		ug/L		45	10 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-236723-B-3 MS
Matrix: Water
Analysis Batch: 623603

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	0.70	I	50.0	51.6		ug/L		102	48 - 150
Carbon tetrachloride	0.19	U	50.0	52.6		ug/L		105	55 - 145
Chlorobenzene	0.15	U	50.0	50.4		ug/L		101	64 - 130
Chloroethane	0.76	U	25.0	23.3		ug/L		93	50 - 150
Chloroform	0.90	U	50.0	51.7		ug/L		103	60 - 141
Chloromethane	0.90	U	25.0	25.3		ug/L		101	49 - 148
cis-1,2-Dichloroethene	0.20	U	50.0	56.6		ug/L		113	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	51.5		ug/L		103	57 - 140
Cyclohexane	0.50	U	50.0	48.8		ug/L		98	58 - 141
Dibromochloromethane	0.24	U	50.0	54.3		ug/L		109	56 - 143
Dichlorodifluoromethane	0.85	U	25.0	22.0		ug/L		88	16 - 150
Ethylbenzene	0.50	U	50.0	45.0		ug/L		90	58 - 131
Isopropylbenzene	0.53	U	50.0	41.3		ug/L		83	56 - 133
m,p-Xylenes	0.63	U	50.0	44.6		ug/L		89	57 - 130
Methyl acetate	0.61	U	100	132		ug/L		132	21 - 150
Methyl tert-butyl ether	0.22	U	50.0	47.7		ug/L		95	59 - 137
Methylene Chloride	3.0	U	50.0	57.2		ug/L		114	60 - 146
o-Xylene	0.60	U	50.0	45.0		ug/L		90	61 - 130
Styrene	1.0	U	50.0	45.2		ug/L		90	58 - 131
Tetrachloroethene	0.90	U	50.0	49.3		ug/L		99	52 - 133
Toluene	0.90	U	50.0	45.7		ug/L		91	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	51.6		ug/L		103	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	46.9		ug/L		94	53 - 133
Trichloroethene	0.67	I	50.0	53.9		ug/L		106	64 - 136
Trichlorofluoromethane	0.52	U	25.0	22.6		ug/L		91	54 - 150
Vinyl chloride	0.50	U	25.0	24.0		ug/L		96	46 - 150
Xylenes, Total	1.6	U	100	89.6		ug/L		90	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*67 - 134*
Toluene-d8 (Surr)	*92*		*64 - 132*
4-Bromofluorobenzene	*99*		*72 - 119*
Dibromofluoromethane	*101*		*75 - 126*

Lab Sample ID: 400-236723-B-3 MSD
Matrix: Water
Analysis Batch: 623603

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	46.6		ug/L		93	57 - 142	7	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	48.7		ug/L		97	66 - 135	13	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	45.8		ug/L		92	55 - 150	9	30
1,1,2-Trichloroethane	0.21	U	50.0	50.7		ug/L		101	66 - 131	10	30
1,1-Dichloroethane	0.50	U	50.0	50.8		ug/L		102	61 - 144	13	30
1,1-Dichloroethene	0.50	U	50.0	45.7		ug/L		91	54 - 147	11	30
1,2,4-Trichlorobenzene	0.82	U	50.0	48.8		ug/L		98	39 - 148	3	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	46.2		ug/L		92	45 - 135	14	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	48.5		ug/L		97	64 - 132	11	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-236723-B-3 MSD
Matrix: Water
Analysis Batch: 623603

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichlorobenzene	0.50	U	50.0	47.4		ug/L		95	52 - 137	3	30
1,2-Dichloroethane	0.19	U	50.0	48.3		ug/L		97	60 - 141	13	30
1,2-Dichloropropane	0.50	U	50.0	52.7		ug/L		105	66 - 137	12	30
1,3-Dichlorobenzene	0.54	U	50.0	47.6		ug/L		95	54 - 135	1	30
1,4-Dichlorobenzene	0.64	U	50.0	47.5		ug/L		95	53 - 135	2	30
2-Butanone (MEK)	20	I	200	198		ug/L		89	55 - 150	16	30
2-Hexanone	3.3	I	200	223		ug/L		110	65 - 140	16	30
4-Methyl-2-pentanone	1.8	U	200	226		ug/L		113	63 - 146	18	30
Acetone	39		200	262		ug/L		111	43 - 150	13	30
Benzene	0.50	U	50.0	45.5		ug/L		91	56 - 142	11	30
Bromodichloromethane	0.50	U	50.0	46.5		ug/L		93	59 - 143	12	30
Bromoform	0.25	U	50.0	47.7		ug/L		95	50 - 140	11	30
Bromomethane	0.98	U	25.0	13.0		ug/L		52	10 - 150	15	50
Carbon disulfide	0.70	I	50.0	46.7		ug/L		92	48 - 150	10	30
Carbon tetrachloride	0.19	U	50.0	47.7		ug/L		95	55 - 145	10	30
Chlorobenzene	0.15	U	50.0	48.3		ug/L		97	64 - 130	4	30
Chloroethane	0.76	U	25.0	26.3		ug/L		105	50 - 150	12	30
Chloroform	0.90	U	50.0	46.0		ug/L		92	60 - 141	12	30
Chloromethane	0.90	U	25.0	28.1		ug/L		112	49 - 148	10	31
cis-1,2-Dichloroethene	0.20	U	50.0	50.7		ug/L		101	59 - 143	11	30
cis-1,3-Dichloropropene	0.50	U	50.0	47.1		ug/L		94	57 - 140	9	30
Cyclohexane	0.50	U	50.0	47.1		ug/L		94	58 - 141	4	30
Dibromochloromethane	0.24	U	50.0	49.7		ug/L		99	56 - 143	9	30
Dichlorodifluoromethane	0.85	U	25.0	24.0		ug/L		96	16 - 150	9	31
Ethylbenzene	0.50	U	50.0	45.9		ug/L		92	58 - 131	2	30
Isopropylbenzene	0.53	U	50.0	44.0		ug/L		88	56 - 133	6	30
m,p-Xylenes	0.63	U	50.0	45.7		ug/L		91	57 - 130	2	30
Methyl acetate	0.61	U	100	114		ug/L		114	21 - 150	14	30
Methyl tert-butyl ether	0.22	U	50.0	42.6		ug/L		85	59 - 137	11	30
Methylene Chloride	3.0	U	50.0	51.6		ug/L		103	60 - 146	10	32
o-Xylene	0.60	U	50.0	45.0		ug/L		90	61 - 130	0	30
Styrene	1.0	U	50.0	43.7		ug/L		87	58 - 131	3	30
Tetrachloroethene	0.90	U	50.0	50.4		ug/L		101	52 - 133	2	30
Toluene	0.90	U	50.0	45.8		ug/L		92	65 - 130	0	30
trans-1,2-Dichloroethene	0.50	U	50.0	45.3		ug/L		91	61 - 143	13	30
trans-1,3-Dichloropropene	0.20	U	50.0	44.1		ug/L		88	53 - 133	6	30
Trichloroethene	0.67	I	50.0	49.7		ug/L		98	64 - 136	8	30
Trichlorofluoromethane	0.52	U	25.0	23.3		ug/L		93	54 - 150	3	30
Vinyl chloride	0.50	U	25.0	26.5		ug/L		106	46 - 150	10	30
Xylenes, Total	1.6	U	100	90.7		ug/L		91	59 - 130	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*67 - 134*
Toluene-d8 (Surr)	*94*		*64 - 132*
4-Bromofluorobenzene	*100*		*72 - 119*
Dibromofluoromethane	*101*		*75 - 126*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-623768/4
Matrix: Water
Analysis Batch: 623768

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/06/23 07:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*135*	*J1*	*67 - 134*		*05/06/23 07:51*	*1*
Toluene-d8 (Surr)	*95*		*64 - 132*		*05/06/23 07:51*	*1*
4-Bromofluorobenzene	*108*		*72 - 119*		*05/06/23 07:51*	*1*
Dibromofluoromethane	*113*		*75 - 126*		*05/06/23 07:51*	*1*

Lab Sample ID: LCS 400-623768/1002
Matrix: Water
Analysis Batch: 623768

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Methylene Chloride			50.0	51.9		ug/L		104	66 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*134*		*67 - 134*
Toluene-d8 (Surr)	*95*		*64 - 132*
4-Bromofluorobenzene	*110*		*72 - 119*
Dibromofluoromethane	*109*		*75 - 126*

Lab Sample ID: 400-237100-A-15 MS
Matrix: Water
Analysis Batch: 623768

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Methylene Chloride	3.0	U	50.0	44.2		ug/L		88	60 - 146		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*137*	*J1*	*67 - 134*
Toluene-d8 (Surr)	*93*		*64 - 132*
4-Bromofluorobenzene	*111*		*72 - 119*
Dibromofluoromethane	*109*		*75 - 126*

Lab Sample ID: 400-237100-A-15 MSD
Matrix: Water
Analysis Batch: 623768

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methylene Chloride	3.0	U	50.0	47.0		ug/L		94	60 - 146	6	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*128*		*67 - 134*
Toluene-d8 (Surr)	*95*		*64 - 132*
4-Bromofluorobenzene	*111*		*72 - 119*
Dibromofluoromethane	*107*		*75 - 126*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18773-1

GC/MS VOA

Analysis Batch: 623603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-18773-1	LC34-iw00442-110.0-20230428	Total/NA	Water	8260D	
670-18773-2	LC34-iw00162-110.0-20230428	Total/NA	Water	8260D	
670-18773-3	LC34-iw00165-110.0-20230428	Total/NA	Water	8260D	
MB 400-623603/4	Method Blank	Total/NA	Water	8260D	
LCS 400-623603/1002	Lab Control Sample	Total/NA	Water	8260D	
400-236723-B-3 MS	Matrix Spike	Total/NA	Water	8260D	
400-236723-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 623768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-18773-1 - RA	LC34-iw00442-110.0-20230428	Total/NA	Water	8260D	
MB 400-623768/4	Method Blank	Total/NA	Water	8260D	
LCS 400-623768/1002	Lab Control Sample	Total/NA	Water	8260D	
400-237100-A-15 MS	Matrix Spike	Total/NA	Water	8260D	
400-237100-A-15 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18773-1

Client Sample ID: LC34-iw00442-110.0-20230428

Lab Sample ID: 670-18773-1

Date Collected: 04/28/23 09:20
Matrix: Water
Date Received: 04/28/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	25	623768	WPD	EET PEN	05/06/23 10:30
Total/NA	Analysis	8260D		25	623603	AGW	EET PEN	05/05/23 13:29

Client Sample ID: LC34-iw00162-110.0-20230428

Lab Sample ID: 670-18773-2

Date Collected: 04/28/23 09:20
Matrix: Water
Date Received: 04/28/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623603	AGW	EET PEN	05/05/23 12:25

Client Sample ID: LC34-iw00165-110.0-20230428

Lab Sample ID: 670-18773-3

Date Collected: 04/28/23 10:20
Matrix: Water
Date Received: 04/28/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623603	AGW	EET PEN	05/05/23 12:45

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-18773-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E81010	06-30-23

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18773-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18773-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-18773-1	LC34-iw00442-110.0-20230428	Water	04/28/23 09:20	04/28/23 14:30
670-18773-2	LC34-iw00162-110.0-20230428	Water	04/28/23 09:20	04/28/23 14:30
670-18773-3	LC34-iw00165-110.0-20230428	Water	04/28/23 10:20	04/28/23 14:30

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 2721 | PAGE 1 OF 1

PROJECT NO: 112G0 8985	FACILITY: KSC NASA LC34	PROJECT MANAGER: Mark Jonnet	PHONE NUMBER: 412-921-8622
LABORATORY NAME AND CONTACT: ENCO / EUROFINS			
SAMPLERS (SIGNATURE): Robert Siegel, Sam Hone	FIELD OPERATIONS LEADER: Dan Forester	PHONE NUMBER: 304-780-1426	ADDRESS:
	CARRIER/WAYBILL NUMBER:		CITY, STATE: ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G

PRESERVATIVE USED: HCL Ice

TYPE OF ANALYSIS: 8260d (MED) NASA LC34 Custom

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	8260d (MED) NASA LC34 Custom	COMMENTS
4/28	0920	LC34-iw0044d-110.0-2023 0428	44d	105	115	GW	G	3	X	
4/28	0920	LC34-iw0162-110.0-2023 0428	162	105	115	GW	G	3	X	
4/28	1020	LC34-iw0165-110.0 2023 0428	165	105	115	GW	G	3	X	

670-18773 Chain of Custody

1. RELINQUISHED BY: R Siegel TT	DATE: 4-28-23	TIME: 1215	1. RECEIVED BY:	DATE: 04/28/23	TIME: 1215
2. RELINQUISHED BY:	DATE: 04/28/23	TIME: 1410	2. RECEIVED BY: James W Gregory	DATE: 4/28/23	TIME: 1410
3. RELINQUISHED BY:	DATE:	TIME:	3. RECEIVED BY:	DATE:	TIME:

COMMENTS: PROJECT # 67001156

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-8478.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-18773-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 5/9/2023			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA LC34 Custom	8260D/5030B_UP (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
LC34-iw00442-110.0-20230428 (670-18773-1)	4/28/23	09:20 Eastern		Water			X	X	3	use caution site high in TCE.
LC34-iw00162-110.0-20230428 (670-18773-2)	4/28/23	09:20 Eastern		Water			X	X	3	use caution site high in TCE.
LC34-iw00165-110.0-20230428 (670-18773-3)	4/28/23	10:20 Eastern		Water			X	X	3	use caution site high in TCE.

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/1 1104			5/2/23 0:01	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.7°C IR10

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-18773-1

Login Number: 18773

List Source: Eurofins Orlando

List Number: 1

Creator: Bittle, David W

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-18773-1

Login Number: 18773
List Number: 2
Creator: Peckinpaugh, Marshall

List Source: Eurofins Pensacola
List Creation: 05/02/23 03:52 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.7°C IR10
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-19564-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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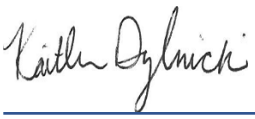

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-19564-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-19564-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-19564-1

Receipt
The samples were received on 5/12/2023 4:34 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.3°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 400-625757 recovered outside acceptance criteria, low biased, for Chloroethane and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-625757 recovered above the upper control limit for 1,2,4-Trichlorobenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW004402-110.0-20200512 (670-19564-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-19564-1

Client Sample ID: LC34-IW004402-110.0-20200512 — Lab Sample ID: 670-19564-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	3.8	I	5.0	2.5	ug/L	5		8260D	Total/NA
cis-1,2-Dichloroethene	960		5.0	1.0	ug/L	5		8260D	Total/NA
trans-1,2-Dichloroethene	8.0		5.0	2.5	ug/L	5		8260D	Total/NA
Trichloroethene	1400		5.0	0.75	ug/L	5		8260D	Total/NA
Vinyl chloride	110		5.0	2.5	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW00165-110.0-20200512 — Lab Sample ID: 670-19564-2

No Detections.

Client Sample ID: LC34-IW00162-110.0-20200512 — Lab Sample ID: 670-19564-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	25		1.0	0.20	ug/L	1		8260D	Total/NA
Trichloroethene	17		1.0	0.15	ug/L	1		8260D	Total/NA
Vinyl chloride	3.0		1.0	0.50	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-19564-1

Client Sample ID: LC34-IW004402-110.0-20200512
Date Collected: 05/12/23 10:00
Date Received: 05/12/23 16:34

Lab Sample ID: 670-19564-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.90	U	5.0	0.90	ug/L			05/20/23 13:16	5
1,1,2,2-Tetrachloroethane	2.5	U	5.0	2.5	ug/L			05/20/23 13:16	5
1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U	5.0	2.5	ug/L			05/20/23 13:16	5
1,1,2-Trichloroethane	1.1	U	25	1.1	ug/L			05/20/23 13:16	5
1,1-Dichloroethane	2.5	U	5.0	2.5	ug/L			05/20/23 13:16	5
1,1-Dichloroethene	**3.8**	**I**	5.0	2.5	ug/L			05/20/23 13:16	5
1,2,4-Trichlorobenzene	4.1	U	5.0	4.1	ug/L			05/20/23 13:16	5
1,2-Dibromo-3-Chloropropane	7.5	U	25	7.5	ug/L			05/20/23 13:16	5
1,2-Dibromoethane (EDB)	1.2	U	5.0	1.2	ug/L			05/20/23 13:16	5
1,2-Dichlorobenzene	2.5	U	5.0	2.5	ug/L			05/20/23 13:16	5
1,2-Dichloroethane	0.95	U	5.0	0.95	ug/L			05/20/23 13:16	5
1,2-Dichloropropane	2.5	U	5.0	2.5	ug/L			05/20/23 13:16	5
1,3-Dichlorobenzene	2.7	U	5.0	2.7	ug/L			05/20/23 13:16	5
1,4-Dichlorobenzene	3.2	U	5.0	3.2	ug/L			05/20/23 13:16	5
2-Butanone (MEK)	13	U	130	13	ug/L			05/20/23 13:16	5
2-Hexanone	7.0	U	130	7.0	ug/L			05/20/23 13:16	5
4-Methyl-2-pentanone	9.0	U	130	9.0	ug/L			05/20/23 13:16	5
Acetone	50	U	130	50	ug/L			05/20/23 13:16	5
Benzene	2.5	U	5.0	2.5	ug/L			05/20/23 13:16	5
Bromodichloromethane	2.5	U	5.0	2.5	ug/L			05/20/23 13:16	5
Bromoform	1.3	U	25	1.3	ug/L			05/20/23 13:16	5
Bromomethane	4.9	U	5.0	4.9	ug/L			05/20/23 13:16	5
Carbon disulfide	2.5	U	5.0	2.5	ug/L			05/20/23 13:16	5
Carbon tetrachloride	0.95	U	5.0	0.95	ug/L			05/20/23 13:16	5
Chlorobenzene	0.75	U	5.0	0.75	ug/L			05/20/23 13:16	5
Chloroethane	3.8	U	5.0	3.8	ug/L			05/20/23 13:16	5
Chloroform	4.5	U	5.0	4.5	ug/L			05/20/23 13:16	5
Chloromethane	4.5	U	5.0	4.5	ug/L			05/20/23 13:16	5
cis-1,2-Dichloroethene	**960**		5.0	1.0	ug/L			05/20/23 13:16	5
cis-1,3-Dichloropropene	2.5	U	25	2.5	ug/L			05/20/23 13:16	5
Cyclohexane	2.5	U	5.0	2.5	ug/L			05/20/23 13:16	5
Dibromochloromethane	1.2	U	5.0	1.2	ug/L			05/20/23 13:16	5
Dichlorodifluoromethane	4.3	U	5.0	4.3	ug/L			05/20/23 13:16	5
Ethylbenzene	2.5	U	5.0	2.5	ug/L			05/20/23 13:16	5
Isopropylbenzene	2.7	U	5.0	2.7	ug/L			05/20/23 13:16	5
m,p-Xylenes	3.2	U	25	3.2	ug/L			05/20/23 13:16	5
Methyl acetate	3.1	U	25	3.1	ug/L			05/20/23 13:16	5
Methyl tert-butyl ether	1.1	U	5.0	1.1	ug/L			05/20/23 13:16	5
Methylene Chloride	15	U	25	15	ug/L			05/20/23 13:16	5
o-Xylene	3.0	U	25	3.0	ug/L			05/20/23 13:16	5
Styrene	5.0	U	5.0	5.0	ug/L			05/20/23 13:16	5
Tetrachloroethene	4.5	U	5.0	4.5	ug/L			05/20/23 13:16	5
Toluene	4.5	U	5.0	4.5	ug/L			05/20/23 13:16	5
trans-1,2-Dichloroethene	**8.0**		5.0	2.5	ug/L			05/20/23 13:16	5
trans-1,3-Dichloropropene	1.0	U	25	1.0	ug/L			05/20/23 13:16	5
Trichloroethene	**1400**		5.0	0.75	ug/L			05/20/23 13:16	5
Trichlorofluoromethane	2.6	U	5.0	2.6	ug/L			05/20/23 13:16	5
Vinyl chloride	**110**		5.0	2.5	ug/L			05/20/23 13:16	5
Xylenes, Total	8.0	U	50	8.0	ug/L			05/20/23 13:16	5

Client Sample ID: LC34-IW004402-110.0-20200512 **Lab Sample ID: 670-19564-1**
Date Collected: 05/12/23 10:00 **Matrix: Water**
Date Received: 05/12/23 16:34

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*67 - 134*		*05/20/23 13:16*	*5*
Toluene-d8 (Surr)	*94*		*64 - 132*		*05/20/23 13:16*	*5*
4-Bromofluorobenzene	*97*		*72 - 119*		*05/20/23 13:16*	*5*
Dibromofluoromethane	*102*		*75 - 126*		*05/20/23 13:16*	*5*

Client Sample ID: LC34-IW00165-110.0-20200512 **Lab Sample ID: 670-19564-2**
Date Collected: 05/12/23 10:35 **Matrix: Water**
Date Received: 05/12/23 16:34

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/20/23 10:56	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/20/23 10:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/20/23 10:56	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/20/23 10:56	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/20/23 10:56	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/20/23 10:56	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/20/23 10:56	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/20/23 10:56	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/20/23 10:56	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/20/23 10:56	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/20/23 10:56	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/20/23 10:56	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/20/23 10:56	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/20/23 10:56	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/20/23 10:56	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/20/23 10:56	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/20/23 10:56	1
Acetone	10	U	25	10	ug/L			05/20/23 10:56	1
Benzene	0.50	U	1.0	0.50	ug/L			05/20/23 10:56	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/20/23 10:56	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/20/23 10:56	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/20/23 10:56	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/20/23 10:56	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/20/23 10:56	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/20/23 10:56	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/20/23 10:56	1
Chloroform	0.90	U	1.0	0.90	ug/L			05/20/23 10:56	1
Chloromethane	0.90	U	1.0	0.90	ug/L			05/20/23 10:56	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			05/20/23 10:56	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/20/23 10:56	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/20/23 10:56	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/20/23 10:56	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/20/23 10:56	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/20/23 10:56	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/20/23 10:56	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/20/23 10:56	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/20/23 10:56	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/20/23 10:56	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/20/23 10:56	1

Client Sample ID: LC34-IW00165-110.0-20200512 — **Lab Sample ID: 670-19564-2**
Date Collected: 05/12/23 10:35 — **Matrix: Water**
Date Received: 05/12/23 16:34

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.60	U	5.0	0.60	ug/L			05/20/23 10:56	1
Styrene	1.0	U	1.0	1.0	ug/L			05/20/23 10:56	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/20/23 10:56	1
Toluene	0.90	U	1.0	0.90	ug/L			05/20/23 10:56	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/20/23 10:56	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/20/23 10:56	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/20/23 10:56	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/20/23 10:56	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/20/23 10:56	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/20/23 10:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*67 - 134*		*05/20/23 10:56*	*1*
Toluene-d8 (Surr)	*97*		*64 - 132*		*05/20/23 10:56*	*1*
4-Bromofluorobenzene	*99*		*72 - 119*		*05/20/23 10:56*	*1*
Dibromofluoromethane	*98*		*75 - 126*		*05/20/23 10:56*	*1*

Client Sample ID: LC34-IW00162-110.0-20200512 — **Lab Sample ID: 670-19564-3**
Date Collected: 05/12/23 11:10 — **Matrix: Water**
Date Received: 05/12/23 16:34

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/20/23 11:18	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/20/23 11:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/20/23 11:18	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/20/23 11:18	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/20/23 11:18	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/20/23 11:18	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/20/23 11:18	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/20/23 11:18	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/20/23 11:18	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/20/23 11:18	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/20/23 11:18	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/20/23 11:18	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/20/23 11:18	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/20/23 11:18	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/20/23 11:18	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/20/23 11:18	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/20/23 11:18	1
Acetone	10	U	25	10	ug/L			05/20/23 11:18	1
Benzene	0.50	U	1.0	0.50	ug/L			05/20/23 11:18	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/20/23 11:18	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/20/23 11:18	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/20/23 11:18	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/20/23 11:18	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/20/23 11:18	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/20/23 11:18	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/20/23 11:18	1
Chloroform	0.90	U	1.0	0.90	ug/L			05/20/23 11:18	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-19564-1

Client Sample ID: LC34-IW00162-110.0-20200512
Date Collected: 05/12/23 11:10
Date Received: 05/12/23 16:34

Lab Sample ID: 670-19564-3
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	0.90	U	1.0	0.90	ug/L			05/20/23 11:18	1
cis-1,2-Dichloroethene	**25**		1.0	0.20	ug/L			05/20/23 11:18	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/20/23 11:18	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/20/23 11:18	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/20/23 11:18	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/20/23 11:18	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/20/23 11:18	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/20/23 11:18	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/20/23 11:18	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/20/23 11:18	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/20/23 11:18	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/20/23 11:18	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/20/23 11:18	1
Styrene	1.0	U	1.0	1.0	ug/L			05/20/23 11:18	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/20/23 11:18	1
Toluene	0.90	U	1.0	0.90	ug/L			05/20/23 11:18	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/20/23 11:18	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/20/23 11:18	1
Trichloroethene	**17**		1.0	0.15	ug/L			05/20/23 11:18	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/20/23 11:18	1
Vinyl chloride	**3.0**		1.0	0.50	ug/L			05/20/23 11:18	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/20/23 11:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*67 - 134*		*05/20/23 11:18*	*1*
Toluene-d8 (Surr)	*95*		*64 - 132*		*05/20/23 11:18*	*1*
4-Bromofluorobenzene	*98*		*72 - 119*		*05/20/23 11:18*	*1*
Dibromofluoromethane	*100*		*75 - 126*		*05/20/23 11:18*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-19564-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(67-134)	(64-132)	(72-119)	(75-126)
400-237349-C-1 MS	Matrix Spike	86	96	97	99
400-237349-C-1 MSD	Matrix Spike Duplicate	85	95	96	99
670-19564-1	LC34-IW004402-110.0-20200512	91	94	97	102
670-19564-2	LC34-IW00165-110.0-20200512	90	97	99	98
670-19564-3	LC34-IW00162-110.0-20200512	91	95	98	100
LCS 400-625757/1002	Lab Control Sample	81	95	96	98
MB 400-625757/4	Method Blank	90	96	98	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 400-625757/4
Matrix: Water
Analysis Batch: 625757

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/20/23 07:55	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/20/23 07:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/20/23 07:55	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/20/23 07:55	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/20/23 07:55	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/20/23 07:55	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/20/23 07:55	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/20/23 07:55	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/20/23 07:55	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/20/23 07:55	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/20/23 07:55	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/20/23 07:55	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/20/23 07:55	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/20/23 07:55	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/20/23 07:55	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/20/23 07:55	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/20/23 07:55	1
Acetone	10	U	25	10	ug/L			05/20/23 07:55	1
Benzene	0.50	U	1.0	0.50	ug/L			05/20/23 07:55	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/20/23 07:55	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/20/23 07:55	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/20/23 07:55	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/20/23 07:55	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/20/23 07:55	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/20/23 07:55	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/20/23 07:55	1
Chloroform	0.90	U	1.0	0.90	ug/L			05/20/23 07:55	1
Chloromethane	0.90	U	1.0	0.90	ug/L			05/20/23 07:55	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			05/20/23 07:55	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/20/23 07:55	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/20/23 07:55	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/20/23 07:55	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/20/23 07:55	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/20/23 07:55	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/20/23 07:55	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/20/23 07:55	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/20/23 07:55	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/20/23 07:55	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/20/23 07:55	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/20/23 07:55	1
Styrene	1.0	U	1.0	1.0	ug/L			05/20/23 07:55	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/20/23 07:55	1
Toluene	0.90	U	1.0	0.90	ug/L			05/20/23 07:55	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/20/23 07:55	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/20/23 07:55	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/20/23 07:55	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/20/23 07:55	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/20/23 07:55	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-625757/4
Matrix: Water
Analysis Batch: 625757

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.6	U	10	1.6	ug/L			05/20/23 07:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*67 - 134*		*05/20/23 07:55*	*1*
Toluene-d8 (Surr)	*96*		*64 - 132*		*05/20/23 07:55*	*1*
4-Bromofluorobenzene	*98*		*72 - 119*		*05/20/23 07:55*	*1*
Dibromofluoromethane	*100*		*75 - 126*		*05/20/23 07:55*	*1*

Lab Sample ID: LCS 400-625757/1002
Matrix: Water
Analysis Batch: 625757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	44.8		ug/L		90	68 - 130
1,1,2,2-Tetrachloroethane	50.0	49.1		ug/L		98	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroetha ne	50.0	44.2		ug/L		88	60 - 139
1,1,2-Trichloroethane	50.0	48.3		ug/L		97	70 - 130
1,1-Dichloroethane	50.0	47.0		ug/L		94	70 - 130
1,1-Dichloroethene	50.0	45.3		ug/L		91	63 - 134
1,2,4-Trichlorobenzene	50.0	60.7		ug/L		121	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	48.9		ug/L		98	54 - 135
1,2-Dibromoethane (EDB)	50.0	50.1		ug/L		100	70 - 130
1,2-Dichlorobenzene	50.0	52.9		ug/L		106	67 - 130
1,2-Dichloroethane	50.0	43.1		ug/L		86	69 - 130
1,2-Dichloropropane	50.0	47.8		ug/L		96	70 - 130
1,3-Dichlorobenzene	50.0	52.2		ug/L		104	70 - 130
1,4-Dichlorobenzene	50.0	51.9		ug/L		104	70 - 130
2-Butanone (MEK)	200	173		ug/L		86	61 - 145
2-Hexanone	200	161		ug/L		81	65 - 137
4-Methyl-2-pentanone	200	181		ug/L		90	69 - 138
Acetone	200	178		ug/L		89	43 - 160
Benzene	50.0	48.4		ug/L		97	70 - 130
Bromodichloromethane	50.0	47.5		ug/L		95	67 - 133
Bromoform	50.0	51.4		ug/L		103	57 - 140
Bromomethane	50.0	43.8		ug/L		88	10 - 160
Carbon disulfide	50.0	48.8		ug/L		98	61 - 137
Carbon tetrachloride	50.0	46.9		ug/L		94	61 - 137
Chlorobenzene	50.0	48.5		ug/L		97	70 - 130
Chloroethane	50.0	39.4		ug/L		79	55 - 141
Chloroform	50.0	46.0		ug/L		92	69 - 130
Chloromethane	50.0	40.3		ug/L		81	58 - 137
cis-1,2-Dichloroethene	50.0	44.6		ug/L		89	68 - 130
cis-1,3-Dichloropropene	50.0	51.6		ug/L		103	69 - 132
Cyclohexane	50.0	47.0		ug/L		94	70 - 130
Dibromochloromethane	50.0	49.1		ug/L		98	67 - 135
Dichlorodifluoromethane	50.0	33.8		ug/L		68	41 - 146
Ethylbenzene	50.0	45.8		ug/L		92	70 - 130
Isopropylbenzene	50.0	46.3		ug/L		93	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-625757/1002
Matrix: Water
Analysis Batch: 625757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	46.0		ug/L		92	70 - 130
Methyl acetate	100	93.3		ug/L		93	45 - 159
Methyl tert-butyl ether	50.0	51.1		ug/L		102	66 - 130
Methylene Chloride	50.0	54.4		ug/L		109	66 - 135
o-Xylene	50.0	45.9		ug/L		92	70 - 130
Styrene	50.0	46.5		ug/L		93	70 - 130
Tetrachloroethene	50.0	48.2		ug/L		96	65 - 130
Toluene	50.0	46.3		ug/L		93	70 - 130
trans-1,2-Dichloroethene	50.0	49.1		ug/L		98	70 - 130
trans-1,3-Dichloropropene	50.0	46.8		ug/L		94	63 - 130
Trichloroethene	50.0	49.6		ug/L		99	70 - 130
Trichlorofluoromethane	50.0	46.6		ug/L		93	65 - 138
Vinyl chloride	50.0	42.0		ug/L		84	59 - 136
Xylenes, Total	100	91.8		ug/L		92	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*81*		*67 - 134*
Toluene-d8 (Surr)	*95*		*64 - 132*
4-Bromofluorobenzene	*96*		*72 - 119*
Dibromofluoromethane	*98*		*75 - 126*

Lab Sample ID: 400-237349-C-1 MS
Matrix: Water
Analysis Batch: 625757

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	45.2		ug/L		90	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	49.3		ug/L		99	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	44.9		ug/L		90	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	47.4		ug/L		95	66 - 131
1,1-Dichloroethane	0.50	U	50.0	47.6		ug/L		95	61 - 144
1,1-Dichloroethene	0.50	U	50.0	50.1		ug/L		100	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	55.5		ug/L		111	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	51.5		ug/L		103	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	49.8		ug/L		100	64 - 132
1,2-Dichlorobenzene	0.50	U	50.0	49.1		ug/L		98	52 - 137
1,2-Dichloroethane	0.19	U	50.0	43.3		ug/L		87	60 - 141
1,2-Dichloropropane	0.50	U	50.0	48.4		ug/L		97	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	48.3		ug/L		97	54 - 135
1,4-Dichlorobenzene	0.64	U	50.0	47.4		ug/L		95	53 - 135
2-Butanone (MEK)	2.6	U	200	188		ug/L		94	55 - 150
2-Hexanone	1.4	U	200	176		ug/L		88	65 - 140
4-Methyl-2-pentanone	1.8	U	200	196		ug/L		98	63 - 146
Acetone	10	U	200	187		ug/L		93	43 - 150
Benzene	0.50	U	50.0	47.3		ug/L		95	56 - 142
Bromodichloromethane	0.50	U	50.0	48.7		ug/L		97	59 - 143
Bromoform	0.25	U	50.0	50.9		ug/L		102	50 - 140
Bromomethane	0.98	U	50.0	46.0		ug/L		92	10 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-237349-C-1 MS
Matrix: Water
Analysis Batch: 625757

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	0.50	U	50.0	48.0		ug/L		96	48 - 150
Carbon tetrachloride	0.19	U	50.0	46.4		ug/L		93	55 - 145
Chlorobenzene	0.15	U	50.0	47.7		ug/L		95	64 - 130
Chloroethane	0.76	U	50.0	39.4		ug/L		79	50 - 150
Chloroform	0.90	U	50.0	46.0		ug/L		92	60 - 141
Chloromethane	0.90	U	50.0	39.9		ug/L		80	49 - 148
cis-1,2-Dichloroethene	0.20	U	50.0	45.2		ug/L		90	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	49.7		ug/L		99	57 - 140
Cyclohexane	0.50	U	50.0	47.3		ug/L		95	58 - 141
Dibromochloromethane	0.24	U	50.0	48.0		ug/L		96	56 - 143
Dichlorodifluoromethane	0.85	U	50.0	35.7		ug/L		71	16 - 150
Ethylbenzene	0.50	U	50.0	44.3		ug/L		89	58 - 131
Isopropylbenzene	1.6		50.0	46.1		ug/L		89	56 - 133
m,p-Xylenes	0.63	U	50.0	44.1		ug/L		88	57 - 130
Methyl acetate	0.61	U	100	104		ug/L		104	21 - 150
Methyl tert-butyl ether	0.22	U	50.0	49.0		ug/L		98	59 - 137
Methylene Chloride	3.0	U	50.0	53.1		ug/L		106	60 - 146
o-Xylene	1.6	I	50.0	46.3		ug/L		90	61 - 130
Styrene	1.0	U	50.0	45.1		ug/L		90	58 - 131
Tetrachloroethene	0.90	U	50.0	47.3		ug/L		95	52 - 133
Toluene	0.90	U	50.0	46.1		ug/L		92	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	48.2		ug/L		96	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	45.9		ug/L		92	53 - 133
Trichloroethene	0.15	U	50.0	49.7		ug/L		99	64 - 136
Trichlorofluoromethane	0.52	U	50.0	44.7		ug/L		89	54 - 150
Vinyl chloride	0.50	U	50.0	41.6		ug/L		83	46 - 150
Xylenes, Total	1.8	I	100	90.4		ug/L		89	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*86*		*67 - 134*
Toluene-d8 (Surr)	*96*		*64 - 132*
4-Bromofluorobenzene	*97*		*72 - 119*
Dibromofluoromethane	*99*		*75 - 126*

Lab Sample ID: 400-237349-C-1 MSD
Matrix: Water
Analysis Batch: 625757

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	43.2		ug/L		86	57 - 142	5	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	47.2		ug/L		94	66 - 135	4	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	42.6		ug/L		85	55 - 150	5	30
1,1,2-Trichloroethane	0.21	U	50.0	46.6		ug/L		93	66 - 131	2	30
1,1-Dichloroethane	0.50	U	50.0	45.4		ug/L		91	61 - 144	5	30
1,1-Dichloroethene	0.50	U	50.0	42.6		ug/L		85	54 - 147	16	30
1,2,4-Trichlorobenzene	0.82	U	50.0	53.3		ug/L		107	39 - 148	4	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	49.5		ug/L		99	45 - 135	4	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	48.5		ug/L		97	64 - 132	3	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-237349-C-1 MSD
Matrix: Water
Analysis Batch: 625757

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichlorobenzene	0.50	U	50.0	47.2		ug/L		94	52 - 137	4	30
1,2-Dichloroethane	0.19	U	50.0	41.8		ug/L		84	60 - 141	3	30
1,2-Dichloropropane	0.50	U	50.0	45.9		ug/L		92	66 - 137	5	30
1,3-Dichlorobenzene	0.54	U	50.0	46.0		ug/L		92	54 - 135	5	30
1,4-Dichlorobenzene	0.64	U	50.0	45.9		ug/L		92	53 - 135	3	30
2-Butanone (MEK)	2.6	U	200	183		ug/L		92	55 - 150	3	30
2-Hexanone	1.4	U	200	166		ug/L		83	65 - 140	5	30
4-Methyl-2-pentanone	1.8	U	200	186		ug/L		93	63 - 146	5	30
Acetone	10	U	200	181		ug/L		91	43 - 150	3	30
Benzene	0.50	U	50.0	45.6		ug/L		91	56 - 142	4	30
Bromodichloromethane	0.50	U	50.0	47.0		ug/L		94	59 - 143	4	30
Bromoform	0.25	U	50.0	49.1		ug/L		98	50 - 140	4	30
Bromomethane	0.98	U	50.0	47.6		ug/L		95	10 - 150	3	50
Carbon disulfide	0.50	U	50.0	46.5		ug/L		93	48 - 150	3	30
Carbon tetrachloride	0.19	U	50.0	44.0		ug/L		88	55 - 145	5	30
Chlorobenzene	0.15	U	50.0	45.4		ug/L		91	64 - 130	5	30
Chloroethane	0.76	U	50.0	38.9		ug/L		78	50 - 150	1	30
Chloroform	0.90	U	50.0	44.5		ug/L		89	60 - 141	3	30
Chloromethane	0.90	U	50.0	41.5		ug/L		83	49 - 148	4	31
cis-1,2-Dichloroethene	0.20	U	50.0	42.8		ug/L		86	59 - 143	5	30
cis-1,3-Dichloropropene	0.50	U	50.0	48.5		ug/L		97	57 - 140	2	30
Cyclohexane	0.50	U	50.0	44.1		ug/L		88	58 - 141	7	30
Dibromochloromethane	0.24	U	50.0	46.8		ug/L		94	56 - 143	2	30
Dichlorodifluoromethane	0.85	U	50.0	35.7		ug/L		71	16 - 150	0	31
Ethylbenzene	0.50	U	50.0	43.3		ug/L		87	58 - 131	2	30
Isopropylbenzene	1.6		50.0	44.7		ug/L		86	56 - 133	3	30
m,p-Xylenes	0.63	U	50.0	42.5		ug/L		85	57 - 130	4	30
Methyl acetate	0.61	U	100	94.6		ug/L		95	21 - 150	9	30
Methyl tert-butyl ether	0.22	U	50.0	49.7		ug/L		99	59 - 137	1	30
Methylene Chloride	3.0	U	50.0	51.7		ug/L		103	60 - 146	3	32
o-Xylene	1.6	I	50.0	44.6		ug/L		86	61 - 130	4	30
Styrene	1.0	U	50.0	43.6		ug/L		87	58 - 131	3	30
Tetrachloroethene	0.90	U	50.0	44.6		ug/L		89	52 - 133	6	30
Toluene	0.90	U	50.0	43.4		ug/L		87	65 - 130	6	30
trans-1,2-Dichloroethene	0.50	U	50.0	46.5		ug/L		93	61 - 143	4	30
trans-1,3-Dichloropropene	0.20	U	50.0	44.6		ug/L		89	53 - 133	3	30
Trichloroethene	0.15	U	50.0	47.8		ug/L		96	64 - 136	4	30
Trichlorofluoromethane	0.52	U	50.0	44.7		ug/L		89	54 - 150	0	30
Vinyl chloride	0.50	U	50.0	45.2		ug/L		90	46 - 150	8	30
Xylenes, Total	1.8	I	100	87.1		ug/L		85	59 - 130	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*85*		*67 - 134*
Toluene-d8 (Surr)	*95*		*64 - 132*
4-Bromofluorobenzene	*96*		*72 - 119*
Dibromofluoromethane	*99*		*75 - 126*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-19564-1

GC/MS VOA

Analysis Batch: 625757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-19564-1	LC34-IW004402-110.0-20200512	Total/NA	Water	8260D	
670-19564-2	LC34-IW00165-110.0-20200512	Total/NA	Water	8260D	
670-19564-3	LC34-IW00162-110.0-20200512	Total/NA	Water	8260D	
MB 400-625757/4	Method Blank	Total/NA	Water	8260D	
LCS 400-625757/1002	Lab Control Sample	Total/NA	Water	8260D	
400-237349-C-1 MS	Matrix Spike	Total/NA	Water	8260D	
400-237349-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-19564-1

Client Sample ID: LC34-IW004402-110.0-20200512

Lab Sample ID: 670-19564-1

Date Collected: 05/12/23 10:00
Matrix: Water
Date Received: 05/12/23 16:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		5	625757	WPD	EET PEN	05/20/23 13:16

Client Sample ID: LC34-IW00165-110.0-20200512

Lab Sample ID: 670-19564-2

Date Collected: 05/12/23 10:35
Matrix: Water
Date Received: 05/12/23 16:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	625757	WPD	EET PEN	05/20/23 10:56

Client Sample ID: LC34-IW00162-110.0-20200512

Lab Sample ID: 670-19564-3

Date Collected: 05/12/23 11:10
Matrix: Water
Date Received: 05/12/23 16:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	625757	WPD	EET PEN	05/20/23 11:18

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-19564-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E81010	06-30-23

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-19564-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-19564-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-19564-1	LC34-IW004402-110.0-20200512	Water	05/12/23 10:00	05/12/23 16:34
670-19564-2	LC34-IW00165-110.0-20200512	Water	05/12/23 10:35	05/12/23 16:34
670-19564-3	LC34-IW00162-110.0-20200512	Water	05/12/23 11:10	05/12/23 16:34

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2173 | PAGE 1 OF 1

PROJECT NO: 112G08985	FACILITY: KSC-LC34	PROJECT MANAGER Mark Sonnet	PHONE NUMBER (412) 921-8622	LABORATORY NAME AND CONTACT: Euro Fins — Kaitlin Dylnicki
SAMPLERS (SIGNATURE) – Chuck Sorden		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER		CITY, STATE Altamonte Springs, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G
PRESERVATIVE USED: HCl/4°C
TYPE OF ANALYSIS: 8260D (MOD) NASA LC34 Custom List

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS	COMMENTS
05/12	1000	LC34-IW004402-110.0-20230512	4402	105	115	GW	G	3	X	
05/12	1035	LC34-IW0165-110.0-20230512	165	105	115	GW	G	3	X	
05/12	1110	LC34-IW0162-110.0-20230512	162	105	115	GW	G	3	X	

670-19564 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	05/12/23	1310	1. RECEIVED BY	5/12/23	1310
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY MC	5/12/23	1634
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 2.8/2.3

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 4/02R

FORM NO. TINUS-001

5/22/2023

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-9174.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-19564-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 5/24/2023			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-IW004402-110.0-20200512 (670-19564-1)	5/12/23	10:00 Eastern		Water			X	3	use caution site high in TCE.
LC34-IW00165-110.0-20200512 (670-19564-2)	5/12/23	10:35 Eastern		Water			X	3	use caution site high in TCE.
LC34-IW00162-110.0-20200512 (670-19564-3)	5/12/23	11:10 Eastern		Water			X	3	use caution site high in TCE.

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	5/15 1545			5/16/23 9:08	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.9°C IRM

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-19564-1

Login Number: 19564

List Number: 1

Creator: Clerisier, Meline

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-19564-1

Login Number: 19564
List Number: 2
Creator: Sirag, Josiah

List Source: Eurofins Pensacola
List Creation: 05/16/23 10:34 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 6/5/2023 2:55:08 PM

JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-20418-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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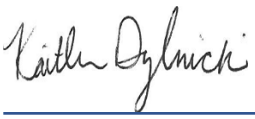

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Authorized for release by
Kaitlin Dylnicki, Project Manager
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(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-20418-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
L	Off-scale high. Actual value is known to be greater than the value given.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-20418-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-20418-1

Receipt
The samples were received on 5/26/2023 3:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 6.0°C

GC/MS VOA
Method 8260D: The method blank for analytical batch 680-781169 contained Toluene above the method detection limit (MDL). Associated samples were not re-analyzed because results were less than the reporting limit (RL) OR practical quantitation limit (PQL).

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW044D2-0110.0-20230526 (670-20418-2). Elevated reporting limits (RLs) are provided.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 680-781169 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-781169 recovered outside acceptance criteria, low biased, for 2-Hexanone. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-781169 recovered above the upper control limit for 1,1-Dichloroethene, Carbon disulfide, Carbon tetrachloride, Chloromethane, Methylene Chloride, trans-1,2-Dichloroethene, Trichlorofluoromethane, Vinyl chloride and 1,1,2-Trichloro-1,2,2-trifluoroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The laboratory control sample duplicate (LCSD) for analytical batch 680-781169 recovered outside control limits for the following analytes: Dichlorodifluoromethane and Vinyl chloride. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-781475 recovered above the upper control limit for 2-Hexanone, Acetone, Carbon disulfide, Chloroethane, 2-Butanone (MEK), 4-Methyl-2-pentanone, Trichlorofluoromethane and Methyl acetate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 680-781475 recovered outside control limits for the following analytes: 2-Hexanone, Acetone, Carbon disulfide, 2-Butanone (MEK), 4-Methyl-2-pentanone and Methyl acetate. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-781475.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW044D2-0110.0-20230526 (670-20418-2). Elevated reporting limits (RLs) are provided.

Method 8260D: The result for trichloroethene was above the upper calibration range and is reported as an Estimated ("E / L") value in sample: LC34-IW044D2-0110.0-20230526 (670-20418-2) . A second dilution was attempted but was not reported due to internal standard failure.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-20418-1

Client Sample ID: LC34-IW0165-0110.0-20230526 — Lab Sample ID: 670-20418-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.52	I V	1.0	0.25	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW044D2-0110.0-20230526 — Lab Sample ID: 670-20418-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	2.8	I V	5.0	1.3	ug/L	5		8260D	Total/NA
1,1-Dichloroethene - DL	4.6	I	10	3.3	ug/L	10		8260D	Total/NA
cis-1,2-Dichloroethene - DL	2100		10	2.5	ug/L	10		8260D	Total/NA
trans-1,2-Dichloroethene - DL	7.3	I	10	3.4	ug/L	10		8260D	Total/NA
Trichloroethene - DL	4200	L	10	2.0	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	150		10	4.0	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0162-0110.0-20230526 — Lab Sample ID: 670-20418-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	23		1.0	0.25	ug/L	1		8260D	Total/NA
Toluene	0.62	I V	1.0	0.25	ug/L	1		8260D	Total/NA
Trichloroethene	16		1.0	0.20	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-20418-1

Client Sample ID: LC34-IW0165-0110.0-20230526
Date Collected: 05/26/23 09:00
Date Received: 05/26/23 15:00

Lab Sample ID: 670-20418-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			05/31/23 18:41	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			05/31/23 18:41	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			05/31/23 18:41	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			05/31/23 18:41	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			05/31/23 18:41	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			05/31/23 18:41	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			05/31/23 18:41	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			05/31/23 18:41	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			05/31/23 18:41	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			05/31/23 18:41	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			05/31/23 18:41	1
2-Hexanone	3.2	U	10	3.2	ug/L			05/31/23 18:41	1
Acetone	3.7	U	10	3.7	ug/L			05/31/23 18:41	1
Benzene	0.27	U	1.0	0.27	ug/L			05/31/23 18:41	1
Bromoform	0.59	U	1.0	0.59	ug/L			05/31/23 18:41	1
Bromomethane	3.7	U	5.0	3.7	ug/L			05/31/23 18:41	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			05/31/23 18:41	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			05/31/23 18:41	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/31/23 18:41	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			05/31/23 18:41	1
Chloroethane	4.6	U	5.0	4.6	ug/L			05/31/23 18:41	1
Chloroform	0.27	U	1.0	0.27	ug/L			05/31/23 18:41	1
Chloromethane	0.54	U	1.0	0.54	ug/L			05/31/23 18:41	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			05/31/23 18:41	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			05/31/23 18:41	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			05/31/23 18:41	1
Dichlorodifluoromethane	0.36	U J3	1.0	0.36	ug/L			05/31/23 18:41	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			05/31/23 18:41	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			05/31/23 18:41	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			05/31/23 18:41	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			05/31/23 18:41	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			05/31/23 18:41	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			05/31/23 18:41	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			05/31/23 18:41	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			05/31/23 18:41	1
o-Xylene	0.26	U	1.0	0.26	ug/L			05/31/23 18:41	1
Styrene	0.27	U	1.0	0.27	ug/L			05/31/23 18:41	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			05/31/23 18:41	1
Toluene	**0.52**	**I V**	1.0	0.25	ug/L			05/31/23 18:41	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			05/31/23 18:41	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			05/31/23 18:41	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			05/31/23 18:41	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			05/31/23 18:41	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			05/31/23 18:41	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			05/31/23 18:41	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			05/31/23 18:41	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			05/31/23 18:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			05/31/23 18:41	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			05/31/23 18:41	1

Client Sample ID: LC34-IW0165-0110.0-20230526

Lab Sample ID: 670-20418-1

Date Collected: 05/26/23 09:00

Matrix: Water

Date Received: 05/26/23 15:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*108*		*70 - 130*		*05/31/23 18:41*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*60 - 124*		*05/31/23 18:41*	*1*
Dibromofluoromethane (Surr)	*124*		*70 - 130*		*05/31/23 18:41*	*1*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*05/31/23 18:41*	*1*

Client Sample ID: LC34-IW044D2-0110.0-20230526

Lab Sample ID: 670-20418-2

Date Collected: 05/26/23 09:30

Matrix: Water

Date Received: 05/26/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.1	U	5.0	1.1	ug/L			05/31/23 19:00	5
1,1,2,2-Tetrachloroethane	2.0	U	5.0	2.0	ug/L			05/31/23 19:00	5
1,1,2-Trichloroethane	1.6	U	5.0	1.6	ug/L			05/31/23 19:00	5
1,1-Dichloroethane	1.7	U	5.0	1.7	ug/L			05/31/23 19:00	5
1,2-Dibromo-3-Chloropropane	9.0	U	25	9.0	ug/L			05/31/23 19:00	5
1,2-Dichlorobenzene	1.6	U	5.0	1.6	ug/L			05/31/23 19:00	5
1,2-Dichloroethane	1.3	U	5.0	1.3	ug/L			05/31/23 19:00	5
1,2-Dichloropropane	1.1	U	5.0	1.1	ug/L			05/31/23 19:00	5
1,3-Dichlorobenzene	1.6	U	5.0	1.6	ug/L			05/31/23 19:00	5
1,4-Dichlorobenzene	1.6	U	5.0	1.6	ug/L			05/31/23 19:00	5
2-Hexanone	16	U	50	16	ug/L			05/31/23 19:00	5
Acetone	19	U	50	19	ug/L			05/31/23 19:00	5
Benzene	1.4	U	5.0	1.4	ug/L			05/31/23 19:00	5
Bromoform	3.0	U	5.0	3.0	ug/L			05/31/23 19:00	5
Bromomethane	19	U	25	19	ug/L			05/31/23 19:00	5
Carbon disulfide	2.2	U	10	2.2	ug/L			05/31/23 19:00	5
Carbon tetrachloride	1.5	U	5.0	1.5	ug/L			05/31/23 19:00	5
Chlorobenzene	0.75	U	5.0	0.75	ug/L			05/31/23 19:00	5
Dibromochloromethane	2.0	U	5.0	2.0	ug/L			05/31/23 19:00	5
Chloroethane	23	U	25	23	ug/L			05/31/23 19:00	5
Chloroform	1.4	U	5.0	1.4	ug/L			05/31/23 19:00	5
Chloromethane	2.7	U	5.0	2.7	ug/L			05/31/23 19:00	5
cis-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			05/31/23 19:00	5
Bromodichloromethane	1.3	U	5.0	1.3	ug/L			05/31/23 19:00	5
Dichlorodifluoromethane	1.8	U J3	5.0	1.8	ug/L			05/31/23 19:00	5
Ethylbenzene	1.0	U	5.0	1.0	ug/L			05/31/23 19:00	5
1,2-Dibromoethane (EDB)	1.7	U	5.0	1.7	ug/L			05/31/23 19:00	5
Isopropylbenzene	1.3	U	5.0	1.3	ug/L			05/31/23 19:00	5
Methyl tert-butyl ether	4.1	U	25	4.1	ug/L			05/31/23 19:00	5
Methylene Chloride	16	U	25	16	ug/L			05/31/23 19:00	5
2-Butanone (MEK)	32	U	50	32	ug/L			05/31/23 19:00	5
4-Methyl-2-pentanone	14	U	50	14	ug/L			05/31/23 19:00	5
m,p-Xylenes	2.5	U	5.0	2.5	ug/L			05/31/23 19:00	5
o-Xylene	1.3	U	5.0	1.3	ug/L			05/31/23 19:00	5
Styrene	1.4	U	5.0	1.4	ug/L			05/31/23 19:00	5
Tetrachloroethene	1.8	U	2.5	1.8	ug/L			05/31/23 19:00	5
Toluene	**2.8**	**I V**	5.0	1.3	ug/L			05/31/23 19:00	5
trans-1,3-Dichloropropene	1.2	U	5.0	1.2	ug/L			05/31/23 19:00	5
Trichlorofluoromethane	1.7	U	5.0	1.7	ug/L			05/31/23 19:00	5

Client Sample ID: LC34-IW044D2-0110.0-20230526

Lab Sample ID: 670-20418-2

Date Collected: 05/26/23 09:30

Matrix: Water

Date Received: 05/26/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.2	U	5.0	1.2	ug/L			05/31/23 19:00	5
Methyl acetate	16	U	25	16	ug/L			05/31/23 19:00	5
Cyclohexane	1.4	U	5.0	1.4	ug/L			05/31/23 19:00	5
1,1,2-Trichloro-1,2,2-trifluoroethane	1.2	U	5.0	1.2	ug/L			05/31/23 19:00	5
1,2,4-Trichlorobenzene	2.7	U	25	2.7	ug/L			05/31/23 19:00	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*113*		*70 - 130*		*05/31/23 19:00*	*5*
1,2-Dichloroethane-d4 (Surr)	*106*		*60 - 124*		*05/31/23 19:00*	*5*
Dibromofluoromethane (Surr)	*111*		*70 - 130*		*05/31/23 19:00*	*5*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*05/31/23 19:00*	*5*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	**4.6**	**I**	10	3.3	ug/L			06/01/23 16:57	10
cis-1,2-Dichloroethene	**2100**		10	2.5	ug/L			06/01/23 16:57	10
trans-1,2-Dichloroethene	**7.3**	**I**	10	3.4	ug/L			06/01/23 16:57	10
Trichloroethene	**4200**	**L**	10	2.0	ug/L			06/01/23 16:57	10
Vinyl chloride	**150**		10	4.0	ug/L			06/01/23 16:57	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*109*		*70 - 130*		*06/01/23 16:57*	*10*
1,2-Dichloroethane-d4 (Surr)	*109*		*60 - 124*		*06/01/23 16:57*	*10*
Dibromofluoromethane (Surr)	*114*		*70 - 130*		*06/01/23 16:57*	*10*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*		*06/01/23 16:57*	*10*

Client Sample ID: LC34-IW0162-0110.0-20230526

Lab Sample ID: 670-20418-3

Date Collected: 05/26/23 10:00

Matrix: Water

Date Received: 05/26/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			05/31/23 19:19	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			05/31/23 19:19	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			05/31/23 19:19	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			05/31/23 19:19	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			05/31/23 19:19	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			05/31/23 19:19	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			05/31/23 19:19	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			05/31/23 19:19	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			05/31/23 19:19	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			05/31/23 19:19	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			05/31/23 19:19	1
2-Hexanone	3.2	U	10	3.2	ug/L			05/31/23 19:19	1
Acetone	3.7	U	10	3.7	ug/L			05/31/23 19:19	1
Benzene	0.27	U	1.0	0.27	ug/L			05/31/23 19:19	1
Bromoform	0.59	U	1.0	0.59	ug/L			05/31/23 19:19	1
Bromomethane	3.7	U	5.0	3.7	ug/L			05/31/23 19:19	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			05/31/23 19:19	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			05/31/23 19:19	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/31/23 19:19	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-20418-1

Client Sample ID: LC34-IW0162-0110.0-20230526
Date Collected: 05/26/23 10:00
Date Received: 05/26/23 15:00

Lab Sample ID: 670-20418-3
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			05/31/23 19:19	1
Chloroethane	4.6	U	5.0	4.6	ug/L			05/31/23 19:19	1
Chloroform	0.27	U	1.0	0.27	ug/L			05/31/23 19:19	1
Chloromethane	0.54	U	1.0	0.54	ug/L			05/31/23 19:19	1
cis-1,2-Dichloroethene	**23**		1.0	0.25	ug/L			06/01/23 16:35	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			05/31/23 19:19	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			05/31/23 19:19	1
Dichlorodifluoromethane	0.36	U J3	1.0	0.36	ug/L			05/31/23 19:19	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			05/31/23 19:19	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			05/31/23 19:19	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			05/31/23 19:19	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			05/31/23 19:19	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			05/31/23 19:19	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			05/31/23 19:19	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			05/31/23 19:19	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			05/31/23 19:19	1
o-Xylene	0.26	U	1.0	0.26	ug/L			05/31/23 19:19	1
Styrene	0.27	U	1.0	0.27	ug/L			05/31/23 19:19	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			05/31/23 19:19	1
Toluene	**0.62**	**I V**	1.0	0.25	ug/L			05/31/23 19:19	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			05/31/23 19:19	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			05/31/23 19:19	1
Trichloroethene	**16**		1.0	0.20	ug/L			06/01/23 16:35	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			05/31/23 19:19	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			05/31/23 19:19	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			05/31/23 19:19	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			05/31/23 19:19	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			05/31/23 19:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			05/31/23 19:19	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			05/31/23 19:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*111*		*70 - 130*		*05/31/23 19:19*	*1*
Toluene-d8 (Surr)	*107*		*70 - 130*		*06/01/23 16:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*60 - 124*		*05/31/23 19:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*60 - 124*		*06/01/23 16:35*	*1*
Dibromofluoromethane (Surr)	*121*		*70 - 130*		*05/31/23 19:19*	*1*
Dibromofluoromethane (Surr)	*113*		*70 - 130*		*06/01/23 16:35*	*1*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*05/31/23 19:19*	*1*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*		*06/01/23 16:35*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-20418-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		TOL	DCA	DBFM	BFB
Lab Sample ID	Client Sample ID	(70-130)	(60-124)	(70-130)	(70-130)
670-20418-1	LC34-IW0165-0110.0-20230526	108	112	124	96
670-20418-2	LC34-IW044D2-0110.0-20230526	113	106	111	95
670-20418-2 - DL	LC34-IW044D2-0110.0-20230526	109	109	114	88
670-20418-3	LC34-IW0162-0110.0-20230526	111	111	121	95
670-20418-3	LC34-IW0162-0110.0-20230526	107	111	113	88
680-235220-E-1 MS	Matrix Spike	109	100	105	101
680-235220-E-1 MSD	Matrix Spike Duplicate	109	101	107	103
LCS 680-781169/5	Lab Control Sample	101	94	100	98
LCS 680-781475/4	Lab Control Sample	106	103	107	89
LCSD 680-781169/6	Lab Control Sample Dup	102	97	101	100
LCSD 680-781475/5	Lab Control Sample Dup	104	105	108	91
MB 680-781169/9	Method Blank	108	110	117	93
MB 680-781475/8	Method Blank	108	110	111	90

Surrogate Legend

TOL = Toluene-d8 (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 680-781169/9
Matrix: Water
Analysis Batch: 781169

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			05/31/23 16:47	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			05/31/23 16:47	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			05/31/23 16:47	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			05/31/23 16:47	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			05/31/23 16:47	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			05/31/23 16:47	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			05/31/23 16:47	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			05/31/23 16:47	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			05/31/23 16:47	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			05/31/23 16:47	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			05/31/23 16:47	1
2-Hexanone	3.2	U	10	3.2	ug/L			05/31/23 16:47	1
Acetone	3.7	U	10	3.7	ug/L			05/31/23 16:47	1
Benzene	0.27	U	1.0	0.27	ug/L			05/31/23 16:47	1
Bromoform	0.59	U	1.0	0.59	ug/L			05/31/23 16:47	1
Bromomethane	3.7	U	5.0	3.7	ug/L			05/31/23 16:47	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			05/31/23 16:47	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			05/31/23 16:47	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/31/23 16:47	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			05/31/23 16:47	1
Chloroethane	4.6	U	5.0	4.6	ug/L			05/31/23 16:47	1
Chloroform	0.27	U	1.0	0.27	ug/L			05/31/23 16:47	1
Chloromethane	0.54	U	1.0	0.54	ug/L			05/31/23 16:47	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			05/31/23 16:47	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			05/31/23 16:47	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			05/31/23 16:47	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			05/31/23 16:47	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			05/31/23 16:47	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			05/31/23 16:47	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			05/31/23 16:47	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			05/31/23 16:47	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			05/31/23 16:47	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			05/31/23 16:47	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			05/31/23 16:47	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			05/31/23 16:47	1
o-Xylene	0.26	U	1.0	0.26	ug/L			05/31/23 16:47	1
Styrene	0.27	U	1.0	0.27	ug/L			05/31/23 16:47	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			05/31/23 16:47	1
Toluene	0.683	I	1.0	0.25	ug/L			05/31/23 16:47	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			05/31/23 16:47	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			05/31/23 16:47	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			05/31/23 16:47	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			05/31/23 16:47	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			05/31/23 16:47	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			05/31/23 16:47	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			05/31/23 16:47	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			05/31/23 16:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			05/31/23 16:47	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-781169/9
Matrix: Water
Analysis Batch: 781169

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			05/31/23 16:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*108*		*70 - 130*		*05/31/23 16:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*60 - 124*		*05/31/23 16:47*	*1*
Dibromofluoromethane (Surr)	*117*		*70 - 130*		*05/31/23 16:47*	*1*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*05/31/23 16:47*	*1*

Lab Sample ID: LCS 680-781169/5
Matrix: Water
Analysis Batch: 781169

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	57.3		ug/L		115	70 - 130
1,1,2,2-Tetrachloroethane	50.0	40.4		ug/L		81	70 - 130
1,1,2-Trichloroethane	50.0	50.3		ug/L		101	70 - 130
1,1-Dichloroethane	50.0	55.7		ug/L		111	70 - 130
1,1-Dichloroethene	50.0	62.0		ug/L		124	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	50.9		ug/L		102	70 - 130
1,2-Dichlorobenzene	50.0	47.0		ug/L		94	70 - 130
1,2-Dichloroethane	50.0	47.0		ug/L		94	70 - 130
1,2-Dichloropropane	50.0	55.8		ug/L		112	70 - 130
1,3-Dichlorobenzene	50.0	40.7		ug/L		81	70 - 130
1,4-Dichlorobenzene	50.0	44.2		ug/L		88	70 - 130
2-Hexanone	250	200		ug/L		80	70 - 130
Acetone	250	230		ug/L		92	67 - 120
Benzene	50.0	53.5		ug/L		107	70 - 130
Bromoform	50.0	51.0		ug/L		102	69 - 129
Bromomethane	50.0	39.5		ug/L		79	28 - 192
Carbon disulfide	50.0	61.2		ug/L		122	70 - 130
Carbon tetrachloride	50.0	64.1		ug/L		128	70 - 130
Chlorobenzene	50.0	45.5		ug/L		91	70 - 130
Dibromochloromethane	50.0	54.5		ug/L		109	70 - 130
Chloroethane	50.0	52.7		ug/L		105	31 - 213
Chloroform	50.0	55.0		ug/L		110	70 - 130
Chloromethane	50.0	60.4		ug/L		121	59 - 127
cis-1,2-Dichloroethene	50.0	55.7		ug/L		111	70 - 130
cis-1,3-Dichloropropene	50.0	55.7		ug/L		111	70 - 130
Bromodichloromethane	50.0	54.5		ug/L		109	70 - 130
Dichlorodifluoromethane	50.0	51.5		ug/L		103	70 - 130
Ethylbenzene	50.0	43.4		ug/L		87	70 - 130
1,2-Dibromoethane (EDB)	50.0	51.1		ug/L		102	70 - 130
Isopropylbenzene	50.0	42.7		ug/L		85	70 - 130
Methyl tert-butyl ether	50.0	56.7		ug/L		113	70 - 130
Methylene Chloride	50.0	61.9		ug/L		124	70 - 130
2-Butanone (MEK)	250	215		ug/L		86	69 - 120
4-Methyl-2-pentanone	250	202		ug/L		81	68 - 120
m,p-Xylenes	50.0	46.8		ug/L		94	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-781169/5
Matrix: Water
Analysis Batch: 781169

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			50.0	44.8		ug/L		90	70 - 130		
Styrene			50.0	42.7		ug/L		85	70 - 130		
Tetrachloroethene			50.0	55.5		ug/L		111	70 - 130		
Toluene			50.0	50.9		ug/L		102	70 - 130		
trans-1,2-Dichloroethene			50.0	56.9		ug/L		114	70 - 130		
trans-1,3-Dichloropropene			50.0	54.3		ug/L		109	70 - 130		
Trichloroethene			50.0	54.2		ug/L		108	70 - 130		
Trichlorofluoromethane			50.0	58.6		ug/L		117	63 - 142		
Vinyl chloride			50.0	58.0		ug/L		116	66 - 129		
Xylenes, Total			100	91.6		ug/L		92	70 - 130		
Methyl acetate			100	101		ug/L		101	67 - 120		
Cyclohexane			50.0	55.4		ug/L		111	23 - 175		
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	66.6		ug/L		133	63 - 141		
1,2,4-Trichlorobenzene			50.0	54.0		ug/L		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*94*		*60 - 124*
Dibromofluoromethane (Surr)	*100*		*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 680-781169/6
Matrix: Water
Analysis Batch: 781169

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			50.0	57.9		ug/L		116	70 - 130	1	30
1,1,2,2-Tetrachloroethane			50.0	44.5		ug/L		89	70 - 130	10	30
1,1,2-Trichloroethane			50.0	51.7		ug/L		103	70 - 130	3	30
1,1-Dichloroethane			50.0	57.0		ug/L		114	70 - 130	2	30
1,1-Dichloroethene			50.0	59.0		ug/L		118	70 - 130	5	20
1,2-Dibromo-3-Chloropropane			50.0	56.5		ug/L		113	70 - 130	11	30
1,2-Dichlorobenzene			50.0	47.7		ug/L		95	70 - 130	2	30
1,2-Dichloroethane			50.0	47.6		ug/L		95	70 - 130	1	50
1,2-Dichloropropane			50.0	56.5		ug/L		113	70 - 130	1	20
1,3-Dichlorobenzene			50.0	41.8		ug/L		84	70 - 130	3	30
1,4-Dichlorobenzene			50.0	45.1		ug/L		90	70 - 130	2	30
2-Hexanone			250	211		ug/L		84	70 - 130	5	20
Acetone			250	243		ug/L		97	67 - 120	6	30
Benzene			50.0	54.2		ug/L		108	70 - 130	1	30
Bromoform			50.0	54.6		ug/L		109	69 - 129	7	30
Bromomethane			50.0	39.4		ug/L		79	28 - 192	0	30
Carbon disulfide			50.0	63.1		ug/L		126	70 - 130	3	30
Carbon tetrachloride			50.0	62.8		ug/L		126	70 - 130	2	30
Chlorobenzene			50.0	46.6		ug/L		93	70 - 130	2	30
Dibromochloromethane			50.0	54.5		ug/L		109	70 - 130	0	30
Chloroethane			50.0	55.1		ug/L		110	31 - 213	4	30
Chloroform			50.0	55.8		ug/L		112	70 - 130	1	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-781169/6
Matrix: Water
Analysis Batch: 781169

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloromethane			50.0	57.6		ug/L		115	59 - 127	5	30
cis-1,2-Dichloroethene			50.0	57.5		ug/L		115	70 - 130	3	30
cis-1,3-Dichloropropene			50.0	58.0		ug/L		116	70 - 130	4	20
Bromodichloromethane			50.0	54.0		ug/L		108	70 - 130	1	30
Dichlorodifluoromethane			50.0	71.7	J3	ug/L		143	70 - 130	33	40
Ethylbenzene			50.0	44.2		ug/L		88	70 - 130	2	20
1,2-Dibromoethane (EDB)			50.0	53.0		ug/L		106	70 - 130	4	30
Isopropylbenzene			50.0	44.5		ug/L		89	70 - 130	4	30
Methyl tert-butyl ether			50.0	58.5		ug/L		117	70 - 130	3	30
Methylene Chloride			50.0	63.4		ug/L		127	70 - 130	2	30
2-Butanone (MEK)			250	231		ug/L		92	69 - 120	7	30
4-Methyl-2-pentanone			250	212		ug/L		85	68 - 120	5	30
m,p-Xylenes			50.0	47.7		ug/L		95	70 - 130	2	30
o-Xylene			50.0	47.1		ug/L		94	70 - 130	5	30
Styrene			50.0	44.5		ug/L		89	70 - 130	4	30
Tetrachloroethene			50.0	55.1		ug/L		110	70 - 130	1	30
Toluene			50.0	51.3		ug/L		103	70 - 130	1	30
trans-1,2-Dichloroethene			50.0	59.5		ug/L		119	70 - 130	4	30
trans-1,3-Dichloropropene			50.0	55.4		ug/L		111	70 - 130	2	30
Trichloroethene			50.0	51.8		ug/L		104	70 - 130	5	30
Trichlorofluoromethane			50.0	61.2		ug/L		122	63 - 142	4	30
Vinyl chloride			50.0	61.5		ug/L		123	66 - 129	6	30
Xylenes, Total			100	94.8		ug/L		95	70 - 130	3	30
Methyl acetate			100	106		ug/L		106	67 - 120	4	30
Cyclohexane			50.0	54.6		ug/L		109	23 - 175	1	30
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	68.3		ug/L		137	63 - 141	3	30
1,2,4-Trichlorobenzene			50.0	54.2		ug/L		108	70 - 130	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 124*
Dibromofluoromethane (Surr)	*101*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 680-235220-E-1 MS
Matrix: Water
Analysis Batch: 781169

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	11	U	2500	3230		ug/L		129	70 - 130
1,1,2,2-Tetrachloroethane	20	U	2500	2150		ug/L		86	70 - 130
1,1,2-Trichloroethane	16	U	2500	2660		ug/L		106	70 - 130
1,1-Dichloroethane	17	U	2500	2990		ug/L		120	70 - 130
1,1-Dichloroethene	17	U J3	2500	3410	J3	ug/L		137	70 - 130
1,2-Dibromo-3-Chloropropane	90	U	2500	2560		ug/L		102	70 - 130
1,2-Dichlorobenzene	16	U	2500	2390		ug/L		96	70 - 130
1,2-Dichloroethane	13	U	2500	2470		ug/L		99	70 - 130
1,2-Dichloropropane	11	U	2500	2960		ug/L		119	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 680-235220-E-1 MS
Matrix: Water
Analysis Batch: 781169

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	16	U	2500	2140		ug/L		86	70 - 130
1,4-Dichlorobenzene	16	U	2500	2250		ug/L		90	70 - 130
2-Hexanone	160	U	12500	10000		ug/L		80	70 - 130
Acetone	190	U	12500	11000		ug/L		88	67 - 120
Benzene	14	U	2500	2910		ug/L		117	70 - 130
Bromoform	30	U	2500	2750		ug/L		110	69 - 129
Bromomethane	190	U	2500	2540		ug/L		102	28 - 192
Carbon disulfide	22	U J3	2500	3450	J3	ug/L		138	70 - 130
Carbon tetrachloride	15	U J3	2500	3560	J3	ug/L		142	70 - 130
Chlorobenzene	7.5	U	2500	2370		ug/L		95	70 - 130
Dibromochloromethane	20	U	2500	2890		ug/L		116	70 - 130
Chloroethane	230	U	2500	5030		ug/L		201	31 - 213
Chloroform	14	U	2500	2990		ug/L		120	70 - 130
Chloromethane	27	U	2500	2970		ug/L		119	59 - 127
cis-1,2-Dichloroethene	13	U	2500	2930		ug/L		117	70 - 130
cis-1,3-Dichloropropene	13	U	2500	2940		ug/L		117	70 - 130
Bromodichloromethane	13	U	2500	2920		ug/L		117	70 - 130
Dichlorodifluoromethane	18	U J3	2500	3260		ug/L		130	70 - 130
Ethylbenzene	87		2500	2430		ug/L		94	70 - 130
1,2-Dibromoethane (EDB)	17	U	2500	2770		ug/L		111	70 - 130
Isopropylbenzene	13	U	2500	2350		ug/L		94	70 - 130
Methyl tert-butyl ether	41	U	2500	2970		ug/L		119	70 - 130
Methylene Chloride	160	U J3	2500	3280	J3	ug/L		131	70 - 130
2-Butanone (MEK)	320	U	12500	10600		ug/L		85	69 - 120
4-Methyl-2-pentanone	140	U	12500	10300		ug/L		83	68 - 120
m,p-Xylenes	330		2500	2850		ug/L		101	70 - 130
o-Xylene	140		2500	2580		ug/L		98	70 - 130
Styrene	14	U	2500	2280		ug/L		91	70 - 130
Tetrachloroethene	18	U	2500	2950		ug/L		118	70 - 130
Toluene	34	I	2500	2780		ug/L		110	70 - 130
trans-1,2-Dichloroethene	17	U	2500	3170		ug/L		127	70 - 130
trans-1,3-Dichloropropene	12	U	2500	2870		ug/L		115	70 - 130
Trichloroethene	10	U	2500	2770		ug/L		111	70 - 130
Trichlorofluoromethane	17	U	2500	3370		ug/L		135	63 - 142
Vinyl chloride	20	U J3	2500	3240	J3	ug/L		130	66 - 129
Xylenes, Total	470		5000	5430		ug/L		99	70 - 130
Methyl acetate	160	U	5000	5020		ug/L		100	67 - 120
Cyclohexane	14	U	2500	3020		ug/L		121	23 - 175
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U J3	2500	3710	J3	ug/L		148	63 - 141
1,2,4-Trichlorobenzene	27	U	2500	2680		ug/L		107	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*109*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*100*		*60 - 124*
Dibromofluoromethane (Surr)	*105*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 680-235220-E-1 MSD
Matrix: Water
Analysis Batch: 781169

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	11	U	2500	3200		ug/L		128	70 - 130	1	30
1,1,2,2-Tetrachloroethane	20	U	2500	2230		ug/L		89	70 - 130	4	30
1,1,2-Trichloroethane	16	U	2500	2690		ug/L		108	70 - 130	1	30
1,1-Dichloroethane	17	U	2500	3000		ug/L		120	70 - 130	0	30
1,1-Dichloroethene	17	U J3	2500	3480	J3	ug/L		139	70 - 130	2	20
1,2-Dibromo-3-Chloropropane	90	U	2500	2620		ug/L		105	70 - 130	3	30
1,2-Dichlorobenzene	16	U	2500	2460		ug/L		99	70 - 130	3	30
1,2-Dichloroethane	13	U	2500	2520		ug/L		101	70 - 130	2	50
1,2-Dichloropropane	11	U	2500	2930		ug/L		117	70 - 130	1	20
1,3-Dichlorobenzene	16	U	2500	2170		ug/L		87	70 - 130	1	30
1,4-Dichlorobenzene	16	U	2500	2290		ug/L		92	70 - 130	2	30
2-Hexanone	160	U	12500	9920		ug/L		79	70 - 130	1	20
Acetone	190	U	12500	10400		ug/L		83	67 - 120	6	30
Benzene	14	U	2500	2910		ug/L		116	70 - 130	0	30
Bromoform	30	U	2500	2800		ug/L		112	69 - 129	2	30
Bromomethane	190	U	2500	2470		ug/L		99	28 - 192	3	30
Carbon disulfide	22	U J3	2500	3380	J3	ug/L		135	70 - 130	2	30
Carbon tetrachloride	15	U J3	2500	3460	J3	ug/L		138	70 - 130	3	30
Chlorobenzene	7.5	U	2500	2400		ug/L		96	70 - 130	1	30
Dibromochloromethane	20	U	2500	2820		ug/L		113	70 - 130	2	30
Chloroethane	230	U	2500	4560		ug/L		183	31 - 213	10	30
Chloroform	14	U	2500	3060		ug/L		122	70 - 130	2	30
Chloromethane	27	U	2500	2910		ug/L		116	59 - 127	2	30
cis-1,2-Dichloroethene	13	U	2500	2980		ug/L		119	70 - 130	2	30
cis-1,3-Dichloropropene	13	U	2500	2980		ug/L		119	70 - 130	1	20
Bromodichloromethane	13	U	2500	2870		ug/L		115	70 - 130	1	30
Dichlorodifluoromethane	18	U J3	2500	3210		ug/L		128	70 - 130	1	40
Ethylbenzene	87		2500	2400		ug/L		92	70 - 130	1	20
1,2-Dibromoethane (EDB)	17	U	2500	2730		ug/L		109	70 - 130	1	30
Isopropylbenzene	13	U	2500	2330		ug/L		93	70 - 130	1	30
Methyl tert-butyl ether	41	U	2500	2980		ug/L		119	70 - 130	0	30
Methylene Chloride	160	U J3	2500	3350	J3	ug/L		134	70 - 130	2	30
2-Butanone (MEK)	320	U	12500	10700		ug/L		86	69 - 120	1	30
4-Methyl-2-pentanone	140	U	12500	10500		ug/L		84	68 - 120	2	30
m,p-Xylenes	330		2500	2790		ug/L		98	70 - 130	2	30
o-Xylene	140		2500	2550		ug/L		97	70 - 130	1	30
Styrene	14	U	2500	2300		ug/L		92	70 - 130	1	30
Tetrachloroethene	18	U	2500	2950		ug/L		118	70 - 130	0	30
Toluene	34	I	2500	2740		ug/L		108	70 - 130	1	30
trans-1,2-Dichloroethene	17	U	2500	3090		ug/L		124	70 - 130	2	30
trans-1,3-Dichloropropene	12	U	2500	2840		ug/L		114	70 - 130	1	30
Trichloroethene	10	U	2500	2690		ug/L		108	70 - 130	3	30
Trichlorofluoromethane	17	U	2500	3290		ug/L		132	63 - 142	2	30
Vinyl chloride	20	U J3	2500	3110		ug/L		124	66 - 129	4	30
Xylenes, Total	470		5000	5340		ug/L		97	70 - 130	2	30
Methyl acetate	160	U	5000	5270		ug/L		105	67 - 120	5	30
Cyclohexane	14	U	2500	3050		ug/L		122	23 - 175	1	30
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U J3	2500	3560	J3	ug/L		142	63 - 141	4	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 680-235220-E-1 MSD
Matrix: Water
Analysis Batch: 781169

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	27	U	2500	2780		ug/L		111	70 - 130	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*109*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*101*		*60 - 124*
Dibromofluoromethane (Surr)	*107*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: MB 680-781475/8
Matrix: Water
Analysis Batch: 781475

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			06/01/23 15:38	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			06/01/23 15:38	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			06/01/23 15:38	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			06/01/23 15:38	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			06/01/23 15:38	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			06/01/23 15:38	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/01/23 15:38	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			06/01/23 15:38	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			06/01/23 15:38	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/01/23 15:38	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/01/23 15:38	1
2-Hexanone	3.2	U	10	3.2	ug/L			06/01/23 15:38	1
Acetone	3.7	U	10	3.7	ug/L			06/01/23 15:38	1
Benzene	0.27	U	1.0	0.27	ug/L			06/01/23 15:38	1
Bromoform	0.59	U	1.0	0.59	ug/L			06/01/23 15:38	1
Bromomethane	3.7	U	5.0	3.7	ug/L			06/01/23 15:38	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			06/01/23 15:38	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			06/01/23 15:38	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			06/01/23 15:38	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			06/01/23 15:38	1
Chloroethane	4.6	U	5.0	4.6	ug/L			06/01/23 15:38	1
Chloroform	0.27	U	1.0	0.27	ug/L			06/01/23 15:38	1
Chloromethane	0.54	U	1.0	0.54	ug/L			06/01/23 15:38	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			06/01/23 15:38	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			06/01/23 15:38	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			06/01/23 15:38	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			06/01/23 15:38	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			06/01/23 15:38	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			06/01/23 15:38	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			06/01/23 15:38	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			06/01/23 15:38	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			06/01/23 15:38	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			06/01/23 15:38	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			06/01/23 15:38	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			06/01/23 15:38	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-781475/8
Matrix: Water
Analysis Batch: 781475

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.26	U	1.0	0.26	ug/L			06/01/23 15:38	1
Styrene	0.27	U	1.0	0.27	ug/L			06/01/23 15:38	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			06/01/23 15:38	1
Toluene	0.25	U	1.0	0.25	ug/L			06/01/23 15:38	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			06/01/23 15:38	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			06/01/23 15:38	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			06/01/23 15:38	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			06/01/23 15:38	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			06/01/23 15:38	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			06/01/23 15:38	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			06/01/23 15:38	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			06/01/23 15:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			06/01/23 15:38	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			06/01/23 15:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*108*		*70 - 130*		*06/01/23 15:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*60 - 124*		*06/01/23 15:38*	*1*
Dibromofluoromethane (Surr)	*111*		*70 - 130*		*06/01/23 15:38*	*1*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*		*06/01/23 15:38*	*1*

Lab Sample ID: LCS 680-781475/4
Matrix: Water
Analysis Batch: 781475

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	54.1		ug/L		108	70 - 130
1,1,2,2-Tetrachloroethane	50.0	56.8		ug/L		114	70 - 130
1,1,2-Trichloroethane	50.0	57.0		ug/L		114	70 - 130
1,1-Dichloroethane	50.0	57.1		ug/L		114	70 - 130
1,1-Dichloroethene	50.0	55.6		ug/L		111	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	46.3		ug/L		93	70 - 130
1,2-Dichlorobenzene	50.0	50.7		ug/L		101	70 - 130
1,2-Dichloroethane	50.0	53.9		ug/L		108	70 - 130
1,2-Dichloropropane	50.0	57.4		ug/L		115	70 - 130
1,3-Dichlorobenzene	50.0	49.9		ug/L		100	70 - 130
1,4-Dichlorobenzene	50.0	50.0		ug/L		100	70 - 130
2-Hexanone	250	433	J3	ug/L		173	70 - 130
Acetone	250	308	J3	ug/L		123	67 - 120
Benzene	50.0	56.4		ug/L		113	70 - 130
Bromoform	50.0	44.6		ug/L		89	69 - 129
Bromomethane	50.0	43.7		ug/L		87	28 - 192
Carbon disulfide	50.0	66.1	J3	ug/L		132	70 - 130
Carbon tetrachloride	50.0	51.5		ug/L		103	70 - 130
Chlorobenzene	50.0	48.1		ug/L		96	70 - 130
Dibromochloromethane	50.0	50.0		ug/L		100	70 - 130
Chloroethane	50.0	91.8		ug/L		184	31 - 213
Chloroform	50.0	55.3		ug/L		111	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-781475/4
Matrix: Water
Analysis Batch: 781475

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloromethane	50.0	47.6		ug/L		95	59 - 127
cis-1,2-Dichloroethene	50.0	53.9		ug/L		108	70 - 130
cis-1,3-Dichloropropene	50.0	52.5		ug/L		105	70 - 130
Bromodichloromethane	50.0	51.6		ug/L		103	70 - 130
Dichlorodifluoromethane	50.0	42.7		ug/L		85	70 - 130
Ethylbenzene	50.0	50.0		ug/L		100	70 - 130
1,2-Dibromoethane (EDB)	50.0	58.7		ug/L		117	70 - 130
Isopropylbenzene	50.0	53.1		ug/L		106	70 - 130
Methyl tert-butyl ether	50.0	55.1		ug/L		110	70 - 130
Methylene Chloride	50.0	56.3		ug/L		113	70 - 130
2-Butanone (MEK)	250	390	J3	ug/L		156	69 - 120
4-Methyl-2-pentanone	250	424	J3	ug/L		170	68 - 120
m,p-Xylenes	50.0	53.4		ug/L		107	70 - 130
o-Xylene	50.0	53.5		ug/L		107	70 - 130
Styrene	50.0	52.7		ug/L		105	70 - 130
Tetrachloroethene	50.0	50.6		ug/L		101	70 - 130
Toluene	50.0	56.4		ug/L		113	70 - 130
trans-1,2-Dichloroethene	50.0	56.0		ug/L		112	70 - 130
trans-1,3-Dichloropropene	50.0	58.0		ug/L		116	70 - 130
Trichloroethene	50.0	57.0		ug/L		114	70 - 130
Trichlorofluoromethane	50.0	55.8		ug/L		112	63 - 142
Vinyl chloride	50.0	45.4		ug/L		91	66 - 129
Xylenes, Total	100	107		ug/L		107	70 - 130
Methyl acetate	100	167	J3	ug/L		167	67 - 120
Cyclohexane	50.0	58.2		ug/L		116	23 - 175
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	57.2		ug/L		114	63 - 141
1,2,4-Trichlorobenzene	50.0	46.5		ug/L		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*106*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*103*		*60 - 124*
Dibromofluoromethane (Surr)	*107*		*70 - 130*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*

Lab Sample ID: LCSD 680-781475/5
Matrix: Water
Analysis Batch: 781475

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	53.9		ug/L		108	70 - 130	0	30
1,1,2,2-Tetrachloroethane	50.0	57.9		ug/L		116	70 - 130	2	30
1,1,2-Trichloroethane	50.0	56.5		ug/L		113	70 - 130	1	30
1,1-Dichloroethane	50.0	57.1		ug/L		114	70 - 130	0	30
1,1-Dichloroethene	50.0	55.8		ug/L		112	70 - 130	0	20
1,2-Dibromo-3-Chloropropane	50.0	45.9		ug/L		92	70 - 130	1	30
1,2-Dichlorobenzene	50.0	50.4		ug/L		101	70 - 130	1	30
1,2-Dichloroethane	50.0	53.6		ug/L		107	70 - 130	1	50
1,2-Dichloropropane	50.0	57.0		ug/L		114	70 - 130	1	20

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-781475/5
Matrix: Water
Analysis Batch: 781475

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	50.0	51.0		ug/L		102	70 - 130	2	30
1,4-Dichlorobenzene	50.0	51.2		ug/L		102	70 - 130	2	30
2-Hexanone	250	434	J3	ug/L		173	70 - 130	0	20
Acetone	250	310	J3	ug/L		124	67 - 120	1	30
Benzene	50.0	55.8		ug/L		112	70 - 130	1	30
Bromoform	50.0	45.1		ug/L		90	69 - 129	1	30
Bromomethane	50.0	39.7		ug/L		79	28 - 192	10	30
Carbon disulfide	50.0	65.3	J3	ug/L		131	70 - 130	1	30
Carbon tetrachloride	50.0	52.3		ug/L		105	70 - 130	2	30
Chlorobenzene	50.0	48.5		ug/L		97	70 - 130	1	30
Dibromochloromethane	50.0	50.4		ug/L		101	70 - 130	1	30
Chloroethane	50.0	81.9		ug/L		164	31 - 213	11	30
Chloroform	50.0	54.2		ug/L		108	70 - 130	2	30
Chloromethane	50.0	47.0		ug/L		94	59 - 127	1	30
cis-1,2-Dichloroethene	50.0	53.1		ug/L		106	70 - 130	1	30
cis-1,3-Dichloropropene	50.0	52.7		ug/L		105	70 - 130	0	20
Bromodichloromethane	50.0	51.6		ug/L		103	70 - 130	0	30
Dichlorodifluoromethane	50.0	42.5		ug/L		85	70 - 130	1	40
Ethylbenzene	50.0	50.3		ug/L		101	70 - 130	1	20
1,2-Dibromoethane (EDB)	50.0	58.5		ug/L		117	70 - 130	0	30
Isopropylbenzene	50.0	53.7		ug/L		107	70 - 130	1	30
Methyl tert-butyl ether	50.0	55.4		ug/L		111	70 - 130	1	30
Methylene Chloride	50.0	55.9		ug/L		112	70 - 130	1	30
2-Butanone (MEK)	250	397	J3	ug/L		159	69 - 120	2	30
4-Methyl-2-pentanone	250	423	J3	ug/L		169	68 - 120	0	30
m,p-Xylenes	50.0	53.9		ug/L		108	70 - 130	1	30
o-Xylene	50.0	54.0		ug/L		108	70 - 130	1	30
Styrene	50.0	53.0		ug/L		106	70 - 130	1	30
Tetrachloroethene	50.0	50.1		ug/L		100	70 - 130	1	30
Toluene	50.0	56.5		ug/L		113	70 - 130	0	30
trans-1,2-Dichloroethene	50.0	56.0		ug/L		112	70 - 130	0	30
trans-1,3-Dichloropropene	50.0	57.8		ug/L		116	70 - 130	0	30
Trichloroethene	50.0	56.8		ug/L		114	70 - 130	0	30
Trichlorofluoromethane	50.0	55.7		ug/L		111	63 - 142	0	30
Vinyl chloride	50.0	44.0		ug/L		88	66 - 129	3	30
Xylenes, Total	100	108		ug/L		108	70 - 130	1	30
Methyl acetate	100	171	J3	ug/L		171	67 - 120	2	30
Cyclohexane	50.0	58.9		ug/L		118	23 - 175	1	30
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	54.4		ug/L		109	63 - 141	5	30
1,2,4-Trichlorobenzene	50.0	48.0		ug/L		96	70 - 130	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*104*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 124*
Dibromofluoromethane (Surr)	*108*		*70 - 130*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-20418-1

GC/MS VOA

Analysis Batch: 781169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-20418-1	LC34-IW0165-0110.0-20230526	Total/NA	Water	8260D	
670-20418-2	LC34-IW044D2-0110.0-20230526	Total/NA	Water	8260D	
670-20418-3	LC34-IW0162-0110.0-20230526	Total/NA	Water	8260D	
MB 680-781169/9	Method Blank	Total/NA	Water	8260D	
LCS 680-781169/5	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-781169/6	Lab Control Sample Dup	Total/NA	Water	8260D	
680-235220-E-1 MS	Matrix Spike	Total/NA	Water	8260D	
680-235220-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 781475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-20418-2 - DL	LC34-IW044D2-0110.0-20230526	Total/NA	Water	8260D	
670-20418-3	LC34-IW0162-0110.0-20230526	Total/NA	Water	8260D	
MB 680-781475/8	Method Blank	Total/NA	Water	8260D	
LCS 680-781475/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-781475/5	Lab Control Sample Dup	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-20418-1

Client Sample ID: LC34-IW0165-0110.0-20230526

Lab Sample ID: 670-20418-1

Date Collected: 05/26/23 09:00
Matrix: Water
Date Received: 05/26/23 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	781169	P1C	EET SAV	05/31/23 18:41

Client Sample ID: LC34-IW044D2-0110.0-20230526

Lab Sample ID: 670-20418-2

Date Collected: 05/26/23 09:30
Matrix: Water
Date Received: 05/26/23 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		5	781169	P1C	EET SAV	05/31/23 19:00
Total/NA	Analysis	8260D	DL	10	781475	Y1S	EET SAV	06/01/23 16:57

Client Sample ID: LC34-IW0162-0110.0-20230526

Lab Sample ID: 670-20418-3

Date Collected: 05/26/23 10:00
Matrix: Water
Date Received: 05/26/23 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	781169	P1C	EET SAV	05/31/23 19:19
Total/NA	Analysis	8260D		1	781475	Y1S	EET SAV	06/01/23 16:35

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-20418-1

Laboratory: Eurofins Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-23
ANAB	Dept. of Defense ELAP	L2463	09-22-24
Arkansas DEQ	State	19-015-0	02-01-24
California	State	2939	06-30-23
Florida	NELAP	E87052	06-30-23
Georgia	State	E87052	06-30-23
Georgia (DW)	State	803	06-30-23
Guam	State	19-007R	04-17-24
Hawaii	State	<cert No.>	06-30-23
Illinois	NELAP	200022	11-30-23
Indiana	State	C-GA-02	06-30-23
Iowa	State	353	06-30-23
Kentucky (UST)	State	NA	06-30-23
Louisiana	NELAP	30690	06-30-23
Louisiana (All)	NELAP	30690	06-30-23
Louisiana (DW)	State	LA009	12-31-23
Maine	State	GA00006	09-25-24
Maryland	State	250	12-31-23
Massachusetts	State	M-GA006	06-30-23
Michigan	State	9925	06-30-23
Mississippi	State	<cert No.>	06-30-23
Nebraska	State	NE-OS-7-04	06-30-23
New Jersey	NELAP	GA769	06-30-23
New Mexico	State	GA00006	06-30-23
North Carolina (DW)	State	13701	07-31-23
North Carolina (WW/SW)	State	269	12-31-23
Pennsylvania	NELAP	68-00474	06-30-23
Puerto Rico	State	GA00006	01-01-24
South Carolina	State	98001	06-30-23
Tennessee	State	TN02961	06-30-23
Texas	NELAP	T1047004185-19-14	11-30-23
Texas	TCEQ Water Supply	T104704185	06-30-23
USDA	US Federal Programs	P330-18-00313	09-03-24
Virginia	NELAP	460161	06-14-23
Wyoming	State	8TMS-L	06-30-23

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-20418-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET SAV
5030B	Purge and Trap	SW846	EET SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-20418-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-20418-1	LC34-IW0165-0110.0-20230526	Water	05/26/23 09:00	05/26/23 15:00
670-20418-2	LC34-IW044D2-0110.0-20230526	Water	05/26/23 09:30	05/26/23 15:00
670-20418-3	LC34-IW0162-0110.0-20230526	Water	05/26/23 10:00	05/26/23 15:00

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 2723 | PAGE 1 OF 1

PROJECT NO: 112G08085 | FACILITY: LC34

PROJECT MANAGER: Mark Jones | PHONE NUMBER: 412-921-8622

LABORATORY NAME AND CONTACT: Kathy Dybalski

FIELD OPERATIONS LEADER: Chuck Sorden | PHONE NUMBER: 321-591-7550

ADDRESS: 481 Newburg Ave, ~~Orlando~~ Altamonte FL

CARRIER/WAYBILL NUMBER

CITY, STATE: ~~Orlando, F~~ Altamonte Springs, FL

SAMPLERS (SIGNATURE): Aaron Kupper T+

STANDARD TAT ☑
RUSH TAT ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS	COMMENTS
05/26	0900	LC34-IUWG-01100-20230526	165	105	115	GW	G	3	G	HCL	6200 (MOD) VOA LC34 Short List	
05/26	0930	LC34-IUWMD2-0110.0-20230526	LC34D2	105	115	GW	G	3	G	HCL		
05/26	1000	LC34-FLW162-01100-20230526	162	105	115	GW	G	3	G	HCL		

670-20418 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	05/26/23	1010	1. RECEIVED BY	05/26/23	1010
2. RELINQUISHED BY	5/26/23	1425	2. RECEIVED BY	5/26/23	1425
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	5/26/23	1500

COMMENTS: 6,5/6.0 596

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-9879 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-20418-1
Address: 5102 LaRoche Avenue, ,	Due Date Requested: 5/31/2023			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes.

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030B (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-IW0165-0110 0-20230526 (670-20418-1)	5/26/23	09:00 Eastern		Water			X	3	
LC34-IW044D2-0110 0-20230526 (670-20418-2)	5/26/23	09:30 Eastern		Water			X	3	
LC34-IW0162-0110 0-20230526 (670-20418-3)	5/26/23	10:00 Eastern		Water			X	3	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	5/30 1220		TH	05-31-23	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 1650	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Cooler Temperature(s) °C and Other Remarks: C2 2.9

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-20418-1

Login Number: 20418

List Number: 1

Creator: Bittle, David W

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-20418-1

Login Number: 20418
List Number: 2
Creator: Johnson, Corey M

List Source: Eurofins Savannah
List Creation: 05/31/23 12:00 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 6/14/2023 3:30:04 PM

JOB DESCRIPTION

NASA KSC LC34 HCS

JOB NUMBER

670-20576-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

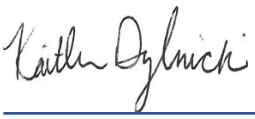
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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6/14/2023 3:30:04 PM

Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-20576-1
Project/Site: NASA KSC LC34 HCS

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-20576-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-20576-1

Receipt
The samples were received on 5/31/2023 3:05 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C

GC/MS VOA
Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-RW20C-20230531 (670-20576-5), LC34-RW19C-20230531 (670-20576-6), LC34-RW18C-20230531 (670-20576-7) and LC34-RW17C-20230531 (670-20576-8). Elevated reporting limits (RLs) are provided.

Method 8260D: The following samples were diluted due to the nature of the sample matrix: LC34-RW21D-20230530 (670-20576-1) and LC34-AS2-20230531 (670-20576-4). Elevated reporting limits (RLs) are provided.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-RW19C-20230531 (670-20576-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-20576-1

Client Sample ID: LC34-RW21D-20230530 — Lab Sample ID: 670-20576-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1400		500	360	ug/L	500		8260D	Total/NA
Trichloroethene	31000		2500	400	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-GAC-20230531 — Lab Sample ID: 670-20576-2

No Detections.

Client Sample ID: LC34-AS1-20230531 — Lab Sample ID: 670-20576-3

No Detections.

Client Sample ID: LC34-AS2-20230531 — Lab Sample ID: 670-20576-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	84		2.0	1.4	ug/L	2		8260D	Total/NA
Trichloroethene	160		10	1.6	ug/L	2		8260D	Total/NA

Client Sample ID: LC34-RW20C-20230531 — Lab Sample ID: 670-20576-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1000		500	360	ug/L	500		8260D	Total/NA
Trichloroethene	32000		2500	400	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-RW19C-20230531 — Lab Sample ID: 670-20576-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4000		2000	1400	ug/L	2000		8260D	Total/NA
Trichloroethene - DL	340000		25000	4000	ug/L	5000		8260D	Total/NA

Client Sample ID: LC34-RW18C-20230531 — Lab Sample ID: 670-20576-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3700		2000	1400	ug/L	2000		8260D	Total/NA
Trichloroethene	190000		10000	1600	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-RW17C-20230531 — Lab Sample ID: 670-20576-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	5700		2000	1400	ug/L	2000		8260D	Total/NA
Trichloroethene	190000		10000	1600	ug/L	2000		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Job ID: 670-20576-1
Project/Site: NASA KSC LC34 HCS

Client Sample ID: LC34-RW21D-20230530
Lab Sample ID: 670-20576-1
Date Collected: 05/30/23 10:00
Matrix: Water
Date Received: 05/31/23 15:05

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	840	U	2500	840	ug/L			06/07/23 14:24	500
1,1,2,2-Tetrachloroethane	240	U	500	240	ug/L			06/07/23 14:24	500
1,1,2-Trichloro-1,2,2-trifluoroethane	1600	U	5000	1600	ug/L			06/07/23 14:24	500
1,1,2-Trichloroethane	260	U	500	260	ug/L			06/07/23 14:24	500
1,1-Dichloroethane	320	U	500	320	ug/L			06/07/23 14:24	500
1,1-Dichloroethene	370	U	500	370	ug/L			06/07/23 14:24	500
1,2,4-Trichlorobenzene	880	U	2500	880	ug/L			06/07/23 14:24	500
1,2-Dibromo-3-Chloropropane	640	U	2500	640	ug/L			06/07/23 14:24	500
1,2-Dibromoethane (EDB)	500	U	2500	500	ug/L			06/07/23 14:24	500
1,2-Dichlorobenzene	250	U	500	250	ug/L			06/07/23 14:24	500
1,2-Dichloroethane	300	U	500	300	ug/L			06/07/23 14:24	500
1,2-Dichloropropane	330	U	2500	330	ug/L			06/07/23 14:24	500
1,3-Dichlorobenzene	260	U	500	260	ug/L			06/07/23 14:24	500
1,4-Dichlorobenzene	260	U	500	260	ug/L			06/07/23 14:24	500
2-Butanone (MEK)	4100	U	25000	4100	ug/L			06/07/23 14:24	500
2-Hexanone	3700	U	25000	3700	ug/L			06/07/23 14:24	500
4-Methyl-2-pentanone	3700	U	25000	3700	ug/L			06/07/23 14:24	500
Acetone	600	U	50000	600	ug/L			06/07/23 14:24	500
Benzene	270	U	500	270	ug/L			06/07/23 14:24	500
Bromodichloromethane	280	U	500	280	ug/L			06/07/23 14:24	500
Bromoform	320	U	2500	320	ug/L			06/07/23 14:24	500
Bromomethane	710	U	2500	710	ug/L			06/07/23 14:24	500
Carbon disulfide	950	U	2500	950	ug/L			06/07/23 14:24	500
Carbon tetrachloride	450	U	2500	450	ug/L			06/07/23 14:24	500
Chlorobenzene	270	U	500	270	ug/L			06/07/23 14:24	500
Chloroethane	990	U	5000	990	ug/L			06/07/23 14:24	500
Chloroform	320	U	500	320	ug/L			06/07/23 14:24	500
Chloromethane	1000	U	5000	1000	ug/L			06/07/23 14:24	500
cis-1,2-Dichloroethene	**1400**		500	360	ug/L			06/07/23 14:24	500
cis-1,3-Dichloropropene	530	U	2500	530	ug/L			06/07/23 14:24	500
Cyclohexane	770	U	2500	770	ug/L			06/07/23 14:24	500
Dibromochloromethane	270	U	2500	270	ug/L			06/07/23 14:24	500
Dichlorodifluoromethane	460	U	500	460	ug/L			06/07/23 14:24	500
Ethylbenzene	210	U	500	210	ug/L			06/07/23 14:24	500
Isopropylbenzene	310	U	500	310	ug/L			06/07/23 14:24	500
m,p-Xylenes	620	U	5000	620	ug/L			06/07/23 14:24	500
Methyl acetate	2000	U	10000	2000	ug/L			06/07/23 14:24	500
Methyl tert-butyl ether	700	U	2500	700	ug/L			06/07/23 14:24	500
Methylene Chloride	860	U	2500	860	ug/L			06/07/23 14:24	500
o-Xylene	280	U	500	280	ug/L			06/07/23 14:24	500
Styrene	330	U	500	330	ug/L			06/07/23 14:24	500
Tetrachloroethene	400	U	500	400	ug/L			06/07/23 14:24	500
Toluene	240	U	500	240	ug/L			06/07/23 14:24	500
trans-1,2-Dichloroethene	470	U	500	470	ug/L			06/07/23 14:24	500
trans-1,3-Dichloropropene	630	U	2500	630	ug/L			06/07/23 14:24	500
Trichloroethene	**31000**		2500	400	ug/L			06/07/23 14:24	500
Trichlorofluoromethane	320	U	500	320	ug/L			06/07/23 14:24	500
Vinyl chloride	320	U	1000	320	ug/L			06/07/23 14:24	500
Xylenes, Total	620	U	5000	620	ug/L			06/07/23 14:24	500

Client Sample ID: LC34-RW21D-20230530
Lab Sample ID: 670-20576-1

Date Collected: 05/30/23 10:00
Matrix: Water
Date Received: 05/31/23 15:05

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*63 - 144*		*06/07/23 14:24*	*500*
4-Bromofluorobenzene (Surr)	*101*		*74 - 124*		*06/07/23 14:24*	*500*
Dibromofluoromethane (Surr)	*104*		*75 - 131*		*06/07/23 14:24*	*500*
Toluene-d8 (Surr)	*103*		*80 - 120*		*06/07/23 14:24*	*500*

Client Sample ID: LC34-GAC-20230531
Lab Sample ID: 670-20576-2

Date Collected: 05/31/23 08:00
Matrix: Water
Date Received: 05/31/23 15:05

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			06/07/23 11:33	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			06/07/23 11:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			06/07/23 11:33	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			06/07/23 11:33	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			06/07/23 11:33	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			06/07/23 11:33	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			06/07/23 11:33	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			06/07/23 11:33	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			06/07/23 11:33	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			06/07/23 11:33	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			06/07/23 11:33	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			06/07/23 11:33	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			06/07/23 11:33	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			06/07/23 11:33	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			06/07/23 11:33	1
2-Hexanone	7.4	U	50	7.4	ug/L			06/07/23 11:33	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			06/07/23 11:33	1
Acetone	1.2	U	100	1.2	ug/L			06/07/23 11:33	1
Benzene	0.53	U	1.0	0.53	ug/L			06/07/23 11:33	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			06/07/23 11:33	1
Bromoform	0.63	U	5.0	0.63	ug/L			06/07/23 11:33	1
Bromomethane	1.4	U	5.0	1.4	ug/L			06/07/23 11:33	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			06/07/23 11:33	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			06/07/23 11:33	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			06/07/23 11:33	1
Chloroethane	2.0	U	10	2.0	ug/L			06/07/23 11:33	1
Chloroform	0.64	U	1.0	0.64	ug/L			06/07/23 11:33	1
Chloromethane	2.0	U	10	2.0	ug/L			06/07/23 11:33	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			06/07/23 11:33	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			06/07/23 11:33	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			06/07/23 11:33	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			06/07/23 11:33	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			06/07/23 11:33	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			06/07/23 11:33	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			06/07/23 11:33	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			06/07/23 11:33	1
Methyl acetate	4.0	U	20	4.0	ug/L			06/07/23 11:33	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			06/07/23 11:33	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			06/07/23 11:33	1

Client Sample ID: LC34-GAC-20230531
Lab Sample ID: 670-20576-2

Date Collected: 05/31/23 08:00
Matrix: Water
Date Received: 05/31/23 15:05

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.55	U	1.0	0.55	ug/L			06/07/23 11:33	1
Styrene	0.66	U	1.0	0.66	ug/L			06/07/23 11:33	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			06/07/23 11:33	1
Toluene	0.48	U	1.0	0.48	ug/L			06/07/23 11:33	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			06/07/23 11:33	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			06/07/23 11:33	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			06/07/23 11:33	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			06/07/23 11:33	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			06/07/23 11:33	1
Xylenes, Total	1.2	U	10	1.2	ug/L			06/07/23 11:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*63 - 144*		*06/07/23 11:33*	*1*
4-Bromofluorobenzene (Surr)	*102*		*74 - 124*		*06/07/23 11:33*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 131*		*06/07/23 11:33*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/07/23 11:33*	*1*

Client Sample ID: LC34-AS1-20230531
Lab Sample ID: 670-20576-3

Date Collected: 05/31/23 08:10
Matrix: Water
Date Received: 05/31/23 15:05

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			06/07/23 11:52	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			06/07/23 11:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			06/07/23 11:52	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			06/07/23 11:52	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			06/07/23 11:52	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			06/07/23 11:52	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			06/07/23 11:52	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			06/07/23 11:52	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			06/07/23 11:52	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			06/07/23 11:52	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			06/07/23 11:52	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			06/07/23 11:52	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			06/07/23 11:52	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			06/07/23 11:52	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			06/07/23 11:52	1
2-Hexanone	7.4	U	50	7.4	ug/L			06/07/23 11:52	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			06/07/23 11:52	1
Acetone	1.2	U	100	1.2	ug/L			06/07/23 11:52	1
Benzene	0.53	U	1.0	0.53	ug/L			06/07/23 11:52	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			06/07/23 11:52	1
Bromoform	0.63	U	5.0	0.63	ug/L			06/07/23 11:52	1
Bromomethane	1.4	U	5.0	1.4	ug/L			06/07/23 11:52	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			06/07/23 11:52	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			06/07/23 11:52	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			06/07/23 11:52	1
Chloroethane	2.0	U	10	2.0	ug/L			06/07/23 11:52	1
Chloroform	0.64	U	1.0	0.64	ug/L			06/07/23 11:52	1

Client Sample ID: LC34-AS1-20230531
Lab Sample ID: 670-20576-3

Date Collected: 05/31/23 08:10
Matrix: Water
Date Received: 05/31/23 15:05

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	2.0	U	10	2.0	ug/L			06/07/23 11:52	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			06/07/23 11:52	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			06/07/23 11:52	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			06/07/23 11:52	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			06/07/23 11:52	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			06/07/23 11:52	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			06/07/23 11:52	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			06/07/23 11:52	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			06/07/23 11:52	1
Methyl acetate	4.0	U	20	4.0	ug/L			06/07/23 11:52	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			06/07/23 11:52	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			06/07/23 11:52	1
o-Xylene	0.55	U	1.0	0.55	ug/L			06/07/23 11:52	1
Styrene	0.66	U	1.0	0.66	ug/L			06/07/23 11:52	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			06/07/23 11:52	1
Toluene	0.48	U	1.0	0.48	ug/L			06/07/23 11:52	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			06/07/23 11:52	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			06/07/23 11:52	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			06/07/23 11:52	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			06/07/23 11:52	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			06/07/23 11:52	1
Xylenes, Total	1.2	U	10	1.2	ug/L			06/07/23 11:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*63 - 144*		*06/07/23 11:52*	*1*
4-Bromofluorobenzene (Surr)	*107*		*74 - 124*		*06/07/23 11:52*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 131*		*06/07/23 11:52*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*06/07/23 11:52*	*1*

Client Sample ID: LC34-AS2-20230531
Lab Sample ID: 670-20576-4

Date Collected: 05/31/23 08:20
Matrix: Water
Date Received: 05/31/23 15:05

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	3.4	U	10	3.4	ug/L			06/07/23 14:05	2
1,1,2,2-Tetrachloroethane	0.94	U	2.0	0.94	ug/L			06/07/23 14:05	2
1,1,2-Trichloro-1,2,2-trifluoroethane	6.4	U	20	6.4	ug/L			06/07/23 14:05	2
1,1,2-Trichloroethane	1.0	U	2.0	1.0	ug/L			06/07/23 14:05	2
1,1-Dichloroethane	1.3	U	2.0	1.3	ug/L			06/07/23 14:05	2
1,1-Dichloroethene	1.5	U	2.0	1.5	ug/L			06/07/23 14:05	2
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			06/07/23 14:05	2
1,2-Dibromo-3-Chloropropane	2.5	U	10	2.5	ug/L			06/07/23 14:05	2
1,2-Dibromoethane (EDB)	2.0	U	10	2.0	ug/L			06/07/23 14:05	2
1,2-Dichlorobenzene	1.0	U	2.0	1.0	ug/L			06/07/23 14:05	2
1,2-Dichloroethane	1.2	U	2.0	1.2	ug/L			06/07/23 14:05	2
1,2-Dichloropropane	1.3	U	10	1.3	ug/L			06/07/23 14:05	2
1,3-Dichlorobenzene	1.0	U	2.0	1.0	ug/L			06/07/23 14:05	2
1,4-Dichlorobenzene	1.0	U	2.0	1.0	ug/L			06/07/23 14:05	2
2-Butanone (MEK)	17	U	100	17	ug/L			06/07/23 14:05	2

Client Sample ID: LC34-AS2-20230531
Lab Sample ID: 670-20576-4

Date Collected: 05/31/23 08:20
Matrix: Water
Date Received: 05/31/23 15:05

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	15	U	100	15	ug/L			06/07/23 14:05	2
4-Methyl-2-pentanone	15	U	100	15	ug/L			06/07/23 14:05	2
Acetone	2.4	U	200	2.4	ug/L			06/07/23 14:05	2
Benzene	1.1	U	2.0	1.1	ug/L			06/07/23 14:05	2
Bromodichloromethane	1.1	U	2.0	1.1	ug/L			06/07/23 14:05	2
Bromoform	1.3	U	10	1.3	ug/L			06/07/23 14:05	2
Bromomethane	2.8	U	10	2.8	ug/L			06/07/23 14:05	2
Carbon disulfide	3.8	U	10	3.8	ug/L			06/07/23 14:05	2
Carbon tetrachloride	1.8	U	10	1.8	ug/L			06/07/23 14:05	2
Chlorobenzene	1.1	U	2.0	1.1	ug/L			06/07/23 14:05	2
Chloroethane	4.0	U	20	4.0	ug/L			06/07/23 14:05	2
Chloroform	1.3	U	2.0	1.3	ug/L			06/07/23 14:05	2
Chloromethane	4.1	U	20	4.1	ug/L			06/07/23 14:05	2
cis-1,2-Dichloroethene	**84**		2.0	1.4	ug/L			06/07/23 14:05	2
cis-1,3-Dichloropropene	2.1	U	10	2.1	ug/L			06/07/23 14:05	2
Cyclohexane	3.1	U	10	3.1	ug/L			06/07/23 14:05	2
Dibromochloromethane	1.1	U	10	1.1	ug/L			06/07/23 14:05	2
Dichlorodifluoromethane	1.8	U	2.0	1.8	ug/L			06/07/23 14:05	2
Ethylbenzene	0.82	U	2.0	0.82	ug/L			06/07/23 14:05	2
Isopropylbenzene	1.2	U	2.0	1.2	ug/L			06/07/23 14:05	2
m,p-Xylenes	2.5	U	20	2.5	ug/L			06/07/23 14:05	2
Methyl acetate	8.0	U	40	8.0	ug/L			06/07/23 14:05	2
Methyl tert-butyl ether	2.8	U	10	2.8	ug/L			06/07/23 14:05	2
Methylene Chloride	3.5	U	10	3.5	ug/L			06/07/23 14:05	2
o-Xylene	1.1	U	2.0	1.1	ug/L			06/07/23 14:05	2
Styrene	1.3	U	2.0	1.3	ug/L			06/07/23 14:05	2
Tetrachloroethene	1.6	U	2.0	1.6	ug/L			06/07/23 14:05	2
Toluene	0.95	U	2.0	0.95	ug/L			06/07/23 14:05	2
trans-1,2-Dichloroethene	1.9	U	2.0	1.9	ug/L			06/07/23 14:05	2
trans-1,3-Dichloropropene	2.5	U	10	2.5	ug/L			06/07/23 14:05	2
Trichloroethene	**160**		10	1.6	ug/L			06/07/23 14:05	2
Trichlorofluoromethane	1.3	U	2.0	1.3	ug/L			06/07/23 14:05	2
Vinyl chloride	1.3	U	4.0	1.3	ug/L			06/07/23 14:05	2
Xylenes, Total	2.5	U	20	2.5	ug/L			06/07/23 14:05	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*63 - 144*		*06/07/23 14:05*	*2*
4-Bromofluorobenzene (Surr)	*102*		*74 - 124*		*06/07/23 14:05*	*2*
Dibromofluoromethane (Surr)	*102*		*75 - 131*		*06/07/23 14:05*	*2*
Toluene-d8 (Surr)	*102*		*80 - 120*		*06/07/23 14:05*	*2*

Client Sample ID: LC34-RW20C-20230531
Lab Sample ID: 670-20576-5

Date Collected: 05/31/23 08:30
Matrix: Water
Date Received: 05/31/23 15:05

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	840	U	2500	840	ug/L			06/06/23 19:50	500
1,1,2,2-Tetrachloroethane	240	U	500	240	ug/L			06/06/23 19:50	500
1,1,2-Trichloro-1,2,2-trifluoroethane	1600	U	5000	1600	ug/L			06/06/23 19:50	500

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-20576-1

Client Sample ID: LC34-RW20C-20230531
Date Collected: 05/31/23 08:30
Date Received: 05/31/23 15:05

Lab Sample ID: 670-20576-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	260	U	500	260	ug/L			06/06/23 19:50	500
1,1-Dichloroethane	320	U	500	320	ug/L			06/06/23 19:50	500
1,1-Dichloroethene	370	U	500	370	ug/L			06/06/23 19:50	500
1,2,4-Trichlorobenzene	880	U	2500	880	ug/L			06/06/23 19:50	500
1,2-Dibromo-3-Chloropropane	640	U	2500	640	ug/L			06/06/23 19:50	500
1,2-Dibromoethane (EDB)	500	U	2500	500	ug/L			06/06/23 19:50	500
1,2-Dichlorobenzene	250	U	500	250	ug/L			06/06/23 19:50	500
1,2-Dichloroethane	300	U	500	300	ug/L			06/06/23 19:50	500
1,2-Dichloropropane	330	U	2500	330	ug/L			06/06/23 19:50	500
1,3-Dichlorobenzene	260	U	500	260	ug/L			06/06/23 19:50	500
1,4-Dichlorobenzene	260	U	500	260	ug/L			06/06/23 19:50	500
2-Butanone (MEK)	4100	U	25000	4100	ug/L			06/06/23 19:50	500
2-Hexanone	3700	U	25000	3700	ug/L			06/06/23 19:50	500
4-Methyl-2-pentanone	3700	U	25000	3700	ug/L			06/06/23 19:50	500
Acetone	600	U	50000	600	ug/L			06/06/23 19:50	500
Benzene	270	U	500	270	ug/L			06/06/23 19:50	500
Bromodichloromethane	280	U	500	280	ug/L			06/06/23 19:50	500
Bromoform	320	U	2500	320	ug/L			06/06/23 19:50	500
Bromomethane	710	U	2500	710	ug/L			06/06/23 19:50	500
Carbon disulfide	950	U	2500	950	ug/L			06/06/23 19:50	500
Carbon tetrachloride	450	U	2500	450	ug/L			06/06/23 19:50	500
Chlorobenzene	270	U	500	270	ug/L			06/06/23 19:50	500
Chloroethane	990	U	5000	990	ug/L			06/06/23 19:50	500
Chloroform	320	U	500	320	ug/L			06/06/23 19:50	500
Chloromethane	1000	U	5000	1000	ug/L			06/06/23 19:50	500
cis-1,2-Dichloroethene	**1000**		500	360	ug/L			06/06/23 19:50	500
cis-1,3-Dichloropropene	530	U	2500	530	ug/L			06/06/23 19:50	500
Cyclohexane	770	U	2500	770	ug/L			06/06/23 19:50	500
Dibromochloromethane	270	U	2500	270	ug/L			06/06/23 19:50	500
Dichlorodifluoromethane	460	U	500	460	ug/L			06/06/23 19:50	500
Ethylbenzene	210	U	500	210	ug/L			06/06/23 19:50	500
Isopropylbenzene	310	U	500	310	ug/L			06/06/23 19:50	500
m,p-Xylenes	620	U	5000	620	ug/L			06/06/23 19:50	500
Methyl acetate	2000	U	10000	2000	ug/L			06/06/23 19:50	500
Methyl tert-butyl ether	700	U	2500	700	ug/L			06/06/23 19:50	500
Methylene Chloride	860	U	2500	860	ug/L			06/06/23 19:50	500
o-Xylene	280	U	500	280	ug/L			06/06/23 19:50	500
Styrene	330	U	500	330	ug/L			06/06/23 19:50	500
Tetrachloroethene	400	U	500	400	ug/L			06/06/23 19:50	500
Toluene	240	U	500	240	ug/L			06/06/23 19:50	500
trans-1,2-Dichloroethene	470	U	500	470	ug/L			06/06/23 19:50	500
trans-1,3-Dichloropropene	630	U	2500	630	ug/L			06/06/23 19:50	500
Trichloroethene	**32000**		2500	400	ug/L			06/06/23 19:50	500
Trichlorofluoromethane	320	U	500	320	ug/L			06/06/23 19:50	500
Vinyl chloride	320	U	1000	320	ug/L			06/06/23 19:50	500
Xylenes, Total	620	U	5000	620	ug/L			06/06/23 19:50	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*63 - 144*		*06/06/23 19:50*	*500*
4-Bromofluorobenzene (Surr)	*101*		*74 - 124*		*06/06/23 19:50*	*500*

Client Sample ID: LC34-RW20C-20230531
Lab Sample ID: 670-20576-5

Date Collected: 05/31/23 08:30
Matrix: Water
Date Received: 05/31/23 15:05

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*105*		*75 - 131*		*06/06/23 19:50*	*500*
Toluene-d8 (Surr)	*102*		*80 - 120*		*06/06/23 19:50*	*500*

Client Sample ID: LC34-RW19C-20230531
Lab Sample ID: 670-20576-6

Date Collected: 05/31/23 08:40
Matrix: Water
Date Received: 05/31/23 15:05

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	3400	U	10000	3400	ug/L			06/06/23 20:09	2000
1,1,2,2-Tetrachloroethane	940	U	2000	940	ug/L			06/06/23 20:09	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	6400	U	20000	6400	ug/L			06/06/23 20:09	2000
1,1,2-Trichloroethane	1000	U	2000	1000	ug/L			06/06/23 20:09	2000
1,1-Dichloroethane	1300	U	2000	1300	ug/L			06/06/23 20:09	2000
1,1-Dichloroethene	1500	U	2000	1500	ug/L			06/06/23 20:09	2000
1,2,4-Trichlorobenzene	3500	U	10000	3500	ug/L			06/06/23 20:09	2000
1,2-Dibromo-3-Chloropropane	2500	U	10000	2500	ug/L			06/06/23 20:09	2000
1,2-Dibromoethane (EDB)	2000	U	10000	2000	ug/L			06/06/23 20:09	2000
1,2-Dichlorobenzene	1000	U	2000	1000	ug/L			06/06/23 20:09	2000
1,2-Dichloroethane	1200	U	2000	1200	ug/L			06/06/23 20:09	2000
1,2-Dichloropropane	1300	U	10000	1300	ug/L			06/06/23 20:09	2000
1,3-Dichlorobenzene	1000	U	2000	1000	ug/L			06/06/23 20:09	2000
1,4-Dichlorobenzene	1000	U	2000	1000	ug/L			06/06/23 20:09	2000
2-Butanone (MEK)	17000	U	100000	17000	ug/L			06/06/23 20:09	2000
2-Hexanone	15000	U	100000	15000	ug/L			06/06/23 20:09	2000
4-Methyl-2-pentanone	15000	U	100000	15000	ug/L			06/06/23 20:09	2000
Acetone	2400	U	200000	2400	ug/L			06/06/23 20:09	2000
Benzene	1100	U	2000	1100	ug/L			06/06/23 20:09	2000
Bromodichloromethane	1100	U	2000	1100	ug/L			06/06/23 20:09	2000
Bromoform	1300	U	10000	1300	ug/L			06/06/23 20:09	2000
Bromomethane	2800	U	10000	2800	ug/L			06/06/23 20:09	2000
Carbon disulfide	3800	U	10000	3800	ug/L			06/06/23 20:09	2000
Carbon tetrachloride	1800	U	10000	1800	ug/L			06/06/23 20:09	2000
Chlorobenzene	1100	U	2000	1100	ug/L			06/06/23 20:09	2000
Chloroethane	4000	U	20000	4000	ug/L			06/06/23 20:09	2000
Chloroform	1300	U	2000	1300	ug/L			06/06/23 20:09	2000
Chloromethane	4100	U	20000	4100	ug/L			06/06/23 20:09	2000
cis-1,2-Dichloroethene	**4000**		2000	1400	ug/L			06/06/23 20:09	2000
cis-1,3-Dichloropropene	2100	U	10000	2100	ug/L			06/06/23 20:09	2000
Cyclohexane	3100	U	10000	3100	ug/L			06/06/23 20:09	2000
Dibromochloromethane	1100	U	10000	1100	ug/L			06/06/23 20:09	2000
Dichlorodifluoromethane	1800	U	2000	1800	ug/L			06/06/23 20:09	2000
Ethylbenzene	820	U	2000	820	ug/L			06/06/23 20:09	2000
Isopropylbenzene	1200	U	2000	1200	ug/L			06/06/23 20:09	2000
m,p-Xylenes	2500	U	20000	2500	ug/L			06/06/23 20:09	2000
Methyl acetate	8000	U	40000	8000	ug/L			06/06/23 20:09	2000
Methyl tert-butyl ether	2800	U	10000	2800	ug/L			06/06/23 20:09	2000
Methylene Chloride	3500	U	10000	3500	ug/L			06/06/23 20:09	2000
o-Xylene	1100	U	2000	1100	ug/L			06/06/23 20:09	2000

Client Sample ID: LC34-RW19C-20230531
Lab Sample ID: 670-20576-6

Date Collected: 05/31/23 08:40
Matrix: Water
Date Received: 05/31/23 15:05

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	1300	U	2000	1300	ug/L			06/06/23 20:09	2000
Tetrachloroethene	1600	U	2000	1600	ug/L			06/06/23 20:09	2000
Toluene	950	U	2000	950	ug/L			06/06/23 20:09	2000
trans-1,2-Dichloroethene	1900	U	2000	1900	ug/L			06/06/23 20:09	2000
trans-1,3-Dichloropropene	2500	U	10000	2500	ug/L			06/06/23 20:09	2000
Trichlorofluoromethane	1300	U	2000	1300	ug/L			06/06/23 20:09	2000
Vinyl chloride	1300	U	4000	1300	ug/L			06/06/23 20:09	2000
Xylenes, Total	2500	U	20000	2500	ug/L			06/06/23 20:09	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*63 - 144*		*06/06/23 20:09*	*2000*
4-Bromofluorobenzene (Surr)	*104*		*74 - 124*		*06/06/23 20:09*	*2000*
Dibromofluoromethane (Surr)	*98*		*75 - 131*		*06/06/23 20:09*	*2000*
Toluene-d8 (Surr)	*106*		*80 - 120*		*06/06/23 20:09*	*2000*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**340000**		25000	4000	ug/L			06/09/23 12:57	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*63 - 144*		*06/09/23 12:57*	*5000*
4-Bromofluorobenzene (Surr)	*97*		*74 - 124*		*06/09/23 12:57*	*5000*
Dibromofluoromethane (Surr)	*116*		*75 - 131*		*06/09/23 12:57*	*5000*
Toluene-d8 (Surr)	*89*		*80 - 120*		*06/09/23 12:57*	*5000*

Client Sample ID: LC34-RW18C-20230531
Lab Sample ID: 670-20576-7

Date Collected: 05/31/23 08:50
Matrix: Water
Date Received: 05/31/23 15:05

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	3400	U	10000	3400	ug/L			06/06/23 20:28	2000
1,1,2,2-Tetrachloroethane	940	U	2000	940	ug/L			06/06/23 20:28	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	6400	U	20000	6400	ug/L			06/06/23 20:28	2000
1,1,2-Trichloroethane	1000	U	2000	1000	ug/L			06/06/23 20:28	2000
1,1-Dichloroethane	1300	U	2000	1300	ug/L			06/06/23 20:28	2000
1,1-Dichloroethene	1500	U	2000	1500	ug/L			06/06/23 20:28	2000
1,2,4-Trichlorobenzene	3500	U	10000	3500	ug/L			06/06/23 20:28	2000
1,2-Dibromo-3-Chloropropane	2500	U	10000	2500	ug/L			06/06/23 20:28	2000
1,2-Dibromoethane (EDB)	2000	U	10000	2000	ug/L			06/06/23 20:28	2000
1,2-Dichlorobenzene	1000	U	2000	1000	ug/L			06/06/23 20:28	2000
1,2-Dichloroethane	1200	U	2000	1200	ug/L			06/06/23 20:28	2000
1,2-Dichloropropane	1300	U	10000	1300	ug/L			06/06/23 20:28	2000
1,3-Dichlorobenzene	1000	U	2000	1000	ug/L			06/06/23 20:28	2000
1,4-Dichlorobenzene	1000	U	2000	1000	ug/L			06/06/23 20:28	2000
2-Butanone (MEK)	17000	U	100000	17000	ug/L			06/06/23 20:28	2000
2-Hexanone	15000	U	100000	15000	ug/L			06/06/23 20:28	2000
4-Methyl-2-pentanone	15000	U	100000	15000	ug/L			06/06/23 20:28	2000
Acetone	2400	U	200000	2400	ug/L			06/06/23 20:28	2000
Benzene	1100	U	2000	1100	ug/L			06/06/23 20:28	2000
Bromodichloromethane	1100	U	2000	1100	ug/L			06/06/23 20:28	2000

Client Sample ID: LC34-RW18C-20230531
Lab Sample ID: 670-20576-7

Date Collected: 05/31/23 08:50
Matrix: Water
Date Received: 05/31/23 15:05

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	1300	U	10000	1300	ug/L			06/06/23 20:28	2000
Bromomethane	2800	U	10000	2800	ug/L			06/06/23 20:28	2000
Carbon disulfide	3800	U	10000	3800	ug/L			06/06/23 20:28	2000
Carbon tetrachloride	1800	U	10000	1800	ug/L			06/06/23 20:28	2000
Chlorobenzene	1100	U	2000	1100	ug/L			06/06/23 20:28	2000
Chloroethane	4000	U	20000	4000	ug/L			06/06/23 20:28	2000
Chloroform	1300	U	2000	1300	ug/L			06/06/23 20:28	2000
Chloromethane	4100	U	20000	4100	ug/L			06/06/23 20:28	2000
cis-1,2-Dichloroethene	**3700**		2000	1400	ug/L			06/06/23 20:28	2000
cis-1,3-Dichloropropene	2100	U	10000	2100	ug/L			06/06/23 20:28	2000
Cyclohexane	3100	U	10000	3100	ug/L			06/06/23 20:28	2000
Dibromochloromethane	1100	U	10000	1100	ug/L			06/06/23 20:28	2000
Dichlorodifluoromethane	1800	U	2000	1800	ug/L			06/06/23 20:28	2000
Ethylbenzene	820	U	2000	820	ug/L			06/06/23 20:28	2000
Isopropylbenzene	1200	U	2000	1200	ug/L			06/06/23 20:28	2000
m,p-Xylenes	2500	U	20000	2500	ug/L			06/06/23 20:28	2000
Methyl acetate	8000	U	40000	8000	ug/L			06/06/23 20:28	2000
Methyl tert-butyl ether	2800	U	10000	2800	ug/L			06/06/23 20:28	2000
Methylene Chloride	3500	U	10000	3500	ug/L			06/06/23 20:28	2000
o-Xylene	1100	U	2000	1100	ug/L			06/06/23 20:28	2000
Styrene	1300	U	2000	1300	ug/L			06/06/23 20:28	2000
Tetrachloroethene	1600	U	2000	1600	ug/L			06/06/23 20:28	2000
Toluene	950	U	2000	950	ug/L			06/06/23 20:28	2000
trans-1,2-Dichloroethene	1900	U	2000	1900	ug/L			06/06/23 20:28	2000
trans-1,3-Dichloropropene	2500	U	10000	2500	ug/L			06/06/23 20:28	2000
Trichloroethene	**190000**		10000	1600	ug/L			06/06/23 20:28	2000
Trichlorofluoromethane	1300	U	2000	1300	ug/L			06/06/23 20:28	2000
Vinyl chloride	1300	U	4000	1300	ug/L			06/06/23 20:28	2000
Xylenes, Total	2500	U	20000	2500	ug/L			06/06/23 20:28	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*63 - 144*		*06/06/23 20:28*	*2000*
4-Bromofluorobenzene (Surr)	*104*		*74 - 124*		*06/06/23 20:28*	*2000*
Dibromofluoromethane (Surr)	*99*		*75 - 131*		*06/06/23 20:28*	*2000*
Toluene-d8 (Surr)	*104*		*80 - 120*		*06/06/23 20:28*	*2000*

Client Sample ID: LC34-RW17C-20230531
Lab Sample ID: 670-20576-8

Date Collected: 05/31/23 09:00
Matrix: Water
Date Received: 05/31/23 15:05

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	3400	U	10000	3400	ug/L			06/06/23 20:47	2000
1,1,2,2-Tetrachloroethane	940	U	2000	940	ug/L			06/06/23 20:47	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	6400	U	20000	6400	ug/L			06/06/23 20:47	2000
1,1,2-Trichloroethane	1000	U	2000	1000	ug/L			06/06/23 20:47	2000
1,1-Dichloroethane	1300	U	2000	1300	ug/L			06/06/23 20:47	2000
1,1-Dichloroethene	1500	U	2000	1500	ug/L			06/06/23 20:47	2000
1,2,4-Trichlorobenzene	3500	U	10000	3500	ug/L			06/06/23 20:47	2000
1,2-Dibromo-3-Chloropropane	2500	U	10000	2500	ug/L			06/06/23 20:47	2000

Client Sample ID: LC34-RW17C-20230531
Date Collected: 05/31/23 09:00
Date Received: 05/31/23 15:05

Lab Sample ID: 670-20576-8
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	2000	U	10000	2000	ug/L			06/06/23 20:47	2000
1,2-Dichlorobenzene	1000	U	2000	1000	ug/L			06/06/23 20:47	2000
1,2-Dichloroethane	1200	U	2000	1200	ug/L			06/06/23 20:47	2000
1,2-Dichloropropane	1300	U	10000	1300	ug/L			06/06/23 20:47	2000
1,3-Dichlorobenzene	1000	U	2000	1000	ug/L			06/06/23 20:47	2000
1,4-Dichlorobenzene	1000	U	2000	1000	ug/L			06/06/23 20:47	2000
2-Butanone (MEK)	17000	U	100000	17000	ug/L			06/06/23 20:47	2000
2-Hexanone	15000	U	100000	15000	ug/L			06/06/23 20:47	2000
4-Methyl-2-pentanone	15000	U	100000	15000	ug/L			06/06/23 20:47	2000
Acetone	2400	U	200000	2400	ug/L			06/06/23 20:47	2000
Benzene	1100	U	2000	1100	ug/L			06/06/23 20:47	2000
Bromodichloromethane	1100	U	2000	1100	ug/L			06/06/23 20:47	2000
Bromoform	1300	U	10000	1300	ug/L			06/06/23 20:47	2000
Bromomethane	2800	U	10000	2800	ug/L			06/06/23 20:47	2000
Carbon disulfide	3800	U	10000	3800	ug/L			06/06/23 20:47	2000
Carbon tetrachloride	1800	U	10000	1800	ug/L			06/06/23 20:47	2000
Chlorobenzene	1100	U	2000	1100	ug/L			06/06/23 20:47	2000
Chloroethane	4000	U	20000	4000	ug/L			06/06/23 20:47	2000
Chloroform	1300	U	2000	1300	ug/L			06/06/23 20:47	2000
Chloromethane	4100	U	20000	4100	ug/L			06/06/23 20:47	2000
cis-1,2-Dichloroethene	**5700**		2000	1400	ug/L			06/06/23 20:47	2000
cis-1,3-Dichloropropene	2100	U	10000	2100	ug/L			06/06/23 20:47	2000
Cyclohexane	3100	U	10000	3100	ug/L			06/06/23 20:47	2000
Dibromochloromethane	1100	U	10000	1100	ug/L			06/06/23 20:47	2000
Dichlorodifluoromethane	1800	U	2000	1800	ug/L			06/06/23 20:47	2000
Ethylbenzene	820	U	2000	820	ug/L			06/06/23 20:47	2000
Isopropylbenzene	1200	U	2000	1200	ug/L			06/06/23 20:47	2000
m,p-Xylenes	2500	U	20000	2500	ug/L			06/06/23 20:47	2000
Methyl acetate	8000	U	40000	8000	ug/L			06/06/23 20:47	2000
Methyl tert-butyl ether	2800	U	10000	2800	ug/L			06/06/23 20:47	2000
Methylene Chloride	3500	U	10000	3500	ug/L			06/06/23 20:47	2000
o-Xylene	1100	U	2000	1100	ug/L			06/06/23 20:47	2000
Styrene	1300	U	2000	1300	ug/L			06/06/23 20:47	2000
Tetrachloroethene	1600	U	2000	1600	ug/L			06/06/23 20:47	2000
Toluene	950	U	2000	950	ug/L			06/06/23 20:47	2000
trans-1,2-Dichloroethene	1900	U	2000	1900	ug/L			06/06/23 20:47	2000
trans-1,3-Dichloropropene	2500	U	10000	2500	ug/L			06/06/23 20:47	2000
Trichloroethene	**190000**		10000	1600	ug/L			06/06/23 20:47	2000
Trichlorofluoromethane	1300	U	2000	1300	ug/L			06/06/23 20:47	2000
Vinyl chloride	1300	U	4000	1300	ug/L			06/06/23 20:47	2000
Xylenes, Total	2500	U	20000	2500	ug/L			06/06/23 20:47	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*63 - 144*		*06/06/23 20:47*	*2000*
4-Bromofluorobenzene (Surr)	*101*		*74 - 124*		*06/06/23 20:47*	*2000*
Dibromofluoromethane (Surr)	*101*		*75 - 131*		*06/06/23 20:47*	*2000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*06/06/23 20:47*	*2000*

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-20576-1
Project/Site: NASA KSC LC34 HCS

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(63-144)	(74-124)	(75-131)	(80-120)
670-20576-1	LC34-RW21D-20230530	110	101	104	103
670-20576-2	LC34-GAC-20230531	103	102	102	101
670-20576-3	LC34-AS1-20230531	106	107	102	103
670-20576-4	LC34-AS2-20230531	108	102	102	102
670-20576-5	LC34-RW20C-20230531	106	101	105	102
670-20576-6	LC34-RW19C-20230531	107	104	98	106
670-20576-6 - DL	LC34-RW19C-20230531	97	97	116	89
670-20576-7	LC34-RW18C-20230531	104	104	99	104
670-20576-8	LC34-RW17C-20230531	105	101	101	102
860-50456-G-2 MS	Matrix Spike	91	94	96	100
860-50494-G-1 MS	Matrix Spike	90	102	97	99
860-50651-C-1 MS	Matrix Spike	95	94	111	88
860-50651-C-1 MSD	Matrix Spike Duplicate	96	94	112	89
LCS 860-106338/1010	Lab Control Sample	89	100	99	100
LCS 860-106507/3	Lab Control Sample	93	100	94	97
LCS 860-106945/3	Lab Control Sample	93	99	109	90
LCSD 860-106338/11	Lab Control Sample Dup	89	100	97	98
LCSD 860-106507/4	Lab Control Sample Dup	95	102	96	99
LCSD 860-106945/4	Lab Control Sample Dup	91	94	109	89
MB 860-106338/16	Method Blank	99	102	94	100
MB 860-106507/9	Method Blank	103	103	97	101
MB 860-106945/11	Method Blank	97	94	112	90

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 860-106338/16
Matrix: Water
Analysis Batch: 106338

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			06/06/23 14:27	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			06/06/23 14:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			06/06/23 14:27	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			06/06/23 14:27	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			06/06/23 14:27	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			06/06/23 14:27	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			06/06/23 14:27	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			06/06/23 14:27	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			06/06/23 14:27	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			06/06/23 14:27	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			06/06/23 14:27	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			06/06/23 14:27	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			06/06/23 14:27	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			06/06/23 14:27	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			06/06/23 14:27	1
2-Hexanone	7.4	U	50	7.4	ug/L			06/06/23 14:27	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			06/06/23 14:27	1
Acetone	1.2	U	100	1.2	ug/L			06/06/23 14:27	1
Benzene	0.53	U	1.0	0.53	ug/L			06/06/23 14:27	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			06/06/23 14:27	1
Bromoform	0.63	U	5.0	0.63	ug/L			06/06/23 14:27	1
Bromomethane	1.4	U	5.0	1.4	ug/L			06/06/23 14:27	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			06/06/23 14:27	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			06/06/23 14:27	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			06/06/23 14:27	1
Chloroethane	2.0	U	10	2.0	ug/L			06/06/23 14:27	1
Chloroform	0.64	U	1.0	0.64	ug/L			06/06/23 14:27	1
Chloromethane	2.0	U	10	2.0	ug/L			06/06/23 14:27	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			06/06/23 14:27	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			06/06/23 14:27	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			06/06/23 14:27	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			06/06/23 14:27	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			06/06/23 14:27	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			06/06/23 14:27	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			06/06/23 14:27	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			06/06/23 14:27	1
Methyl acetate	4.0	U	20	4.0	ug/L			06/06/23 14:27	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			06/06/23 14:27	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			06/06/23 14:27	1
o-Xylene	0.55	U	1.0	0.55	ug/L			06/06/23 14:27	1
Styrene	0.66	U	1.0	0.66	ug/L			06/06/23 14:27	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			06/06/23 14:27	1
Toluene	0.48	U	1.0	0.48	ug/L			06/06/23 14:27	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			06/06/23 14:27	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			06/06/23 14:27	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			06/06/23 14:27	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			06/06/23 14:27	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			06/06/23 14:27	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-106338/16
Matrix: Water
Analysis Batch: 106338

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.2	U	10	1.2	ug/L			06/06/23 14:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*63 - 144*		*06/06/23 14:27*	*1*
4-Bromofluorobenzene (Surr)	*102*		*74 - 124*		*06/06/23 14:27*	*1*
Dibromofluoromethane (Surr)	*94*		*75 - 131*		*06/06/23 14:27*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/06/23 14:27*	*1*

Lab Sample ID: LCS 860-106338/1010
Matrix: Water
Analysis Batch: 106338

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	47.8		ug/L		96	70 - 130
1,1,2,2-Tetrachloroethane	50.0	54.4		ug/L		109	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	50.9		ug/L		102	60 - 140
1,1,2-Trichloroethane	50.0	52.7		ug/L		105	70 - 130
1,1-Dichloroethane	50.0	53.0		ug/L		106	70 - 130
1,1-Dichloroethene	50.0	54.7		ug/L		109	50 - 150
1,2,4-Trichlorobenzene	50.0	56.2		ug/L		112	75 - 135
1,2-Dibromo-3-Chloropropane	50.0	57.3		ug/L		115	59 - 125
1,2-Dibromoethane (EDB)	50.0	55.2		ug/L		110	73 - 125
1,2-Dichlorobenzene	50.0	52.4		ug/L		105	75 - 125
1,2-Dichloroethane	50.0	47.0		ug/L		94	72 - 130
1,2-Dichloropropane	50.0	54.1		ug/L		108	74 - 125
1,3-Dichlorobenzene	50.0	52.6		ug/L		105	75 - 125
1,4-Dichlorobenzene	50.0	51.3		ug/L		103	75 - 125
2-Butanone (MEK)	250	250		ug/L		100	60 - 140
2-Hexanone	250	272		ug/L		109	60 - 140
4-Methyl-2-pentanone	250	258		ug/L		103	60 - 140
Acetone	250	242		ug/L		97	60 - 140
Benzene	50.0	51.2		ug/L		102	75 - 125
Bromodichloromethane	50.0	50.5		ug/L		101	75 - 125
Bromoform	50.0	55.2		ug/L		110	70 - 130
Bromomethane	50.0	37.6		ug/L		75	60 - 140
Carbon disulfide	50.0	51.0		ug/L		102	60 - 140
Carbon tetrachloride	50.0	44.6		ug/L		89	70 - 130
Chlorobenzene	50.0	52.1		ug/L		104	65 - 135
Chloroethane	50.0	43.3		ug/L		87	60 - 140
Chloroform	50.0	47.8		ug/L		96	70 - 121
Chloromethane	50.0	51.3		ug/L		103	60 - 140
cis-1,2-Dichloroethene	50.0	48.7		ug/L		97	75 - 125
cis-1,3-Dichloropropene	50.0	53.4		ug/L		107	74 - 125
Cyclohexane	50.0	49.2		ug/L		98	70 - 130
Dibromochloromethane	50.0	55.0		ug/L		110	73 - 125
Dichlorodifluoromethane	50.0	48.9		ug/L		98	50 - 150
Ethylbenzene	50.0	52.3		ug/L		105	75 - 125
Isopropylbenzene	50.0	54.0		ug/L		108	75 - 125

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 860-106338/1010
Matrix: Water
Analysis Batch: 106338

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	52.7		ug/L		105	75 - 125
Methyl acetate	100	104		ug/L		104	60 - 140
Methyl tert-butyl ether	50.0	53.3		ug/L		107	65 - 135
Methylene Chloride	50.0	48.0		ug/L		96	71 - 125
o-Xylene	50.0	53.5		ug/L		107	75 - 125
Styrene	50.0	54.6		ug/L		109	75 - 125
Tetrachloroethene	50.0	52.9		ug/L		106	71 - 125
Toluene	50.0	51.4		ug/L		103	70 - 130
trans-1,2-Dichloroethene	50.0	54.4		ug/L		109	75 - 125
trans-1,3-Dichloropropene	50.0	55.1		ug/L		110	66 - 125
Trichloroethene	50.0	49.2		ug/L		98	75 - 135
Trichlorofluoromethane	50.0	50.0		ug/L		100	60 - 140
Vinyl chloride	50.0	49.8		ug/L		100	60 - 140
Xylenes, Total	100	106		ug/L		106	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*63 - 144*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*
Dibromofluoromethane (Surr)	*99*		*75 - 131*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: LCSD 860-106338/11
Matrix: Water
Analysis Batch: 106338

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	45.6		ug/L		91	70 - 130	5	25
1,1,2,2-Tetrachloroethane	50.0	48.7		ug/L		97	74 - 125	11	25
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	49.6		ug/L		99	60 - 140	3	25
1,1,2-Trichloroethane	50.0	47.3		ug/L		95	70 - 130	11	25
1,1-Dichloroethane	50.0	50.5		ug/L		101	70 - 130	5	25
1,1-Dichloroethene	50.0	52.2		ug/L		104	50 - 150	5	25
1,2,4-Trichlorobenzene	50.0	50.9		ug/L		102	75 - 135	10	25
1,2-Dibromo-3-Chloropropane	50.0	51.7		ug/L		103	59 - 125	10	25
1,2-Dibromoethane (EDB)	50.0	49.6		ug/L		99	73 - 125	11	25
1,2-Dichlorobenzene	50.0	47.8		ug/L		96	75 - 125	9	25
1,2-Dichloroethane	50.0	42.5		ug/L		85	72 - 130	10	25
1,2-Dichloropropane	50.0	49.8		ug/L		100	74 - 125	8	25
1,3-Dichlorobenzene	50.0	47.5		ug/L		95	75 - 125	10	25
1,4-Dichlorobenzene	50.0	47.4		ug/L		95	75 - 125	8	25
2-Butanone (MEK)	250	233		ug/L		93	60 - 140	7	25
2-Hexanone	250	240		ug/L		96	60 - 140	12	25
4-Methyl-2-pentanone	250	235		ug/L		94	60 - 140	9	25
Acetone	250	227		ug/L		91	60 - 140	6	25
Benzene	50.0	46.6		ug/L		93	75 - 125	9	25
Bromodichloromethane	50.0	46.5		ug/L		93	75 - 125	8	25
Bromoform	50.0	50.2		ug/L		100	70 - 130	9	25
Bromomethane	50.0	34.2		ug/L		68	60 - 140	10	25

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 860-106338/11
Matrix: Water
Analysis Batch: 106338

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon disulfide			50.0	50.7		ug/L		101	60 - 140	0	25
Carbon tetrachloride			50.0	37.9		ug/L		76	70 - 130	16	25
Chlorobenzene			50.0	47.1		ug/L		94	65 - 135	10	25
Chloroethane			50.0	40.1		ug/L		80	60 - 140	8	25
Chloroform			50.0	45.0		ug/L		90	70 - 121	6	25
Chloromethane			50.0	47.4		ug/L		95	60 - 140	8	25
cis-1,2-Dichloroethene			50.0	45.8		ug/L		92	75 - 125	6	25
cis-1,3-Dichloropropene			50.0	48.6		ug/L		97	74 - 125	9	25
Cyclohexane			50.0	46.3		ug/L		93	70 - 130	6	25
Dibromochloromethane			50.0	49.0		ug/L		98	73 - 125	12	25
Dichlorodifluoromethane			50.0	46.0		ug/L		92	50 - 150	6	25
Ethylbenzene			50.0	46.8		ug/L		94	75 - 125	11	25
Isopropylbenzene			50.0	48.5		ug/L		97	75 - 125	11	25
m,p-Xylenes			50.0	47.0		ug/L		94	75 - 125	11	25
Methyl acetate			100	95.3		ug/L		95	60 - 140	9	25
Methyl tert-butyl ether			50.0	47.9		ug/L		96	65 - 135	11	25
Methylene Chloride			50.0	44.8		ug/L		90	71 - 125	7	25
o-Xylene			50.0	48.0		ug/L		96	75 - 125	11	25
Styrene			50.0	48.9		ug/L		98	75 - 125	11	25
Tetrachloroethene			50.0	48.3		ug/L		97	71 - 125	9	25
Toluene			50.0	46.0		ug/L		92	70 - 130	11	25
trans-1,2-Dichloroethene			50.0	50.8		ug/L		102	75 - 125	7	25
trans-1,3-Dichloropropene			50.0	48.8		ug/L		98	66 - 125	12	25
Trichloroethene			50.0	46.9		ug/L		94	75 - 135	5	25
Trichlorofluoromethane			50.0	46.1		ug/L		92	60 - 140	8	25
Vinyl chloride			50.0	46.1		ug/L		92	60 - 140	8	25
Xylenes, Total			100	95.0		ug/L		95	75 - 125	11	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*63 - 144*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*
Dibromofluoromethane (Surr)	*97*		*75 - 131*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: 860-50456-G-2 MS
Matrix: Water
Analysis Batch: 106338

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	1.7	U	50.0	41.4		ug/L		83	75 - 125
1,1,2,2-Tetrachloroethane	0.47	U	50.0	51.5		ug/L		103	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	46.1		ug/L		92	60 - 140
1,1,2-Trichloroethane	0.51	U	50.0	48.2		ug/L		96	75 - 127
1,1-Dichloroethane	0.64	U	50.0	47.2		ug/L		94	72 - 125
1,1-Dichloroethene	0.74	U	50.0	47.6		ug/L		95	59 - 172
1,2,4-Trichlorobenzene	1.8	U	50.0	53.9		ug/L		108	75 - 135
1,2-Dibromo-3-Chloropropane	1.3	U	50.0	58.6		ug/L		117	59 - 125
1,2-Dibromoethane (EDB)	1.0	U	50.0	50.0		ug/L		100	73 - 125

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-50456-G-2 MS
Matrix: Water
Analysis Batch: 106338

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichlorobenzene	0.51	U	50.0	48.2		ug/L		96	75 - 125
1,2-Dichloroethane	0.59	U	50.0	42.0		ug/L		84	68 - 127
1,2-Dichloropropane	0.67	U	50.0	47.3		ug/L		95	74 - 125
1,3-Dichlorobenzene	0.51	U	50.0	48.3		ug/L		97	75 - 125
1,4-Dichlorobenzene	0.51	U	50.0	47.8		ug/L		96	75 - 125
2-Butanone (MEK)	8.3	U	250	232		ug/L		93	60 - 140
2-Hexanone	7.4	U	250	277		ug/L		111	60 - 140
4-Methyl-2-pentanone	7.5	U	250	257		ug/L		103	60 - 140
Acetone	1.2	U	250	212		ug/L		85	60 - 140
Benzene	0.53	U	50.0	45.1		ug/L		90	66 - 142
Bromodichloromethane	0.55	U	50.0	45.2		ug/L		90	75 - 125
Bromoform	0.63	U	50.0	51.8		ug/L		104	75 - 125
Bromomethane	1.4	U	50.0	30.0		ug/L		60	60 - 140
Carbon disulfide	1.9	U	50.0	43.9		ug/L		88	60 - 140
Carbon tetrachloride	0.90	U	50.0	33.5		ug/L		67	62 - 125
Chlorobenzene	0.53	U	50.0	47.4		ug/L		95	60 - 133
Chloroethane	2.0	U	50.0	37.0		ug/L		74	60 - 140
Chloroform	0.64	U	50.0	42.5		ug/L		85	70 - 130
Chloromethane	2.0	U	50.0	43.4		ug/L		87	60 - 140
cis-1,2-Dichloroethene	0.71	U	50.0	43.0		ug/L		86	75 - 125
cis-1,3-Dichloropropene	1.1	U	50.0	47.9		ug/L		96	74 - 125
Cyclohexane	1.5	U	50.0	42.5		ug/L		85	70 - 130
Dibromochloromethane	0.55	U	50.0	50.4		ug/L		101	73 - 125
Dichlorodifluoromethane	0.92	U	50.0	42.4		ug/L		85	70 - 130
Ethylbenzene	0.41	U	50.0	46.1		ug/L		92	75 - 125
Isopropylbenzene	0.61	U	50.0	47.6		ug/L		95	75 - 125
m,p-Xylenes	1.2	U	50.0	46.5		ug/L		93	75 - 125
Methyl acetate	4.0	U	100	94.6		ug/L		95	60 - 140
Methyl tert-butyl ether	1.4	U	50.0	49.1		ug/L		98	65 - 135
Methylene Chloride	1.7	U	50.0	42.6		ug/L		85	75 - 125
o-Xylene	0.55	U	50.0	47.8		ug/L		96	75 - 125
Styrene	0.66	U	50.0	49.0		ug/L		98	75 - 125
Tetrachloroethene	0.80	U	50.0	47.3		ug/L		95	71 - 125
Toluene	0.48	U	50.0	45.8		ug/L		92	59 - 139
trans-1,2-Dichloroethene	0.95	U	50.0	46.2		ug/L		92	75 - 125
trans-1,3-Dichloropropene	1.3	U	50.0	49.5		ug/L		99	66 - 125
Trichloroethene	0.79	U	50.0	43.7		ug/L		87	62 - 137
Trichlorofluoromethane	0.64	U	50.0	44.8		ug/L		90	60 - 140
Vinyl chloride	0.64	U	50.0	42.0		ug/L		84	60 - 140
Xylenes, Total	1.2	U	100	94.3		ug/L		94	75 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*63 - 144*
4-Bromofluorobenzene (Surr)	*94*		*74 - 124*
Dibromofluoromethane (Surr)	*96*		*75 - 131*
Toluene-d8 (Surr)	*100*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-106507/9
Matrix: Water
Analysis Batch: 106507

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			06/07/23 09:39	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			06/07/23 09:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			06/07/23 09:39	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			06/07/23 09:39	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			06/07/23 09:39	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			06/07/23 09:39	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			06/07/23 09:39	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			06/07/23 09:39	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			06/07/23 09:39	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			06/07/23 09:39	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			06/07/23 09:39	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			06/07/23 09:39	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			06/07/23 09:39	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			06/07/23 09:39	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			06/07/23 09:39	1
2-Hexanone	7.4	U	50	7.4	ug/L			06/07/23 09:39	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			06/07/23 09:39	1
Acetone	1.2	U	100	1.2	ug/L			06/07/23 09:39	1
Benzene	0.53	U	1.0	0.53	ug/L			06/07/23 09:39	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			06/07/23 09:39	1
Bromoform	0.63	U	5.0	0.63	ug/L			06/07/23 09:39	1
Bromomethane	1.4	U	5.0	1.4	ug/L			06/07/23 09:39	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			06/07/23 09:39	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			06/07/23 09:39	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			06/07/23 09:39	1
Chloroethane	2.0	U	10	2.0	ug/L			06/07/23 09:39	1
Chloroform	0.64	U	1.0	0.64	ug/L			06/07/23 09:39	1
Chloromethane	2.0	U	10	2.0	ug/L			06/07/23 09:39	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			06/07/23 09:39	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			06/07/23 09:39	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			06/07/23 09:39	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			06/07/23 09:39	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			06/07/23 09:39	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			06/07/23 09:39	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			06/07/23 09:39	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			06/07/23 09:39	1
Methyl acetate	4.0	U	20	4.0	ug/L			06/07/23 09:39	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			06/07/23 09:39	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			06/07/23 09:39	1
o-Xylene	0.55	U	1.0	0.55	ug/L			06/07/23 09:39	1
Styrene	0.66	U	1.0	0.66	ug/L			06/07/23 09:39	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			06/07/23 09:39	1
Toluene	0.48	U	1.0	0.48	ug/L			06/07/23 09:39	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			06/07/23 09:39	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			06/07/23 09:39	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			06/07/23 09:39	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			06/07/23 09:39	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			06/07/23 09:39	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-106507/9
Matrix: Water
Analysis Batch: 106507

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.2	U	10	1.2	ug/L			06/07/23 09:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*63 - 144*		*06/07/23 09:39*	*1*
4-Bromofluorobenzene (Surr)	*103*		*74 - 124*		*06/07/23 09:39*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 131*		*06/07/23 09:39*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/07/23 09:39*	*1*

Lab Sample ID: LCS 860-106507/3
Matrix: Water
Analysis Batch: 106507

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	52.0		ug/L		104	70 - 130
1,1,2,2-Tetrachloroethane	50.0	47.8		ug/L		96	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	56.3		ug/L		113	60 - 140
1,1,2-Trichloroethane	50.0	48.0		ug/L		96	70 - 130
1,1-Dichloroethane	50.0	49.8		ug/L		100	70 - 130
1,1-Dichloroethene	50.0	53.1		ug/L		106	50 - 150
1,2,4-Trichlorobenzene	50.0	51.3		ug/L		103	75 - 135
1,2-Dibromo-3-Chloropropane	50.0	47.1		ug/L		94	59 - 125
1,2-Dibromoethane (EDB)	50.0	48.6		ug/L		97	73 - 125
1,2-Dichlorobenzene	50.0	49.3		ug/L		99	75 - 125
1,2-Dichloroethane	50.0	48.8		ug/L		98	72 - 130
1,2-Dichloropropane	50.0	51.4		ug/L		103	74 - 125
1,3-Dichlorobenzene	50.0	49.9		ug/L		100	75 - 125
1,4-Dichlorobenzene	50.0	48.7		ug/L		97	75 - 125
2-Butanone (MEK)	250	233		ug/L		93	60 - 140
2-Hexanone	250	236		ug/L		94	60 - 140
4-Methyl-2-pentanone	250	238		ug/L		95	60 - 140
Acetone	250	230		ug/L		92	60 - 140
Benzene	50.0	49.9		ug/L		100	75 - 125
Bromodichloromethane	50.0	49.8		ug/L		100	75 - 125
Bromoform	50.0	50.4		ug/L		101	70 - 130
Bromomethane	50.0	42.8		ug/L		86	60 - 140
Carbon disulfide	50.0	51.8		ug/L		104	60 - 140
Carbon tetrachloride	50.0	41.9		ug/L		84	70 - 130
Chlorobenzene	50.0	48.2		ug/L		96	65 - 135
Chloroethane	50.0	48.0		ug/L		96	60 - 140
Chloroform	50.0	48.4		ug/L		97	70 - 121
Chloromethane	50.0	50.7		ug/L		101	60 - 140
cis-1,2-Dichloroethene	50.0	49.5		ug/L		99	75 - 125
cis-1,3-Dichloropropene	50.0	51.9		ug/L		104	74 - 125
Cyclohexane	50.0	51.6		ug/L		103	70 - 130
Dibromochloromethane	50.0	49.9		ug/L		100	73 - 125
Dichlorodifluoromethane	50.0	50.8		ug/L		102	50 - 150
Ethylbenzene	50.0	48.8		ug/L		98	75 - 125
Isopropylbenzene	50.0	50.8		ug/L		102	75 - 125

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 860-106507/3
Matrix: Water
Analysis Batch: 106507

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	49.7		ug/L		99	75 - 125
Methyl acetate	100	96.1		ug/L		96	60 - 140
Methyl tert-butyl ether	50.0	51.4		ug/L		103	65 - 135
Methylene Chloride	50.0	47.3		ug/L		95	71 - 125
o-Xylene	50.0	50.4		ug/L		101	75 - 125
Styrene	50.0	51.2		ug/L		102	75 - 125
Tetrachloroethene	50.0	50.1		ug/L		100	71 - 125
Toluene	50.0	47.6		ug/L		95	70 - 130
trans-1,2-Dichloroethene	50.0	53.2		ug/L		106	75 - 125
trans-1,3-Dichloropropene	50.0	51.4		ug/L		103	66 - 125
Trichloroethene	50.0	48.7		ug/L		97	75 - 135
Trichlorofluoromethane	50.0	56.6		ug/L		113	60 - 140
Vinyl chloride	50.0	51.3		ug/L		103	60 - 140
Xylenes, Total	100	100		ug/L		100	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*63 - 144*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*
Dibromofluoromethane (Surr)	*94*		*75 - 131*
Toluene-d8 (Surr)	*97*		*80 - 120*

Lab Sample ID: LCSD 860-106507/4
Matrix: Water
Analysis Batch: 106507

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	47.0		ug/L		94	70 - 130	10	25
1,1,2,2-Tetrachloroethane	50.0	52.7		ug/L		105	74 - 125	10	25
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	50.4		ug/L		101	60 - 140	11	25
1,1,2-Trichloroethane	50.0	50.5		ug/L		101	70 - 130	5	25
1,1-Dichloroethane	50.0	46.3		ug/L		93	70 - 130	7	25
1,1-Dichloroethene	50.0	51.8		ug/L		104	50 - 150	3	25
1,2,4-Trichlorobenzene	50.0	57.6		ug/L		115	75 - 135	12	25
1,2-Dibromo-3-Chloropropane	50.0	56.2		ug/L		112	59 - 125	18	25
1,2-Dibromoethane (EDB)	50.0	52.3		ug/L		105	73 - 125	7	25
1,2-Dichlorobenzene	50.0	54.1		ug/L		108	75 - 125	9	25
1,2-Dichloroethane	50.0	48.0		ug/L		96	72 - 130	2	25
1,2-Dichloropropane	50.0	51.7		ug/L		103	74 - 125	1	25
1,3-Dichlorobenzene	50.0	53.1		ug/L		106	75 - 125	6	25
1,4-Dichlorobenzene	50.0	52.7		ug/L		105	75 - 125	8	25
2-Butanone (MEK)	250	230		ug/L		92	60 - 140	1	25
2-Hexanone	250	258		ug/L		103	60 - 140	9	25
4-Methyl-2-pentanone	250	253		ug/L		101	60 - 140	6	25
Acetone	250	223		ug/L		89	60 - 140	3	25
Benzene	50.0	49.7		ug/L		99	75 - 125	0	25
Bromodichloromethane	50.0	50.5		ug/L		101	75 - 125	1	25
Bromoform	50.0	53.3		ug/L		107	70 - 130	6	25
Bromomethane	50.0	38.2		ug/L		76	60 - 140	11	25

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 860-106507/4
Matrix: Water
Analysis Batch: 106507

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon disulfide	50.0	49.5		ug/L		99	60 - 140	4	25
Carbon tetrachloride	50.0	40.4		ug/L		81	70 - 130	4	25
Chlorobenzene	50.0	50.5		ug/L		101	65 - 135	5	25
Chloroethane	50.0	45.3		ug/L		91	60 - 140	6	25
Chloroform	50.0	45.8		ug/L		92	70 - 121	5	25
Chloromethane	50.0	49.2		ug/L		98	60 - 140	3	25
cis-1,2-Dichloroethene	50.0	46.3		ug/L		93	75 - 125	7	25
cis-1,3-Dichloropropene	50.0	52.5		ug/L		105	74 - 125	1	25
Cyclohexane	50.0	48.2		ug/L		96	70 - 130	7	25
Dibromochloromethane	50.0	52.8		ug/L		106	73 - 125	6	25
Dichlorodifluoromethane	50.0	48.9		ug/L		98	50 - 150	4	25
Ethylbenzene	50.0	50.4		ug/L		101	75 - 125	3	25
Isopropylbenzene	50.0	52.9		ug/L		106	75 - 125	4	25
m,p-Xylenes	50.0	51.5		ug/L		103	75 - 125	4	25
Methyl acetate	100	94.3		ug/L		94	60 - 140	2	25
Methyl tert-butyl ether	50.0	50.9		ug/L		102	65 - 135	1	25
Methylene Chloride	50.0	45.5		ug/L		91	71 - 125	4	25
o-Xylene	50.0	52.2		ug/L		104	75 - 125	3	25
Styrene	50.0	52.9		ug/L		106	75 - 125	3	25
Tetrachloroethene	50.0	52.4		ug/L		105	71 - 125	4	25
Toluene	50.0	49.2		ug/L		98	70 - 130	3	25
trans-1,2-Dichloroethene	50.0	46.6		ug/L		93	75 - 125	13	25
trans-1,3-Dichloropropene	50.0	53.2		ug/L		106	66 - 125	3	25
Trichloroethene	50.0	49.9		ug/L		100	75 - 135	2	25
Trichlorofluoromethane	50.0	53.3		ug/L		107	60 - 140	6	25
Vinyl chloride	50.0	49.9		ug/L		100	60 - 140	3	25
Xylenes, Total	100	104		ug/L		104	75 - 125	4	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*63 - 144*
4-Bromofluorobenzene (Surr)	*102*		*74 - 124*
Dibromofluoromethane (Surr)	*96*		*75 - 131*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: 860-50494-G-1 MS
Matrix: Water
Analysis Batch: 106507

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	1.7	U	50.0	41.5		ug/L		83	75 - 125
1,1,2,2-Tetrachloroethane	0.47	U	50.0	50.9		ug/L		102	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	44.1		ug/L		88	60 - 140
1,1,2-Trichloroethane	0.51	U	50.0	45.8		ug/L		92	75 - 127
1,1-Dichloroethane	0.64	U	50.0	45.7		ug/L		91	72 - 125
1,1-Dichloroethene	0.74	U	50.0	45.5		ug/L		91	59 - 172
1,2,4-Trichlorobenzene	1.8	U	50.0	53.0		ug/L		106	75 - 135
1,2-Dibromo-3-Chloropropane	1.3	U	50.0	57.8		ug/L		116	59 - 125
1,2-Dibromoethane (EDB)	1.0	U	50.0	47.9		ug/L		96	73 - 125

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-50494-G-1 MS
Matrix: Water
Analysis Batch: 106507

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichlorobenzene	0.51	U	50.0	48.5		ug/L		97	75 - 125
1,2-Dichloroethane	0.59	U	50.0	43.1		ug/L		86	68 - 127
1,2-Dichloropropane	0.67	U	50.0	46.7		ug/L		93	74 - 125
1,3-Dichlorobenzene	0.51	U	50.0	47.9		ug/L		96	75 - 125
1,4-Dichlorobenzene	0.51	U	50.0	46.7		ug/L		93	75 - 125
2-Butanone (MEK)	8.3	U	250	246		ug/L		98	60 - 140
2-Hexanone	7.4	U	250	268		ug/L		107	60 - 140
4-Methyl-2-pentanone	7.5	U	250	258		ug/L		103	60 - 140
Acetone	1.2	U	250	229		ug/L		92	60 - 140
Benzene	0.53	U	50.0	44.3		ug/L		89	66 - 142
Bromodichloromethane	0.55	U	50.0	44.5		ug/L		89	75 - 125
Bromoform	0.63	U	50.0	50.1		ug/L		100	75 - 125
Bromomethane	1.4	U	50.0	30.5		ug/L		61	60 - 140
Carbon disulfide	1.9	U	50.0	41.9		ug/L		84	60 - 140
Carbon tetrachloride	0.90	U	50.0	38.4		ug/L		77	62 - 125
Chlorobenzene	0.53	U	50.0	44.5		ug/L		89	60 - 133
Chloroethane	2.0	U	50.0	38.3		ug/L		77	60 - 140
Chloroform	0.64	U	50.0	42.2		ug/L		84	70 - 130
Chloromethane	2.0	U	50.0	41.5		ug/L		83	60 - 140
cis-1,2-Dichloroethene	0.71	U	50.0	43.2		ug/L		86	75 - 125
cis-1,3-Dichloropropene	1.1	U	50.0	47.0		ug/L		94	74 - 125
Cyclohexane	1.5	U	50.0	41.4		ug/L		83	70 - 130
Dibromochloromethane	0.55	U	50.0	48.3		ug/L		97	73 - 125
Dichlorodifluoromethane	0.92	U	50.0	36.2		ug/L		72	70 - 130
Ethylbenzene	0.41	U	50.0	44.3		ug/L		89	75 - 125
Isopropylbenzene	0.61	U	50.0	46.2		ug/L		92	75 - 125
m,p-Xylenes	1.2	U	50.0	45.3		ug/L		91	75 - 125
Methyl acetate	4.0	U	100	101		ug/L		101	60 - 140
Methyl tert-butyl ether	1.4	U	50.0	48.2		ug/L		96	65 - 135
Methylene Chloride	1.7	U	50.0	41.4		ug/L		83	75 - 125
o-Xylene	0.55	U	50.0	46.2		ug/L		92	75 - 125
Styrene	0.66	U	50.0	47.2		ug/L		94	75 - 125
Tetrachloroethene	0.80	U	50.0	45.0		ug/L		90	71 - 125
Toluene	0.48	U	50.0	43.8		ug/L		88	59 - 139
trans-1,2-Dichloroethene	0.95	U	50.0	43.4		ug/L		87	75 - 125
trans-1,3-Dichloropropene	1.3	U	50.0	47.8		ug/L		96	66 - 125
Trichloroethene	0.79	U	50.0	42.9		ug/L		86	62 - 137
Trichlorofluoromethane	0.64	U	50.0	42.9		ug/L		86	60 - 140
Vinyl chloride	0.64	U	50.0	41.2		ug/L		82	60 - 140
Xylenes, Total	1.2	U	100	91.5		ug/L		92	75 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*63 - 144*
4-Bromofluorobenzene (Surr)	*102*		*74 - 124*
Dibromofluoromethane (Surr)	*97*		*75 - 131*
Toluene-d8 (Surr)	*99*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-106945/11
Matrix: Water
Analysis Batch: 106945

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			06/09/23 12:16	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			06/09/23 12:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			06/09/23 12:16	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			06/09/23 12:16	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			06/09/23 12:16	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			06/09/23 12:16	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			06/09/23 12:16	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			06/09/23 12:16	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			06/09/23 12:16	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			06/09/23 12:16	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			06/09/23 12:16	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			06/09/23 12:16	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			06/09/23 12:16	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			06/09/23 12:16	1
2-Hexanone	7.4	U	50	7.4	ug/L			06/09/23 12:16	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			06/09/23 12:16	1
Acetone	1.2	U	100	1.2	ug/L			06/09/23 12:16	1
Benzene	0.53	U	1.0	0.53	ug/L			06/09/23 12:16	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			06/09/23 12:16	1
Bromoform	0.63	U	5.0	0.63	ug/L			06/09/23 12:16	1
Bromomethane	1.4	U	5.0	1.4	ug/L			06/09/23 12:16	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			06/09/23 12:16	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			06/09/23 12:16	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			06/09/23 12:16	1
Chloroethane	2.0	U	10	2.0	ug/L			06/09/23 12:16	1
Chloroform	0.64	U	1.0	0.64	ug/L			06/09/23 12:16	1
Chloromethane	2.0	U	10	2.0	ug/L			06/09/23 12:16	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			06/09/23 12:16	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			06/09/23 12:16	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			06/09/23 12:16	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			06/09/23 12:16	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			06/09/23 12:16	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			06/09/23 12:16	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			06/09/23 12:16	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			06/09/23 12:16	1
Methyl acetate	4.0	U	20	4.0	ug/L			06/09/23 12:16	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			06/09/23 12:16	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			06/09/23 12:16	1
o-Xylene	0.55	U	1.0	0.55	ug/L			06/09/23 12:16	1
Styrene	0.66	U	1.0	0.66	ug/L			06/09/23 12:16	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			06/09/23 12:16	1
Toluene	0.48	U	1.0	0.48	ug/L			06/09/23 12:16	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			06/09/23 12:16	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			06/09/23 12:16	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			06/09/23 12:16	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			06/09/23 12:16	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			06/09/23 12:16	1
Xylenes, Total	1.2	U	10	1.2	ug/L			06/09/23 12:16	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-106945/11
Matrix: Water
Analysis Batch: 106945

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		63 - 144		06/09/23 12:16	1
4-Bromofluorobenzene (Surr)	94		74 - 124		06/09/23 12:16	1
Dibromofluoromethane (Surr)	112		75 - 131		06/09/23 12:16	1
Toluene-d8 (Surr)	90		80 - 120		06/09/23 12:16	1

Lab Sample ID: LCS 860-106945/3
Matrix: Water
Analysis Batch: 106945

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	60.9		ug/L		122	70 - 130
1,1,2,2-Tetrachloroethane	50.0	46.3		ug/L		93	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	57.9		ug/L		116	60 - 140
1,1,2-Trichloroethane	50.0	45.7		ug/L		91	70 - 130
1,1-Dichloroethane	50.0	56.6		ug/L		113	70 - 130
1,1-Dichloroethene	50.0	51.4		ug/L		103	50 - 150
1,2,4-Trichlorobenzene	50.0	48.8		ug/L		98	75 - 135
1,2-Dibromo-3-Chloropropane	50.0	48.8		ug/L		98	59 - 125
1,2-Dibromoethane (EDB)	50.0	46.2		ug/L		92	73 - 125
1,2-Dichlorobenzene	50.0	50.6		ug/L		101	75 - 125
1,2-Dichloroethane	50.0	51.4		ug/L		103	72 - 130
1,2-Dichloropropane	50.0	52.7		ug/L		105	74 - 125
1,3-Dichlorobenzene	50.0	50.5		ug/L		101	75 - 125
1,4-Dichlorobenzene	50.0	50.2		ug/L		100	75 - 125
2-Butanone (MEK)	250	240		ug/L		96	60 - 140
2-Hexanone	250	214		ug/L		86	60 - 140
4-Methyl-2-pentanone	250	241		ug/L		96	60 - 140
Acetone	250	208		ug/L		83	60 - 140
Benzene	50.0	52.1		ug/L		104	75 - 125
Bromodichloromethane	50.0	52.6		ug/L		105	75 - 125
Bromoform	50.0	50.4		ug/L		101	70 - 130
Bromomethane	50.0	49.8		ug/L		100	60 - 140
Carbon disulfide	50.0	49.2		ug/L		98	60 - 140
Carbon tetrachloride	50.0	61.3		ug/L		123	70 - 130
Chlorobenzene	50.0	47.9		ug/L		96	65 - 135
Chloroethane	50.0	53.9		ug/L		108	60 - 140
Chloroform	50.0	56.1		ug/L		112	70 - 121
Chloromethane	50.0	49.7		ug/L		99	60 - 140
cis-1,2-Dichloroethene	50.0	57.3		ug/L		115	75 - 125
cis-1,3-Dichloropropene	50.0	52.2		ug/L		104	74 - 125
Cyclohexane	50.0	56.8		ug/L		114	70 - 130
Dibromochloromethane	50.0	49.4		ug/L		99	73 - 125
Dichlorodifluoromethane	50.0	47.9		ug/L		96	50 - 150
Ethylbenzene	50.0	47.7		ug/L		95	75 - 125
Isopropylbenzene	50.0	48.6		ug/L		97	75 - 125
m,p-Xylenes	50.0	47.3		ug/L		95	75 - 125
Methyl acetate	100	87.0		ug/L		87	60 - 140
Methyl tert-butyl ether	50.0	51.4		ug/L		103	65 - 135

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 860-106945/3
Matrix: Water
Analysis Batch: 106945

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Methylene Chloride			50.0	49.9		ug/L		100	71 - 125		
o-Xylene			50.0	46.9		ug/L		94	75 - 125		
Styrene			50.0	47.8		ug/L		96	75 - 125		
Tetrachloroethene			50.0	50.9		ug/L		102	71 - 125		
Toluene			50.0	46.6		ug/L		93	70 - 130		
trans-1,2-Dichloroethene			50.0	52.7		ug/L		105	75 - 125		
trans-1,3-Dichloropropene			50.0	47.2		ug/L		94	66 - 125		
Trichloroethene			50.0	56.2		ug/L		112	75 - 135		
Trichlorofluoromethane			50.0	54.9		ug/L		110	60 - 140		
Vinyl chloride			50.0	52.3		ug/L		105	60 - 140		
Xylenes, Total			100	94.2		ug/L		94	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*63 - 144*
4-Bromofluorobenzene (Surr)	*99*		*74 - 124*
Dibromofluoromethane (Surr)	*109*		*75 - 131*
Toluene-d8 (Surr)	*90*		*80 - 120*

Lab Sample ID: LCSD 860-106945/4
Matrix: Water
Analysis Batch: 106945

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			50.0	60.0		ug/L		120	70 - 130	1	25
1,1,2,2-Tetrachloroethane			50.0	43.9		ug/L		88	74 - 125	5	25
1,1,2-Trichloro-1,2,2-trifluoroetha ne			50.0	55.7		ug/L		111	60 - 140	4	25
1,1,2-Trichloroethane			50.0	43.9		ug/L		88	70 - 130	4	25
1,1-Dichloroethane			50.0	55.5		ug/L		111	70 - 130	2	25
1,1-Dichloroethene			50.0	50.0		ug/L		100	50 - 150	3	25
1,2,4-Trichlorobenzene			50.0	56.2		ug/L		112	75 - 135	14	25
1,2-Dibromo-3-Chloropropane			50.0	57.4		ug/L		115	59 - 125	16	25
1,2-Dibromoethane (EDB)			50.0	44.2		ug/L		88	73 - 125	4	25
1,2-Dichlorobenzene			50.0	47.8		ug/L		96	75 - 125	6	25
1,2-Dichloroethane			50.0	50.3		ug/L		101	72 - 130	2	25
1,2-Dichloropropane			50.0	51.2		ug/L		102	74 - 125	3	25
1,3-Dichlorobenzene			50.0	46.3		ug/L		93	75 - 125	9	25
1,4-Dichlorobenzene			50.0	46.2		ug/L		92	75 - 125	8	25
2-Butanone (MEK)			250	236		ug/L		94	60 - 140	2	25
2-Hexanone			250	205		ug/L		82	60 - 140	4	25
4-Methyl-2-pentanone			250	233		ug/L		93	60 - 140	3	25
Acetone			250	202		ug/L		81	60 - 140	3	25
Benzene			50.0	51.1		ug/L		102	75 - 125	2	25
Bromodichloromethane			50.0	51.0		ug/L		102	75 - 125	3	25
Bromoform			50.0	49.5		ug/L		99	70 - 130	2	25
Bromomethane			50.0	50.2		ug/L		100	60 - 140	1	25
Carbon disulfide			50.0	47.8		ug/L		96	60 - 140	3	25
Carbon tetrachloride			50.0	61.2		ug/L		122	70 - 130	0	25
Chlorobenzene			50.0	46.5		ug/L		93	65 - 135	3	25

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 860-106945/4
Matrix: Water
Analysis Batch: 106945

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloroethane			50.0	53.4		ug/L		107	60 - 140	1	25
Chloroform			50.0	55.7		ug/L		111	70 - 121	1	25
Chloromethane			50.0	49.2		ug/L		98	60 - 140	1	25
cis-1,2-Dichloroethene			50.0	56.6		ug/L		113	75 - 125	1	25
cis-1,3-Dichloropropene			50.0	51.2		ug/L		102	74 - 125	2	25
Cyclohexane			50.0	55.5		ug/L		111	70 - 130	2	25
Dibromochloromethane			50.0	47.0		ug/L		94	73 - 125	5	25
Dichlorodifluoromethane			50.0	43.3		ug/L		87	50 - 150	10	25
Ethylbenzene			50.0	46.4		ug/L		93	75 - 125	3	25
Isopropylbenzene			50.0	47.1		ug/L		94	75 - 125	3	25
m,p-Xylenes			50.0	45.2		ug/L		90	75 - 125	5	25
Methyl acetate			100	86.0		ug/L		86	60 - 140	1	25
Methyl tert-butyl ether			50.0	50.6		ug/L		101	65 - 135	2	25
Methylene Chloride			50.0	48.9		ug/L		98	71 - 125	2	25
o-Xylene			50.0	46.1		ug/L		92	75 - 125	2	25
Styrene			50.0	47.0		ug/L		94	75 - 125	2	25
Tetrachloroethene			50.0	49.3		ug/L		99	71 - 125	3	25
Toluene			50.0	44.9		ug/L		90	70 - 130	4	25
trans-1,2-Dichloroethene			50.0	50.9		ug/L		102	75 - 125	3	25
trans-1,3-Dichloropropene			50.0	45.7		ug/L		91	66 - 125	3	25
Trichloroethene			50.0	55.7		ug/L		111	75 - 135	1	25
Trichlorofluoromethane			50.0	55.8		ug/L		112	60 - 140	2	25
Vinyl chloride			50.0	52.2		ug/L		104	60 - 140	0	25
Xylenes, Total			100	91.3		ug/L		91	75 - 125	3	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*63 - 144*
4-Bromofluorobenzene (Surr)	*94*		*74 - 124*
Dibromofluoromethane (Surr)	*109*		*75 - 131*
Toluene-d8 (Surr)	*89*		*80 - 120*

Lab Sample ID: 860-50651-C-1 MS
Matrix: Water
Analysis Batch: 106945

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	1.7	U	50.0	62.0		ug/L		124	75 - 125
1,1,2,2-Tetrachloroethane	0.47	U	50.0	37.7		ug/L		75	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	57.6		ug/L		115	60 - 140
1,1,2-Trichloroethane	0.51	U	50.0	44.7		ug/L		89	75 - 127
1,1-Dichloroethane	0.64	U	50.0	58.8		ug/L		118	72 - 125
1,1-Dichloroethene	0.74	U	50.0	52.0		ug/L		104	59 - 172
1,2-Dibromo-3-Chloropropane	1.3	U J3	50.0	32.1		ug/L		64	59 - 125
1,2-Dibromoethane (EDB)	1.0	U	50.0	45.5		ug/L		91	73 - 125
1,2-Dichlorobenzene	0.51	U	50.0	41.9		ug/L		84	75 - 125
1,2-Dichloroethane	0.59	U	50.0	52.6		ug/L		105	68 - 127
1,2-Dichloropropane	0.67	U	50.0	53.1		ug/L		106	74 - 125
1,3-Dichlorobenzene	0.51	U	50.0	43.4		ug/L		87	75 - 125

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-50651-C-1 MS
Matrix: Water
Analysis Batch: 106945

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dichlorobenzene	0.51	U	50.0	42.4		ug/L		85	75 - 125
2-Butanone (MEK)	8.3	U	250	256		ug/L		103	60 - 140
2-Hexanone	7.4	U	250	213		ug/L		85	60 - 140
4-Methyl-2-pentanone	7.5	U	250	246		ug/L		98	60 - 140
Acetone	1.2	U	250	218		ug/L		87	60 - 140
Benzene	1.5		50.0	53.9		ug/L		105	66 - 142
Bromodichloromethane	0.55	U	50.0	53.1		ug/L		106	75 - 125
Bromoform	0.63	U	50.0	47.3		ug/L		95	75 - 125
Bromomethane	1.4	U	50.0	48.9		ug/L		98	60 - 140
Carbon disulfide	1.9	U	50.0	49.7		ug/L		99	60 - 140
Carbon tetrachloride	0.90	U	50.0	62.4		ug/L		125	62 - 125
Chlorobenzene	0.53	U	50.0	46.7		ug/L		93	60 - 133
Chloroethane	2.0	U	50.0	55.5		ug/L		111	60 - 140
Chloroform	0.64	U	50.0	58.8		ug/L		118	70 - 130
Chloromethane	2.0	U	50.0	47.5		ug/L		95	60 - 140
cis-1,2-Dichloroethene	0.71	U	50.0	59.3		ug/L		119	75 - 125
cis-1,3-Dichloropropene	1.1	U	50.0	52.8		ug/L		106	74 - 125
Cyclohexane	1.5	U	50.0	56.9		ug/L		114	70 - 130
Dibromochloromethane	0.55	U	50.0	47.8		ug/L		96	73 - 125
Dichlorodifluoromethane	0.92	U	50.0	45.1		ug/L		90	70 - 130
Ethylbenzene	0.41	U	50.0	46.4		ug/L		93	75 - 125
Isopropylbenzene	0.61	U	50.0	46.9		ug/L		94	75 - 125
m,p-Xylenes	1.2	U	50.0	45.8		ug/L		92	75 - 125
Methyl acetate	4.0	U	100	93.7		ug/L		94	60 - 140
Methyl tert-butyl ether	1.4	U	50.0	53.6		ug/L		107	65 - 135
Methylene Chloride	1.7	U	50.0	51.2		ug/L		102	75 - 125
o-Xylene	0.55	U	50.0	46.2		ug/L		92	75 - 125
Styrene	0.66	U	50.0	46.8		ug/L		94	75 - 125
Tetrachloroethene	1.7		50.0	52.0		ug/L		101	71 - 125
Toluene	0.51	I	50.0	46.1		ug/L		91	59 - 139
trans-1,2-Dichloroethene	0.95	U	50.0	53.6		ug/L		107	75 - 125
trans-1,3-Dichloropropene	1.3	U	50.0	46.3		ug/L		93	66 - 125
Trichloroethene	0.79	U	50.0	57.2		ug/L		114	62 - 137
Trichlorofluoromethane	0.64	U	50.0	57.5		ug/L		115	60 - 140
Vinyl chloride	0.64	U	50.0	53.3		ug/L		107	60 - 140
Xylenes, Total	1.2	U	100	92.0		ug/L		92	75 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*63 - 144*
4-Bromofluorobenzene (Surr)	*94*		*74 - 124*
Dibromofluoromethane (Surr)	*111*		*75 - 131*
Toluene-d8 (Surr)	*88*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-50651-C-1 MSD
Matrix: Water
Analysis Batch: 106945

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	1.7	U	50.0	60.0		ug/L		120	75 - 125	3	25
1,1,2,2-Tetrachloroethane	0.47	U	50.0	45.4		ug/L		91	74 - 125	19	25
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	54.7		ug/L		109	60 - 140	5	25
1,1,2-Trichloroethane	0.51	U	50.0	44.8		ug/L		90	75 - 127	0	25
1,1-Dichloroethane	0.64	U	50.0	56.5		ug/L		113	72 - 125	4	25
1,1-Dichloroethene	0.74	U	50.0	50.0		ug/L		100	59 - 172	4	25
1,2-Dibromoethane (EDB)	1.0	U	50.0	46.2		ug/L		92	73 - 125	1	25
1,2-Dichlorobenzene	0.51	U	50.0	46.6		ug/L		93	75 - 125	11	25
1,2-Dichloroethane	0.59	U	50.0	51.7		ug/L		103	68 - 127	2	25
1,2-Dichloropropane	0.67	U	50.0	51.6		ug/L		103	74 - 125	3	25
1,3-Dichlorobenzene	0.51	U	50.0	45.2		ug/L		90	75 - 125	4	25
1,4-Dichlorobenzene	0.51	U	50.0	45.6		ug/L		91	75 - 125	7	25
2-Butanone (MEK)	8.3	U	250	261		ug/L		104	60 - 140	2	25
2-Hexanone	7.4	U	250	222		ug/L		89	60 - 140	4	25
4-Methyl-2-pentanone	7.5	U	250	252		ug/L		101	60 - 140	2	25
Acetone	1.2	U	250	226		ug/L		90	60 - 140	4	25
Benzene	1.5		50.0	52.2		ug/L		101	66 - 142	3	25
Bromodichloromethane	0.55	U	50.0	52.3		ug/L		105	75 - 125	1	25
Bromoform	0.63	U	50.0	51.3		ug/L		103	75 - 125	8	25
Bromomethane	1.4	U	50.0	48.9		ug/L		98	60 - 140	0	25
Carbon disulfide	1.9	U	50.0	48.2		ug/L		96	60 - 140	3	25
Carbon tetrachloride	0.90	U	50.0	59.6		ug/L		119	62 - 125	5	25
Chlorobenzene	0.53	U	50.0	46.1		ug/L		92	60 - 133	1	25
Chloroethane	2.0	U	50.0	53.2		ug/L		106	60 - 140	4	25
Chloroform	0.64	U	50.0	56.7		ug/L		113	70 - 130	4	25
Chloromethane	2.0	U	50.0	45.3		ug/L		91	60 - 140	5	25
cis-1,2-Dichloroethene	0.71	U	50.0	57.8		ug/L		116	75 - 125	3	25
cis-1,3-Dichloropropene	1.1	U	50.0	51.7		ug/L		103	74 - 125	2	25
Cyclohexane	1.5	U	50.0	54.8		ug/L		110	70 - 130	4	25
Dibromochloromethane	0.55	U	50.0	47.8		ug/L		96	73 - 125	0	25
Dichlorodifluoromethane	0.92	U	50.0	43.3		ug/L		87	70 - 130	4	25
Ethylbenzene	0.41	U	50.0	45.4		ug/L		91	75 - 125	2	25
Isopropylbenzene	0.61	U	50.0	45.7		ug/L		91	75 - 125	2	25
m,p-Xylenes	1.2	U	50.0	45.1		ug/L		90	75 - 125	2	25
Methyl acetate	4.0	U	100	100		ug/L		100	60 - 140	7	25
Methyl tert-butyl ether	1.4	U	50.0	52.7		ug/L		105	65 - 135	2	25
Methylene Chloride	1.7	U	50.0	49.2		ug/L		98	75 - 125	4	25
o-Xylene	0.55	U	50.0	45.2		ug/L		90	75 - 125	2	25
Styrene	0.66	U	50.0	46.9		ug/L		94	75 - 125	0	25
Tetrachloroethene	1.7		50.0	49.3		ug/L		95	71 - 125	5	25
Toluene	0.51	I	50.0	44.8		ug/L		89	59 - 139	3	25
trans-1,2-Dichloroethene	0.95	U	50.0	52.0		ug/L		104	75 - 125	3	25
trans-1,3-Dichloropropene	1.3	U	50.0	46.3		ug/L		93	66 - 125	0	25
Trichloroethene	0.79	U	50.0	54.8		ug/L		110	62 - 137	4	25
Trichlorofluoromethane	0.64	U	50.0	54.5		ug/L		109	60 - 140	5	25
Vinyl chloride	0.64	U	50.0	50.7		ug/L		101	60 - 140	5	25
Xylenes, Total	1.2	U	100	90.3		ug/L		90	75 - 125	2	25

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-50651-C-1 MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 106945

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*96*		*63 - 144*
4-Bromofluorobenzene (Surr)	*94*		*74 - 124*
Dibromofluoromethane (Surr)	*112*		*75 - 131*
Toluene-d8 (Surr)	*89*		*80 - 120*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-20576-1

GC/MS VOA

Analysis Batch: 106338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-20576-5	LC34-RW20C-20230531	Total/NA	Water	8260D	
670-20576-6	LC34-RW19C-20230531	Total/NA	Water	8260D	
670-20576-7	LC34-RW18C-20230531	Total/NA	Water	8260D	
670-20576-8	LC34-RW17C-20230531	Total/NA	Water	8260D	
MB 860-106338/16	Method Blank	Total/NA	Water	8260D	
LCS 860-106338/1010	Lab Control Sample	Total/NA	Water	8260D	
LCSD 860-106338/11	Lab Control Sample Dup	Total/NA	Water	8260D	
860-50456-G-2 MS	Matrix Spike	Total/NA	Water	8260D	

Analysis Batch: 106507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-20576-1	LC34-RW21D-20230530	Total/NA	Water	8260D	
670-20576-2	LC34-GAC-20230531	Total/NA	Water	8260D	
670-20576-3	LC34-AS1-20230531	Total/NA	Water	8260D	
670-20576-4	LC34-AS2-20230531	Total/NA	Water	8260D	
MB 860-106507/9	Method Blank	Total/NA	Water	8260D	
LCS 860-106507/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 860-106507/4	Lab Control Sample Dup	Total/NA	Water	8260D	
860-50494-G-1 MS	Matrix Spike	Total/NA	Water	8260D	

Analysis Batch: 106945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-20576-6 - DL	LC34-RW19C-20230531	Total/NA	Water	8260D	
MB 860-106945/11	Method Blank	Total/NA	Water	8260D	
LCS 860-106945/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 860-106945/4	Lab Control Sample Dup	Total/NA	Water	8260D	
860-50651-C-1 MS	Matrix Spike	Total/NA	Water	8260D	
860-50651-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-20576-1
Project/Site: NASA KSC LC34 HCS

Client Sample ID: LC34-RW21D-20230530
Lab Sample ID: 670-20576-1
Date Collected: 05/30/23 10:00
Matrix: Water
Date Received: 05/31/23 15:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		500	106507	NA	EET HOU	06/07/23 14:24

Client Sample ID: LC34-GAC-20230531
Lab Sample ID: 670-20576-2
Date Collected: 05/31/23 08:00
Matrix: Water
Date Received: 05/31/23 15:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	106507	NA	EET HOU	06/07/23 11:33

Client Sample ID: LC34-AS1-20230531
Lab Sample ID: 670-20576-3
Date Collected: 05/31/23 08:10
Matrix: Water
Date Received: 05/31/23 15:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	106507	NA	EET HOU	06/07/23 11:52

Client Sample ID: LC34-AS2-20230531
Lab Sample ID: 670-20576-4
Date Collected: 05/31/23 08:20
Matrix: Water
Date Received: 05/31/23 15:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2	106507	NA	EET HOU	06/07/23 14:05

Client Sample ID: LC34-RW20C-20230531
Lab Sample ID: 670-20576-5
Date Collected: 05/31/23 08:30
Matrix: Water
Date Received: 05/31/23 15:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		500	106338	NA	EET HOU	06/06/23 19:50

Client Sample ID: LC34-RW19C-20230531
Lab Sample ID: 670-20576-6
Date Collected: 05/31/23 08:40
Matrix: Water
Date Received: 05/31/23 15:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2000	106338	NA	EET HOU	06/06/23 20:09
Total/NA	Analysis	8260D	DL	5000	106945	NA	EET HOU	06/09/23 12:57

Client Sample ID: LC34-RW18C-20230531
Lab Sample ID: 670-20576-7
Date Collected: 05/31/23 08:50
Matrix: Water
Date Received: 05/31/23 15:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2000	106338	NA	EET HOU	06/06/23 20:28

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-20576-1
Project/Site: NASA KSC LC34 HCS

Client Sample ID: LC34-RW17C-20230531
Lab Sample ID: 670-20576-8
Date Collected: 05/31/23 09:00
Matrix: Water
Date Received: 05/31/23 15:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2000	106338	NA	EET HOU	06/06/23 20:47

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-20576-1
Project/Site: NASA KSC LC34 HCS

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E871002	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D		Water	Cyclohexane

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-20576-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET HOU
5030C	Purge and Trap	SW846	EET HOU

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-20576-1
Project/Site: NASA KSC LC34 HCS

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-20576-1	LC34-RW21D-20230530	Water	05/30/23 10:00	05/31/23 15:05
670-20576-2	LC34-GAC-20230531	Water	05/31/23 08:00	05/31/23 15:05
670-20576-3	LC34-AS1-20230531	Water	05/31/23 08:10	05/31/23 15:05
670-20576-4	LC34-AS2-20230531	Water	05/31/23 08:20	05/31/23 15:05
670-20576-5	LC34-RW20C-20230531	Water	05/31/23 08:30	05/31/23 15:05
670-20576-6	LC34-RW19C-20230531	Water	05/31/23 08:40	05/31/23 15:05
670-20576-7	LC34-RW18C-20230531	Water	05/31/23 08:50	05/31/23 15:05
670-20576-8	LC34-RW17C-20230531	Water	05/31/23 09:00	05/31/23 15:05

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 2720 | PAGE 1 OF 1

PROJECT NO: 112G08985	FACILITY: LC34 HCS	PROJECT MANAGER MARK JONNET	PHONE NUMBER 412 921 8622	LABORATORY NAME AND CONTACT: ENCO / EUROFINS
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER DAN FORESTER	PHONE NUMBER 304 780 1426	ADDRESS
		CARRIER/WAYBILL NUMBER		CITY, STATE ORLANDO, FL

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): G	PRESERVATIVE USED: HCL	TYPE OF ANALYSIS: VOC's 8260	COMMENTS
30MAY	1000	LC34-RW21D-20230530		/	/	GW	G	3	X			
31MAY	0800	LC34-GAC-20230531										
	0810	LC34-AS1-20230531										
	0820	LC34-AS2-20230531										
	0830	LC34-RW20C-20230531										
	0840	LC34-RW19C-20230531										
	0850	LC34-RW18C-20230531										
X	0900	LC34-RW17C-20230531		/	/	X	X	X	X			

670-20576 Chain of Custody

1. RELINQUISHED BY		DATE 5/31/2023	TIME 11:25	1. RECEIVED BY		DATE 5/31/2023	TIME 11 25
2. RELINQUISHED BY		DATE 5/31/2023	TIME 1505	2. RECEIVED BY		DATE 5/31/23	TIME 1505
3. RELINQUISHED BY		DATE	TIME	3. RECEIVED BY		DATE	TIME

COMMENTS PO# 1179322 PROJECT# 67081156

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 4/02R FORM NO. TtNUS-001

215120596

6/14/2023

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-10001 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Florida		Job #: 670-20576-1
Address: 4145 Greenbriar Dr	Due Date Requested: 6/9/2023			
City: Stafford	TAT Requested (days):			
State, Zip: TX, 77477	PO #:			
Phone: 281-240-4200(Tel)	WO #:			
Email:	Project #: 67001156			
Project Name: NASA KSC LC34 HCS	SSOW#:			
Site:				

Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify), Other

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-RW21D-20230530 (670-20576-1)	5/30/23	10:00 Eastern		Water			X	3	use caution site high in TCE.
LC34-GAC-20230531 (670-20576-2)	5/31/23	08:00 Eastern		Water			X	3	use caution site high in TCE.
LC34-AS1-20230531 (670-20576-3)	5/31/23	08:10 Eastern		Water			X	3	use caution site high in TCE.
LC34-AS2-20230531 (670-20576-4)	5/31/23	08:20 Eastern		Water			X	3	use caution site high in TCE.
LC34-RW20C-20230531 (670-20576-5)	5/31/23	08:30 Eastern		Water			X	3	use caution site high in TCE.
LC34-RW19C-20230531 (670-20576-6)	5/31/23	08:40 Eastern		Water			X	3	use caution site high in TCE.
LC34-RW18C-20230531 (670-20576-7)	5/31/23	08:50 Eastern		Water			X	3	use caution site high in TCE.
LC34-RW17C-20230531 (670-20576-8)	5/31/23	09:00 Eastern		Water			X	3	use caution site high in TCE.

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		6/1 1210		FedEX		
2	FedEX				6/2/2023 9:26	EX
3						

Custody Seals Intact: | Custody Seal No.

Cooler Temperature(s) °C and Other Remarks: Temp: C/F.-0.4 1.8 IR ID:HOU-343

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-20576-1

Login Number: 20576

List Number: 1

Creator: Wehr, Alex C

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-20576-1

Login Number: 20576
List Number: 2
Creator: Pena, Jesiel

List Source: Eurofins Houston
List Creation: 06/03/23 08:31 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 6/16/2023 10:26:14 AM

JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-21193-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

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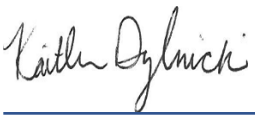

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-21193-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J1	Estimated value; value may not be accurate. Surrogate recovery outside of criteria.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
L	Off-scale high. Actual value is known to be greater than the value given.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-21193-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-21193-1

Receipt
The samples were received on 6/9/2023 4:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

GC/MS VOA
Method 8260D: Surrogate recovery for the following sample was outside the upper control limit: LC34-IW0165-110.0-20230609 (670-21193-1). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method 8260D: The surrogate recovery for the blank associated with analytical batch 680-783473 was outside the upper control limits.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-783473.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-783473 recovered above the upper control limit for Bromomethane, Chloroethane, Chloromethane, Trichlorofluoromethane and Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 680-783473 recovered outside control limits for the following analytes: Vinyl chloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: Surrogate recovery for the following sample was outside control limits: LC34-IW0162-110.0-20230609 (670-21193-3). Evidence of matrix interferences is not obvious.

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 680-783726 was outside the method criteria for the following analyte(s): 2-Hexanone, Chloroethane, Dichlorodifluoromethane, 2-Butanone (MEK), 4-Methyl-2-pentanone and Vinyl chloride. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The laboratory control sample (LCS) for analytical batch 680-783726 recovered outside control limits for the following analytes: 2-Hexanone, Acetone, Carbon disulfide, 2-Butanone (MEK), 4-Methyl-2-pentanone and Methyl acetate. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The method blank for analytical batch 680-783726 contained Carbon disulfide above the method detection limit (MDL). The detection was less than half of the reporting limit (RL)) OR practical quantitation limit (PQL).; therefore, the data has been qualified and reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0044D2-110.0-20230609 (670-21193-2). Elevated reporting limits (RLs) are provided.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 680-783726 were outside control limits. Sample matrix interference is suspected.

Method 8260D: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 680-783726 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Acetone in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-21193-1

Client Sample ID: LC34-IW0165-110.0-20230609 — Lab Sample ID: 670-21193-1

No Detections.

Client Sample ID: LC34-IW0044D2-110.0-20230609 — Lab Sample ID: 670-21193-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1900		200	50	ug/L	200		8260D	Total/NA
Trichloroethene	5300		200	40	ug/L	200		8260D	Total/NA
Vinyl chloride	110	I	200	80	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-IW0162-110.0-20230609 — Lab Sample ID: 670-21193-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	20		1.0	0.25	ug/L	1		8260D	Total/NA
Trichloroethene	13		1.0	0.20	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-21193-1

Client Sample ID: LC34-IW0165-110.0-20230609
Date Collected: 06/09/23 09:15
Date Received: 06/09/23 16:00

Lab Sample ID: 670-21193-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			06/14/23 13:49	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			06/14/23 13:49	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			06/14/23 13:49	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			06/14/23 13:49	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			06/14/23 13:49	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			06/14/23 13:49	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/14/23 13:49	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			06/14/23 13:49	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			06/14/23 13:49	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/14/23 13:49	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/14/23 13:49	1
2-Hexanone	3.2	U	10	3.2	ug/L			06/14/23 13:49	1
Acetone	3.7	U	10	3.7	ug/L			06/14/23 13:49	1
Benzene	0.27	U	1.0	0.27	ug/L			06/14/23 13:49	1
Bromoform	0.59	U	1.0	0.59	ug/L			06/14/23 13:49	1
Bromomethane	3.7	U	5.0	3.7	ug/L			06/14/23 13:49	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			06/14/23 13:49	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			06/14/23 13:49	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			06/14/23 13:49	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			06/14/23 13:49	1
Chloroethane	4.6	U	5.0	4.6	ug/L			06/14/23 13:49	1
Chloroform	0.27	U	1.0	0.27	ug/L			06/14/23 13:49	1
Chloromethane	0.54	U	1.0	0.54	ug/L			06/14/23 13:49	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			06/14/23 13:49	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			06/14/23 13:49	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			06/14/23 13:49	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			06/14/23 13:49	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			06/14/23 13:49	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			06/14/23 13:49	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			06/14/23 13:49	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			06/14/23 13:49	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			06/14/23 13:49	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			06/14/23 13:49	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			06/14/23 13:49	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			06/14/23 13:49	1
o-Xylene	0.26	U	1.0	0.26	ug/L			06/14/23 13:49	1
Styrene	0.27	U	1.0	0.27	ug/L			06/14/23 13:49	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			06/14/23 13:49	1
Toluene	0.25	U	1.0	0.25	ug/L			06/14/23 13:49	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			06/14/23 13:49	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			06/14/23 13:49	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			06/14/23 13:49	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			06/14/23 13:49	1
Vinyl chloride	0.40	U J3	1.0	0.40	ug/L			06/14/23 13:49	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			06/14/23 13:49	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			06/14/23 13:49	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			06/14/23 13:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			06/14/23 13:49	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			06/14/23 13:49	1

Client Sample ID: LC34-IW0165-110.0-20230609
Lab Sample ID: 670-21193-1

Date Collected: 06/09/23 09:15
Matrix: Water
Date Received: 06/09/23 16:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*128*		*70 - 130*		*06/14/23 13:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*133*	*J1*	*60 - 124*		*06/14/23 13:49*	*1*
Dibromofluoromethane (Surr)	*139*	*J1*	*70 - 130*		*06/14/23 13:49*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*06/14/23 13:49*	*1*

Client Sample ID: LC34-IW0044D2-110.0-20230609
Lab Sample ID: 670-21193-2

Date Collected: 06/09/23 09:45
Matrix: Water
Date Received: 06/09/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	42	U	200	42	ug/L			06/15/23 15:58	200
1,1,2,2-Tetrachloroethane	80	U	200	80	ug/L			06/15/23 15:58	200
1,1,2-Trichloroethane	64	U	200	64	ug/L			06/15/23 15:58	200
1,1-Dichloroethane	66	U	200	66	ug/L			06/15/23 15:58	200
1,1-Dichloroethene	66	U	200	66	ug/L			06/15/23 15:58	200
1,2-Dibromo-3-Chloropropane	360	U	1000	360	ug/L			06/15/23 15:58	200
1,2-Dichlorobenzene	62	U	200	62	ug/L			06/15/23 15:58	200
1,2-Dichloroethane	50	U	200	50	ug/L			06/15/23 15:58	200
1,2-Dichloropropane	44	U	200	44	ug/L			06/15/23 15:58	200
1,3-Dichlorobenzene	62	U	200	62	ug/L			06/15/23 15:58	200
1,4-Dichlorobenzene	62	U	200	62	ug/L			06/15/23 15:58	200
2-Hexanone	640	U J3	2000	640	ug/L			06/15/23 15:58	200
Acetone	740	U J3	2000	740	ug/L			06/15/23 15:58	200
Benzene	54	U	200	54	ug/L			06/15/23 15:58	200
Bromoform	120	U	200	120	ug/L			06/15/23 15:58	200
Bromomethane	740	U	1000	740	ug/L			06/15/23 15:58	200
Carbon disulfide	86	U J3	400	86	ug/L			06/15/23 15:58	200
Carbon tetrachloride	60	U	200	60	ug/L			06/15/23 15:58	200
Chlorobenzene	30	U	200	30	ug/L			06/15/23 15:58	200
Dibromochloromethane	78	U	200	78	ug/L			06/15/23 15:58	200
Chloroethane	920	U	1000	920	ug/L			06/15/23 15:58	200
Chloroform	54	U	200	54	ug/L			06/15/23 15:58	200
Chloromethane	110	U	200	110	ug/L			06/15/23 15:58	200
cis-1,2-Dichloroethene	**1900**		200	50	ug/L			06/15/23 15:58	200
cis-1,3-Dichloropropene	52	U	200	52	ug/L			06/15/23 15:58	200
Bromodichloromethane	50	U	200	50	ug/L			06/15/23 15:58	200
Dichlorodifluoromethane	72	U	200	72	ug/L			06/15/23 15:58	200
Ethylbenzene	40	U	200	40	ug/L			06/15/23 15:58	200
1,2-Dibromoethane (EDB)	66	U	200	66	ug/L			06/15/23 15:58	200
Isopropylbenzene	52	U	200	52	ug/L			06/15/23 15:58	200
Methyl tert-butyl ether	160	U	1000	160	ug/L			06/15/23 15:58	200
Methylene Chloride	640	U	1000	640	ug/L			06/15/23 15:58	200
2-Butanone (MEK)	1300	U J3	2000	1300	ug/L			06/15/23 15:58	200
4-Methyl-2-pentanone	540	U J3	2000	540	ug/L			06/15/23 15:58	200
m,p-Xylenes	98	U	200	98	ug/L			06/15/23 15:58	200
o-Xylene	52	U	200	52	ug/L			06/15/23 15:58	200
Styrene	54	U	200	54	ug/L			06/15/23 15:58	200
Tetrachloroethene	70	U	100	70	ug/L			06/15/23 15:58	200
Toluene	50	U	200	50	ug/L			06/15/23 15:58	200

Client Sample ID: LC34-IW0044D2-110.0-20230609 — **Lab Sample ID: 670-21193-2**
Date Collected: 06/09/23 09:45 — **Matrix: Water**
Date Received: 06/09/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	68	U	200	68	ug/L			06/15/23 15:58	200
trans-1,3-Dichloropropene	46	U	200	46	ug/L			06/15/23 15:58	200
Trichloroethene	**5300**		200	40	ug/L			06/15/23 15:58	200
Trichlorofluoromethane	66	U	200	66	ug/L			06/15/23 15:58	200
Vinyl chloride	**110**	**I**	200	80	ug/L			06/15/23 15:58	200
Xylenes, Total	46	U	200	46	ug/L			06/15/23 15:58	200
Methyl acetate	640	U J3	1000	640	ug/L			06/15/23 15:58	200
Cyclohexane	56	U	200	56	ug/L			06/15/23 15:58	200
1,1,2-Trichloro-1,2,2-trifluoroethane	46	U	200	46	ug/L			06/15/23 15:58	200
1,2,4-Trichlorobenzene	110	U	1000	110	ug/L			06/15/23 15:58	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*115*		*70 - 130*		*06/15/23 15:58*	*200*
1,2-Dichloroethane-d4 (Surr)	*117*		*60 - 124*		*06/15/23 15:58*	*200*
Dibromofluoromethane (Surr)	*118*		*70 - 130*		*06/15/23 15:58*	*200*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*		*06/15/23 15:58*	*200*

Client Sample ID: LC34-IW0162-110.0-20230609 — **Lab Sample ID: 670-21193-3**
Date Collected: 06/09/23 10:20 — **Matrix: Water**
Date Received: 06/09/23 16:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			06/15/23 14:31	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			06/15/23 14:31	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			06/15/23 14:31	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			06/15/23 14:31	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			06/15/23 14:31	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			06/15/23 14:31	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/15/23 14:31	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			06/15/23 14:31	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			06/15/23 14:31	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/15/23 14:31	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/15/23 14:31	1
2-Hexanone	3.2	U J3	10	3.2	ug/L			06/15/23 14:31	1
Acetone	3.7	U J3	10	3.7	ug/L			06/15/23 14:31	1
Benzene	0.27	U	1.0	0.27	ug/L			06/15/23 14:31	1
Bromoform	0.59	U	1.0	0.59	ug/L			06/15/23 14:31	1
Bromomethane	3.7	U	5.0	3.7	ug/L			06/15/23 14:31	1
Carbon disulfide	0.43	U J3	2.0	0.43	ug/L			06/15/23 14:31	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			06/15/23 14:31	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			06/15/23 14:31	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			06/15/23 14:31	1
Chloroethane	4.6	U	5.0	4.6	ug/L			06/15/23 14:31	1
Chloroform	0.27	U	1.0	0.27	ug/L			06/15/23 14:31	1
Chloromethane	0.54	U	1.0	0.54	ug/L			06/15/23 14:31	1
cis-1,2-Dichloroethene	**20**		1.0	0.25	ug/L			06/14/23 14:08	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			06/15/23 14:31	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			06/15/23 14:31	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			06/15/23 14:31	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-21193-1

Client Sample ID: LC34-IW0162-110.0-20230609
Date Collected: 06/09/23 10:20
Date Received: 06/09/23 16:00

Lab Sample ID: 670-21193-3
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.20	U	1.0	0.20	ug/L			06/15/23 14:31	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			06/15/23 14:31	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			06/15/23 14:31	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			06/15/23 14:31	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			06/15/23 14:31	1
2-Butanone (MEK)	6.4	U J3	10	6.4	ug/L			06/15/23 14:31	1
4-Methyl-2-pentanone	2.7	U J3	10	2.7	ug/L			06/15/23 14:31	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			06/15/23 14:31	1
o-Xylene	0.26	U	1.0	0.26	ug/L			06/15/23 14:31	1
Styrene	0.27	U	1.0	0.27	ug/L			06/15/23 14:31	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			06/15/23 14:31	1
Toluene	0.25	U	1.0	0.25	ug/L			06/15/23 14:31	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			06/15/23 14:31	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			06/15/23 14:31	1
Trichloroethene	**13**		1.0	0.20	ug/L			06/14/23 14:08	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			06/15/23 14:31	1
Vinyl chloride	0.40	U J3	1.0	0.40	ug/L			06/14/23 14:08	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			06/15/23 14:31	1
Methyl acetate	3.2	U J3	5.0	3.2	ug/L			06/15/23 14:31	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			06/15/23 14:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			06/15/23 14:31	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			06/15/23 14:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*113*		*70 - 130*		*06/15/23 14:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*134*	*J1*	*60 - 124*		*06/15/23 14:31*	*1*
Dibromofluoromethane (Surr)	*122*		*70 - 130*		*06/15/23 14:31*	*1*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*06/15/23 14:31*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-21193-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		TOL	DCA	DBFM	BFB
Lab Sample ID	Client Sample ID	(70-130)	(60-124)	(70-130)	(70-130)
670-21193-1	LC34-IW0165-110.0-20230609	128	133 J1	139 J1	99
670-21193-2	LC34-IW0044D2-110.0-20230609	115	117	118	90
670-21193-3	LC34-IW0162-110.0-20230609	113	134 J1	122	93
680-236090-M-3 MS	Matrix Spike	105	105	106	93
680-236090-M-3 MSD	Matrix Spike Duplicate	106	105	111	101
LCS 680-783473/5	Lab Control Sample	111	114	111	103
LCS 680-783726/5	Lab Control Sample	103	104	103	93
LCSD 680-783473/6	Lab Control Sample Dup	113	111	113	106
MB 680-783473/9	Method Blank	125	131 J1	130	97
MB 680-783726/7	Method Blank	110	116	115	95

Surrogate Legend

TOL = Toluene-d8 (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 680-783473/9
Matrix: Water
Analysis Batch: 783473

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			06/14/23 13:18	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			06/14/23 13:18	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			06/14/23 13:18	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			06/14/23 13:18	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			06/14/23 13:18	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			06/14/23 13:18	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/14/23 13:18	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			06/14/23 13:18	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			06/14/23 13:18	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/14/23 13:18	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/14/23 13:18	1
2-Hexanone	3.2	U	10	3.2	ug/L			06/14/23 13:18	1
Acetone	3.7	U	10	3.7	ug/L			06/14/23 13:18	1
Benzene	0.27	U	1.0	0.27	ug/L			06/14/23 13:18	1
Bromoform	0.59	U	1.0	0.59	ug/L			06/14/23 13:18	1
Bromomethane	3.7	U	5.0	3.7	ug/L			06/14/23 13:18	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			06/14/23 13:18	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			06/14/23 13:18	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			06/14/23 13:18	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			06/14/23 13:18	1
Chloroethane	4.6	U	5.0	4.6	ug/L			06/14/23 13:18	1
Chloroform	0.27	U	1.0	0.27	ug/L			06/14/23 13:18	1
Chloromethane	0.54	U	1.0	0.54	ug/L			06/14/23 13:18	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			06/14/23 13:18	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			06/14/23 13:18	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			06/14/23 13:18	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			06/14/23 13:18	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			06/14/23 13:18	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			06/14/23 13:18	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			06/14/23 13:18	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			06/14/23 13:18	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			06/14/23 13:18	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			06/14/23 13:18	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			06/14/23 13:18	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			06/14/23 13:18	1
o-Xylene	0.26	U	1.0	0.26	ug/L			06/14/23 13:18	1
Styrene	0.27	U	1.0	0.27	ug/L			06/14/23 13:18	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			06/14/23 13:18	1
Toluene	0.25	U	1.0	0.25	ug/L			06/14/23 13:18	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			06/14/23 13:18	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			06/14/23 13:18	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			06/14/23 13:18	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			06/14/23 13:18	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			06/14/23 13:18	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			06/14/23 13:18	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			06/14/23 13:18	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			06/14/23 13:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			06/14/23 13:18	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-783473/9
Matrix: Water
Analysis Batch: 783473

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			06/14/23 13:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*125*		*70 - 130*		*06/14/23 13:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*131*	*J1*	*60 - 124*		*06/14/23 13:18*	*1*
Dibromofluoromethane (Surr)	*130*		*70 - 130*		*06/14/23 13:18*	*1*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*06/14/23 13:18*	*1*

Lab Sample ID: LCS 680-783473/5
Matrix: Water
Analysis Batch: 783473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	49.9		ug/L		100	70 - 130
1,1,2,2-Tetrachloroethane	50.0	47.6		ug/L		95	70 - 130
1,1,2-Trichloroethane	50.0	53.0		ug/L		106	70 - 130
1,1-Dichloroethane	50.0	48.9		ug/L		98	70 - 130
1,1-Dichloroethene	50.0	51.7		ug/L		103	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	49.8		ug/L		100	70 - 130
1,2-Dichlorobenzene	50.0	52.8		ug/L		106	70 - 130
1,2-Dichloroethane	50.0	53.3		ug/L		107	70 - 130
1,2-Dichloropropane	50.0	52.7		ug/L		105	70 - 130
1,3-Dichlorobenzene	50.0	53.2		ug/L		106	70 - 130
1,4-Dichlorobenzene	50.0	52.5		ug/L		105	70 - 130
2-Hexanone	250	262		ug/L		105	70 - 130
Acetone	250	221		ug/L		88	67 - 120
Benzene	50.0	51.5		ug/L		103	70 - 130
Bromoform	50.0	49.5		ug/L		99	69 - 129
Bromomethane	50.0	66.0		ug/L		132	28 - 192
Carbon disulfide	50.0	49.4		ug/L		99	70 - 130
Carbon tetrachloride	50.0	48.4		ug/L		97	70 - 130
Chlorobenzene	50.0	54.8		ug/L		110	70 - 130
Dibromochloromethane	50.0	51.1		ug/L		102	70 - 130
Chloroethane	50.0	76.6		ug/L		153	31 - 213
Chloroform	50.0	49.3		ug/L		99	70 - 130
Chloromethane	50.0	63.0		ug/L		126	59 - 127
cis-1,2-Dichloroethene	50.0	49.5		ug/L		99	70 - 130
cis-1,3-Dichloropropene	50.0	55.7		ug/L		111	70 - 130
Bromodichloromethane	50.0	52.6		ug/L		105	70 - 130
Dichlorodifluoromethane	50.0	50.3		ug/L		101	70 - 130
Ethylbenzene	50.0	45.5		ug/L		91	70 - 130
1,2-Dibromoethane (EDB)	50.0	51.8		ug/L		104	70 - 130
Isopropylbenzene	50.0	58.7		ug/L		117	70 - 130
Methyl tert-butyl ether	50.0	49.4		ug/L		99	70 - 130
Methylene Chloride	50.0	48.2		ug/L		96	70 - 130
2-Butanone (MEK)	250	242		ug/L		97	69 - 120
4-Methyl-2-pentanone	250	266		ug/L		106	68 - 120
m,p-Xylenes	50.0	55.0		ug/L		110	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-783473/5
Matrix: Water
Analysis Batch: 783473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			50.0	56.0		ug/L		112	70 - 130		
Styrene			50.0	57.9		ug/L		116	70 - 130		
Tetrachloroethene			50.0	46.6		ug/L		93	70 - 130		
Toluene			50.0	51.0		ug/L		102	70 - 130		
trans-1,2-Dichloroethene			50.0	50.2		ug/L		100	70 - 130		
trans-1,3-Dichloropropene			50.0	50.4		ug/L		101	70 - 130		
Trichloroethene			50.0	52.4		ug/L		105	70 - 130		
Trichlorofluoromethane			50.0	57.6		ug/L		115	63 - 142		
Vinyl chloride			50.0	65.9	J3	ug/L		132	66 - 129		
Xylenes, Total			100	111		ug/L		111	70 - 130		
Methyl acetate			100	98.0		ug/L		98	67 - 120		
Cyclohexane			50.0	41.4		ug/L		83	23 - 175		
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	47.8		ug/L		96	63 - 141		
1,2,4-Trichlorobenzene			50.0	51.7		ug/L		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*111*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*114*		*60 - 124*
Dibromofluoromethane (Surr)	*111*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: LCSD 680-783473/6
Matrix: Water
Analysis Batch: 783473

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			50.0	50.2		ug/L		100	70 - 130	1	30
1,1,2,2-Tetrachloroethane			50.0	48.2		ug/L		96	70 - 130	1	30
1,1,2-Trichloroethane			50.0	52.0		ug/L		104	70 - 130	2	30
1,1-Dichloroethane			50.0	48.3		ug/L		97	70 - 130	1	30
1,1-Dichloroethene			50.0	51.1		ug/L		102	70 - 130	1	20
1,2-Dibromo-3-Chloropropane			50.0	45.6		ug/L		91	70 - 130	9	30
1,2-Dichlorobenzene			50.0	53.5		ug/L		107	70 - 130	1	30
1,2-Dichloroethane			50.0	53.0		ug/L		106	70 - 130	1	50
1,2-Dichloropropane			50.0	52.1		ug/L		104	70 - 130	1	20
1,3-Dichlorobenzene			50.0	55.0		ug/L		110	70 - 130	3	30
1,4-Dichlorobenzene			50.0	53.0		ug/L		106	70 - 130	1	30
2-Hexanone			250	258		ug/L		103	70 - 130	2	20
Acetone			250	218		ug/L		87	67 - 120	1	30
Benzene			50.0	51.4		ug/L		103	70 - 130	0	30
Bromoform			50.0	48.6		ug/L		97	69 - 129	2	30
Bromomethane			50.0	62.6		ug/L		125	28 - 192	5	30
Carbon disulfide			50.0	51.3		ug/L		103	70 - 130	4	30
Carbon tetrachloride			50.0	49.8		ug/L		100	70 - 130	3	30
Chlorobenzene			50.0	55.0		ug/L		110	70 - 130	0	30
Dibromochloromethane			50.0	53.7		ug/L		107	70 - 130	5	30
Chloroethane			50.0	86.0		ug/L		172	31 - 213	12	30
Chloroform			50.0	50.3		ug/L		101	70 - 130	2	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-783473/6
Matrix: Water
Analysis Batch: 783473

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloromethane	50.0	61.5		ug/L		123	59 - 127	2	30
cis-1,2-Dichloroethene	50.0	51.6		ug/L		103	70 - 130	4	30
cis-1,3-Dichloropropene	50.0	55.3		ug/L		111	70 - 130	1	20
Bromodichloromethane	50.0	53.2		ug/L		106	70 - 130	1	30
Dichlorodifluoromethane	50.0	52.9		ug/L		106	70 - 130	5	40
Ethylbenzene	50.0	45.8		ug/L		92	70 - 130	1	20
1,2-Dibromoethane (EDB)	50.0	51.4		ug/L		103	70 - 130	1	30
Isopropylbenzene	50.0	59.5		ug/L		119	70 - 130	1	30
Methyl tert-butyl ether	50.0	49.2		ug/L		98	70 - 130	1	30
Methylene Chloride	50.0	47.8		ug/L		96	70 - 130	1	30
2-Butanone (MEK)	250	239		ug/L		95	69 - 120	1	30
4-Methyl-2-pentanone	250	263		ug/L		105	68 - 120	1	30
m,p-Xylenes	50.0	56.6		ug/L		113	70 - 130	3	30
o-Xylene	50.0	57.0		ug/L		114	70 - 130	2	30
Styrene	50.0	57.7		ug/L		115	70 - 130	0	30
Tetrachloroethene	50.0	47.4		ug/L		95	70 - 130	2	30
Toluene	50.0	51.5		ug/L		103	70 - 130	1	30
trans-1,2-Dichloroethene	50.0	52.0		ug/L		104	70 - 130	4	30
trans-1,3-Dichloropropene	50.0	50.9		ug/L		102	70 - 130	1	30
Trichloroethene	50.0	53.9		ug/L		108	70 - 130	3	30
Trichlorofluoromethane	50.0	62.6		ug/L		125	63 - 142	8	30
Vinyl chloride	50.0	67.1	J3	ug/L		134	66 - 129	2	30
Xylenes, Total	100	114		ug/L		114	70 - 130	2	30
Methyl acetate	100	102		ug/L		102	67 - 120	4	30
Cyclohexane	50.0	43.9		ug/L		88	23 - 175	6	30
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	52.6		ug/L		105	63 - 141	10	30
1,2,4-Trichlorobenzene	50.0	53.5		ug/L		107	70 - 130	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*113*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*111*		*60 - 124*
Dibromofluoromethane (Surr)	*113*		*70 - 130*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: MB 680-783726/7
Matrix: Water
Analysis Batch: 783726

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			06/15/23 13:26	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			06/15/23 13:26	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			06/15/23 13:26	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			06/15/23 13:26	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			06/15/23 13:26	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			06/15/23 13:26	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/15/23 13:26	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			06/15/23 13:26	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			06/15/23 13:26	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-783726/7
Matrix: Water
Analysis Batch: 783726

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/15/23 13:26	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/15/23 13:26	1
2-Hexanone	3.2	U	10	3.2	ug/L			06/15/23 13:26	1
Acetone	3.7	U	10	3.7	ug/L			06/15/23 13:26	1
Benzene	0.27	U	1.0	0.27	ug/L			06/15/23 13:26	1
Bromoform	0.59	U	1.0	0.59	ug/L			06/15/23 13:26	1
Bromomethane	3.7	U	5.0	3.7	ug/L			06/15/23 13:26	1
Carbon disulfide	0.742	I	2.0	0.43	ug/L			06/15/23 13:26	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			06/15/23 13:26	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			06/15/23 13:26	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			06/15/23 13:26	1
Chloroethane	4.6	U	5.0	4.6	ug/L			06/15/23 13:26	1
Chloroform	0.27	U	1.0	0.27	ug/L			06/15/23 13:26	1
Chloromethane	0.54	U	1.0	0.54	ug/L			06/15/23 13:26	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			06/15/23 13:26	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			06/15/23 13:26	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			06/15/23 13:26	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			06/15/23 13:26	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			06/15/23 13:26	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			06/15/23 13:26	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			06/15/23 13:26	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			06/15/23 13:26	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			06/15/23 13:26	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			06/15/23 13:26	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			06/15/23 13:26	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			06/15/23 13:26	1
o-Xylene	0.26	U	1.0	0.26	ug/L			06/15/23 13:26	1
Styrene	0.27	U	1.0	0.27	ug/L			06/15/23 13:26	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			06/15/23 13:26	1
Toluene	0.25	U	1.0	0.25	ug/L			06/15/23 13:26	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			06/15/23 13:26	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			06/15/23 13:26	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			06/15/23 13:26	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			06/15/23 13:26	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			06/15/23 13:26	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			06/15/23 13:26	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			06/15/23 13:26	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			06/15/23 13:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			06/15/23 13:26	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			06/15/23 13:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*110*		*70 - 130*		*06/15/23 13:26*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*60 - 124*		*06/15/23 13:26*	*1*
Dibromofluoromethane (Surr)	*115*		*70 - 130*		*06/15/23 13:26*	*1*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*06/15/23 13:26*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-783726/5
Matrix: Water
Analysis Batch: 783726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	55.7		ug/L		111	70 - 130
1,1,2,2-Tetrachloroethane	50.0	55.4		ug/L		111	70 - 130
1,1,2-Trichloroethane	50.0	56.2		ug/L		112	70 - 130
1,1-Dichloroethane	50.0	56.0		ug/L		112	70 - 130
1,1-Dichloroethene	50.0	57.0		ug/L		114	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	44.8		ug/L		90	70 - 130
1,2-Dichlorobenzene	50.0	49.7		ug/L		99	70 - 130
1,2-Dichloroethane	50.0	51.2		ug/L		102	70 - 130
1,2-Dichloropropane	50.0	54.7		ug/L		109	70 - 130
1,3-Dichlorobenzene	50.0	50.2		ug/L		100	70 - 130
1,4-Dichlorobenzene	50.0	48.1		ug/L		96	70 - 130
2-Hexanone	250	378	J3	ug/L		151	70 - 130
Acetone	250	302	J3	ug/L		121	67 - 120
Benzene	50.0	56.2		ug/L		112	70 - 130
Bromoform	50.0	43.6		ug/L		87	69 - 129
Bromomethane	50.0	48.3		ug/L		97	28 - 192
Carbon disulfide	50.0	66.0	J3	ug/L		132	70 - 130
Carbon tetrachloride	50.0	52.9		ug/L		106	70 - 130
Chlorobenzene	50.0	45.8		ug/L		92	70 - 130
Dibromochloromethane	50.0	50.2		ug/L		100	70 - 130
Chloroethane	50.0	90.4		ug/L		181	31 - 213
Chloroform	50.0	54.7		ug/L		109	70 - 130
Chloromethane	50.0	55.7		ug/L		111	59 - 127
cis-1,2-Dichloroethene	50.0	54.5		ug/L		109	70 - 130
cis-1,3-Dichloropropene	50.0	52.4		ug/L		105	70 - 130
Bromodichloromethane	50.0	52.1		ug/L		104	70 - 130
Dichlorodifluoromethane	50.0	62.7		ug/L		125	70 - 130
Ethylbenzene	50.0	47.5		ug/L		95	70 - 130
1,2-Dibromoethane (EDB)	50.0	60.4		ug/L		121	70 - 130
Isopropylbenzene	50.0	52.2		ug/L		104	70 - 130
Methyl tert-butyl ether	50.0	54.6		ug/L		109	70 - 130
Methylene Chloride	50.0	55.1		ug/L		110	70 - 130
2-Butanone (MEK)	250	357	J3	ug/L		143	69 - 120
4-Methyl-2-pentanone	250	371	J3	ug/L		149	68 - 120
m,p-Xylenes	50.0	53.3		ug/L		107	70 - 130
o-Xylene	50.0	52.4		ug/L		105	70 - 130
Styrene	50.0	51.8		ug/L		104	70 - 130
Tetrachloroethene	50.0	49.5		ug/L		99	70 - 130
Toluene	50.0	55.1		ug/L		110	70 - 130
trans-1,2-Dichloroethene	50.0	55.3		ug/L		111	70 - 130
trans-1,3-Dichloropropene	50.0	56.0		ug/L		112	70 - 130
Trichloroethene	50.0	54.6		ug/L		109	70 - 130
Trichlorofluoromethane	50.0	59.2		ug/L		118	63 - 142
Vinyl chloride	50.0	41.3		ug/L		83	66 - 129
Xylenes, Total	100	106		ug/L		106	70 - 130
Methyl acetate	100	150	J3	ug/L		150	67 - 120
Cyclohexane	50.0	58.2		ug/L		116	23 - 175
1,1,2-Trichloro-1,2,2-trifluoroetha ne	50.0	56.5		ug/L		113	63 - 141

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-783726/5
Matrix: Water
Analysis Batch: 783726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,2,4-Trichlorobenzene			50.0	46.5		ug/L		93	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*104*		*60 - 124*
Dibromofluoromethane (Surr)	*103*		*70 - 130*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 680-236090-M-3 MS
Matrix: Water
Analysis Batch: 783726

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	1.1	U	250	274		ug/L		110	70 - 130
1,1,2,2-Tetrachloroethane	2.0	U	250	292		ug/L		117	70 - 130
1,1,2-Trichloroethane	1.6	U	250	284		ug/L		114	70 - 130
1,1-Dichloroethane	1.7	U	250	283		ug/L		113	70 - 130
1,1-Dichloroethene	1.7	U	250	282		ug/L		113	70 - 130
1,2-Dibromo-3-Chloropropane	9.0	U	250	275		ug/L		110	70 - 130
1,2-Dichlorobenzene	1.6	U	250	249		ug/L		100	70 - 130
1,2-Dichloroethane	1.3	U	250	266		ug/L		106	70 - 130
1,2-Dichloropropane	1.1	U	250	284		ug/L		114	70 - 130
1,3-Dichlorobenzene	1.6	U	250	250		ug/L		100	70 - 130
1,4-Dichlorobenzene	1.6	U	250	238		ug/L		95	70 - 130
2-Hexanone	16	U J3	1250	2200	J3	ug/L		176	70 - 130
Acetone	6300	L J3	1250	7160	L	ug/L		67	67 - 120
Benzene	2.7	I	250	287		ug/L		114	70 - 130
Bromoform	3.0	U	250	210		ug/L		84	69 - 129
Bromomethane	19	U	250	106		ug/L		42	28 - 192
Carbon disulfide	2.2	U J3	250	330	J3	ug/L		132	70 - 130
Carbon tetrachloride	1.5	U	250	254		ug/L		102	70 - 130
Chlorobenzene	0.75	U	250	225		ug/L		90	70 - 130
Dibromochloromethane	2.0	U	250	256		ug/L		102	70 - 130
Chloroethane	23	U	250	534		ug/L		213	31 - 213
Chloroform	1.4	U	250	277		ug/L		111	70 - 130
Chloromethane	2.7	U	250	250		ug/L		100	59 - 127
cis-1,2-Dichloroethene	1.3	U	250	281		ug/L		112	70 - 130
cis-1,3-Dichloropropene	1.3	U	250	262		ug/L		105	70 - 130
Bromodichloromethane	1.3	U	250	261		ug/L		104	70 - 130
Dichlorodifluoromethane	1.8	U	250	259		ug/L		104	70 - 130
Ethylbenzene	2.4	I	250	231		ug/L		91	70 - 130
1,2-Dibromoethane (EDB)	1.7	U	250	304		ug/L		122	70 - 130
Isopropylbenzene	2.1	I	250	253		ug/L		100	70 - 130
Methyl tert-butyl ether	4.1	U	250	280		ug/L		112	70 - 130
Methylene Chloride	16	U	250	278		ug/L		111	70 - 130
2-Butanone (MEK)	1000	J3	1250	2900	J3	ug/L		149	69 - 120
4-Methyl-2-pentanone	51	J3	1250	2170	J3	ug/L		170	68 - 120
m,p-Xylenes	9.7		250	262		ug/L		101	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 680-236090-M-3 MS
Matrix: Water
Analysis Batch: 783726

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	3.6	I	250	260		ug/L		102	70 - 130
Styrene	4.5	I	250	255		ug/L		100	70 - 130
Tetrachloroethene	1.8	U	250	240		ug/L		96	70 - 130
Toluene	29		250	305		ug/L		110	70 - 130
trans-1,2-Dichloroethene	1.7	U	250	282		ug/L		113	70 - 130
trans-1,3-Dichloropropene	1.2	U	250	286		ug/L		114	70 - 130
Trichloroethene	1.5	I	250	273		ug/L		108	70 - 130
Trichlorofluoromethane	1.7	U	250	270		ug/L		108	63 - 142
Vinyl chloride	2.0	U	250	173		ug/L		69	66 - 129
Xylenes, Total	13		500	522		ug/L		102	70 - 130
Methyl acetate	16	U J3	500	955	J3	ug/L		191	67 - 120
Cyclohexane	1.4	U	250	290		ug/L		116	23 - 175
1,1,2-Trichloro-1,2,2-trifluoroethane	1.2	U	250	275		ug/L		110	63 - 141
1,2,4-Trichlorobenzene	2.7	U	250	235		ug/L		94	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*105*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 124*
Dibromofluoromethane (Surr)	*106*		*70 - 130*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 680-236090-M-3 MSD
Matrix: Water
Analysis Batch: 783726

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	1.1	U	250	276		ug/L		110	70 - 130	0	30
1,1,2,2-Tetrachloroethane	2.0	U	250	303		ug/L		121	70 - 130	4	30
1,1,2-Trichloroethane	1.6	U	250	288		ug/L		115	70 - 130	2	30
1,1-Dichloroethane	1.7	U	250	281		ug/L		112	70 - 130	1	30
1,1-Dichloroethene	1.7	U	250	277		ug/L		111	70 - 130	2	20
1,2-Dibromo-3-Chloropropane	9.0	U	250	308		ug/L		123	70 - 130	11	30
1,2-Dichlorobenzene	1.6	U	250	270		ug/L		108	70 - 130	8	30
1,2-Dichloroethane	1.3	U	250	264		ug/L		106	70 - 130	1	50
1,2-Dichloropropane	1.1	U	250	288		ug/L		115	70 - 130	1	20
1,3-Dichlorobenzene	1.6	U	250	254		ug/L		102	70 - 130	2	30
1,4-Dichlorobenzene	1.6	U	250	242		ug/L		97	70 - 130	2	30
2-Hexanone	16	U J3	1250	2200	J3	ug/L		176	70 - 130	0	20
Acetone	6300	L J3	1250	7180	L	ug/L		69	67 - 120	0	30
Benzene	2.7	I	250	286		ug/L		113	70 - 130	0	30
Bromoform	3.0	U	250	216		ug/L		86	69 - 129	3	30
Bromomethane	19	U	250	131		ug/L		52	28 - 192	21	30
Carbon disulfide	2.2	U J3	250	324		ug/L		129	70 - 130	2	30
Carbon tetrachloride	1.5	U	250	252		ug/L		101	70 - 130	1	30
Chlorobenzene	0.75	U	250	231		ug/L		92	70 - 130	3	30
Dibromochloromethane	2.0	U	250	263		ug/L		105	70 - 130	3	30
Chloroethane	23	U	250	436		ug/L		175	31 - 213	20	30
Chloroform	1.4	U	250	278		ug/L		111	70 - 130	0	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 680-236090-M-3 MSD
Matrix: Water
Analysis Batch: 783726

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloromethane	2.7	U	250	242		ug/L		97	59 - 127	3	30
cis-1,2-Dichloroethene	1.3	U	250	279		ug/L		112	70 - 130	1	30
cis-1,3-Dichloropropene	1.3	U	250	270		ug/L		108	70 - 130	3	20
Bromodichloromethane	1.3	U	250	266		ug/L		106	70 - 130	2	30
Dichlorodifluoromethane	1.8	U	250	263		ug/L		105	70 - 130	1	40
Ethylbenzene	2.4	I	250	238		ug/L		94	70 - 130	3	20
1,2-Dibromoethane (EDB)	1.7	U	250	313		ug/L		125	70 - 130	3	30
Isopropylbenzene	2.1	I	250	262		ug/L		104	70 - 130	3	30
Methyl tert-butyl ether	4.1	U	250	279		ug/L		112	70 - 130	1	30
Methylene Chloride	16	U	250	278		ug/L		111	70 - 130	0	30
2-Butanone (MEK)	1000	J3	1250	2920	J3	ug/L		151	69 - 120	1	30
4-Methyl-2-pentanone	51	J3	1250	2130	J3	ug/L		167	68 - 120	2	30
m,p-Xylenes	9.7		250	276		ug/L		106	70 - 130	5	30
o-Xylene	3.6	I	250	272		ug/L		107	70 - 130	5	30
Styrene	4.5	I	250	263		ug/L		103	70 - 130	3	30
Tetrachloroethene	1.8	U	250	243		ug/L		97	70 - 130	1	30
Toluene	29		250	305		ug/L		110	70 - 130	0	30
trans-1,2-Dichloroethene	1.7	U	250	277		ug/L		111	70 - 130	2	30
trans-1,3-Dichloropropene	1.2	U	250	284		ug/L		114	70 - 130	1	30
Trichloroethene	1.5	I	250	283		ug/L		112	70 - 130	4	30
Trichlorofluoromethane	1.7	U	250	252		ug/L		101	63 - 142	7	30
Vinyl chloride	2.0	U	250	186		ug/L		74	66 - 129	7	30
Xylenes, Total	13		500	548		ug/L		107	70 - 130	5	30
Methyl acetate	16	U J3	500	947	J3	ug/L		189	67 - 120	1	30
Cyclohexane	1.4	U	250	282		ug/L		113	23 - 175	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	1.2	U	250	271		ug/L		109	63 - 141	1	30
1,2,4-Trichlorobenzene	2.7	U	250	255		ug/L		102	70 - 130	8	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*106*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 124*
Dibromofluoromethane (Surr)	*111*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-21193-1

GC/MS VOA

Analysis Batch: 783473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-21193-1	LC34-IW0165-110.0-20230609	Total/NA	Water	8260D	
670-21193-3	LC34-IW0162-110.0-20230609	Total/NA	Water	8260D	
MB 680-783473/9	Method Blank	Total/NA	Water	8260D	
LCS 680-783473/5	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-783473/6	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 783726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-21193-2	LC34-IW0044D2-110.0-20230609	Total/NA	Water	8260D	
670-21193-3	LC34-IW0162-110.0-20230609	Total/NA	Water	8260D	
MB 680-783726/7	Method Blank	Total/NA	Water	8260D	
LCS 680-783726/5	Lab Control Sample	Total/NA	Water	8260D	
680-236090-M-3 MS	Matrix Spike	Total/NA	Water	8260D	
680-236090-M-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-21193-1

Client Sample ID: LC34-IW0165-110.0-20230609

Lab Sample ID: 670-21193-1

Date Collected: 06/09/23 09:15
Matrix: Water
Date Received: 06/09/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	783473	P1C	EET SAV	06/14/23 13:49

Client Sample ID: LC34-IW0044D2-110.0-20230609

Lab Sample ID: 670-21193-2

Date Collected: 06/09/23 09:45
Matrix: Water
Date Received: 06/09/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	783726	Y1S	EET SAV	06/15/23 15:58

Client Sample ID: LC34-IW0162-110.0-20230609

Lab Sample ID: 670-21193-3

Date Collected: 06/09/23 10:20
Matrix: Water
Date Received: 06/09/23 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	783473	P1C	EET SAV	06/14/23 14:08
Total/NA	Analysis	8260D		1	783726	Y1S	EET SAV	06/15/23 14:31

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-21193-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-23
ANAB	Dept. of Defense ELAP	L2463	09-22-24
Arkansas DEQ	State	19-015-0	02-01-24
California	State	2939	06-30-23
Florida	NELAP	E87052	06-30-23
Georgia	State	E87052	06-30-23
Georgia (DW)	State	803	06-30-23
Guam	State	19-007R	04-17-24
Hawaii	State	<cert No.>	06-30-23
Illinois	NELAP	200022	11-30-23
Indiana	State	C-GA-02	06-30-23
Iowa	State	353	06-30-23
Kentucky (UST)	State	NA	06-30-23
Louisiana	NELAP	30690	06-30-23
Louisiana (All)	NELAP	30690	06-30-23
Louisiana (DW)	State	LA009	12-31-23
Maine	State	GA00006	09-25-24
Maryland	State	250	12-31-23
Massachusetts	State	M-GA006	06-30-23
Michigan	State	9925	06-30-23
Mississippi	State	<cert No.>	06-30-23
Nebraska	State	NE-OS-7-04	06-30-23
New Jersey	NELAP	GA769	06-30-23
New Mexico	State	GA00006	06-30-23
North Carolina (DW)	State	13701	07-31-23
North Carolina (WW/SW)	State	269	12-31-23
Pennsylvania	NELAP	68-00474	06-30-23
Puerto Rico	State	GA00006	01-01-24
South Carolina	State	98001	06-30-23
Tennessee	State	TN02961	06-30-23
Texas	NELAP	T1047004185-19-14	11-30-23
Texas	TCEQ Water Supply	T104704185	06-30-23
USDA	US Federal Programs	P330-18-00313	09-03-24
Virginia	NELAP	460161	06-14-24
Wyoming	State	8TMS-L	06-30-23

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-21193-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET SAV
5030B	Purge and Trap	SW846	EET SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-21193-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-21193-1	LC34-IW0165-110.0-20230609	Water	06/09/23 09:15	06/09/23 16:00
670-21193-2	LC34-IW0044D2-110.0-20230609	Water	06/09/23 09:45	06/09/23 16:00
670-21193-3	LC34-IW0162-110.0-20230609	Water	06/09/23 10:20	06/09/23 16:00

TETRA TECH

CHAIN OF CUSTODY

NO. 0012

Project No: 112G08985	Facility: NASA KSC, LC34	Project Manger: Mark Jonnet	Phone: 412-921-8622	Laboratory Name and Contact: Eurofins Kaitlin Dylnicki
Samplers: [signature] · Aaron Kupper Tt		Field Ops. Leader: Chuck Sorder	Phone: 321-591-7580	Address: 481 Newbury Port Ave
		~~Fed Ex Airbill Number:~~ An Lab Project # 6700156		City, State, Zip: Altamonte Springs Fl, 32701
		Container Type: Plastic (P) or Glass (G)	G	
		Preservative Used:	4°C/HCl	

Date Year: 2023	Time	Sample ID	Location ID	Top Depth (FT)	Bottom Depth (FT)	Matrix (GW, SO, SW, QC)	Grab, Composite (G, C)	Total No. of Containers	ANALYSIS	8260D-(mod) NASA LC34 Custom List								Comments
06/09	0915	LC34-IW0165-110.0-20230609	IW165	105	115	GW	G	3		✓								
06/09	0945	LC34-IW0044D2-110.0-20230609	IW44D2	105	115	GW	G	3		✓								
06/09	1020	LC34-IW0162-110.0-20230609	IW162	105	115	GW	G	3		✓								



670-21193 Chain of Custody

1. Relinquished By: [signature]	Date: 04-09-23	Time: 1500	1. Received By: [signature]	Date: 6/9/23	Time: 1500
2. Relinquished By:	Date:	Time:	2. Received By: [signature]	Date: 6/9/23	Time: 1600

Comments: Standard TAT

1.5/1.0°C

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-10482.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-21193-1
Address: 5102 LaRoche Avenue, ,	Due Date Requested: 6/15/2023			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030B (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code.						
LC34-IW0165-110 0-20230609 (670-21193-1)	6/9/23	09:15 Eastern		Water			X	3	
LC34-IW0044D2-110 0-20230609 (670-21193-2)	6/9/23	09.45 Eastern		Water			X	3	
LC34-IW0162-110 0-20230609 (670-21193-3)	6/9/23	10:20 Eastern		Water			X	3	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by:	Date/Time:	Company
1		6/12 1450			06-15-23	
2	Relinquished by	Date/Time:	Company	Received by:	Date/Time: 0755	Company
3	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 2.2 - 2.0

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-21193-1

Login Number: 21193

List Number: 1

Creator: Ferguson, Craig

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-21193-1

Login Number: 21193
List Number: 2
Creator: Harley, Tynisha

List Source: Eurofins Savannah
List Creation: 06/13/23 01:20 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 7/11/2023 3:56:16 PM

JOB DESCRIPTION

NASA KSC LC34 HCS

JOB NUMBER

670-21998-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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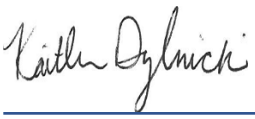
Authorization



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Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-21998-1
Project/Site: NASA KSC LC34 HCS

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J1	Estimated value; value may not be accurate. Surrogate recovery outside of criteria.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-21998-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-21998-1

Receipt
The samples were received on 6/23/2023 3:40 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.5°C

GC/MS VOA
Method 8260D: The closing continuing calibration verification (CCVC) associated with batch 680-786972 recovered above the upper control limit for 1,1-Dichloroethane, Bromomethane, Chloromethane and Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-RW1A-20230623 (670-21998-5), LC34-RW1B-20230623 (670-21998-6), LC34-RW2A-20230623 (670-21998-7), LC34-RW2B-20230623 (670-21998-8), LC34-RW3A-20230623 (670-21998-9), LC34-RW3B-20230623 (670-21998-10), LC34-RW9A-20230623 (670-21998-11), LC34-RW17C-20230623 (670-21998-12), LC34-RW18C-20230623 (670-21998-13), LC34-RW19C-20230623 (670-21998-14), LC34-RW20C-20230623 (670-21998-15) and LC34-RW21D-20230622 (670-21998-16). Elevated reporting limits (RLs) are provided.

Method 8260D: The following analyte(s) recovered outside control limits for the LCS associated with analytical batch 680-786972: Vinyl chloride. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-786972 recovered above the upper control limit for Vinyl chloride. Non-detections of the affected analytes are reported. Any detections are considered estimated.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-786972.

Method 8260D: Surrogate recovery for the following sample was outside the upper control limit: LC34-GAC-20230623 (670-21998-1). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-787170 recovered above the upper control limit for 1,1-Dichloroethene, Bromomethane and 1,1,2-Trichloro-1,2,2-trifluoroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) for analytical batch 680-787170 recovered outside control limits for the following analytes: 1,1-Dichloroethene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-787170.

Method 8260D: The initial calibration verification (ICV) analyzed in batch 680-786805 was outside method criteria for the following analyte(s): Bromomethane, Chloromethane, Dichlorodifluoromethane, Vinyl chloride and 1,1,2-Trichloro-1,2,2-trifluoroethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The method blank for analytical batch 680-787036 contained Carbon disulfide above the method detection limit (MDL). Associated samples were not re-analyzed because results were less than half of the reporting limit (RL) OR practical quantitation limit (PQL).

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-787036 recovered above the upper control limit for

Job ID: 670-21998-1 (Continued)

Laboratory: Eurofins Orlando (Continued)

1,1,2,2-Tetrachloroethane, 2-Hexanone, Bromomethane, 1,2-Dibromoethane (EDB), Isopropylbenzene, m,p-Xylenes, o-Xylene, Toluene and Xylenes, Total. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The laboratory control sample duplicate (LCSD) for analytical batch 680-787036 recovered outside control limits for the following analytes: 1,1,2,2-Tetrachloroethane, 1,2-Dibromoethane (EDB), Isopropylbenzene, 4-Methyl-2-pentanone, o-Xylene and Xylenes, Total. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-Influent-20230623 (670-21998-4). Elevated reporting limits (RLs) are provided.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-787036.

Method 8260D: The initial calibration verification (ICV) analyzed in batch 680-786713 was outside method criteria for the following analyte(s): Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-21998-1

Client Sample ID: LC34-GAC-20230623 — Lab Sample ID: 670-21998-1

No Detections.

Client Sample ID: LC34-AS1-20230623 — Lab Sample ID: 670-21998-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.72	I	1.0	0.25	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-AS2-20230623 — Lab Sample ID: 670-21998-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	75		1.0	0.25	ug/L	1		8260D	Total/NA
Trichloroethene	130		1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride	1.0		1.0	0.40	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-Influent-20230623 — Lab Sample ID: 670-21998-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	6700		200	50	ug/L	200		8260D	Total/NA
trans-1,2-Dichloroethene	120	I	200	68	ug/L	200		8260D	Total/NA
Trichloroethene	30000		200	40	ug/L	200		8260D	Total/NA
Vinyl chloride	610		200	80	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-RW1A-20230623 — Lab Sample ID: 670-21998-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	15000		250	63	ug/L	250		8260D	Total/NA
trans-1,2-Dichloroethene	180	I	250	85	ug/L	250		8260D	Total/NA
Trichloroethene	13000		250	50	ug/L	250		8260D	Total/NA
Vinyl chloride	1600	J3	250	100	ug/L	250		8260D	Total/NA

Client Sample ID: LC34-RW1B-20230623 — Lab Sample ID: 670-21998-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3400		200	50	ug/L	200		8260D	Total/NA
Trichloroethene	9700		200	40	ug/L	200		8260D	Total/NA
Vinyl chloride	260	J3	200	80	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-RW2A-20230623 — Lab Sample ID: 670-21998-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4700		200	50	ug/L	200		8260D	Total/NA
trans-1,2-Dichloroethene	140	I	200	68	ug/L	200		8260D	Total/NA
Trichloroethene	8300		200	40	ug/L	200		8260D	Total/NA
Vinyl chloride	730	J3	200	80	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-RW2B-20230623 — Lab Sample ID: 670-21998-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2100		250	63	ug/L	250		8260D	Total/NA
Trichloroethene	13000		250	50	ug/L	250		8260D	Total/NA
Vinyl chloride	530	J3	250	100	ug/L	250		8260D	Total/NA

Client Sample ID: LC34-RW3A-20230623 — Lab Sample ID: 670-21998-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2800		100	25	ug/L	100		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Orlando

Client Sample ID: LC34-RW3A-20230623 (Continued) — Lab Sample ID: 670-21998-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	67	I	100	34	ug/L	100		8260D	Total/NA
Trichloroethene	3900		100	20	ug/L	100		8260D	Total/NA
Vinyl chloride	550	J3	100	40	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-RW3B-20230623 — Lab Sample ID: 670-21998-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2600		200	50	ug/L	200		8260D	Total/NA
Trichloroethene	9600		200	40	ug/L	200		8260D	Total/NA
Vinyl chloride	400	J3	200	80	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-RW9A-20230623 — Lab Sample ID: 670-21998-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2500		50	13	ug/L	50		8260D	Total/NA
trans-1,2-Dichloroethene	58		50	17	ug/L	50		8260D	Total/NA
Trichloroethene	500		50	10	ug/L	50		8260D	Total/NA
Vinyl chloride	1900	J3	50	20	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-RW17C-20230623 — Lab Sample ID: 670-21998-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	6100		2000	500	ug/L	2000		8260D	Total/NA
Trichloroethene	160000		2000	400	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-RW18C-20230623 — Lab Sample ID: 670-21998-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	17000		2000	500	ug/L	2000		8260D	Total/NA
Trichloroethene	35000		2000	400	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-RW19C-20230623 — Lab Sample ID: 670-21998-14

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4500		2500	630	ug/L	2500		8260D	Total/NA
Trichloroethene	260000		2500	500	ug/L	2500		8260D	Total/NA

Client Sample ID: LC34-RW20C-20230623 — Lab Sample ID: 670-21998-15

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	850		200	50	ug/L	200		8260D	Total/NA
Trichloroethene	23000		200	40	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-RW21D-20230622 — Lab Sample ID: 670-21998-16

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2400		200	50	ug/L	200		8260D	Total/NA
Trichloroethene	31000		200	40	ug/L	200		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-21998-1

Client Sample ID: LC34-GAC-20230623
Date Collected: 06/23/23 08:00
Date Received: 06/23/23 15:40

Lab Sample ID: 670-21998-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			07/07/23 14:22	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			07/07/23 14:22	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			07/07/23 14:22	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			07/07/23 14:22	1
1,1-Dichloroethene	0.33	U J3	1.0	0.33	ug/L			07/07/23 14:22	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			07/07/23 14:22	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/07/23 14:22	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			07/07/23 14:22	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			07/07/23 14:22	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/07/23 14:22	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/07/23 14:22	1
2-Hexanone	3.2	U	10	3.2	ug/L			07/07/23 14:22	1
Acetone	3.7	U	10	3.7	ug/L			07/07/23 14:22	1
Benzene	0.27	U	1.0	0.27	ug/L			07/07/23 14:22	1
Bromoform	0.59	U	1.0	0.59	ug/L			07/07/23 14:22	1
Bromomethane	3.7	U	5.0	3.7	ug/L			07/07/23 14:22	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			07/07/23 14:22	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			07/07/23 14:22	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/07/23 14:22	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			07/07/23 14:22	1
Chloroethane	4.6	U	5.0	4.6	ug/L			07/07/23 14:22	1
Chloroform	0.27	U	1.0	0.27	ug/L			07/07/23 14:22	1
Chloromethane	0.54	U	1.0	0.54	ug/L			07/07/23 14:22	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			07/07/23 14:22	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			07/07/23 14:22	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			07/07/23 14:22	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			07/07/23 14:22	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			07/07/23 14:22	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			07/07/23 14:22	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			07/07/23 14:22	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			07/07/23 14:22	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			07/07/23 14:22	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			07/07/23 14:22	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			07/07/23 14:22	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			07/07/23 14:22	1
o-Xylene	0.26	U	1.0	0.26	ug/L			07/07/23 14:22	1
Styrene	0.27	U	1.0	0.27	ug/L			07/07/23 14:22	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			07/07/23 14:22	1
Toluene	0.25	U	1.0	0.25	ug/L			07/07/23 14:22	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			07/07/23 14:22	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			07/07/23 14:22	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			07/07/23 14:22	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			07/07/23 14:22	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			07/07/23 14:22	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			07/07/23 14:22	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			07/07/23 14:22	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			07/07/23 14:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			07/07/23 14:22	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			07/07/23 14:22	1

Client Sample ID: LC34-GAC-20230623
Lab Sample ID: 670-21998-1

Date Collected: 06/23/23 08:00
Matrix: Water
Date Received: 06/23/23 15:40

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*127*		*70 - 130*		*07/07/23 14:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*119*		*60 - 124*		*07/07/23 14:22*	*1*
Dibromofluoromethane (Surr)	*126*		*70 - 130*		*07/07/23 14:22*	*1*
4-Bromofluorobenzene (Surr)	*131*	*J1*	*70 - 130*		*07/07/23 14:22*	*1*

Client Sample ID: LC34-AS1-20230623
Lab Sample ID: 670-21998-2

Date Collected: 06/23/23 08:05
Matrix: Water
Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			07/06/23 17:58	1
1,1,2,2-Tetrachloroethane	0.40	U J3	1.0	0.40	ug/L			07/06/23 17:58	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			07/06/23 17:58	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			07/06/23 17:58	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			07/06/23 17:58	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			07/06/23 17:58	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/06/23 17:58	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			07/06/23 17:58	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			07/06/23 17:58	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/06/23 17:58	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/06/23 17:58	1
2-Hexanone	3.2	U	10	3.2	ug/L			07/06/23 17:58	1
Acetone	3.7	U	10	3.7	ug/L			07/06/23 17:58	1
Benzene	0.27	U	1.0	0.27	ug/L			07/06/23 17:58	1
Bromoform	0.59	U	1.0	0.59	ug/L			07/06/23 17:58	1
Bromomethane	3.7	U	5.0	3.7	ug/L			07/06/23 17:58	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			07/06/23 17:58	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			07/06/23 17:58	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/06/23 17:58	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			07/06/23 17:58	1
Chloroethane	4.6	U	5.0	4.6	ug/L			07/06/23 17:58	1
Chloroform	0.27	U	1.0	0.27	ug/L			07/06/23 17:58	1
Chloromethane	0.54	U	1.0	0.54	ug/L			07/06/23 17:58	1
cis-1,2-Dichloroethene	**0.72**	**I**	1.0	0.25	ug/L			07/06/23 17:58	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			07/06/23 17:58	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			07/06/23 17:58	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			07/06/23 17:58	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			07/06/23 17:58	1
1,2-Dibromoethane (EDB)	0.33	U J3	1.0	0.33	ug/L			07/06/23 17:58	1
Isopropylbenzene	0.26	U J3	1.0	0.26	ug/L			07/06/23 17:58	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			07/06/23 17:58	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			07/06/23 17:58	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			07/06/23 17:58	1
4-Methyl-2-pentanone	2.7	U J3	10	2.7	ug/L			07/06/23 17:58	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			07/06/23 17:58	1
o-Xylene	0.26	U J3	1.0	0.26	ug/L			07/06/23 17:58	1
Styrene	0.27	U	1.0	0.27	ug/L			07/06/23 17:58	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			07/06/23 17:58	1
Toluene	0.25	U	1.0	0.25	ug/L			07/06/23 17:58	1

Client Sample ID: LC34-AS1-20230623

Lab Sample ID: 670-21998-2

Date Collected: 06/23/23 08:05

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			07/06/23 17:58	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			07/06/23 17:58	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			07/06/23 17:58	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			07/06/23 17:58	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			07/06/23 17:58	1
Xylenes, Total	0.23	U J3	1.0	0.23	ug/L			07/06/23 17:58	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			07/06/23 17:58	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			07/06/23 17:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			07/06/23 17:58	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			07/06/23 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*110*		*70 - 130*		*07/06/23 17:58*	*1*
1,2-Dichloroethane-d4 (Surr)	*117*		*60 - 124*		*07/06/23 17:58*	*1*
Dibromofluoromethane (Surr)	*113*		*70 - 130*		*07/06/23 17:58*	*1*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*07/06/23 17:58*	*1*

Client Sample ID: LC34-AS2-20230623

Lab Sample ID: 670-21998-3

Date Collected: 06/23/23 08:10

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			07/07/23 14:42	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			07/07/23 14:42	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			07/07/23 14:42	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			07/07/23 14:42	1
1,1-Dichloroethene	0.33	U J3	1.0	0.33	ug/L			07/07/23 14:42	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			07/07/23 14:42	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/07/23 14:42	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			07/07/23 14:42	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			07/07/23 14:42	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/07/23 14:42	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/07/23 14:42	1
2-Hexanone	3.2	U	10	3.2	ug/L			07/07/23 14:42	1
Acetone	3.7	U	10	3.7	ug/L			07/07/23 14:42	1
Benzene	0.27	U	1.0	0.27	ug/L			07/07/23 14:42	1
Bromoform	0.59	U	1.0	0.59	ug/L			07/07/23 14:42	1
Bromomethane	3.7	U	5.0	3.7	ug/L			07/07/23 14:42	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			07/07/23 14:42	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			07/07/23 14:42	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/07/23 14:42	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			07/07/23 14:42	1
Chloroethane	4.6	U	5.0	4.6	ug/L			07/07/23 14:42	1
Chloroform	0.27	U	1.0	0.27	ug/L			07/07/23 14:42	1
Chloromethane	0.54	U	1.0	0.54	ug/L			07/07/23 14:42	1
cis-1,2-Dichloroethene	**75**		1.0	0.25	ug/L			07/07/23 14:42	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			07/07/23 14:42	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			07/07/23 14:42	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			07/07/23 14:42	1

Client Sample ID: LC34-AS2-20230623

Lab Sample ID: 670-21998-3

Date Collected: 06/23/23 08:10

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.20	U	1.0	0.20	ug/L			07/07/23 14:42	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			07/07/23 14:42	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			07/07/23 14:42	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			07/07/23 14:42	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			07/07/23 14:42	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			07/07/23 14:42	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			07/07/23 14:42	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			07/07/23 14:42	1
o-Xylene	0.26	U	1.0	0.26	ug/L			07/07/23 14:42	1
Styrene	0.27	U	1.0	0.27	ug/L			07/07/23 14:42	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			07/07/23 14:42	1
Toluene	0.25	U	1.0	0.25	ug/L			07/07/23 14:42	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			07/07/23 14:42	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			07/07/23 14:42	1
Trichloroethene	**130**		1.0	0.20	ug/L			07/07/23 14:42	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			07/07/23 14:42	1
Vinyl chloride	**1.0**		1.0	0.40	ug/L			07/07/23 14:42	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			07/07/23 14:42	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			07/07/23 14:42	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			07/07/23 14:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			07/07/23 14:42	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			07/07/23 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*125*		*70 - 130*		*07/07/23 14:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*118*		*60 - 124*		*07/07/23 14:42*	*1*
Dibromofluoromethane (Surr)	*126*		*70 - 130*		*07/07/23 14:42*	*1*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*		*07/07/23 14:42*	*1*

Client Sample ID: LC34-Influent-20230623

Lab Sample ID: 670-21998-4

Date Collected: 06/23/23 08:15

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	42	U	200	42	ug/L			07/06/23 22:21	200
1,1,2,2-Tetrachloroethane	80	U J3	200	80	ug/L			07/06/23 22:21	200
1,1,2-Trichloroethane	64	U	200	64	ug/L			07/06/23 22:21	200
1,1-Dichloroethane	66	U	200	66	ug/L			07/06/23 22:21	200
1,1-Dichloroethene	66	U	200	66	ug/L			07/06/23 22:21	200
1,2-Dibromo-3-Chloropropane	360	U	1000	360	ug/L			07/06/23 22:21	200
1,2-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 22:21	200
1,2-Dichloroethane	50	U	200	50	ug/L			07/06/23 22:21	200
1,2-Dichloropropane	44	U	200	44	ug/L			07/06/23 22:21	200
1,3-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 22:21	200
1,4-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 22:21	200
2-Hexanone	640	U	2000	640	ug/L			07/06/23 22:21	200
Acetone	740	U	2000	740	ug/L			07/06/23 22:21	200
Benzene	54	U	200	54	ug/L			07/06/23 22:21	200
Bromoform	120	U	200	120	ug/L			07/06/23 22:21	200

Client Sample ID: LC34-Influent-20230623
Lab Sample ID: 670-21998-4

Date Collected: 06/23/23 08:15
Matrix: Water
Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	740	U	1000	740	ug/L			07/06/23 22:21	200
Carbon disulfide	86	U	400	86	ug/L			07/06/23 22:21	200
Carbon tetrachloride	60	U	200	60	ug/L			07/06/23 22:21	200
Chlorobenzene	30	U	200	30	ug/L			07/06/23 22:21	200
Dibromochloromethane	78	U	200	78	ug/L			07/06/23 22:21	200
Chloroethane	920	U	1000	920	ug/L			07/06/23 22:21	200
Chloroform	54	U	200	54	ug/L			07/06/23 22:21	200
Chloromethane	110	U	200	110	ug/L			07/06/23 22:21	200
cis-1,2-Dichloroethene	**6700**		200	50	ug/L			07/06/23 22:21	200
cis-1,3-Dichloropropene	52	U	200	52	ug/L			07/06/23 22:21	200
Bromodichloromethane	50	U	200	50	ug/L			07/06/23 22:21	200
Dichlorodifluoromethane	72	U	200	72	ug/L			07/06/23 22:21	200
Ethylbenzene	40	U	200	40	ug/L			07/06/23 22:21	200
1,2-Dibromoethane (EDB)	66	U J3	200	66	ug/L			07/06/23 22:21	200
Isopropylbenzene	52	U J3	200	52	ug/L			07/06/23 22:21	200
Methyl tert-butyl ether	160	U	1000	160	ug/L			07/06/23 22:21	200
Methylene Chloride	640	U	1000	640	ug/L			07/06/23 22:21	200
2-Butanone (MEK)	1300	U	2000	1300	ug/L			07/06/23 22:21	200
4-Methyl-2-pentanone	540	U J3	2000	540	ug/L			07/06/23 22:21	200
m,p-Xylenes	98	U	200	98	ug/L			07/06/23 22:21	200
o-Xylene	52	U J3	200	52	ug/L			07/06/23 22:21	200
Styrene	54	U	200	54	ug/L			07/06/23 22:21	200
Tetrachloroethene	70	U	100	70	ug/L			07/06/23 22:21	200
Toluene	50	U	200	50	ug/L			07/06/23 22:21	200
trans-1,2-Dichloroethene	**120**	**I**	200	68	ug/L			07/06/23 22:21	200
trans-1,3-Dichloropropene	46	U	200	46	ug/L			07/06/23 22:21	200
Trichloroethene	**30000**		200	40	ug/L			07/06/23 22:21	200
Trichlorofluoromethane	66	U	200	66	ug/L			07/06/23 22:21	200
Vinyl chloride	**610**		200	80	ug/L			07/06/23 22:21	200
Xylenes, Total	46	U J3	200	46	ug/L			07/06/23 22:21	200
Methyl acetate	640	U	1000	640	ug/L			07/06/23 22:21	200
Cyclohexane	56	U	200	56	ug/L			07/06/23 22:21	200
1,1,2-Trichloro-1,2,2-trifluoroethane	46	U	200	46	ug/L			07/06/23 22:21	200
1,2,4-Trichlorobenzene	110	U	1000	110	ug/L			07/06/23 22:21	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*112*		*70 - 130*		*07/06/23 22:21*	*200*
1,2-Dichloroethane-d4 (Surr)	*119*		*60 - 124*		*07/06/23 22:21*	*200*
Dibromofluoromethane (Surr)	*113*		*70 - 130*		*07/06/23 22:21*	*200*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*07/06/23 22:21*	*200*

Client Sample ID: LC34-RW1A-20230623
Lab Sample ID: 670-21998-5

Date Collected: 06/23/23 08:20
Matrix: Water
Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	53	U	250	53	ug/L			07/06/23 18:35	250
1,1,2,2-Tetrachloroethane	100	U	250	100	ug/L			07/06/23 18:35	250
1,1,2-Trichloroethane	80	U	250	80	ug/L			07/06/23 18:35	250

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-21998-1

Client Sample ID: LC34-RW1A-20230623
Date Collected: 06/23/23 08:20
Date Received: 06/23/23 15:40

Lab Sample ID: 670-21998-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	83	U	250	83	ug/L			07/06/23 18:35	250
1,1-Dichloroethene	83	U	250	83	ug/L			07/06/23 18:35	250
1,2-Dibromo-3-Chloropropane	450	U	1300	450	ug/L			07/06/23 18:35	250
1,2-Dichlorobenzene	78	U	250	78	ug/L			07/06/23 18:35	250
1,2-Dichloroethane	63	U	250	63	ug/L			07/06/23 18:35	250
1,2-Dichloropropane	55	U	250	55	ug/L			07/06/23 18:35	250
1,3-Dichlorobenzene	78	U	250	78	ug/L			07/06/23 18:35	250
1,4-Dichlorobenzene	78	U	250	78	ug/L			07/06/23 18:35	250
2-Hexanone	800	U	2500	800	ug/L			07/06/23 18:35	250
Acetone	930	U	2500	930	ug/L			07/06/23 18:35	250
Benzene	68	U	250	68	ug/L			07/06/23 18:35	250
Bromoform	150	U	250	150	ug/L			07/06/23 18:35	250
Bromomethane	930	U	1300	930	ug/L			07/06/23 18:35	250
Carbon disulfide	110	U	500	110	ug/L			07/06/23 18:35	250
Carbon tetrachloride	75	U	250	75	ug/L			07/06/23 18:35	250
Chlorobenzene	38	U	250	38	ug/L			07/06/23 18:35	250
Dibromochloromethane	98	U	250	98	ug/L			07/06/23 18:35	250
Chloroethane	1200	U	1300	1200	ug/L			07/06/23 18:35	250
Chloroform	68	U	250	68	ug/L			07/06/23 18:35	250
Chloromethane	140	U	250	140	ug/L			07/06/23 18:35	250
cis-1,2-Dichloroethene	**15000**		250	63	ug/L			07/06/23 18:35	250
cis-1,3-Dichloropropene	65	U	250	65	ug/L			07/06/23 18:35	250
Bromodichloromethane	63	U	250	63	ug/L			07/06/23 18:35	250
Dichlorodifluoromethane	90	U	250	90	ug/L			07/06/23 18:35	250
Ethylbenzene	50	U	250	50	ug/L			07/06/23 18:35	250
1,2-Dibromoethane (EDB)	83	U	250	83	ug/L			07/06/23 18:35	250
Isopropylbenzene	65	U	250	65	ug/L			07/06/23 18:35	250
Methyl tert-butyl ether	200	U	1300	200	ug/L			07/06/23 18:35	250
Methylene Chloride	800	U	1300	800	ug/L			07/06/23 18:35	250
2-Butanone (MEK)	1600	U	2500	1600	ug/L			07/06/23 18:35	250
4-Methyl-2-pentanone	680	U	2500	680	ug/L			07/06/23 18:35	250
m,p-Xylenes	120	U	250	120	ug/L			07/06/23 18:35	250
o-Xylene	65	U	250	65	ug/L			07/06/23 18:35	250
Styrene	68	U	250	68	ug/L			07/06/23 18:35	250
Tetrachloroethene	88	U	130	88	ug/L			07/06/23 18:35	250
Toluene	63	U	250	63	ug/L			07/06/23 18:35	250
trans-1,2-Dichloroethene	**180**	**I**	250	85	ug/L			07/06/23 18:35	250
trans-1,3-Dichloropropene	58	U	250	58	ug/L			07/06/23 18:35	250
Trichloroethene	**13000**		250	50	ug/L			07/06/23 18:35	250
Trichlorofluoromethane	83	U	250	83	ug/L			07/06/23 18:35	250
Vinyl chloride	**1600**	**J3**	250	100	ug/L			07/06/23 18:35	250
Xylenes, Total	58	U	250	58	ug/L			07/06/23 18:35	250
Methyl acetate	800	U	1300	800	ug/L			07/06/23 18:35	250
Cyclohexane	70	U	250	70	ug/L			07/06/23 18:35	250
1,1,2-Trichloro-1,2,2-trifluoroethane	58	U	250	58	ug/L			07/06/23 18:35	250
1,2,4-Trichlorobenzene	130	U	1300	130	ug/L			07/06/23 18:35	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*124*		*70 - 130*		*07/06/23 18:35*	*250*
1,2-Dichloroethane-d4 (Surr)	*119*		*60 - 124*		*07/06/23 18:35*	*250*

Client Sample ID: LC34-RW1A-20230623
Lab Sample ID: 670-21998-5

Date Collected: 06/23/23 08:20
Matrix: Water
Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*128*		*70 - 130*		*07/06/23 18:35*	*250*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*		*07/06/23 18:35*	*250*

Client Sample ID: LC34-RW1B-20230623
Lab Sample ID: 670-21998-6

Date Collected: 06/23/23 08:30
Matrix: Water
Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	42	U	200	42	ug/L			07/06/23 17:54	200
1,1,2,2-Tetrachloroethane	80	U	200	80	ug/L			07/06/23 17:54	200
1,1,2-Trichloroethane	64	U	200	64	ug/L			07/06/23 17:54	200
1,1-Dichloroethane	66	U	200	66	ug/L			07/06/23 17:54	200
1,1-Dichloroethene	66	U	200	66	ug/L			07/06/23 17:54	200
1,2-Dibromo-3-Chloropropane	360	U	1000	360	ug/L			07/06/23 17:54	200
1,2-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 17:54	200
1,2-Dichloroethane	50	U	200	50	ug/L			07/06/23 17:54	200
1,2-Dichloropropane	44	U	200	44	ug/L			07/06/23 17:54	200
1,3-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 17:54	200
1,4-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 17:54	200
2-Hexanone	640	U	2000	640	ug/L			07/06/23 17:54	200
Acetone	740	U	2000	740	ug/L			07/06/23 17:54	200
Benzene	54	U	200	54	ug/L			07/06/23 17:54	200
Bromoform	120	U	200	120	ug/L			07/06/23 17:54	200
Bromomethane	740	U	1000	740	ug/L			07/06/23 17:54	200
Carbon disulfide	86	U	400	86	ug/L			07/06/23 17:54	200
Carbon tetrachloride	60	U	200	60	ug/L			07/06/23 17:54	200
Chlorobenzene	30	U	200	30	ug/L			07/06/23 17:54	200
Dibromochloromethane	78	U	200	78	ug/L			07/06/23 17:54	200
Chloroethane	920	U	1000	920	ug/L			07/06/23 17:54	200
Chloroform	54	U	200	54	ug/L			07/06/23 17:54	200
Chloromethane	110	U	200	110	ug/L			07/06/23 17:54	200
cis-1,2-Dichloroethene	**3400**		200	50	ug/L			07/06/23 17:54	200
cis-1,3-Dichloropropene	52	U	200	52	ug/L			07/06/23 17:54	200
Bromodichloromethane	50	U	200	50	ug/L			07/06/23 17:54	200
Dichlorodifluoromethane	72	U	200	72	ug/L			07/06/23 17:54	200
Ethylbenzene	40	U	200	40	ug/L			07/06/23 17:54	200
1,2-Dibromoethane (EDB)	66	U	200	66	ug/L			07/06/23 17:54	200
Isopropylbenzene	52	U	200	52	ug/L			07/06/23 17:54	200
Methyl tert-butyl ether	160	U	1000	160	ug/L			07/06/23 17:54	200
Methylene Chloride	640	U	1000	640	ug/L			07/06/23 17:54	200
2-Butanone (MEK)	1300	U	2000	1300	ug/L			07/06/23 17:54	200
4-Methyl-2-pentanone	540	U	2000	540	ug/L			07/06/23 17:54	200
m,p-Xylenes	98	U	200	98	ug/L			07/06/23 17:54	200
o-Xylene	52	U	200	52	ug/L			07/06/23 17:54	200
Styrene	54	U	200	54	ug/L			07/06/23 17:54	200
Tetrachloroethene	70	U	100	70	ug/L			07/06/23 17:54	200
Toluene	50	U	200	50	ug/L			07/06/23 17:54	200
trans-1,2-Dichloroethene	68	U	200	68	ug/L			07/06/23 17:54	200

Client Sample ID: LC34-RW1B-20230623

Lab Sample ID: 670-21998-6

Date Collected: 06/23/23 08:30

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	46	U	200	46	ug/L			07/06/23 17:54	200
Trichloroethene	**9700**		200	40	ug/L			07/06/23 17:54	200
Trichlorofluoromethane	66	U	200	66	ug/L			07/06/23 17:54	200
Vinyl chloride	**260**	**J3**	200	80	ug/L			07/06/23 17:54	200
Xylenes, Total	46	U	200	46	ug/L			07/06/23 17:54	200
Methyl acetate	640	U	1000	640	ug/L			07/06/23 17:54	200
Cyclohexane	56	U	200	56	ug/L			07/06/23 17:54	200
1,1,2-Trichloro-1,2,2-trifluoroethane	46	U	200	46	ug/L			07/06/23 17:54	200
1,2,4-Trichlorobenzene	110	U	1000	110	ug/L			07/06/23 17:54	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*126*		*70 - 130*		*07/06/23 17:54*	*200*
1,2-Dichloroethane-d4 (Surr)	*118*		*60 - 124*		*07/06/23 17:54*	*200*
Dibromofluoromethane (Surr)	*130*		*70 - 130*		*07/06/23 17:54*	*200*
4-Bromofluorobenzene (Surr)	*130*		*70 - 130*		*07/06/23 17:54*	*200*

Client Sample ID: LC34-RW2A-20230623

Lab Sample ID: 670-21998-7

Date Collected: 06/23/23 08:40

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	42	U	200	42	ug/L			07/06/23 17:34	200
1,1,2,2-Tetrachloroethane	80	U	200	80	ug/L			07/06/23 17:34	200
1,1,2-Trichloroethane	64	U	200	64	ug/L			07/06/23 17:34	200
1,1-Dichloroethane	66	U	200	66	ug/L			07/06/23 17:34	200
1,1-Dichloroethene	66	U	200	66	ug/L			07/06/23 17:34	200
1,2-Dibromo-3-Chloropropane	360	U	1000	360	ug/L			07/06/23 17:34	200
1,2-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 17:34	200
1,2-Dichloroethane	50	U	200	50	ug/L			07/06/23 17:34	200
1,2-Dichloropropane	44	U	200	44	ug/L			07/06/23 17:34	200
1,3-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 17:34	200
1,4-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 17:34	200
2-Hexanone	640	U	2000	640	ug/L			07/06/23 17:34	200
Acetone	740	U	2000	740	ug/L			07/06/23 17:34	200
Benzene	54	U	200	54	ug/L			07/06/23 17:34	200
Bromoform	120	U	200	120	ug/L			07/06/23 17:34	200
Bromomethane	740	U	1000	740	ug/L			07/06/23 17:34	200
Carbon disulfide	86	U	400	86	ug/L			07/06/23 17:34	200
Carbon tetrachloride	60	U	200	60	ug/L			07/06/23 17:34	200
Chlorobenzene	30	U	200	30	ug/L			07/06/23 17:34	200
Dibromochloromethane	78	U	200	78	ug/L			07/06/23 17:34	200
Chloroethane	920	U	1000	920	ug/L			07/06/23 17:34	200
Chloroform	54	U	200	54	ug/L			07/06/23 17:34	200
Chloromethane	110	U	200	110	ug/L			07/06/23 17:34	200
cis-1,2-Dichloroethene	**4700**		200	50	ug/L			07/06/23 17:34	200
cis-1,3-Dichloropropene	52	U	200	52	ug/L			07/06/23 17:34	200
Bromodichloromethane	50	U	200	50	ug/L			07/06/23 17:34	200
Dichlorodifluoromethane	72	U	200	72	ug/L			07/06/23 17:34	200
Ethylbenzene	40	U	200	40	ug/L			07/06/23 17:34	200

Client Sample ID: LC34-RW2A-20230623

Lab Sample ID: 670-21998-7

Date Collected: 06/23/23 08:40

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	66	U	200	66	ug/L			07/06/23 17:34	200
Isopropylbenzene	52	U	200	52	ug/L			07/06/23 17:34	200
Methyl tert-butyl ether	160	U	1000	160	ug/L			07/06/23 17:34	200
Methylene Chloride	640	U	1000	640	ug/L			07/06/23 17:34	200
2-Butanone (MEK)	1300	U	2000	1300	ug/L			07/06/23 17:34	200
4-Methyl-2-pentanone	540	U	2000	540	ug/L			07/06/23 17:34	200
m,p-Xylenes	98	U	200	98	ug/L			07/06/23 17:34	200
o-Xylene	52	U	200	52	ug/L			07/06/23 17:34	200
Styrene	54	U	200	54	ug/L			07/06/23 17:34	200
Tetrachloroethene	70	U	100	70	ug/L			07/06/23 17:34	200
Toluene	50	U	200	50	ug/L			07/06/23 17:34	200
trans-1,2-Dichloroethene	**140**	**I**	200	68	ug/L			07/06/23 17:34	200
trans-1,3-Dichloropropene	46	U	200	46	ug/L			07/06/23 17:34	200
Trichloroethene	**8300**		200	40	ug/L			07/06/23 17:34	200
Trichlorofluoromethane	66	U	200	66	ug/L			07/06/23 17:34	200
Vinyl chloride	**730**	**J3**	200	80	ug/L			07/06/23 17:34	200
Xylenes, Total	46	U	200	46	ug/L			07/06/23 17:34	200
Methyl acetate	640	U	1000	640	ug/L			07/06/23 17:34	200
Cyclohexane	56	U	200	56	ug/L			07/06/23 17:34	200
1,1,2-Trichloro-1,2,2-trifluoroethane	46	U	200	46	ug/L			07/06/23 17:34	200
1,2,4-Trichlorobenzene	110	U	1000	110	ug/L			07/06/23 17:34	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*126*		*70 - 130*		*07/06/23 17:34*	*200*
1,2-Dichloroethane-d4 (Surr)	*116*		*60 - 124*		*07/06/23 17:34*	*200*
Dibromofluoromethane (Surr)	*128*		*70 - 130*		*07/06/23 17:34*	*200*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*		*07/06/23 17:34*	*200*

Client Sample ID: LC34-RW2B-20230623

Lab Sample ID: 670-21998-8

Date Collected: 06/23/23 08:50

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	53	U	250	53	ug/L			07/06/23 18:56	250
1,1,2,2-Tetrachloroethane	100	U	250	100	ug/L			07/06/23 18:56	250
1,1,2-Trichloroethane	80	U	250	80	ug/L			07/06/23 18:56	250
1,1-Dichloroethane	83	U	250	83	ug/L			07/06/23 18:56	250
1,1-Dichloroethene	83	U	250	83	ug/L			07/06/23 18:56	250
1,2-Dibromo-3-Chloropropane	450	U	1300	450	ug/L			07/06/23 18:56	250
1,2-Dichlorobenzene	78	U	250	78	ug/L			07/06/23 18:56	250
1,2-Dichloroethane	63	U	250	63	ug/L			07/06/23 18:56	250
1,2-Dichloropropane	55	U	250	55	ug/L			07/06/23 18:56	250
1,3-Dichlorobenzene	78	U	250	78	ug/L			07/06/23 18:56	250
1,4-Dichlorobenzene	78	U	250	78	ug/L			07/06/23 18:56	250
2-Hexanone	800	U	2500	800	ug/L			07/06/23 18:56	250
Acetone	930	U	2500	930	ug/L			07/06/23 18:56	250
Benzene	68	U	250	68	ug/L			07/06/23 18:56	250
Bromoform	150	U	250	150	ug/L			07/06/23 18:56	250
Bromomethane	930	U	1300	930	ug/L			07/06/23 18:56	250

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-21998-1

Client Sample ID: LC34-RW2B-20230623

Lab Sample ID: 670-21998-8

Date Collected: 06/23/23 08:50

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	110	U	500	110	ug/L			07/06/23 18:56	250
Carbon tetrachloride	75	U	250	75	ug/L			07/06/23 18:56	250
Chlorobenzene	38	U	250	38	ug/L			07/06/23 18:56	250
Dibromochloromethane	98	U	250	98	ug/L			07/06/23 18:56	250
Chloroethane	1200	U	1300	1200	ug/L			07/06/23 18:56	250
Chloroform	68	U	250	68	ug/L			07/06/23 18:56	250
Chloromethane	140	U	250	140	ug/L			07/06/23 18:56	250
cis-1,2-Dichloroethene	**2100**		250	63	ug/L			07/06/23 18:56	250
cis-1,3-Dichloropropene	65	U	250	65	ug/L			07/06/23 18:56	250
Bromodichloromethane	63	U	250	63	ug/L			07/06/23 18:56	250
Dichlorodifluoromethane	90	U	250	90	ug/L			07/06/23 18:56	250
Ethylbenzene	50	U	250	50	ug/L			07/06/23 18:56	250
1,2-Dibromoethane (EDB)	83	U	250	83	ug/L			07/06/23 18:56	250
Isopropylbenzene	65	U	250	65	ug/L			07/06/23 18:56	250
Methyl tert-butyl ether	200	U	1300	200	ug/L			07/06/23 18:56	250
Methylene Chloride	800	U	1300	800	ug/L			07/06/23 18:56	250
2-Butanone (MEK)	1600	U	2500	1600	ug/L			07/06/23 18:56	250
4-Methyl-2-pentanone	680	U	2500	680	ug/L			07/06/23 18:56	250
m,p-Xylenes	120	U	250	120	ug/L			07/06/23 18:56	250
o-Xylene	65	U	250	65	ug/L			07/06/23 18:56	250
Styrene	68	U	250	68	ug/L			07/06/23 18:56	250
Tetrachloroethene	88	U	130	88	ug/L			07/06/23 18:56	250
Toluene	63	U	250	63	ug/L			07/06/23 18:56	250
trans-1,2-Dichloroethene	85	U	250	85	ug/L			07/06/23 18:56	250
trans-1,3-Dichloropropene	58	U	250	58	ug/L			07/06/23 18:56	250
Trichloroethene	**13000**		250	50	ug/L			07/06/23 18:56	250
Trichlorofluoromethane	83	U	250	83	ug/L			07/06/23 18:56	250
Vinyl chloride	**530**	**J3**	250	100	ug/L			07/06/23 18:56	250
Xylenes, Total	58	U	250	58	ug/L			07/06/23 18:56	250
Methyl acetate	800	U	1300	800	ug/L			07/06/23 18:56	250
Cyclohexane	70	U	250	70	ug/L			07/06/23 18:56	250
1,1,2-Trichloro-1,2,2-trifluoroethane	58	U	250	58	ug/L			07/06/23 18:56	250
1,2,4-Trichlorobenzene	130	U	1300	130	ug/L			07/06/23 18:56	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*124*		*70 - 130*		*07/06/23 18:56*	*250*
1,2-Dichloroethane-d4 (Surr)	*118*		*60 - 124*		*07/06/23 18:56*	*250*
Dibromofluoromethane (Surr)	*128*		*70 - 130*		*07/06/23 18:56*	*250*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*		*07/06/23 18:56*	*250*

Client Sample ID: LC34-RW3A-20230623

Lab Sample ID: 670-21998-9

Date Collected: 06/23/23 09:00

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	21	U	100	21	ug/L			07/06/23 16:32	100
1,1,2,2-Tetrachloroethane	40	U	100	40	ug/L			07/06/23 16:32	100
1,1,2-Trichloroethane	32	U	100	32	ug/L			07/06/23 16:32	100
1,1-Dichloroethane	33	U	100	33	ug/L			07/06/23 16:32	100

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-21998-1

Client Sample ID: LC34-RW3A-20230623
Date Collected: 06/23/23 09:00
Date Received: 06/23/23 15:40

Lab Sample ID: 670-21998-9
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	33	U	100	33	ug/L			07/06/23 16:32	100
1,2-Dibromo-3-Chloropropane	180	U	500	180	ug/L			07/06/23 16:32	100
1,2-Dichlorobenzene	31	U	100	31	ug/L			07/06/23 16:32	100
1,2-Dichloroethane	25	U	100	25	ug/L			07/06/23 16:32	100
1,2-Dichloropropane	22	U	100	22	ug/L			07/06/23 16:32	100
1,3-Dichlorobenzene	31	U	100	31	ug/L			07/06/23 16:32	100
1,4-Dichlorobenzene	31	U	100	31	ug/L			07/06/23 16:32	100
2-Hexanone	320	U	1000	320	ug/L			07/06/23 16:32	100
Acetone	370	U	1000	370	ug/L			07/06/23 16:32	100
Benzene	27	U	100	27	ug/L			07/06/23 16:32	100
Bromoform	59	U	100	59	ug/L			07/06/23 16:32	100
Bromomethane	370	U	500	370	ug/L			07/06/23 16:32	100
Carbon disulfide	43	U	200	43	ug/L			07/06/23 16:32	100
Carbon tetrachloride	30	U	100	30	ug/L			07/06/23 16:32	100
Chlorobenzene	15	U	100	15	ug/L			07/06/23 16:32	100
Dibromochloromethane	39	U	100	39	ug/L			07/06/23 16:32	100
Chloroethane	460	U	500	460	ug/L			07/06/23 16:32	100
Chloroform	27	U	100	27	ug/L			07/06/23 16:32	100
Chloromethane	54	U	100	54	ug/L			07/06/23 16:32	100
cis-1,2-Dichloroethene	**2800**		100	25	ug/L			07/06/23 16:32	100
cis-1,3-Dichloropropene	26	U	100	26	ug/L			07/06/23 16:32	100
Bromodichloromethane	25	U	100	25	ug/L			07/06/23 16:32	100
Dichlorodifluoromethane	36	U	100	36	ug/L			07/06/23 16:32	100
Ethylbenzene	20	U	100	20	ug/L			07/06/23 16:32	100
1,2-Dibromoethane (EDB)	33	U	100	33	ug/L			07/06/23 16:32	100
Isopropylbenzene	26	U	100	26	ug/L			07/06/23 16:32	100
Methyl tert-butyl ether	81	U	500	81	ug/L			07/06/23 16:32	100
Methylene Chloride	320	U	500	320	ug/L			07/06/23 16:32	100
2-Butanone (MEK)	640	U	1000	640	ug/L			07/06/23 16:32	100
4-Methyl-2-pentanone	270	U	1000	270	ug/L			07/06/23 16:32	100
m,p-Xylenes	49	U	100	49	ug/L			07/06/23 16:32	100
o-Xylene	26	U	100	26	ug/L			07/06/23 16:32	100
Styrene	27	U	100	27	ug/L			07/06/23 16:32	100
Tetrachloroethene	35	U	50	35	ug/L			07/06/23 16:32	100
Toluene	25	U	100	25	ug/L			07/06/23 16:32	100
trans-1,2-Dichloroethene	**67**	**I**	100	34	ug/L			07/06/23 16:32	100
trans-1,3-Dichloropropene	23	U	100	23	ug/L			07/06/23 16:32	100
Trichloroethene	**3900**		100	20	ug/L			07/06/23 16:32	100
Trichlorofluoromethane	33	U	100	33	ug/L			07/06/23 16:32	100
Vinyl chloride	**550**	**J3**	100	40	ug/L			07/06/23 16:32	100
Xylenes, Total	23	U	100	23	ug/L			07/06/23 16:32	100
Methyl acetate	320	U	500	320	ug/L			07/06/23 16:32	100
Cyclohexane	28	U	100	28	ug/L			07/06/23 16:32	100
1,1,2-Trichloro-1,2,2-trifluoroethane	23	U	100	23	ug/L			07/06/23 16:32	100
1,2,4-Trichlorobenzene	53	U	500	53	ug/L			07/06/23 16:32	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*127*		*70 - 130*		*07/06/23 16:32*	*100*
1,2-Dichloroethane-d4 (Surr)	*117*		*60 - 124*		*07/06/23 16:32*	*100*
Dibromofluoromethane (Surr)	*128*		*70 - 130*		*07/06/23 16:32*	*100*

Client Sample ID: LC34-RW3A-20230623

Lab Sample ID: 670-21998-9

Date Collected: 06/23/23 09:00

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*		*07/06/23 16:32*	*100*

Client Sample ID: LC34-RW3B-20230623

Lab Sample ID: 670-21998-10

Date Collected: 06/23/23 09:10

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	42	U	200	42	ug/L			07/06/23 18:15	200
1,1,2,2-Tetrachloroethane	80	U	200	80	ug/L			07/06/23 18:15	200
1,1,2-Trichloroethane	64	U	200	64	ug/L			07/06/23 18:15	200
1,1-Dichloroethane	66	U	200	66	ug/L			07/06/23 18:15	200
1,1-Dichloroethene	66	U	200	66	ug/L			07/06/23 18:15	200
1,2-Dibromo-3-Chloropropane	360	U	1000	360	ug/L			07/06/23 18:15	200
1,2-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 18:15	200
1,2-Dichloroethane	50	U	200	50	ug/L			07/06/23 18:15	200
1,2-Dichloropropane	44	U	200	44	ug/L			07/06/23 18:15	200
1,3-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 18:15	200
1,4-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 18:15	200
2-Hexanone	640	U	2000	640	ug/L			07/06/23 18:15	200
Acetone	740	U	2000	740	ug/L			07/06/23 18:15	200
Benzene	54	U	200	54	ug/L			07/06/23 18:15	200
Bromoform	120	U	200	120	ug/L			07/06/23 18:15	200
Bromomethane	740	U	1000	740	ug/L			07/06/23 18:15	200
Carbon disulfide	86	U	400	86	ug/L			07/06/23 18:15	200
Carbon tetrachloride	60	U	200	60	ug/L			07/06/23 18:15	200
Chlorobenzene	30	U	200	30	ug/L			07/06/23 18:15	200
Dibromochloromethane	78	U	200	78	ug/L			07/06/23 18:15	200
Chloroethane	920	U	1000	920	ug/L			07/06/23 18:15	200
Chloroform	54	U	200	54	ug/L			07/06/23 18:15	200
Chloromethane	110	U	200	110	ug/L			07/06/23 18:15	200
cis-1,2-Dichloroethene	**2600**		200	50	ug/L			07/06/23 18:15	200
cis-1,3-Dichloropropene	52	U	200	52	ug/L			07/06/23 18:15	200
Bromodichloromethane	50	U	200	50	ug/L			07/06/23 18:15	200
Dichlorodifluoromethane	72	U	200	72	ug/L			07/06/23 18:15	200
Ethylbenzene	40	U	200	40	ug/L			07/06/23 18:15	200
1,2-Dibromoethane (EDB)	66	U	200	66	ug/L			07/06/23 18:15	200
Isopropylbenzene	52	U	200	52	ug/L			07/06/23 18:15	200
Methyl tert-butyl ether	160	U	1000	160	ug/L			07/06/23 18:15	200
Methylene Chloride	640	U	1000	640	ug/L			07/06/23 18:15	200
2-Butanone (MEK)	1300	U	2000	1300	ug/L			07/06/23 18:15	200
4-Methyl-2-pentanone	540	U	2000	540	ug/L			07/06/23 18:15	200
m,p-Xylenes	98	U	200	98	ug/L			07/06/23 18:15	200
o-Xylene	52	U	200	52	ug/L			07/06/23 18:15	200
Styrene	54	U	200	54	ug/L			07/06/23 18:15	200
Tetrachloroethene	70	U	100	70	ug/L			07/06/23 18:15	200
Toluene	50	U	200	50	ug/L			07/06/23 18:15	200
trans-1,2-Dichloroethene	68	U	200	68	ug/L			07/06/23 18:15	200
trans-1,3-Dichloropropene	46	U	200	46	ug/L			07/06/23 18:15	200

Client Sample ID: LC34-RW3B-20230623

Lab Sample ID: 670-21998-10

Date Collected: 06/23/23 09:10

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**9600**		200	40	ug/L			07/06/23 18:15	200
Trichlorofluoromethane	66	U	200	66	ug/L			07/06/23 18:15	200
Vinyl chloride	**400**	**J3**	200	80	ug/L			07/06/23 18:15	200
Xylenes, Total	46	U	200	46	ug/L			07/06/23 18:15	200
Methyl acetate	640	U	1000	640	ug/L			07/06/23 18:15	200
Cyclohexane	56	U	200	56	ug/L			07/06/23 18:15	200
1,1,2-Trichloro-1,2,2-trifluoroethane	46	U	200	46	ug/L			07/06/23 18:15	200
1,2,4-Trichlorobenzene	110	U	1000	110	ug/L			07/06/23 18:15	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*124*		*70 - 130*		*07/06/23 18:15*	*200*
1,2-Dichloroethane-d4 (Surr)	*119*		*60 - 124*		*07/06/23 18:15*	*200*
Dibromofluoromethane (Surr)	*127*		*70 - 130*		*07/06/23 18:15*	*200*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*		*07/06/23 18:15*	*200*

Client Sample ID: LC34-RW9A-20230623

Lab Sample ID: 670-21998-11

Date Collected: 06/23/23 09:20

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	11	U	50	11	ug/L			07/06/23 15:51	50
1,1,2,2-Tetrachloroethane	20	U	50	20	ug/L			07/06/23 15:51	50
1,1,2-Trichloroethane	16	U	50	16	ug/L			07/06/23 15:51	50
1,1-Dichloroethane	17	U	50	17	ug/L			07/06/23 15:51	50
1,1-Dichloroethene	17	U	50	17	ug/L			07/06/23 15:51	50
1,2-Dibromo-3-Chloropropane	90	U	250	90	ug/L			07/06/23 15:51	50
1,2-Dichlorobenzene	16	U	50	16	ug/L			07/06/23 15:51	50
1,2-Dichloroethane	13	U	50	13	ug/L			07/06/23 15:51	50
1,2-Dichloropropane	11	U	50	11	ug/L			07/06/23 15:51	50
1,3-Dichlorobenzene	16	U	50	16	ug/L			07/06/23 15:51	50
1,4-Dichlorobenzene	16	U	50	16	ug/L			07/06/23 15:51	50
2-Hexanone	160	U	500	160	ug/L			07/06/23 15:51	50
Acetone	190	U	500	190	ug/L			07/06/23 15:51	50
Benzene	14	U	50	14	ug/L			07/06/23 15:51	50
Bromoform	30	U	50	30	ug/L			07/06/23 15:51	50
Bromomethane	190	U	250	190	ug/L			07/06/23 15:51	50
Carbon disulfide	22	U	100	22	ug/L			07/06/23 15:51	50
Carbon tetrachloride	15	U	50	15	ug/L			07/06/23 15:51	50
Chlorobenzene	7.5	U	50	7.5	ug/L			07/06/23 15:51	50
Dibromochloromethane	20	U	50	20	ug/L			07/06/23 15:51	50
Chloroethane	230	U	250	230	ug/L			07/06/23 15:51	50
Chloroform	14	U	50	14	ug/L			07/06/23 15:51	50
Chloromethane	27	U	50	27	ug/L			07/06/23 15:51	50
cis-1,2-Dichloroethene	**2500**		50	13	ug/L			07/06/23 15:51	50
cis-1,3-Dichloropropene	13	U	50	13	ug/L			07/06/23 15:51	50
Bromodichloromethane	13	U	50	13	ug/L			07/06/23 15:51	50
Dichlorodifluoromethane	18	U	50	18	ug/L			07/06/23 15:51	50
Ethylbenzene	10	U	50	10	ug/L			07/06/23 15:51	50
1,2-Dibromoethane (EDB)	17	U	50	17	ug/L			07/06/23 15:51	50

Client Sample ID: LC34-RW9A-20230623

Lab Sample ID: 670-21998-11

Date Collected: 06/23/23 09:20

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	13	U	50	13	ug/L			07/06/23 15:51	50
Methyl tert-butyl ether	41	U	250	41	ug/L			07/06/23 15:51	50
Methylene Chloride	160	U	250	160	ug/L			07/06/23 15:51	50
2-Butanone (MEK)	320	U	500	320	ug/L			07/06/23 15:51	50
4-Methyl-2-pentanone	140	U	500	140	ug/L			07/06/23 15:51	50
m,p-Xylenes	25	U	50	25	ug/L			07/06/23 15:51	50
o-Xylene	13	U	50	13	ug/L			07/06/23 15:51	50
Styrene	14	U	50	14	ug/L			07/06/23 15:51	50
Tetrachloroethene	18	U	25	18	ug/L			07/06/23 15:51	50
Toluene	13	U	50	13	ug/L			07/06/23 15:51	50
trans-1,2-Dichloroethene	**58**		50	17	ug/L			07/06/23 15:51	50
trans-1,3-Dichloropropene	12	U	50	12	ug/L			07/06/23 15:51	50
Trichloroethene	**500**		50	10	ug/L			07/06/23 15:51	50
Trichlorofluoromethane	17	U	50	17	ug/L			07/06/23 15:51	50
Vinyl chloride	**1900**	**J3**	50	20	ug/L			07/06/23 15:51	50
Xylenes, Total	12	U	50	12	ug/L			07/06/23 15:51	50
Methyl acetate	160	U	250	160	ug/L			07/06/23 15:51	50
Cyclohexane	14	U	50	14	ug/L			07/06/23 15:51	50
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U	50	12	ug/L			07/06/23 15:51	50
1,2,4-Trichlorobenzene	27	U	250	27	ug/L			07/06/23 15:51	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*124*		*70 - 130*		*07/06/23 15:51*	*50*
1,2-Dichloroethane-d4 (Surr)	*117*		*60 - 124*		*07/06/23 15:51*	*50*
Dibromofluoromethane (Surr)	*127*		*70 - 130*		*07/06/23 15:51*	*50*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*		*07/06/23 15:51*	*50*

Client Sample ID: LC34-RW17C-20230623

Lab Sample ID: 670-21998-12

Date Collected: 06/23/23 09:30

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	420	U	2000	420	ug/L			07/06/23 19:57	2000
1,1,2,2-Tetrachloroethane	800	U	2000	800	ug/L			07/06/23 19:57	2000
1,1,2-Trichloroethane	640	U	2000	640	ug/L			07/06/23 19:57	2000
1,1-Dichloroethane	660	U	2000	660	ug/L			07/06/23 19:57	2000
1,1-Dichloroethene	660	U	2000	660	ug/L			07/06/23 19:57	2000
1,2-Dibromo-3-Chloropropane	3600	U	10000	3600	ug/L			07/06/23 19:57	2000
1,2-Dichlorobenzene	620	U	2000	620	ug/L			07/06/23 19:57	2000
1,2-Dichloroethane	500	U	2000	500	ug/L			07/06/23 19:57	2000
1,2-Dichloropropane	440	U	2000	440	ug/L			07/06/23 19:57	2000
1,3-Dichlorobenzene	620	U	2000	620	ug/L			07/06/23 19:57	2000
1,4-Dichlorobenzene	620	U	2000	620	ug/L			07/06/23 19:57	2000
2-Hexanone	6400	U	20000	6400	ug/L			07/06/23 19:57	2000
Acetone	7400	U	20000	7400	ug/L			07/06/23 19:57	2000
Benzene	540	U	2000	540	ug/L			07/06/23 19:57	2000
Bromoform	1200	U	2000	1200	ug/L			07/06/23 19:57	2000
Bromomethane	7400	U	10000	7400	ug/L			07/06/23 19:57	2000
Carbon disulfide	860	U	4000	860	ug/L			07/06/23 19:57	2000

Client Sample ID: LC34-RW17C-20230623

Lab Sample ID: 670-21998-12

Date Collected: 06/23/23 09:30

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	600	U	2000	600	ug/L			07/06/23 19:57	2000
Chlorobenzene	300	U	2000	300	ug/L			07/06/23 19:57	2000
Dibromochloromethane	780	U	2000	780	ug/L			07/06/23 19:57	2000
Chloroethane	9200	U	10000	9200	ug/L			07/06/23 19:57	2000
Chloroform	540	U	2000	540	ug/L			07/06/23 19:57	2000
Chloromethane	1100	U	2000	1100	ug/L			07/06/23 19:57	2000
cis-1,2-Dichloroethene	**6100**		2000	500	ug/L			07/06/23 19:57	2000
cis-1,3-Dichloropropene	520	U	2000	520	ug/L			07/06/23 19:57	2000
Bromodichloromethane	500	U	2000	500	ug/L			07/06/23 19:57	2000
Dichlorodifluoromethane	720	U	2000	720	ug/L			07/06/23 19:57	2000
Ethylbenzene	400	U	2000	400	ug/L			07/06/23 19:57	2000
1,2-Dibromoethane (EDB)	660	U	2000	660	ug/L			07/06/23 19:57	2000
Isopropylbenzene	520	U	2000	520	ug/L			07/06/23 19:57	2000
Methyl tert-butyl ether	1600	U	10000	1600	ug/L			07/06/23 19:57	2000
Methylene Chloride	6400	U	10000	6400	ug/L			07/06/23 19:57	2000
2-Butanone (MEK)	13000	U	20000	13000	ug/L			07/06/23 19:57	2000
4-Methyl-2-pentanone	5400	U	20000	5400	ug/L			07/06/23 19:57	2000
m,p-Xylenes	980	U	2000	980	ug/L			07/06/23 19:57	2000
o-Xylene	520	U	2000	520	ug/L			07/06/23 19:57	2000
Styrene	540	U	2000	540	ug/L			07/06/23 19:57	2000
Tetrachloroethene	700	U	1000	700	ug/L			07/06/23 19:57	2000
Toluene	500	U	2000	500	ug/L			07/06/23 19:57	2000
trans-1,2-Dichloroethene	680	U	2000	680	ug/L			07/06/23 19:57	2000
trans-1,3-Dichloropropene	460	U	2000	460	ug/L			07/06/23 19:57	2000
Trichloroethene	**160000**		2000	400	ug/L			07/06/23 19:57	2000
Trichlorofluoromethane	660	U	2000	660	ug/L			07/06/23 19:57	2000
Vinyl chloride	800	U J3	2000	800	ug/L			07/06/23 19:57	2000
Xylenes, Total	460	U	2000	460	ug/L			07/06/23 19:57	2000
Methyl acetate	6400	U	10000	6400	ug/L			07/06/23 19:57	2000
Cyclohexane	560	U	2000	560	ug/L			07/06/23 19:57	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	460	U	2000	460	ug/L			07/06/23 19:57	2000
1,2,4-Trichlorobenzene	1100	U	10000	1100	ug/L			07/06/23 19:57	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*123*		*70 - 130*		*07/06/23 19:57*	*2000*
1,2-Dichloroethane-d4 (Surr)	*118*		*60 - 124*		*07/06/23 19:57*	*2000*
Dibromofluoromethane (Surr)	*129*		*70 - 130*		*07/06/23 19:57*	*2000*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*		*07/06/23 19:57*	*2000*

Client Sample ID: LC34-RW18C-20230623

Lab Sample ID: 670-21998-13

Date Collected: 06/23/23 09:40

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	420	U	2000	420	ug/L			07/06/23 19:16	2000
1,1,2,2-Tetrachloroethane	800	U	2000	800	ug/L			07/06/23 19:16	2000
1,1,2-Trichloroethane	640	U	2000	640	ug/L			07/06/23 19:16	2000
1,1-Dichloroethane	660	U	2000	660	ug/L			07/06/23 19:16	2000
1,1-Dichloroethene	660	U	2000	660	ug/L			07/06/23 19:16	2000

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-21998-1

Client Sample ID: LC34-RW18C-20230623
Date Collected: 06/23/23 09:40
Date Received: 06/23/23 15:40

Lab Sample ID: 670-21998-13
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	3600	U	10000	3600	ug/L			07/06/23 19:16	2000
1,2-Dichlorobenzene	620	U	2000	620	ug/L			07/06/23 19:16	2000
1,2-Dichloroethane	500	U	2000	500	ug/L			07/06/23 19:16	2000
1,2-Dichloropropane	440	U	2000	440	ug/L			07/06/23 19:16	2000
1,3-Dichlorobenzene	620	U	2000	620	ug/L			07/06/23 19:16	2000
1,4-Dichlorobenzene	620	U	2000	620	ug/L			07/06/23 19:16	2000
2-Hexanone	6400	U	20000	6400	ug/L			07/06/23 19:16	2000
Acetone	7400	U	20000	7400	ug/L			07/06/23 19:16	2000
Benzene	540	U	2000	540	ug/L			07/06/23 19:16	2000
Bromoform	1200	U	2000	1200	ug/L			07/06/23 19:16	2000
Bromomethane	7400	U	10000	7400	ug/L			07/06/23 19:16	2000
Carbon disulfide	860	U	4000	860	ug/L			07/06/23 19:16	2000
Carbon tetrachloride	600	U	2000	600	ug/L			07/06/23 19:16	2000
Chlorobenzene	300	U	2000	300	ug/L			07/06/23 19:16	2000
Dibromochloromethane	780	U	2000	780	ug/L			07/06/23 19:16	2000
Chloroethane	9200	U	10000	9200	ug/L			07/06/23 19:16	2000
Chloroform	540	U	2000	540	ug/L			07/06/23 19:16	2000
Chloromethane	1100	U	2000	1100	ug/L			07/06/23 19:16	2000
cis-1,2-Dichloroethene	**17000**		2000	500	ug/L			07/06/23 19:16	2000
cis-1,3-Dichloropropene	520	U	2000	520	ug/L			07/06/23 19:16	2000
Bromodichloromethane	500	U	2000	500	ug/L			07/06/23 19:16	2000
Dichlorodifluoromethane	720	U	2000	720	ug/L			07/06/23 19:16	2000
Ethylbenzene	400	U	2000	400	ug/L			07/06/23 19:16	2000
1,2-Dibromoethane (EDB)	660	U	2000	660	ug/L			07/06/23 19:16	2000
Isopropylbenzene	520	U	2000	520	ug/L			07/06/23 19:16	2000
Methyl tert-butyl ether	1600	U	10000	1600	ug/L			07/06/23 19:16	2000
Methylene Chloride	6400	U	10000	6400	ug/L			07/06/23 19:16	2000
2-Butanone (MEK)	13000	U	20000	13000	ug/L			07/06/23 19:16	2000
4-Methyl-2-pentanone	5400	U	20000	5400	ug/L			07/06/23 19:16	2000
m,p-Xylenes	980	U	2000	980	ug/L			07/06/23 19:16	2000
o-Xylene	520	U	2000	520	ug/L			07/06/23 19:16	2000
Styrene	540	U	2000	540	ug/L			07/06/23 19:16	2000
Tetrachloroethene	700	U	1000	700	ug/L			07/06/23 19:16	2000
Toluene	500	U	2000	500	ug/L			07/06/23 19:16	2000
trans-1,2-Dichloroethene	680	U	2000	680	ug/L			07/06/23 19:16	2000
trans-1,3-Dichloropropene	460	U	2000	460	ug/L			07/06/23 19:16	2000
Trichloroethene	**35000**		2000	400	ug/L			07/06/23 19:16	2000
Trichlorofluoromethane	660	U	2000	660	ug/L			07/06/23 19:16	2000
Vinyl chloride	800	U J3	2000	800	ug/L			07/06/23 19:16	2000
Xylenes, Total	460	U	2000	460	ug/L			07/06/23 19:16	2000
Methyl acetate	6400	U	10000	6400	ug/L			07/06/23 19:16	2000
Cyclohexane	560	U	2000	560	ug/L			07/06/23 19:16	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	460	U	2000	460	ug/L			07/06/23 19:16	2000
1,2,4-Trichlorobenzene	1100	U	10000	1100	ug/L			07/06/23 19:16	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*125*		*70 - 130*		*07/06/23 19:16*	*2000*
1,2-Dichloroethane-d4 (Surr)	*117*		*60 - 124*		*07/06/23 19:16*	*2000*
Dibromofluoromethane (Surr)	*128*		*70 - 130*		*07/06/23 19:16*	*2000*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*		*07/06/23 19:16*	*2000*

Client Sample ID: LC34-RW19C-20230623
Lab Sample ID: 670-21998-14
Date Collected: 06/23/23 09:50
Matrix: Water
Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	530	U	2500	530	ug/L			07/06/23 19:37	2500
1,1,2,2-Tetrachloroethane	1000	U	2500	1000	ug/L			07/06/23 19:37	2500
1,1,2-Trichloroethane	800	U	2500	800	ug/L			07/06/23 19:37	2500
1,1-Dichloroethane	830	U	2500	830	ug/L			07/06/23 19:37	2500
1,1-Dichloroethene	830	U	2500	830	ug/L			07/06/23 19:37	2500
1,2-Dibromo-3-Chloropropane	4500	U	13000	4500	ug/L			07/06/23 19:37	2500
1,2-Dichlorobenzene	780	U	2500	780	ug/L			07/06/23 19:37	2500
1,2-Dichloroethane	630	U	2500	630	ug/L			07/06/23 19:37	2500
1,2-Dichloropropane	550	U	2500	550	ug/L			07/06/23 19:37	2500
1,3-Dichlorobenzene	780	U	2500	780	ug/L			07/06/23 19:37	2500
1,4-Dichlorobenzene	780	U	2500	780	ug/L			07/06/23 19:37	2500
2-Hexanone	8000	U	25000	8000	ug/L			07/06/23 19:37	2500
Acetone	9300	U	25000	9300	ug/L			07/06/23 19:37	2500
Benzene	680	U	2500	680	ug/L			07/06/23 19:37	2500
Bromoform	1500	U	2500	1500	ug/L			07/06/23 19:37	2500
Bromomethane	9300	U	13000	9300	ug/L			07/06/23 19:37	2500
Carbon disulfide	1100	U	5000	1100	ug/L			07/06/23 19:37	2500
Carbon tetrachloride	750	U	2500	750	ug/L			07/06/23 19:37	2500
Chlorobenzene	380	U	2500	380	ug/L			07/06/23 19:37	2500
Dibromochloromethane	980	U	2500	980	ug/L			07/06/23 19:37	2500
Chloroethane	12000	U	13000	12000	ug/L			07/06/23 19:37	2500
Chloroform	680	U	2500	680	ug/L			07/06/23 19:37	2500
Chloromethane	1400	U	2500	1400	ug/L			07/06/23 19:37	2500
cis-1,2-Dichloroethene	**4500**		2500	630	ug/L			07/06/23 19:37	2500
cis-1,3-Dichloropropene	650	U	2500	650	ug/L			07/06/23 19:37	2500
Bromodichloromethane	630	U	2500	630	ug/L			07/06/23 19:37	2500
Dichlorodifluoromethane	900	U	2500	900	ug/L			07/06/23 19:37	2500
Ethylbenzene	500	U	2500	500	ug/L			07/06/23 19:37	2500
1,2-Dibromoethane (EDB)	830	U	2500	830	ug/L			07/06/23 19:37	2500
Isopropylbenzene	650	U	2500	650	ug/L			07/06/23 19:37	2500
Methyl tert-butyl ether	2000	U	13000	2000	ug/L			07/06/23 19:37	2500
Methylene Chloride	8000	U	13000	8000	ug/L			07/06/23 19:37	2500
2-Butanone (MEK)	16000	U	25000	16000	ug/L			07/06/23 19:37	2500
4-Methyl-2-pentanone	6800	U	25000	6800	ug/L			07/06/23 19:37	2500
m,p-Xylenes	1200	U	2500	1200	ug/L			07/06/23 19:37	2500
o-Xylene	650	U	2500	650	ug/L			07/06/23 19:37	2500
Styrene	680	U	2500	680	ug/L			07/06/23 19:37	2500
Tetrachloroethene	880	U	1300	880	ug/L			07/06/23 19:37	2500
Toluene	630	U	2500	630	ug/L			07/06/23 19:37	2500
trans-1,2-Dichloroethene	850	U	2500	850	ug/L			07/06/23 19:37	2500
trans-1,3-Dichloropropene	580	U	2500	580	ug/L			07/06/23 19:37	2500
Trichloroethene	**260000**		2500	500	ug/L			07/06/23 19:37	2500
Trichlorofluoromethane	830	U	2500	830	ug/L			07/06/23 19:37	2500
Vinyl chloride	1000	U J3	2500	1000	ug/L			07/06/23 19:37	2500
Xylenes, Total	580	U	2500	580	ug/L			07/06/23 19:37	2500
Methyl acetate	8000	U	13000	8000	ug/L			07/06/23 19:37	2500
Cyclohexane	700	U	2500	700	ug/L			07/06/23 19:37	2500
1,1,2-Trichloro-1,2,2-trifluoroethane	580	U	2500	580	ug/L			07/06/23 19:37	2500
1,2,4-Trichlorobenzene	1300	U	13000	1300	ug/L			07/06/23 19:37	2500

Client Sample ID: LC34-RW19C-20230623
Lab Sample ID: 670-21998-14

Date Collected: 06/23/23 09:50
Matrix: Water
Date Received: 06/23/23 15:40

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*128*		*70 - 130*		*07/06/23 19:37*	*2500*
1,2-Dichloroethane-d4 (Surr)	*119*		*60 - 124*		*07/06/23 19:37*	*2500*
Dibromofluoromethane (Surr)	*128*		*70 - 130*		*07/06/23 19:37*	*2500*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*		*07/06/23 19:37*	*2500*

Client Sample ID: LC34-RW20C-20230623
Lab Sample ID: 670-21998-15

Date Collected: 06/23/23 10:00
Matrix: Water
Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	42	U	200	42	ug/L			07/06/23 17:13	200
1,1,2,2-Tetrachloroethane	80	U	200	80	ug/L			07/06/23 17:13	200
1,1,2-Trichloroethane	64	U	200	64	ug/L			07/06/23 17:13	200
1,1-Dichloroethane	66	U	200	66	ug/L			07/06/23 17:13	200
1,1-Dichloroethene	66	U	200	66	ug/L			07/06/23 17:13	200
1,2-Dibromo-3-Chloropropane	360	U	1000	360	ug/L			07/06/23 17:13	200
1,2-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 17:13	200
1,2-Dichloroethane	50	U	200	50	ug/L			07/06/23 17:13	200
1,2-Dichloropropane	44	U	200	44	ug/L			07/06/23 17:13	200
1,3-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 17:13	200
1,4-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 17:13	200
2-Hexanone	640	U	2000	640	ug/L			07/06/23 17:13	200
Acetone	740	U	2000	740	ug/L			07/06/23 17:13	200
Benzene	54	U	200	54	ug/L			07/06/23 17:13	200
Bromoform	120	U	200	120	ug/L			07/06/23 17:13	200
Bromomethane	740	U	1000	740	ug/L			07/06/23 17:13	200
Carbon disulfide	86	U	400	86	ug/L			07/06/23 17:13	200
Carbon tetrachloride	60	U	200	60	ug/L			07/06/23 17:13	200
Chlorobenzene	30	U	200	30	ug/L			07/06/23 17:13	200
Dibromochloromethane	78	U	200	78	ug/L			07/06/23 17:13	200
Chloroethane	920	U	1000	920	ug/L			07/06/23 17:13	200
Chloroform	54	U	200	54	ug/L			07/06/23 17:13	200
Chloromethane	110	U	200	110	ug/L			07/06/23 17:13	200
cis-1,2-Dichloroethene	**850**		200	50	ug/L			07/06/23 17:13	200
cis-1,3-Dichloropropene	52	U	200	52	ug/L			07/06/23 17:13	200
Bromodichloromethane	50	U	200	50	ug/L			07/06/23 17:13	200
Dichlorodifluoromethane	72	U	200	72	ug/L			07/06/23 17:13	200
Ethylbenzene	40	U	200	40	ug/L			07/06/23 17:13	200
1,2-Dibromoethane (EDB)	66	U	200	66	ug/L			07/06/23 17:13	200
Isopropylbenzene	52	U	200	52	ug/L			07/06/23 17:13	200
Methyl tert-butyl ether	160	U	1000	160	ug/L			07/06/23 17:13	200
Methylene Chloride	640	U	1000	640	ug/L			07/06/23 17:13	200
2-Butanone (MEK)	1300	U	2000	1300	ug/L			07/06/23 17:13	200
4-Methyl-2-pentanone	540	U	2000	540	ug/L			07/06/23 17:13	200
m,p-Xylenes	98	U	200	98	ug/L			07/06/23 17:13	200
o-Xylene	52	U	200	52	ug/L			07/06/23 17:13	200
Styrene	54	U	200	54	ug/L			07/06/23 17:13	200
Tetrachloroethene	70	U	100	70	ug/L			07/06/23 17:13	200
Toluene	50	U	200	50	ug/L			07/06/23 17:13	200

Client Sample ID: LC34-RW20C-20230623

Lab Sample ID: 670-21998-15

Date Collected: 06/23/23 10:00

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	68	U	200	68	ug/L			07/06/23 17:13	200
trans-1,3-Dichloropropene	46	U	200	46	ug/L			07/06/23 17:13	200
Trichloroethene	**23000**		200	40	ug/L			07/06/23 17:13	200
Trichlorofluoromethane	66	U	200	66	ug/L			07/06/23 17:13	200
Vinyl chloride	80	U J3	200	80	ug/L			07/06/23 17:13	200
Xylenes, Total	46	U	200	46	ug/L			07/06/23 17:13	200
Methyl acetate	640	U	1000	640	ug/L			07/06/23 17:13	200
Cyclohexane	56	U	200	56	ug/L			07/06/23 17:13	200
1,1,2-Trichloro-1,2,2-trifluoroethane	46	U	200	46	ug/L			07/06/23 17:13	200
1,2,4-Trichlorobenzene	110	U	1000	110	ug/L			07/06/23 17:13	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*126*		*70 - 130*		*07/06/23 17:13*	*200*
1,2-Dichloroethane-d4 (Surr)	*115*		*60 - 124*		*07/06/23 17:13*	*200*
Dibromofluoromethane (Surr)	*127*		*70 - 130*		*07/06/23 17:13*	*200*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*		*07/06/23 17:13*	*200*

Client Sample ID: LC34-RW21D-20230622

Lab Sample ID: 670-21998-16

Date Collected: 06/22/23 15:00

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	42	U	200	42	ug/L			07/06/23 16:53	200
1,1,2,2-Tetrachloroethane	80	U	200	80	ug/L			07/06/23 16:53	200
1,1,2-Trichloroethane	64	U	200	64	ug/L			07/06/23 16:53	200
1,1-Dichloroethane	66	U	200	66	ug/L			07/06/23 16:53	200
1,1-Dichloroethene	66	U	200	66	ug/L			07/06/23 16:53	200
1,2-Dibromo-3-Chloropropane	360	U	1000	360	ug/L			07/06/23 16:53	200
1,2-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 16:53	200
1,2-Dichloroethane	50	U	200	50	ug/L			07/06/23 16:53	200
1,2-Dichloropropane	44	U	200	44	ug/L			07/06/23 16:53	200
1,3-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 16:53	200
1,4-Dichlorobenzene	62	U	200	62	ug/L			07/06/23 16:53	200
2-Hexanone	640	U	2000	640	ug/L			07/06/23 16:53	200
Acetone	740	U	2000	740	ug/L			07/06/23 16:53	200
Benzene	54	U	200	54	ug/L			07/06/23 16:53	200
Bromoform	120	U	200	120	ug/L			07/06/23 16:53	200
Bromomethane	740	U	1000	740	ug/L			07/06/23 16:53	200
Carbon disulfide	86	U	400	86	ug/L			07/06/23 16:53	200
Carbon tetrachloride	60	U	200	60	ug/L			07/06/23 16:53	200
Chlorobenzene	30	U	200	30	ug/L			07/06/23 16:53	200
Dibromochloromethane	78	U	200	78	ug/L			07/06/23 16:53	200
Chloroethane	920	U	1000	920	ug/L			07/06/23 16:53	200
Chloroform	54	U	200	54	ug/L			07/06/23 16:53	200
Chloromethane	110	U	200	110	ug/L			07/06/23 16:53	200
cis-1,2-Dichloroethene	**2400**		200	50	ug/L			07/06/23 16:53	200
cis-1,3-Dichloropropene	52	U	200	52	ug/L			07/06/23 16:53	200
Bromodichloromethane	50	U	200	50	ug/L			07/06/23 16:53	200
Dichlorodifluoromethane	72	U	200	72	ug/L			07/06/23 16:53	200

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-21998-1

Client Sample ID: LC34-RW21D-20230622
Date Collected: 06/22/23 15:00
Date Received: 06/23/23 15:40

Lab Sample ID: 670-21998-16
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	40	U	200	40	ug/L			07/06/23 16:53	200
1,2-Dibromoethane (EDB)	66	U	200	66	ug/L			07/06/23 16:53	200
Isopropylbenzene	52	U	200	52	ug/L			07/06/23 16:53	200
Methyl tert-butyl ether	160	U	1000	160	ug/L			07/06/23 16:53	200
Methylene Chloride	640	U	1000	640	ug/L			07/06/23 16:53	200
2-Butanone (MEK)	1300	U	2000	1300	ug/L			07/06/23 16:53	200
4-Methyl-2-pentanone	540	U	2000	540	ug/L			07/06/23 16:53	200
m,p-Xylenes	98	U	200	98	ug/L			07/06/23 16:53	200
o-Xylene	52	U	200	52	ug/L			07/06/23 16:53	200
Styrene	54	U	200	54	ug/L			07/06/23 16:53	200
Tetrachloroethene	70	U	100	70	ug/L			07/06/23 16:53	200
Toluene	50	U	200	50	ug/L			07/06/23 16:53	200
trans-1,2-Dichloroethene	68	U	200	68	ug/L			07/06/23 16:53	200
trans-1,3-Dichloropropene	46	U	200	46	ug/L			07/06/23 16:53	200
Trichloroethene	**31000**		200	40	ug/L			07/06/23 16:53	200
Trichlorofluoromethane	66	U	200	66	ug/L			07/06/23 16:53	200
Vinyl chloride	80	U J3	200	80	ug/L			07/06/23 16:53	200
Xylenes, Total	46	U	200	46	ug/L			07/06/23 16:53	200
Methyl acetate	640	U	1000	640	ug/L			07/06/23 16:53	200
Cyclohexane	56	U	200	56	ug/L			07/06/23 16:53	200
1,1,2-Trichloro-1,2,2-trifluoroethane	46	U	200	46	ug/L			07/06/23 16:53	200
1,2,4-Trichlorobenzene	110	U	1000	110	ug/L			07/06/23 16:53	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*125*		*70 - 130*		*07/06/23 16:53*	*200*
1,2-Dichloroethane-d4 (Surr)	*118*		*60 - 124*		*07/06/23 16:53*	*200*
Dibromofluoromethane (Surr)	*127*		*70 - 130*		*07/06/23 16:53*	*200*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*		*07/06/23 16:53*	*200*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-21998-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		TOL	DCA	DBFM	BFB
Lab Sample ID	Client Sample ID	(70-130)	(60-124)	(70-130)	(70-130)
670-21998-1	LC34-GAC-20230623	127	119	126	131 J1
670-21998-2	LC34-AS1-20230623	110	117	113	103
670-21998-3	LC34-AS2-20230623	125	118	126	127
670-21998-4	LC34-Influent-20230623	112	119	113	102
670-21998-5	LC34-RW1A-20230623	124	119	128	125
670-21998-6	LC34-RW1B-20230623	126	118	130	130
670-21998-7	LC34-RW2A-20230623	126	116	128	129
670-21998-8	LC34-RW2B-20230623	124	118	128	127
670-21998-9	LC34-RW3A-20230623	127	117	128	127
670-21998-10	LC34-RW3B-20230623	124	119	127	128
670-21998-11	LC34-RW9A-20230623	124	117	127	125
670-21998-12	LC34-RW17C-20230623	123	118	129	125
670-21998-13	LC34-RW18C-20230623	125	117	128	128
670-21998-14	LC34-RW19C-20230623	128	119	128	129
670-21998-15	LC34-RW20C-20230623	126	115	127	128
670-21998-16	LC34-RW21D-20230622	125	118	127	125
LCS 680-786972/4	Lab Control Sample	96	95	97	100
LCS 680-787036/4	Lab Control Sample	112	110	114	110
LCS 680-787170/4	Lab Control Sample	101	100	103	102
LCSD 680-786972/5	Lab Control Sample Dup	97	96	99	98
LCSD 680-787036/5	Lab Control Sample Dup	117	117	120	111
LCSD 680-787170/5	Lab Control Sample Dup	99	97	103	100
MB 680-786972/8	Method Blank	126	114	128	125
MB 680-787036/9	Method Blank	123	118	117	108
MB 680-787170/8	Method Blank	125	115	130	122

Surrogate Legend

TOL = Toluene-d8 (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 680-786972/8
Matrix: Water
Analysis Batch: 786972

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			07/06/23 12:57	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			07/06/23 12:57	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			07/06/23 12:57	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			07/06/23 12:57	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			07/06/23 12:57	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			07/06/23 12:57	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/06/23 12:57	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			07/06/23 12:57	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			07/06/23 12:57	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/06/23 12:57	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/06/23 12:57	1
2-Hexanone	3.2	U	10	3.2	ug/L			07/06/23 12:57	1
Acetone	3.7	U	10	3.7	ug/L			07/06/23 12:57	1
Benzene	0.27	U	1.0	0.27	ug/L			07/06/23 12:57	1
Bromoform	0.59	U	1.0	0.59	ug/L			07/06/23 12:57	1
Bromomethane	3.7	U	5.0	3.7	ug/L			07/06/23 12:57	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			07/06/23 12:57	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			07/06/23 12:57	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/06/23 12:57	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			07/06/23 12:57	1
Chloroethane	4.6	U	5.0	4.6	ug/L			07/06/23 12:57	1
Chloroform	0.27	U	1.0	0.27	ug/L			07/06/23 12:57	1
Chloromethane	0.54	U	1.0	0.54	ug/L			07/06/23 12:57	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			07/06/23 12:57	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			07/06/23 12:57	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			07/06/23 12:57	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			07/06/23 12:57	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			07/06/23 12:57	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			07/06/23 12:57	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			07/06/23 12:57	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			07/06/23 12:57	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			07/06/23 12:57	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			07/06/23 12:57	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			07/06/23 12:57	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			07/06/23 12:57	1
o-Xylene	0.26	U	1.0	0.26	ug/L			07/06/23 12:57	1
Styrene	0.27	U	1.0	0.27	ug/L			07/06/23 12:57	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			07/06/23 12:57	1
Toluene	0.25	U	1.0	0.25	ug/L			07/06/23 12:57	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			07/06/23 12:57	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			07/06/23 12:57	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			07/06/23 12:57	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			07/06/23 12:57	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			07/06/23 12:57	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			07/06/23 12:57	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			07/06/23 12:57	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			07/06/23 12:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			07/06/23 12:57	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-786972/8
Matrix: Water
Analysis Batch: 786972

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			07/06/23 12:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*126*		*70 - 130*		*07/06/23 12:57*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*60 - 124*		*07/06/23 12:57*	*1*
Dibromofluoromethane (Surr)	*128*		*70 - 130*		*07/06/23 12:57*	*1*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*		*07/06/23 12:57*	*1*

Lab Sample ID: LCS 680-786972/4
Matrix: Water
Analysis Batch: 786972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	51.6		ug/L		103	70 - 130
1,1,2,2-Tetrachloroethane	50.0	42.9		ug/L		86	70 - 130
1,1,2-Trichloroethane	50.0	49.4		ug/L		99	70 - 130
1,1-Dichloroethane	50.0	53.2		ug/L		106	70 - 130
1,1-Dichloroethene	50.0	57.2		ug/L		114	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	44.6		ug/L		89	70 - 130
1,2-Dichlorobenzene	50.0	48.6		ug/L		97	70 - 130
1,2-Dichloroethane	50.0	50.1		ug/L		100	70 - 130
1,2-Dichloropropane	50.0	49.6		ug/L		99	70 - 130
1,3-Dichlorobenzene	50.0	48.8		ug/L		98	70 - 130
1,4-Dichlorobenzene	50.0	46.9		ug/L		94	70 - 130
2-Hexanone	250	239		ug/L		96	70 - 130
Acetone	250	229		ug/L		91	67 - 120
Benzene	50.0	51.0		ug/L		102	70 - 130
Bromoform	50.0	43.8		ug/L		88	69 - 129
Bromomethane	50.0	68.3		ug/L		137	28 - 192
Carbon disulfide	50.0	58.7		ug/L		117	70 - 130
Carbon tetrachloride	50.0	52.6		ug/L		105	70 - 130
Chlorobenzene	50.0	48.2		ug/L		96	70 - 130
Dibromochloromethane	50.0	52.7		ug/L		105	70 - 130
Chloroethane	50.0	60.7		ug/L		121	31 - 213
Chloroform	50.0	49.7		ug/L		99	70 - 130
Chloromethane	50.0	57.1		ug/L		114	59 - 127
cis-1,2-Dichloroethene	50.0	52.7		ug/L		105	70 - 130
cis-1,3-Dichloropropene	50.0	48.0		ug/L		96	70 - 130
Bromodichloromethane	50.0	52.1		ug/L		104	70 - 130
Dichlorodifluoromethane	50.0	61.9		ug/L		124	70 - 130
Ethylbenzene	50.0	48.6		ug/L		97	70 - 130
1,2-Dibromoethane (EDB)	50.0	49.4		ug/L		99	70 - 130
Isopropylbenzene	50.0	49.6		ug/L		99	70 - 130
Methyl tert-butyl ether	50.0	52.7		ug/L		105	70 - 130
Methylene Chloride	50.0	54.0		ug/L		108	70 - 130
2-Butanone (MEK)	250	215		ug/L		86	69 - 120
4-Methyl-2-pentanone	250	241		ug/L		96	68 - 120
m,p-Xylenes	50.0	48.9		ug/L		98	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-786972/4
Matrix: Water
Analysis Batch: 786972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	50.0	48.1		ug/L		96	70 - 130
Styrene	50.0	50.5		ug/L		101	70 - 130
Tetrachloroethene	50.0	46.9		ug/L		94	70 - 130
Toluene	50.0	49.0		ug/L		98	70 - 130
trans-1,2-Dichloroethene	50.0	55.1		ug/L		110	70 - 130
trans-1,3-Dichloropropene	50.0	53.2		ug/L		106	70 - 130
Trichloroethene	50.0	51.8		ug/L		104	70 - 130
Trichlorofluoromethane	50.0	60.3		ug/L		121	63 - 142
Vinyl chloride	50.0	65.2	J3	ug/L		130	66 - 129
Xylenes, Total	100	97.0		ug/L		97	70 - 130
Methyl acetate	100	89.8		ug/L		90	67 - 120
Cyclohexane	50.0	52.1		ug/L		104	23 - 175
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	59.6		ug/L		119	63 - 141
1,2,4-Trichlorobenzene	50.0	48.8		ug/L		98	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 124*
Dibromofluoromethane (Surr)	*97*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 680-786972/5
Matrix: Water
Analysis Batch: 786972

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	52.2		ug/L		104	70 - 130	1	30
1,1,2,2-Tetrachloroethane	50.0	44.5		ug/L		89	70 - 130	4	30
1,1,2-Trichloroethane	50.0	50.4		ug/L		101	70 - 130	2	30
1,1-Dichloroethane	50.0	53.2		ug/L		106	70 - 130	0	30
1,1-Dichloroethene	50.0	58.4		ug/L		117	70 - 130	2	20
1,2-Dibromo-3-Chloropropane	50.0	47.4		ug/L		95	70 - 130	6	30
1,2-Dichlorobenzene	50.0	49.0		ug/L		98	70 - 130	1	30
1,2-Dichloroethane	50.0	50.8		ug/L		102	70 - 130	1	50
1,2-Dichloropropane	50.0	51.1		ug/L		102	70 - 130	3	20
1,3-Dichlorobenzene	50.0	48.9		ug/L		98	70 - 130	0	30
1,4-Dichlorobenzene	50.0	47.3		ug/L		95	70 - 130	1	30
2-Hexanone	250	243		ug/L		97	70 - 130	2	20
Acetone	250	233		ug/L		93	67 - 120	2	30
Benzene	50.0	51.3		ug/L		103	70 - 130	1	30
Bromoform	50.0	44.1		ug/L		88	69 - 129	1	30
Bromomethane	50.0	67.4		ug/L		135	28 - 192	1	30
Carbon disulfide	50.0	59.2		ug/L		118	70 - 130	1	30
Carbon tetrachloride	50.0	52.7		ug/L		105	70 - 130	0	30
Chlorobenzene	50.0	48.2		ug/L		96	70 - 130	0	30
Dibromochloromethane	50.0	53.0		ug/L		106	70 - 130	1	30
Chloroethane	50.0	55.8		ug/L		112	31 - 213	8	30
Chloroform	50.0	50.8		ug/L		102	70 - 130	2	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-786972/5
Matrix: Water
Analysis Batch: 786972

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloromethane	50.0	58.3		ug/L		117	59 - 127	2	30
cis-1,2-Dichloroethene	50.0	53.3		ug/L		107	70 - 130	1	30
cis-1,3-Dichloropropene	50.0	48.7		ug/L		97	70 - 130	1	20
Bromodichloromethane	50.0	52.4		ug/L		105	70 - 130	1	30
Dichlorodifluoromethane	50.0	64.9		ug/L		130	70 - 130	5	40
Ethylbenzene	50.0	49.0		ug/L		98	70 - 130	1	20
1,2-Dibromoethane (EDB)	50.0	48.7		ug/L		97	70 - 130	1	30
Isopropylbenzene	50.0	50.4		ug/L		101	70 - 130	2	30
Methyl tert-butyl ether	50.0	52.9		ug/L		106	70 - 130	0	30
Methylene Chloride	50.0	55.7		ug/L		111	70 - 130	3	30
2-Butanone (MEK)	250	218		ug/L		87	69 - 120	2	30
4-Methyl-2-pentanone	250	243		ug/L		97	68 - 120	1	30
m,p-Xylenes	50.0	49.0		ug/L		98	70 - 130	0	30
o-Xylene	50.0	48.5		ug/L		97	70 - 130	1	30
Styrene	50.0	50.7		ug/L		101	70 - 130	0	30
Tetrachloroethene	50.0	48.3		ug/L		97	70 - 130	3	30
Toluene	50.0	49.7		ug/L		99	70 - 130	2	30
trans-1,2-Dichloroethene	50.0	56.5		ug/L		113	70 - 130	3	30
trans-1,3-Dichloropropene	50.0	53.3		ug/L		107	70 - 130	0	30
Trichloroethene	50.0	51.7		ug/L		103	70 - 130	0	30
Trichlorofluoromethane	50.0	53.2		ug/L		106	63 - 142	12	30
Vinyl chloride	50.0	62.3		ug/L		125	66 - 129	5	30
Xylenes, Total	100	97.5		ug/L		98	70 - 130	1	30
Methyl acetate	100	91.4		ug/L		91	67 - 120	2	30
Cyclohexane	50.0	52.2		ug/L		104	23 - 175	0	30
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	59.2		ug/L		118	63 - 141	1	30
1,2,4-Trichlorobenzene	50.0	49.3		ug/L		99	70 - 130	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*96*		*60 - 124*
Dibromofluoromethane (Surr)	*99*		*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: MB 680-787036/9
Matrix: Water
Analysis Batch: 787036

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			07/06/23 16:25	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			07/06/23 16:25	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			07/06/23 16:25	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			07/06/23 16:25	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			07/06/23 16:25	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			07/06/23 16:25	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/06/23 16:25	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			07/06/23 16:25	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			07/06/23 16:25	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-787036/9
Matrix: Water
Analysis Batch: 787036

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/06/23 16:25	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/06/23 16:25	1
2-Hexanone	3.2	U	10	3.2	ug/L			07/06/23 16:25	1
Acetone	3.7	U	10	3.7	ug/L			07/06/23 16:25	1
Benzene	0.27	U	1.0	0.27	ug/L			07/06/23 16:25	1
Bromoform	0.59	U	1.0	0.59	ug/L			07/06/23 16:25	1
Bromomethane	3.7	U	5.0	3.7	ug/L			07/06/23 16:25	1
Carbon disulfide	0.807	I	2.0	0.43	ug/L			07/06/23 16:25	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			07/06/23 16:25	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/06/23 16:25	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			07/06/23 16:25	1
Chloroethane	4.6	U	5.0	4.6	ug/L			07/06/23 16:25	1
Chloroform	0.27	U	1.0	0.27	ug/L			07/06/23 16:25	1
Chloromethane	0.54	U	1.0	0.54	ug/L			07/06/23 16:25	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			07/06/23 16:25	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			07/06/23 16:25	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			07/06/23 16:25	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			07/06/23 16:25	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			07/06/23 16:25	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			07/06/23 16:25	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			07/06/23 16:25	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			07/06/23 16:25	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			07/06/23 16:25	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			07/06/23 16:25	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			07/06/23 16:25	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			07/06/23 16:25	1
o-Xylene	0.26	U	1.0	0.26	ug/L			07/06/23 16:25	1
Styrene	0.27	U	1.0	0.27	ug/L			07/06/23 16:25	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			07/06/23 16:25	1
Toluene	0.25	U	1.0	0.25	ug/L			07/06/23 16:25	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			07/06/23 16:25	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			07/06/23 16:25	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			07/06/23 16:25	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			07/06/23 16:25	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			07/06/23 16:25	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			07/06/23 16:25	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			07/06/23 16:25	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			07/06/23 16:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			07/06/23 16:25	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			07/06/23 16:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*123*		*70 - 130*		*07/06/23 16:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*118*		*60 - 124*		*07/06/23 16:25*	*1*
Dibromofluoromethane (Surr)	*117*		*70 - 130*		*07/06/23 16:25*	*1*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*		*07/06/23 16:25*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-787036/4
Matrix: Water
Analysis Batch: 787036

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	58.7		ug/L		117	70 - 130
1,1,2,2-Tetrachloroethane	50.0	62.4		ug/L		125	70 - 130
1,1,2-Trichloroethane	50.0	55.7		ug/L		111	70 - 130
1,1-Dichloroethane	50.0	50.0		ug/L		100	70 - 130
1,1-Dichloroethene	50.0	53.3		ug/L		107	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	49.0		ug/L		98	70 - 130
1,2-Dichlorobenzene	50.0	54.9		ug/L		110	70 - 130
1,2-Dichloroethane	50.0	53.0		ug/L		106	70 - 130
1,2-Dichloropropane	50.0	56.6		ug/L		113	70 - 130
1,3-Dichlorobenzene	50.0	56.7		ug/L		113	70 - 130
1,4-Dichlorobenzene	50.0	53.5		ug/L		107	70 - 130
2-Hexanone	250	289		ug/L		115	70 - 130
Acetone	250	234		ug/L		94	67 - 120
Benzene	50.0	54.0		ug/L		108	70 - 130
Bromoform	50.0	49.8		ug/L		100	69 - 129
Bromomethane	50.0	61.5		ug/L		123	28 - 192
Carbon disulfide	50.0	57.3		ug/L		115	70 - 130
Carbon tetrachloride	50.0	53.8		ug/L		108	70 - 130
Chlorobenzene	50.0	58.4		ug/L		117	70 - 130
Dibromochloromethane	50.0	52.8		ug/L		106	70 - 130
Chloroethane	50.0	51.1		ug/L		102	31 - 213
Chloroform	50.0	55.4		ug/L		111	70 - 130
Chloromethane	50.0	49.9		ug/L		100	59 - 127
cis-1,2-Dichloroethene	50.0	57.5		ug/L		115	70 - 130
cis-1,3-Dichloropropene	50.0	55.1		ug/L		110	70 - 130
Bromodichloromethane	50.0	53.9		ug/L		108	70 - 130
Dichlorodifluoromethane	50.0	50.2		ug/L		100	70 - 130
Ethylbenzene	50.0	56.8		ug/L		114	70 - 130
1,2-Dibromoethane (EDB)	50.0	60.6		ug/L		121	70 - 130
Isopropylbenzene	50.0	64.2		ug/L		128	70 - 130
Methyl tert-butyl ether	50.0	50.7		ug/L		101	70 - 130
Methylene Chloride	50.0	51.3		ug/L		103	70 - 130
2-Butanone (MEK)	250	276		ug/L		110	69 - 120
4-Methyl-2-pentanone	250	290		ug/L		116	68 - 120
m,p-Xylenes	50.0	61.9		ug/L		124	70 - 130
o-Xylene	50.0	63.3		ug/L		127	70 - 130
Styrene	50.0	55.1		ug/L		110	70 - 130
Tetrachloroethene	50.0	58.1		ug/L		116	70 - 130
Toluene	50.0	58.5		ug/L		117	70 - 130
trans-1,2-Dichloroethene	50.0	52.4		ug/L		105	70 - 130
trans-1,3-Dichloropropene	50.0	56.7		ug/L		113	70 - 130
Trichloroethene	50.0	54.0		ug/L		108	70 - 130
Trichlorofluoromethane	50.0	49.8		ug/L		100	63 - 142
Vinyl chloride	50.0	57.1		ug/L		114	66 - 129
Xylenes, Total	100	125		ug/L		125	70 - 130
Methyl acetate	100	85.6		ug/L		86	67 - 120
Cyclohexane	50.0	60.5		ug/L		121	23 - 175
1,1,2-Trichloro-1,2,2-trifluoroetha ne	50.0	53.7		ug/L		107	63 - 141

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-787036/4
Matrix: Water
Analysis Batch: 787036

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,2,4-Trichlorobenzene			50.0	53.2		ug/L		106	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*112*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*110*		*60 - 124*
Dibromofluoromethane (Surr)	*114*		*70 - 130*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: LCSD 680-787036/5
Matrix: Water
Analysis Batch: 787036

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			50.0	62.9		ug/L		126	70 - 130	7	30
1,1,2,2-Tetrachloroethane			50.0	68.7	J3	ug/L		137	70 - 130	10	30
1,1,2-Trichloroethane			50.0	57.0		ug/L		114	70 - 130	2	30
1,1-Dichloroethane			50.0	54.7		ug/L		109	70 - 130	9	30
1,1-Dichloroethene			50.0	59.9		ug/L		120	70 - 130	12	20
1,2-Dibromo-3-Chloropropane			50.0	52.2		ug/L		104	70 - 130	6	30
1,2-Dichlorobenzene			50.0	56.2		ug/L		112	70 - 130	2	30
1,2-Dichloroethane			50.0	56.3		ug/L		113	70 - 130	6	50
1,2-Dichloropropane			50.0	55.1		ug/L		110	70 - 130	3	20
1,3-Dichlorobenzene			50.0	56.8		ug/L		114	70 - 130	0	30
1,4-Dichlorobenzene			50.0	54.8		ug/L		110	70 - 130	2	30
2-Hexanone			250	321		ug/L		128	70 - 130	10	20
Acetone			250	274		ug/L		109	67 - 120	16	30
Benzene			50.0	53.6		ug/L		107	70 - 130	1	30
Bromoform			50.0	56.0		ug/L		112	69 - 129	12	30
Bromomethane			50.0	68.9		ug/L		138	28 - 192	11	30
Carbon disulfide			50.0	64.7		ug/L		129	70 - 130	12	30
Carbon tetrachloride			50.0	57.2		ug/L		114	70 - 130	6	30
Chlorobenzene			50.0	58.1		ug/L		116	70 - 130	0	30
Dibromochloromethane			50.0	57.2		ug/L		114	70 - 130	8	30
Chloroethane			50.0	52.0		ug/L		104	31 - 213	2	30
Chloroform			50.0	56.6		ug/L		113	70 - 130	2	30
Chloromethane			50.0	55.5		ug/L		111	59 - 127	11	30
cis-1,2-Dichloroethene			50.0	57.9		ug/L		116	70 - 130	1	30
cis-1,3-Dichloropropene			50.0	58.0		ug/L		116	70 - 130	5	20
Bromodichloromethane			50.0	56.1		ug/L		112	70 - 130	4	30
Dichlorodifluoromethane			50.0	58.1		ug/L		116	70 - 130	15	40
Ethylbenzene			50.0	56.6		ug/L		113	70 - 130	0	20
1,2-Dibromoethane (EDB)			50.0	65.5	J3	ug/L		131	70 - 130	8	30
Isopropylbenzene			50.0	70.5	J3	ug/L		141	70 - 130	9	30
Methyl tert-butyl ether			50.0	60.0		ug/L		120	70 - 130	17	30
Methylene Chloride			50.0	56.5		ug/L		113	70 - 130	10	30
2-Butanone (MEK)			250	290		ug/L		116	69 - 120	5	30
4-Methyl-2-pentanone			250	307	J3	ug/L		123	68 - 120	6	30
m,p-Xylenes			50.0	63.0		ug/L		126	70 - 130	2	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-787036/5
Matrix: Water
Analysis Batch: 787036

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
o-Xylene			50.0	69.6	J3	ug/L		139	70 - 130	9	30
Styrene			50.0	61.9		ug/L		124	70 - 130	12	30
Tetrachloroethene			50.0	63.3		ug/L		127	70 - 130	8	30
Toluene			50.0	60.5		ug/L		121	70 - 130	3	30
trans-1,2-Dichloroethene			50.0	58.1		ug/L		116	70 - 130	10	30
trans-1,3-Dichloropropene			50.0	60.1		ug/L		120	70 - 130	6	30
Trichloroethene			50.0	56.1		ug/L		112	70 - 130	4	30
Trichlorofluoromethane			50.0	51.1		ug/L		102	63 - 142	3	30
Vinyl chloride			50.0	62.9		ug/L		126	66 - 129	10	30
Xylenes, Total			100	133	J3	ug/L		133	70 - 130	6	30
Methyl acetate			100	99.1		ug/L		99	67 - 120	15	30
Cyclohexane			50.0	59.3		ug/L		119	23 - 175	2	30
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	58.8		ug/L		118	63 - 141	9	30
1,2,4-Trichlorobenzene			50.0	54.1		ug/L		108	70 - 130	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*117*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*117*		*60 - 124*
Dibromofluoromethane (Surr)	*120*		*70 - 130*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: MB 680-787170/8
Matrix: Water
Analysis Batch: 787170

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			07/07/23 12:46	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			07/07/23 12:46	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			07/07/23 12:46	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			07/07/23 12:46	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			07/07/23 12:46	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			07/07/23 12:46	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/07/23 12:46	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			07/07/23 12:46	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			07/07/23 12:46	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/07/23 12:46	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/07/23 12:46	1
2-Hexanone	3.2	U	10	3.2	ug/L			07/07/23 12:46	1
Acetone	3.7	U	10	3.7	ug/L			07/07/23 12:46	1
Benzene	0.27	U	1.0	0.27	ug/L			07/07/23 12:46	1
Bromoform	0.59	U	1.0	0.59	ug/L			07/07/23 12:46	1
Bromomethane	3.7	U	5.0	3.7	ug/L			07/07/23 12:46	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			07/07/23 12:46	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			07/07/23 12:46	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/07/23 12:46	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			07/07/23 12:46	1
Chloroethane	4.6	U	5.0	4.6	ug/L			07/07/23 12:46	1
Chloroform	0.27	U	1.0	0.27	ug/L			07/07/23 12:46	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-787170/8
Matrix: Water
Analysis Batch: 787170

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	0.54	U	1.0	0.54	ug/L			07/07/23 12:46	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			07/07/23 12:46	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			07/07/23 12:46	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			07/07/23 12:46	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			07/07/23 12:46	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			07/07/23 12:46	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			07/07/23 12:46	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			07/07/23 12:46	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			07/07/23 12:46	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			07/07/23 12:46	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			07/07/23 12:46	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			07/07/23 12:46	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			07/07/23 12:46	1
o-Xylene	0.26	U	1.0	0.26	ug/L			07/07/23 12:46	1
Styrene	0.27	U	1.0	0.27	ug/L			07/07/23 12:46	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			07/07/23 12:46	1
Toluene	0.25	U	1.0	0.25	ug/L			07/07/23 12:46	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			07/07/23 12:46	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			07/07/23 12:46	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			07/07/23 12:46	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			07/07/23 12:46	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			07/07/23 12:46	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			07/07/23 12:46	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			07/07/23 12:46	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			07/07/23 12:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			07/07/23 12:46	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			07/07/23 12:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*125*		*70 - 130*		*07/07/23 12:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*60 - 124*		*07/07/23 12:46*	*1*
Dibromofluoromethane (Surr)	*130*		*70 - 130*		*07/07/23 12:46*	*1*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*		*07/07/23 12:46*	*1*

Lab Sample ID: LCS 680-787170/4
Matrix: Water
Analysis Batch: 787170

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	52.7		ug/L		105	70 - 130
1,1,2,2-Tetrachloroethane	50.0	46.5		ug/L		93	70 - 130
1,1,2-Trichloroethane	50.0	51.3		ug/L		103	70 - 130
1,1-Dichloroethane	50.0	55.3		ug/L		111	70 - 130
1,1-Dichloroethene	50.0	67.0	J3	ug/L		134	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	47.6		ug/L		95	70 - 130
1,2-Dichlorobenzene	50.0	50.1		ug/L		100	70 - 130
1,2-Dichloroethane	50.0	52.1		ug/L		104	70 - 130
1,2-Dichloropropane	50.0	51.3		ug/L		103	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-787170/4
Matrix: Water
Analysis Batch: 787170

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	50.0	50.2		ug/L		100	70 - 130
1,4-Dichlorobenzene	50.0	48.4		ug/L		97	70 - 130
2-Hexanone	250	243		ug/L		97	70 - 130
Acetone	250	245		ug/L		98	67 - 120
Benzene	50.0	52.8		ug/L		106	70 - 130
Bromoform	50.0	43.6		ug/L		87	69 - 129
Bromomethane	50.0	64.9		ug/L		130	28 - 192
Carbon disulfide	50.0	62.7		ug/L		125	70 - 130
Carbon tetrachloride	50.0	54.2		ug/L		108	70 - 130
Chlorobenzene	50.0	50.1		ug/L		100	70 - 130
Dibromochloromethane	50.0	53.8		ug/L		108	70 - 130
Chloroethane	50.0	50.4		ug/L		101	31 - 213
Chloroform	50.0	51.8		ug/L		104	70 - 130
Chloromethane	50.0	52.0		ug/L		104	59 - 127
cis-1,2-Dichloroethene	50.0	54.4		ug/L		109	70 - 130
cis-1,3-Dichloropropene	50.0	49.1		ug/L		98	70 - 130
Bromodichloromethane	50.0	53.6		ug/L		107	70 - 130
Dichlorodifluoromethane	50.0	56.5		ug/L		113	70 - 130
Ethylbenzene	50.0	50.7		ug/L		101	70 - 130
1,2-Dibromoethane (EDB)	50.0	50.1		ug/L		100	70 - 130
Isopropylbenzene	50.0	51.4		ug/L		103	70 - 130
Methyl tert-butyl ether	50.0	54.6		ug/L		109	70 - 130
Methylene Chloride	50.0	57.3		ug/L		115	70 - 130
2-Butanone (MEK)	250	227		ug/L		91	69 - 120
4-Methyl-2-pentanone	250	246		ug/L		99	68 - 120
m,p-Xylenes	50.0	50.7		ug/L		101	70 - 130
o-Xylene	50.0	49.8		ug/L		100	70 - 130
Styrene	50.0	52.7		ug/L		105	70 - 130
Tetrachloroethene	50.0	48.8		ug/L		98	70 - 130
Toluene	50.0	51.1		ug/L		102	70 - 130
trans-1,2-Dichloroethene	50.0	58.7		ug/L		117	70 - 130
trans-1,3-Dichloropropene	50.0	53.4		ug/L		107	70 - 130
Trichloroethene	50.0	52.3		ug/L		105	70 - 130
Trichlorofluoromethane	50.0	55.3		ug/L		111	63 - 142
Vinyl chloride	50.0	53.1		ug/L		106	66 - 129
Xylenes, Total	100	101		ug/L		101	70 - 130
Methyl acetate	100	93.5		ug/L		93	67 - 120
Cyclohexane	50.0	53.8		ug/L		108	23 - 175
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	63.3		ug/L		127	63 - 141
1,2,4-Trichlorobenzene	50.0	50.0		ug/L		100	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*100*		*60 - 124*
Dibromofluoromethane (Surr)	*103*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-787170/5
Matrix: Water
Analysis Batch: 787170

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	53.0		ug/L		106	70 - 130	1	30
1,1,2,2-Tetrachloroethane	50.0	47.8		ug/L		96	70 - 130	3	30
1,1,2-Trichloroethane	50.0	50.9		ug/L		102	70 - 130	1	30
1,1-Dichloroethane	50.0	55.9		ug/L		112	70 - 130	1	30
1,1-Dichloroethene	50.0	61.1		ug/L		122	70 - 130	9	20
1,2-Dibromo-3-Chloropropane	50.0	45.8		ug/L		92	70 - 130	4	30
1,2-Dichlorobenzene	50.0	49.4		ug/L		99	70 - 130	1	30
1,2-Dichloroethane	50.0	51.0		ug/L		102	70 - 130	2	50
1,2-Dichloropropane	50.0	51.8		ug/L		104	70 - 130	1	20
1,3-Dichlorobenzene	50.0	49.3		ug/L		99	70 - 130	2	30
1,4-Dichlorobenzene	50.0	47.5		ug/L		95	70 - 130	2	30
2-Hexanone	250	248		ug/L		99	70 - 130	2	20
Acetone	250	247		ug/L		99	67 - 120	1	30
Benzene	50.0	52.8		ug/L		106	70 - 130	0	30
Bromoform	50.0	43.6		ug/L		87	69 - 129	0	30
Bromomethane	50.0	66.7		ug/L		133	28 - 192	3	30
Carbon disulfide	50.0	62.3		ug/L		125	70 - 130	1	30
Carbon tetrachloride	50.0	53.8		ug/L		108	70 - 130	1	30
Chlorobenzene	50.0	49.6		ug/L		99	70 - 130	1	30
Dibromochloromethane	50.0	52.4		ug/L		105	70 - 130	3	30
Chloroethane	50.0	50.1		ug/L		100	31 - 213	1	30
Chloroform	50.0	52.4		ug/L		105	70 - 130	1	30
Chloromethane	50.0	49.1		ug/L		98	59 - 127	6	30
cis-1,2-Dichloroethene	50.0	54.2		ug/L		108	70 - 130	0	30
cis-1,3-Dichloropropene	50.0	49.4		ug/L		99	70 - 130	1	20
Bromodichloromethane	50.0	53.4		ug/L		107	70 - 130	0	30
Dichlorodifluoromethane	50.0	52.6		ug/L		105	70 - 130	7	40
Ethylbenzene	50.0	49.9		ug/L		100	70 - 130	2	20
1,2-Dibromoethane (EDB)	50.0	49.6		ug/L		99	70 - 130	1	30
Isopropylbenzene	50.0	50.4		ug/L		101	70 - 130	2	30
Methyl tert-butyl ether	50.0	53.7		ug/L		107	70 - 130	2	30
Methylene Chloride	50.0	57.6		ug/L		115	70 - 130	1	30
2-Butanone (MEK)	250	227		ug/L		91	69 - 120	0	30
4-Methyl-2-pentanone	250	251		ug/L		101	68 - 120	2	30
m,p-Xylenes	50.0	49.4		ug/L		99	70 - 130	3	30
o-Xylene	50.0	49.3		ug/L		99	70 - 130	1	30
Styrene	50.0	51.9		ug/L		104	70 - 130	2	30
Tetrachloroethene	50.0	49.6		ug/L		99	70 - 130	2	30
Toluene	50.0	50.6		ug/L		101	70 - 130	1	30
trans-1,2-Dichloroethene	50.0	58.8		ug/L		118	70 - 130	0	30
trans-1,3-Dichloropropene	50.0	52.9		ug/L		106	70 - 130	1	30
Trichloroethene	50.0	51.6		ug/L		103	70 - 130	1	30
Trichlorofluoromethane	50.0	53.8		ug/L		108	63 - 142	3	30
Vinyl chloride	50.0	60.3		ug/L		121	66 - 129	13	30
Xylenes, Total	100	98.7		ug/L		99	70 - 130	2	30
Methyl acetate	100	94.4		ug/L		94	67 - 120	1	30
Cyclohexane	50.0	52.9		ug/L		106	23 - 175	2	30
1,1,2-Trichloro-1,2,2-trifluoroetha ne	50.0	61.8		ug/L		124	63 - 141	2	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-787170/5
Matrix: Water
Analysis Batch: 787170

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene			50.0	47.7		ug/L		95	70 - 130	5	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 124*
Dibromofluoromethane (Surr)	*103*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*

GC/MS VOA

Analysis Batch: 786972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-21998-5	LC34-RW1A-20230623	Total/NA	Water	8260D	
670-21998-6	LC34-RW1B-20230623	Total/NA	Water	8260D	
670-21998-7	LC34-RW2A-20230623	Total/NA	Water	8260D	
670-21998-8	LC34-RW2B-20230623	Total/NA	Water	8260D	
670-21998-9	LC34-RW3A-20230623	Total/NA	Water	8260D	
670-21998-10	LC34-RW3B-20230623	Total/NA	Water	8260D	
670-21998-11	LC34-RW9A-20230623	Total/NA	Water	8260D	
670-21998-12	LC34-RW17C-20230623	Total/NA	Water	8260D	
670-21998-13	LC34-RW18C-20230623	Total/NA	Water	8260D	
670-21998-14	LC34-RW19C-20230623	Total/NA	Water	8260D	
670-21998-15	LC34-RW20C-20230623	Total/NA	Water	8260D	
670-21998-16	LC34-RW21D-20230622	Total/NA	Water	8260D	
MB 680-786972/8	Method Blank	Total/NA	Water	8260D	
LCS 680-786972/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-786972/5	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 787036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-21998-2	LC34-AS1-20230623	Total/NA	Water	8260D	
670-21998-4	LC34-Influent-20230623	Total/NA	Water	8260D	
MB 680-787036/9	Method Blank	Total/NA	Water	8260D	
LCS 680-787036/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-787036/5	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 787170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-21998-1	LC34-GAC-20230623	Total/NA	Water	8260D	
670-21998-3	LC34-AS2-20230623	Total/NA	Water	8260D	
MB 680-787170/8	Method Blank	Total/NA	Water	8260D	
LCS 680-787170/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-787170/5	Lab Control Sample Dup	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-21998-1
Project/Site: NASA KSC LC34 HCS

Client Sample ID: LC34-GAC-20230623
Lab Sample ID: 670-21998-1
Date Collected: 06/23/23 08:00
Matrix: Water
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	787170	P1C	EET SAV	07/07/23 14:22

Client Sample ID: LC34-AS1-20230623
Lab Sample ID: 670-21998-2
Date Collected: 06/23/23 08:05
Matrix: Water
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	787036	RPG	EET SAV	07/06/23 17:58

Client Sample ID: LC34-AS2-20230623
Lab Sample ID: 670-21998-3
Date Collected: 06/23/23 08:10
Matrix: Water
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	787170	P1C	EET SAV	07/07/23 14:42

Client Sample ID: LC34-Influent-20230623
Lab Sample ID: 670-21998-4
Date Collected: 06/23/23 08:15
Matrix: Water
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	787036	RPG	EET SAV	07/06/23 22:21

Client Sample ID: LC34-RW1A-20230623
Lab Sample ID: 670-21998-5
Date Collected: 06/23/23 08:20
Matrix: Water
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		250	786972	UI	EET SAV	07/06/23 18:35

Client Sample ID: LC34-RW1B-20230623
Lab Sample ID: 670-21998-6
Date Collected: 06/23/23 08:30
Matrix: Water
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	786972	UI	EET SAV	07/06/23 17:54

Client Sample ID: LC34-RW2A-20230623
Lab Sample ID: 670-21998-7
Date Collected: 06/23/23 08:40
Matrix: Water
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	786972	UI	EET SAV	07/06/23 17:34

Client Sample ID: LC34-RW2B-20230623 — **Lab Sample ID: 670-21998-8**
Date Collected: 06/23/23 08:50 — **Matrix: Water**
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		250	786972	UI	EET SAV	07/06/23 18:56

Client Sample ID: LC34-RW3A-20230623 — **Lab Sample ID: 670-21998-9**
Date Collected: 06/23/23 09:00 — **Matrix: Water**
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		100	786972	UI	EET SAV	07/06/23 16:32

Client Sample ID: LC34-RW3B-20230623 — **Lab Sample ID: 670-21998-10**
Date Collected: 06/23/23 09:10 — **Matrix: Water**
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	786972	UI	EET SAV	07/06/23 18:15

Client Sample ID: LC34-RW9A-20230623 — **Lab Sample ID: 670-21998-11**
Date Collected: 06/23/23 09:20 — **Matrix: Water**
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		50	786972	UI	EET SAV	07/06/23 15:51

Client Sample ID: LC34-RW17C-20230623 — **Lab Sample ID: 670-21998-12**
Date Collected: 06/23/23 09:30 — **Matrix: Water**
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2000	786972	UI	EET SAV	07/06/23 19:57

Client Sample ID: LC34-RW18C-20230623 — **Lab Sample ID: 670-21998-13**
Date Collected: 06/23/23 09:40 — **Matrix: Water**
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2000	786972	UI	EET SAV	07/06/23 19:16

Client Sample ID: LC34-RW19C-20230623 — **Lab Sample ID: 670-21998-14**
Date Collected: 06/23/23 09:50 — **Matrix: Water**
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2500	786972	UI	EET SAV	07/06/23 19:37

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-21998-1
Project/Site: NASA KSC LC34 HCS

Client Sample ID: LC34-RW20C-20230623
Lab Sample ID: 670-21998-15
Date Collected: 06/23/23 10:00
Matrix: Water
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	786972	UI	EET SAV	07/06/23 17:13

Client Sample ID: LC34-RW21D-20230622
Lab Sample ID: 670-21998-16
Date Collected: 06/22/23 15:00
Matrix: Water
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	786972	UI	EET SAV	07/06/23 16:53

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-21998-1
Project/Site: NASA KSC LC34 HCS

Laboratory: Eurofins Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-24
ANAB	Dept. of Defense ELAP	L2463	07-09-23
Arkansas DEQ	State	19-015-0	02-01-24
California	State	2939	06-30-23 *
Florida	NELAP	E87052	06-30-24
Georgia	State	E87052	06-30-24
Georgia (DW)	State	803	06-30-24
Guam	State	19-007R	04-17-24
Hawaii	State	<cert No.>	06-30-23 *
Illinois	NELAP	200022	11-30-23
Iowa	State	353	07-01-25
Kentucky (UST)	State	NA	06-30-24
Louisiana	NELAP	30690	06-30-24
Louisiana (All)	NELAP	30690	06-30-24
Louisiana (DW)	State	LA009	12-31-23
Maine	State	GA00006	09-25-24
Maryland	State	250	12-31-23
Massachusetts	State	M-GA006	06-30-24
Michigan	State	9925	06-30-24
Mississippi	State	<cert No.>	06-30-24
Nebraska	State	NE-OS-7-04	06-30-24
New Jersey	NELAP	GA769	06-30-24
New Mexico	State	GA00006	06-30-24
North Carolina (DW)	State	13701	07-31-23
North Carolina (WW/SW)	State	269	12-31-23
Pennsylvania	NELAP	68-00474	06-30-24
Puerto Rico	State	GA00006	01-01-24
South Carolina	State	98001	06-30-23 *
Tennessee	State	TN02961	06-30-24
Texas	NELAP	T1047004185-19-14	11-30-23
Texas	TCEQ Water Supply	T104704185	06-30-24
USDA	US Federal Programs	P330-18-00313	09-03-24
Virginia	NELAP	460161	06-14-24
Wyoming	State	8TMS-L	06-30-23 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-21998-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET SAV
5030B	Purge and Trap	SW846	EET SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-21998-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-21998-1	LC34-GAC-20230623	Water	06/23/23 08:00	06/23/23 15:40
670-21998-2	LC34-AS1-20230623	Water	06/23/23 08:05	06/23/23 15:40
670-21998-3	LC34-AS2-20230623	Water	06/23/23 08:10	06/23/23 15:40
670-21998-4	LC34-Influent-20230623	Water	06/23/23 08:15	06/23/23 15:40
670-21998-5	LC34-RW1A-20230623	Water	06/23/23 08:20	06/23/23 15:40
670-21998-6	LC34-RW1B-20230623	Water	06/23/23 08:30	06/23/23 15:40
670-21998-7	LC34-RW2A-20230623	Water	06/23/23 08:40	06/23/23 15:40
670-21998-8	LC34-RW2B-20230623	Water	06/23/23 08:50	06/23/23 15:40
670-21998-9	LC34-RW3A-20230623	Water	06/23/23 09:00	06/23/23 15:40
670-21998-10	LC34-RW3B-20230623	Water	06/23/23 09:10	06/23/23 15:40
670-21998-11	LC34-RW9A-20230623	Water	06/23/23 09:20	06/23/23 15:40
670-21998-12	LC34-RW17C-20230623	Water	06/23/23 09:30	06/23/23 15:40
670-21998-13	LC34-RW18C-20230623	Water	06/23/23 09:40	06/23/23 15:40
670-21998-14	LC34-RW19C-20230623	Water	06/23/23 09:50	06/23/23 15:40
670-21998-15	LC34-RW20C-20230623	Water	06/23/23 10:00	06/23/23 15:40
670-21998-16	LC34-RW21D-20230622	Water	06/22/23 15:00	06/23/23 15:40

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3652 | PAGE 2 OF 2

PROJECT NO: 112G009985	FACILITY: LC34 HCS	PROJECT MANAGER MARK JANICKI	PHONE NUMBER 412-921-8622	LABORATORY NAME AND CONTACT: ENCO / EUROFINS
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER DAN FORESTER	PHONE NUMBER 304-780-1420	ADDRESS
		CARRIER/WAYBILL NUMBER COURIER		CITY, STATE ORLANDO, FL

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS 8260	COMMENTS
									G	HCL		
23JUN	0950	LC34-RW19C-20230623	LC34	✓	✓	GW	G	3	3			
↓	1000	LC34-RW20C-20230623	|	|	|	|	|	|	|			
22JUN	1500	LC34-RW21D-20230623	X	X	X	X	X	X	X			

670-21998 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	23JUN23	1005	1. RECEIVED BY	06/23/23	1005
2. RELINQUISHED BY	06/23/23	1340	2. RECEIVED BY	06/23/23	1340
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	6/23/23	1540

COMMENTS PM# 67001156 1.0/0.5 596

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

FORM NO. TtNUS-001 4/02R

7/11/2023

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3651 | PAGE 1 OF 2

PROJECT NO: 112G08985	FACILITY: LC34 HCS	PROJECT MANAGER MARK JONNET	PHONE NUMBER 412 921 8622	LABORATORY NAME AND CONTACT: ENCO EUROFINS
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER DAN FORESTER	PHONE NUMBER 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER COURIER		CITY, STATE ORLANDO, FL

STANDARD TAT ☒ 10
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G
PRESERVATIVE USED: HCL
TYPE OF ANALYSIS: 8260

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS 8260	COMMENTS
23JUN	0800	LC34-GAC-20230623	LC34	/	/	GW	G	3	3	
	0805	LC34-A$1-20230623								
	0810	LC34-A$2-20230623								
	0815	LC34-INFLUENT-20230623								
	0820	LC34-RW1A-20230623								
	0830	LC34-RW1B-20230623								
	0840	LC34-RW2A-20230623								
	0850	LC34-RW2B-20230623								
	0900	LC34-RW3A-20230623								
	0910	LC34-RW3B-20230623	20230623							
	0920	LC34-RW9A-20230623								
	0930	LC34-RW17C-20230623								
	0940	LC34-RW18C-20230623		X	X	X	X	X	X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	23JUN23	1005	1. RECEIVED BY	06/23/23	1005
2. RELINQUISHED BY	06/23/23	1340	2. RECEIVED BY James W. Gregory	6/23/23	1340
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS PH 6700 1156

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

FORM NO. TtNUS-001 7/11/2023

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone. 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-11139 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 2
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-21998-1
Address: 5102 LaRoche Avenue, ,	Due Date Requested: 7/6/2023			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34 HCS	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030B (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-GAC-20230623 (670-21998-1)	6/23/23	08:00 Eastern		Water			X	3	
LC34-AS1-20230623 (670-21998-2)	6/23/23	08:05 Eastern		Water			X	3	
LC34-AS2-20230623 (670-21998-3)	6/23/23	08:10 Eastern		Water			X	3	
LC34-Influent-20230623 (670-21998-4)	6/23/23	08:15 Eastern		Water			X	3	
LC34-RW1A-20230623 (670-21998-5)	6/23/23	08:20 Eastern		Water			X	3	
LC34-RW1B-20230623 (670-21998-6)	6/23/23	08:30 Eastern		Water			X	3	
LC34-RW2A-20230623 (670-21998-7)	6/23/23	08:40 Eastern		Water			X	3	
LC34-RW2B-20230623 (670-21998-8)	6/23/23	08:50 Eastern		Water			X	3	
LC34-RW3A-20230623 (670-21998-9)	6/23/23	09:00 Eastern		Water			X	3	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		6/26 1451			6-27-23	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 7:50	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 4.7 - 4.5

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-21998-1

Login Number: 21998

List Source: Eurofins Orlando

List Number: 1

Creator: Bittle, David W

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-21998-1

Login Number: 21998
List Number: 2
Creator: Harley, Tynisha

List Source: Eurofins Savannah
List Creation: 06/27/23 01:16 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 6/30/2023 11:32:33 AM

JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-22009-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

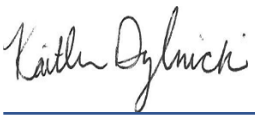
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
Kaitlin Dylnicki, Project Manager
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(407)339-5984

Table of Contents

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-22009-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-22009-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-22009-1

Receipt
The samples were received on 6/23/2023 3:40 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.5°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 680-786001 recovered above the upper control limit for 1,1,2,2-Tetrachloroethane, 2-Hexanone, Acetone, cis-1,3-Dichloropropene, 2-Butanone (MEK), 4-Methyl-2-pentanone and trans-1,3-Dichloropropene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-786001 recovered outside acceptance criteria, low biased, for Bromomethane, Dichlorodifluoromethane and Trichlorofluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The laboratory control sample (LCS) for analytical batch 680-786001 recovered outside control limits for the following analytes: 2-Hexanone, Acetone, Bromoform, 2-Butanone (MEK), 4-Methyl-2-pentanone, o-Xylene and Methyl acetate. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The laboratory control sample duplicate (LCSD) for analytical batch 680-786001 recovered outside control limits for the following analytes: 1,2-Dibromo-3-Chloropropane, 2-Hexanone, Acetone, Dichlorodifluoromethane, 2-Butanone (MEK), 4-Methyl-2-pentanone and Methyl acetate. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-786001.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-786080 recovered above the upper control limit for 1,2-Dibromo-3-Chloropropane, Trichlorofluoromethane and 1,1,2-Trichloro-1,2,2-trifluoroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-786080 recovered outside acceptance criteria, low biased, for Bromomethane and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The laboratory control sample (LCS) for analytical batch 680-786080 recovered outside control limits for the following analytes: 4-Methyl-2-pentanone. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for analytical batch 680-786080 recovered outside control limits for the following analyte(s): 4-Methyl-2-pentanone. 4-Methyl-2-pentanone has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The laboratory control sample duplicate (LCSD) for analytical batch 680-786080 recovered outside control limits for the following analytes: Ethylbenzene, Isopropylbenzene, 2-Butanone (MEK), 4-Methyl-2-pentanone, m,p-Xylenes, o-Xylene, Styrene and Xylenes, Total. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-786080.

Job ID: 670-22009-1 (Continued)

Laboratory: Eurofins Orlando (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22009-1

Client Sample ID: LC34-IW0165-110.0-20230623 — Lab Sample ID: 670-22009-1

No Detections.

Client Sample ID: LC34-IW0044D2-110.0-20230623 — Lab Sample ID: 670-22009-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	1300		10	2.0	ug/L	10		8260D	Total/NA
Vinyl chloride	550		10	4.0	ug/L	10		8260D	Total/NA
cis-1,2-Dichloroethene - DL	1700		20	5.0	ug/L	20		8260D	Total/NA

Client Sample ID: LC34-IW0162-110.0-20230623 — Lab Sample ID: 670-22009-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	11		1.0	0.25	ug/L	1		8260D	Total/NA
Trichloroethene	4.9		1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride	7.4		1.0	0.40	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22009-1

Client Sample ID: LC34-IW0165-110.0-20230623
Date Collected: 06/23/23 09:00
Date Received: 06/23/23 15:40

Lab Sample ID: 670-22009-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			06/28/23 19:59	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			06/28/23 19:59	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			06/28/23 19:59	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			06/28/23 19:59	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			06/28/23 19:59	1
1,2-Dibromo-3-Chloropropane	1.8	U J3	5.0	1.8	ug/L			06/28/23 19:59	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/28/23 19:59	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			06/28/23 19:59	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			06/28/23 19:59	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/28/23 19:59	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/28/23 19:59	1
2-Hexanone	3.2	U J3	10	3.2	ug/L			06/28/23 19:59	1
Acetone	3.7	U J3	10	3.7	ug/L			06/28/23 19:59	1
Benzene	0.27	U	1.0	0.27	ug/L			06/28/23 19:59	1
Bromoform	0.59	U J3	1.0	0.59	ug/L			06/28/23 19:59	1
Bromomethane	3.7	U	5.0	3.7	ug/L			06/28/23 19:59	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			06/28/23 19:59	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			06/28/23 19:59	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			06/28/23 19:59	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			06/28/23 19:59	1
Chloroethane	4.6	U	5.0	4.6	ug/L			06/28/23 19:59	1
Chloroform	0.27	U	1.0	0.27	ug/L			06/28/23 19:59	1
Chloromethane	0.54	U	1.0	0.54	ug/L			06/28/23 19:59	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			06/28/23 19:59	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			06/28/23 19:59	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			06/28/23 19:59	1
Dichlorodifluoromethane	0.36	U J3	1.0	0.36	ug/L			06/28/23 19:59	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			06/28/23 19:59	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			06/28/23 19:59	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			06/28/23 19:59	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			06/28/23 19:59	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			06/28/23 19:59	1
2-Butanone (MEK)	6.4	U J3	10	6.4	ug/L			06/28/23 19:59	1
4-Methyl-2-pentanone	2.7	U J3	10	2.7	ug/L			06/28/23 19:59	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			06/28/23 19:59	1
o-Xylene	0.26	U J3	1.0	0.26	ug/L			06/28/23 19:59	1
Styrene	0.27	U	1.0	0.27	ug/L			06/28/23 19:59	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			06/28/23 19:59	1
Toluene	0.25	U	1.0	0.25	ug/L			06/28/23 19:59	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			06/28/23 19:59	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			06/28/23 19:59	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			06/28/23 19:59	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			06/28/23 19:59	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			06/28/23 19:59	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			06/28/23 19:59	1
Methyl acetate	3.2	U J3	5.0	3.2	ug/L			06/28/23 19:59	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			06/28/23 19:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			06/28/23 19:59	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			06/28/23 19:59	1

Client Sample ID: LC34-IW0165-110.0-20230623 **Lab Sample ID: 670-22009-1**
Date Collected: 06/23/23 09:00 **Matrix: Water**
Date Received: 06/23/23 15:40

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*70 - 130*		*06/28/23 19:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*60 - 124*		*06/28/23 19:59*	*1*
Dibromofluoromethane (Surr)	*120*		*70 - 130*		*06/28/23 19:59*	*1*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*		*06/28/23 19:59*	*1*

Client Sample ID: LC34-IW0044D2-110.0-20230623 **Lab Sample ID: 670-22009-2**
Date Collected: 06/23/23 09:30 **Matrix: Water**
Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	2.1	U	10	2.1	ug/L			06/29/23 02:33	10
1,1,2,2-Tetrachloroethane	4.0	U	10	4.0	ug/L			06/29/23 02:33	10
1,1,2-Trichloroethane	3.2	U	10	3.2	ug/L			06/29/23 02:33	10
1,1-Dichloroethane	3.3	U	10	3.3	ug/L			06/29/23 02:33	10
1,1-Dichloroethene	3.3	U	10	3.3	ug/L			06/29/23 02:33	10
1,2-Dibromo-3-Chloropropane	18	U J3	50	18	ug/L			06/29/23 02:33	10
1,2-Dichlorobenzene	3.1	U	10	3.1	ug/L			06/29/23 02:33	10
1,2-Dichloroethane	2.5	U	10	2.5	ug/L			06/29/23 02:33	10
1,2-Dichloropropane	2.2	U	10	2.2	ug/L			06/29/23 02:33	10
1,3-Dichlorobenzene	3.1	U	10	3.1	ug/L			06/29/23 02:33	10
1,4-Dichlorobenzene	3.1	U	10	3.1	ug/L			06/29/23 02:33	10
2-Hexanone	32	U J3	100	32	ug/L			06/29/23 02:33	10
Acetone	37	U J3	100	37	ug/L			06/29/23 02:33	10
Benzene	2.7	U	10	2.7	ug/L			06/29/23 02:33	10
Bromoform	5.9	U J3	10	5.9	ug/L			06/29/23 02:33	10
Bromomethane	37	U	50	37	ug/L			06/29/23 02:33	10
Carbon disulfide	4.3	U	20	4.3	ug/L			06/29/23 02:33	10
Carbon tetrachloride	3.0	U	10	3.0	ug/L			06/29/23 02:33	10
Chlorobenzene	1.5	U	10	1.5	ug/L			06/29/23 02:33	10
Dibromochloromethane	3.9	U	10	3.9	ug/L			06/29/23 02:33	10
Chloroethane	46	U	50	46	ug/L			06/29/23 02:33	10
Chloroform	2.7	U	10	2.7	ug/L			06/29/23 02:33	10
Chloromethane	5.4	U	10	5.4	ug/L			06/29/23 02:33	10
cis-1,3-Dichloropropene	2.6	U	10	2.6	ug/L			06/29/23 02:33	10
Bromodichloromethane	2.5	U	10	2.5	ug/L			06/29/23 02:33	10
Dichlorodifluoromethane	3.6	U J3	10	3.6	ug/L			06/29/23 02:33	10
Ethylbenzene	2.0	U	10	2.0	ug/L			06/29/23 02:33	10
1,2-Dibromoethane (EDB)	3.3	U	10	3.3	ug/L			06/29/23 02:33	10
Isopropylbenzene	2.6	U	10	2.6	ug/L			06/29/23 02:33	10
Methyl tert-butyl ether	8.1	U	50	8.1	ug/L			06/29/23 02:33	10
Methylene Chloride	32	U	50	32	ug/L			06/29/23 02:33	10
2-Butanone (MEK)	64	U J3	100	64	ug/L			06/29/23 02:33	10
4-Methyl-2-pentanone	27	U J3	100	27	ug/L			06/29/23 02:33	10
m,p-Xylenes	4.9	U	10	4.9	ug/L			06/29/23 02:33	10
o-Xylene	2.6	U J3	10	2.6	ug/L			06/29/23 02:33	10
Styrene	2.7	U	10	2.7	ug/L			06/29/23 02:33	10
Tetrachloroethene	3.5	U	5.0	3.5	ug/L			06/29/23 02:33	10
Toluene	2.5	U	10	2.5	ug/L			06/29/23 02:33	10
trans-1,2-Dichloroethene	3.4	U	10	3.4	ug/L			06/29/23 02:33	10

Client Sample ID: LC34-IW0044D2-110.0-20230623

Lab Sample ID: 670-22009-2

Date Collected: 06/23/23 09:30

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	2.3	U	10	2.3	ug/L			06/29/23 02:33	10
Trichloroethene	**1300**		10	2.0	ug/L			06/29/23 02:33	10
Trichlorofluoromethane	3.3	U	10	3.3	ug/L			06/29/23 02:33	10
Vinyl chloride	**550**		10	4.0	ug/L			06/29/23 02:33	10
Xylenes, Total	2.3	U	10	2.3	ug/L			06/29/23 02:33	10
Methyl acetate	32	U J3	50	32	ug/L			06/29/23 02:33	10
Cyclohexane	2.8	U	10	2.8	ug/L			06/29/23 02:33	10
1,1,2-Trichloro-1,2,2-trifluoroethane	2.3	U	10	2.3	ug/L			06/29/23 02:33	10
1,2,4-Trichlorobenzene	5.3	U	50	5.3	ug/L			06/29/23 02:33	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*70 - 130*		*06/29/23 02:33*	*10*
1,2-Dichloroethane-d4 (Surr)	*116*		*60 - 124*		*06/29/23 02:33*	*10*
Dibromofluoromethane (Surr)	*116*		*70 - 130*		*06/29/23 02:33*	*10*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*		*06/29/23 02:33*	*10*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**1700**		20	5.0	ug/L			06/29/23 14:34	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*06/29/23 14:34*	*20*
1,2-Dichloroethane-d4 (Surr)	*113*		*60 - 124*		*06/29/23 14:34*	*20*
Dibromofluoromethane (Surr)	*114*		*70 - 130*		*06/29/23 14:34*	*20*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*06/29/23 14:34*	*20*

Client Sample ID: LC34-IW0162-110.0-20230623

Lab Sample ID: 670-22009-3

Date Collected: 06/23/23 10:10

Matrix: Water

Date Received: 06/23/23 15:40

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			06/29/23 14:15	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			06/29/23 14:15	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			06/29/23 14:15	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			06/29/23 14:15	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			06/29/23 14:15	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			06/29/23 14:15	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/29/23 14:15	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			06/29/23 14:15	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			06/29/23 14:15	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/29/23 14:15	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/29/23 14:15	1
2-Hexanone	3.2	U	10	3.2	ug/L			06/29/23 14:15	1
Acetone	3.7	U	10	3.7	ug/L			06/29/23 14:15	1
Benzene	0.27	U	1.0	0.27	ug/L			06/29/23 14:15	1
Bromoform	0.59	U	1.0	0.59	ug/L			06/29/23 14:15	1
Bromomethane	3.7	U	5.0	3.7	ug/L			06/29/23 14:15	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			06/29/23 14:15	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			06/29/23 14:15	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			06/29/23 14:15	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22009-1

Client Sample ID: LC34-IW0162-110.0-20230623
Date Collected: 06/23/23 10:10
Date Received: 06/23/23 15:40

Lab Sample ID: 670-22009-3
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			06/29/23 14:15	1
Chloroethane	4.6	U	5.0	4.6	ug/L			06/29/23 14:15	1
Chloroform	0.27	U	1.0	0.27	ug/L			06/29/23 14:15	1
Chloromethane	0.54	U	1.0	0.54	ug/L			06/29/23 14:15	1
cis-1,2-Dichloroethene	**11**		1.0	0.25	ug/L			06/29/23 14:15	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			06/29/23 14:15	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			06/29/23 14:15	1
Dichlorodifluoromethane	0.36	U J3	1.0	0.36	ug/L			06/29/23 14:15	1
Ethylbenzene	0.20	U J3	1.0	0.20	ug/L			06/29/23 14:15	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			06/29/23 14:15	1
Isopropylbenzene	0.26	U J3	1.0	0.26	ug/L			06/29/23 14:15	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			06/29/23 14:15	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			06/29/23 14:15	1
2-Butanone (MEK)	6.4	U J3	10	6.4	ug/L			06/29/23 14:15	1
4-Methyl-2-pentanone	2.7	U J3	10	2.7	ug/L			06/29/23 14:15	1
m,p-Xylenes	0.49	U J3	1.0	0.49	ug/L			06/29/23 14:15	1
o-Xylene	0.26	U J3	1.0	0.26	ug/L			06/29/23 14:15	1
Styrene	0.27	U J3	1.0	0.27	ug/L			06/29/23 14:15	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			06/29/23 14:15	1
Toluene	0.25	U	1.0	0.25	ug/L			06/29/23 14:15	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			06/29/23 14:15	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			06/29/23 14:15	1
Trichloroethene	**4.9**		1.0	0.20	ug/L			06/29/23 14:15	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			06/29/23 14:15	1
Vinyl chloride	**7.4**		1.0	0.40	ug/L			06/29/23 14:15	1
Xylenes, Total	0.23	U J3	1.0	0.23	ug/L			06/29/23 14:15	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			06/29/23 14:15	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			06/29/23 14:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			06/29/23 14:15	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			06/29/23 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*109*		*70 - 130*		*06/29/23 14:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*60 - 124*		*06/29/23 14:15*	*1*
Dibromofluoromethane (Surr)	*113*		*70 - 130*		*06/29/23 14:15*	*1*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*		*06/29/23 14:15*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22009-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		TOL	DCA	DBFM	BFB
Lab Sample ID	Client Sample ID	(70-130)	(60-124)	(70-130)	(70-130)
670-22009-1	LC34-IW0165-110.0-20230623	102	116	120	77
670-22009-2	LC34-IW0044D2-110.0-20230623	95	116	116	90
670-22009-2 - DL	LC34-IW0044D2-110.0-20230623	98	113	114	93
670-22009-3	LC34-IW0162-110.0-20230623	109	108	113	83
LCS 680-786001/5	Lab Control Sample	101	112	111	95
LCS 680-786080/4	Lab Control Sample	100	109	114	100
LCSD 680-786001/6	Lab Control Sample Dup	101	108	110	94
LCSD 680-786080/5	Lab Control Sample Dup	102	112	114	90
MB 680-786001/9	Method Blank	110	108	112	70
MB 680-786080/8	Method Blank	98	112	117	78

Surrogate Legend

TOL = Toluene-d8 (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 680-786001/9
Matrix: Water
Analysis Batch: 786001

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			06/28/23 19:20	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			06/28/23 19:20	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			06/28/23 19:20	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			06/28/23 19:20	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			06/28/23 19:20	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			06/28/23 19:20	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/28/23 19:20	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			06/28/23 19:20	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			06/28/23 19:20	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/28/23 19:20	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/28/23 19:20	1
2-Hexanone	3.2	U	10	3.2	ug/L			06/28/23 19:20	1
Acetone	3.7	U	10	3.7	ug/L			06/28/23 19:20	1
Benzene	0.27	U	1.0	0.27	ug/L			06/28/23 19:20	1
Bromoform	0.59	U	1.0	0.59	ug/L			06/28/23 19:20	1
Bromomethane	3.7	U	5.0	3.7	ug/L			06/28/23 19:20	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			06/28/23 19:20	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			06/28/23 19:20	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			06/28/23 19:20	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			06/28/23 19:20	1
Chloroethane	4.6	U	5.0	4.6	ug/L			06/28/23 19:20	1
Chloroform	0.27	U	1.0	0.27	ug/L			06/28/23 19:20	1
Chloromethane	0.54	U	1.0	0.54	ug/L			06/28/23 19:20	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			06/28/23 19:20	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			06/28/23 19:20	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			06/28/23 19:20	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			06/28/23 19:20	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			06/28/23 19:20	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			06/28/23 19:20	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			06/28/23 19:20	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			06/28/23 19:20	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			06/28/23 19:20	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			06/28/23 19:20	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			06/28/23 19:20	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			06/28/23 19:20	1
o-Xylene	0.26	U	1.0	0.26	ug/L			06/28/23 19:20	1
Styrene	0.27	U	1.0	0.27	ug/L			06/28/23 19:20	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			06/28/23 19:20	1
Toluene	0.25	U	1.0	0.25	ug/L			06/28/23 19:20	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			06/28/23 19:20	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			06/28/23 19:20	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			06/28/23 19:20	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			06/28/23 19:20	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			06/28/23 19:20	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			06/28/23 19:20	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			06/28/23 19:20	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			06/28/23 19:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			06/28/23 19:20	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-786001/9
Matrix: Water
Analysis Batch: 786001

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			06/28/23 19:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*110*		*70 - 130*		*06/28/23 19:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*60 - 124*		*06/28/23 19:20*	*1*
Dibromofluoromethane (Surr)	*112*		*70 - 130*		*06/28/23 19:20*	*1*
4-Bromofluorobenzene (Surr)	*70*		*70 - 130*		*06/28/23 19:20*	*1*

Lab Sample ID: LCS 680-786001/5
Matrix: Water
Analysis Batch: 786001

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	50.9		ug/L		102	70 - 130
1,1,2,2-Tetrachloroethane	50.0	50.7		ug/L		101	70 - 130
1,1,2-Trichloroethane	50.0	57.2		ug/L		114	70 - 130
1,1-Dichloroethane	50.0	49.9		ug/L		100	70 - 130
1,1-Dichloroethene	50.0	51.6		ug/L		103	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	62.5		ug/L		125	70 - 130
1,2-Dichlorobenzene	50.0	57.9		ug/L		116	70 - 130
1,2-Dichloroethane	50.0	54.1		ug/L		108	70 - 130
1,2-Dichloropropane	50.0	55.2		ug/L		110	70 - 130
1,3-Dichlorobenzene	50.0	52.5		ug/L		105	70 - 130
1,4-Dichlorobenzene	50.0	53.7		ug/L		107	70 - 130
2-Hexanone	250	347	J3	ug/L		139	70 - 130
Acetone	250	340	J3	ug/L		136	67 - 120
Benzene	50.0	49.7		ug/L		99	70 - 130
Bromoform	50.0	65.2	J3	ug/L		130	69 - 129
Bromomethane	50.0	37.0		ug/L		74	28 - 192
Carbon disulfide	50.0	46.5		ug/L		93	70 - 130
Carbon tetrachloride	50.0	49.4		ug/L		99	70 - 130
Chlorobenzene	50.0	55.2		ug/L		110	70 - 130
Dibromochloromethane	50.0	56.9		ug/L		114	70 - 130
Chloroethane	50.0	54.3		ug/L		109	31 - 213
Chloroform	50.0	51.0		ug/L		102	70 - 130
Chloromethane	50.0	47.7		ug/L		95	59 - 127
cis-1,2-Dichloroethene	50.0	55.2		ug/L		110	70 - 130
cis-1,3-Dichloropropene	50.0	59.3		ug/L		119	70 - 130
Bromodichloromethane	50.0	56.6		ug/L		113	70 - 130
Dichlorodifluoromethane	50.0	37.9		ug/L		76	70 - 130
Ethylbenzene	50.0	62.7		ug/L		125	70 - 130
1,2-Dibromoethane (EDB)	50.0	57.5		ug/L		115	70 - 130
Isopropylbenzene	50.0	60.5		ug/L		121	70 - 130
Methyl tert-butyl ether	50.0	52.1		ug/L		104	70 - 130
Methylene Chloride	50.0	54.8		ug/L		110	70 - 130
2-Butanone (MEK)	250	348	J3	ug/L		139	69 - 120
4-Methyl-2-pentanone	250	350	J3	ug/L		140	68 - 120
m,p-Xylenes	50.0	64.2		ug/L		128	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-786001/5
Matrix: Water
Analysis Batch: 786001

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			50.0	65.8	J3	ug/L		132	70 - 130		
Styrene			50.0	63.8		ug/L		128	70 - 130		
Tetrachloroethene			50.0	51.6		ug/L		103	70 - 130		
Toluene			50.0	47.6		ug/L		95	70 - 130		
trans-1,2-Dichloroethene			50.0	51.4		ug/L		103	70 - 130		
trans-1,3-Dichloropropene			50.0	60.1		ug/L		120	70 - 130		
Trichloroethene			50.0	53.2		ug/L		106	70 - 130		
Trichlorofluoromethane			50.0	41.3		ug/L		83	63 - 142		
Vinyl chloride			50.0	47.3		ug/L		95	66 - 129		
Xylenes, Total			100	130		ug/L		130	70 - 130		
Methyl acetate			100	124	J3	ug/L		124	67 - 120		
Cyclohexane			50.0	50.9		ug/L		102	23 - 175		
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	60.1		ug/L		120	63 - 141		
1,2,4-Trichlorobenzene			50.0	44.0		ug/L		88	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*112*		*60 - 124*
Dibromofluoromethane (Surr)	*111*		*70 - 130*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 680-786001/6
Matrix: Water
Analysis Batch: 786001

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			50.0	49.2		ug/L		98	70 - 130	4	30
1,1,2,2-Tetrachloroethane			50.0	56.4		ug/L		113	70 - 130	11	30
1,1,2-Trichloroethane			50.0	56.7		ug/L		113	70 - 130	1	30
1,1-Dichloroethane			50.0	50.7		ug/L		101	70 - 130	2	30
1,1-Dichloroethene			50.0	48.5		ug/L		97	70 - 130	6	20
1,2-Dibromo-3-Chloropropane			50.0	69.3	J3	ug/L		139	70 - 130	10	30
1,2-Dichlorobenzene			50.0	59.9		ug/L		120	70 - 130	3	30
1,2-Dichloroethane			50.0	53.5		ug/L		107	70 - 130	1	50
1,2-Dichloropropane			50.0	56.4		ug/L		113	70 - 130	2	20
1,3-Dichlorobenzene			50.0	52.3		ug/L		105	70 - 130	0	30
1,4-Dichlorobenzene			50.0	57.5		ug/L		115	70 - 130	7	30
2-Hexanone			250	352	J3	ug/L		141	70 - 130	1	20
Acetone			250	315	J3	ug/L		126	67 - 120	7	30
Benzene			50.0	50.0		ug/L		100	70 - 130	1	30
Bromoform			50.0	62.3		ug/L		125	69 - 129	5	30
Bromomethane			50.0	35.8		ug/L		72	28 - 192	3	30
Carbon disulfide			50.0	45.1		ug/L		90	70 - 130	3	30
Carbon tetrachloride			50.0	47.0		ug/L		94	70 - 130	5	30
Chlorobenzene			50.0	54.1		ug/L		108	70 - 130	2	30
Dibromochloromethane			50.0	57.8		ug/L		116	70 - 130	2	30
Chloroethane			50.0	52.4		ug/L		105	31 - 213	4	30
Chloroform			50.0	51.3		ug/L		103	70 - 130	1	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-786001/6
Matrix: Water
Analysis Batch: 786001

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloromethane	50.0	46.0		ug/L		92	59 - 127	4	30
cis-1,2-Dichloroethene	50.0	54.6		ug/L		109	70 - 130	1	30
cis-1,3-Dichloropropene	50.0	59.6		ug/L		119	70 - 130	0	20
Bromodichloromethane	50.0	56.9		ug/L		114	70 - 130	1	30
Dichlorodifluoromethane	50.0	31.6	J3	ug/L		63	70 - 130	18	40
Ethylbenzene	50.0	58.3		ug/L		117	70 - 130	7	20
1,2-Dibromoethane (EDB)	50.0	56.4		ug/L		113	70 - 130	2	30
Isopropylbenzene	50.0	53.5		ug/L		107	70 - 130	12	30
Methyl tert-butyl ether	50.0	50.9		ug/L		102	70 - 130	2	30
Methylene Chloride	50.0	55.1		ug/L		110	70 - 130	1	30
2-Butanone (MEK)	250	335	J3	ug/L		134	69 - 120	4	30
4-Methyl-2-pentanone	250	343	J3	ug/L		137	68 - 120	2	30
m,p-Xylenes	50.0	58.1		ug/L		116	70 - 130	10	30
o-Xylene	50.0	60.1		ug/L		120	70 - 130	9	30
Styrene	50.0	58.5		ug/L		117	70 - 130	9	30
Tetrachloroethene	50.0	50.0		ug/L		100	70 - 130	3	30
Toluene	50.0	49.5		ug/L		99	70 - 130	4	30
trans-1,2-Dichloroethene	50.0	49.7		ug/L		99	70 - 130	3	30
trans-1,3-Dichloropropene	50.0	59.8		ug/L		120	70 - 130	0	30
Trichloroethene	50.0	52.7		ug/L		105	70 - 130	1	30
Trichlorofluoromethane	50.0	34.5		ug/L		69	63 - 142	18	30
Vinyl chloride	50.0	44.7		ug/L		89	66 - 129	6	30
Xylenes, Total	100	118		ug/L		118	70 - 130	10	30
Methyl acetate	100	121	J3	ug/L		121	67 - 120	2	30
Cyclohexane	50.0	44.3		ug/L		89	23 - 175	14	30
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	52.0		ug/L		104	63 - 141	14	30
1,2,4-Trichlorobenzene	50.0	50.1		ug/L		100	70 - 130	13	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*108*		*60 - 124*
Dibromofluoromethane (Surr)	*110*		*70 - 130*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: MB 680-786080/8
Matrix: Water
Analysis Batch: 786080

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			06/29/23 12:56	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			06/29/23 12:56	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			06/29/23 12:56	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			06/29/23 12:56	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			06/29/23 12:56	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			06/29/23 12:56	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/29/23 12:56	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			06/29/23 12:56	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			06/29/23 12:56	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-786080/8
Matrix: Water
Analysis Batch: 786080

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/29/23 12:56	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			06/29/23 12:56	1
2-Hexanone	3.2	U	10	3.2	ug/L			06/29/23 12:56	1
Acetone	3.7	U	10	3.7	ug/L			06/29/23 12:56	1
Benzene	0.27	U	1.0	0.27	ug/L			06/29/23 12:56	1
Bromoform	0.59	U	1.0	0.59	ug/L			06/29/23 12:56	1
Bromomethane	3.7	U	5.0	3.7	ug/L			06/29/23 12:56	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			06/29/23 12:56	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			06/29/23 12:56	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			06/29/23 12:56	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			06/29/23 12:56	1
Chloroethane	4.6	U	5.0	4.6	ug/L			06/29/23 12:56	1
Chloroform	0.27	U	1.0	0.27	ug/L			06/29/23 12:56	1
Chloromethane	0.54	U	1.0	0.54	ug/L			06/29/23 12:56	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			06/29/23 12:56	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			06/29/23 12:56	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			06/29/23 12:56	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			06/29/23 12:56	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			06/29/23 12:56	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			06/29/23 12:56	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			06/29/23 12:56	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			06/29/23 12:56	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			06/29/23 12:56	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			06/29/23 12:56	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			06/29/23 12:56	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			06/29/23 12:56	1
o-Xylene	0.26	U	1.0	0.26	ug/L			06/29/23 12:56	1
Styrene	0.27	U	1.0	0.27	ug/L			06/29/23 12:56	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			06/29/23 12:56	1
Toluene	0.25	U	1.0	0.25	ug/L			06/29/23 12:56	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			06/29/23 12:56	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			06/29/23 12:56	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			06/29/23 12:56	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			06/29/23 12:56	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			06/29/23 12:56	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			06/29/23 12:56	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			06/29/23 12:56	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			06/29/23 12:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			06/29/23 12:56	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			06/29/23 12:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*06/29/23 12:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*60 - 124*		*06/29/23 12:56*	*1*
Dibromofluoromethane (Surr)	*117*		*70 - 130*		*06/29/23 12:56*	*1*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*		*06/29/23 12:56*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-786080/4
Matrix: Water
Analysis Batch: 786080

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	53.3		ug/L		107	70 - 130
1,1,2,2-Tetrachloroethane	50.0	49.1		ug/L		98	70 - 130
1,1,2-Trichloroethane	50.0	55.8		ug/L		112	70 - 130
1,1-Dichloroethane	50.0	53.6		ug/L		107	70 - 130
1,1-Dichloroethene	50.0	56.8		ug/L		114	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	55.8		ug/L		112	70 - 130
1,2-Dichlorobenzene	50.0	57.6		ug/L		115	70 - 130
1,2-Dichloroethane	50.0	54.8		ug/L		110	70 - 130
1,2-Dichloropropane	50.0	58.4		ug/L		117	70 - 130
1,3-Dichlorobenzene	50.0	51.2		ug/L		102	70 - 130
1,4-Dichlorobenzene	50.0	53.0		ug/L		106	70 - 130
2-Hexanone	250	297		ug/L		119	70 - 130
Acetone	250	288		ug/L		115	67 - 120
Benzene	50.0	52.0		ug/L		104	70 - 130
Bromoform	50.0	55.9		ug/L		112	69 - 129
Bromomethane	50.0	43.2		ug/L		86	28 - 192
Carbon disulfide	50.0	52.6		ug/L		105	70 - 130
Carbon tetrachloride	50.0	50.6		ug/L		101	70 - 130
Chlorobenzene	50.0	55.5		ug/L		111	70 - 130
Dibromochloromethane	50.0	57.3		ug/L		115	70 - 130
Chloroethane	50.0	56.6		ug/L		113	31 - 213
Chloroform	50.0	52.9		ug/L		106	70 - 130
Chloromethane	50.0	42.4		ug/L		85	59 - 127
cis-1,2-Dichloroethene	50.0	56.4		ug/L		113	70 - 130
cis-1,3-Dichloropropene	50.0	56.7		ug/L		113	70 - 130
Bromodichloromethane	50.0	57.6		ug/L		115	70 - 130
Dichlorodifluoromethane	50.0	34.6	J3	ug/L		69	70 - 130
Ethylbenzene	50.0	60.4		ug/L		121	70 - 130
1,2-Dibromoethane (EDB)	50.0	56.1		ug/L		112	70 - 130
Isopropylbenzene	50.0	56.0		ug/L		112	70 - 130
Methyl tert-butyl ether	50.0	52.8		ug/L		106	70 - 130
Methylene Chloride	50.0	58.2		ug/L		116	70 - 130
2-Butanone (MEK)	250	291		ug/L		116	69 - 120
4-Methyl-2-pentanone	250	302	J3	ug/L		121	68 - 120
m,p-Xylenes	50.0	59.3		ug/L		119	70 - 130
o-Xylene	50.0	58.6		ug/L		117	70 - 130
Styrene	50.0	58.5		ug/L		117	70 - 130
Tetrachloroethene	50.0	53.7		ug/L		107	70 - 130
Toluene	50.0	48.9		ug/L		98	70 - 130
trans-1,2-Dichloroethene	50.0	54.8		ug/L		110	70 - 130
trans-1,3-Dichloropropene	50.0	60.1		ug/L		120	70 - 130
Trichloroethene	50.0	55.5		ug/L		111	70 - 130
Trichlorofluoromethane	50.0	65.6		ug/L		131	63 - 142
Vinyl chloride	50.0	46.3		ug/L		93	66 - 129
Xylenes, Total	100	118		ug/L		118	70 - 130
Methyl acetate	100	114		ug/L		114	67 - 120
Cyclohexane	50.0	51.6		ug/L		103	23 - 175
1,1,2-Trichloro-1,2,2-trifluoroetha ne	50.0	60.2		ug/L		120	63 - 141

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-786080/4
Matrix: Water
Analysis Batch: 786080

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,2,4-Trichlorobenzene			50.0	49.2		ug/L		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*109*		*60 - 124*
Dibromofluoromethane (Surr)	*114*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 680-786080/5
Matrix: Water
Analysis Batch: 786080

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			50.0	51.4		ug/L		103	70 - 130	4	30
1,1,2,2-Tetrachloroethane			50.0	39.8		ug/L		80	70 - 130	21	30
1,1,2-Trichloroethane			50.0	57.0		ug/L		114	70 - 130	2	30
1,1-Dichloroethane			50.0	52.8		ug/L		106	70 - 130	2	30
1,1-Dichloroethene			50.0	55.7		ug/L		111	70 - 130	2	20
1,2-Dibromo-3-Chloropropane			50.0	52.4		ug/L		105	70 - 130	6	30
1,2-Dichlorobenzene			50.0	55.7		ug/L		111	70 - 130	3	30
1,2-Dichloroethane			50.0	54.9		ug/L		110	70 - 130	0	50
1,2-Dichloropropane			50.0	57.4		ug/L		115	70 - 130	2	20
1,3-Dichlorobenzene			50.0	52.1		ug/L		104	70 - 130	2	30
1,4-Dichlorobenzene			50.0	55.6		ug/L		111	70 - 130	5	30
2-Hexanone			250	301		ug/L		121	70 - 130	1	20
Acetone			250	294		ug/L		118	67 - 120	2	30
Benzene			50.0	51.7		ug/L		103	70 - 130	1	30
Bromoform			50.0	58.2		ug/L		116	69 - 129	4	30
Bromomethane			50.0	42.3		ug/L		85	28 - 192	2	30
Carbon disulfide			50.0	51.2		ug/L		102	70 - 130	3	30
Carbon tetrachloride			50.0	48.4		ug/L		97	70 - 130	4	30
Chlorobenzene			50.0	56.8		ug/L		114	70 - 130	2	30
Dibromochloromethane			50.0	57.5		ug/L		115	70 - 130	0	30
Chloroethane			50.0	52.2		ug/L		104	31 - 213	8	30
Chloroform			50.0	52.0		ug/L		104	70 - 130	2	30
Chloromethane			50.0	41.3		ug/L		83	59 - 127	3	30
cis-1,2-Dichloroethene			50.0	56.1		ug/L		112	70 - 130	0	30
cis-1,3-Dichloropropene			50.0	55.6		ug/L		111	70 - 130	2	20
Bromodichloromethane			50.0	56.6		ug/L		113	70 - 130	2	30
Dichlorodifluoromethane			50.0	33.0	J3	ug/L		66	70 - 130	5	40
Ethylbenzene			50.0	65.7	J3	ug/L		131	70 - 130	9	20
1,2-Dibromoethane (EDB)			50.0	56.2		ug/L		112	70 - 130	0	30
Isopropylbenzene			50.0	68.1	J3	ug/L		136	70 - 130	19	30
Methyl tert-butyl ether			50.0	53.4		ug/L		107	70 - 130	1	30
Methylene Chloride			50.0	56.9		ug/L		114	70 - 130	2	30
2-Butanone (MEK)			250	304	J3	ug/L		121	69 - 120	4	30
4-Methyl-2-pentanone			250	306	J3	ug/L		122	68 - 120	1	30
m,p-Xylenes			50.0	69.6	J3	ug/L		139	70 - 130	16	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-786080/5
Matrix: Water
Analysis Batch: 786080

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
o-Xylene			50.0	70.1	J3	ug/L		140	70 - 130	18	30
Styrene			50.0	71.7	J3	ug/L		143	70 - 130	20	30
Tetrachloroethene			50.0	53.9		ug/L		108	70 - 130	1	30
Toluene			50.0	49.0		ug/L		98	70 - 130	0	30
trans-1,2-Dichloroethene			50.0	53.7		ug/L		107	70 - 130	2	30
trans-1,3-Dichloropropene			50.0	59.1		ug/L		118	70 - 130	2	30
Trichloroethene			50.0	54.8		ug/L		110	70 - 130	1	30
Trichlorofluoromethane			50.0	63.4		ug/L		127	63 - 142	3	30
Vinyl chloride			50.0	43.8		ug/L		88	66 - 129	5	30
Xylenes, Total			100	140	J3	ug/L		140	70 - 130	17	30
Methyl acetate			100	119		ug/L		119	67 - 120	4	30
Cyclohexane			50.0	50.2		ug/L		100	23 - 175	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	58.8		ug/L		118	63 - 141	2	30
1,2,4-Trichlorobenzene			50.0	42.1		ug/L		84	70 - 130	16	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*112*		*60 - 124*
Dibromofluoromethane (Surr)	*114*		*70 - 130*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22009-1

GC/MS VOA

Analysis Batch: 786001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-22009-1	LC34-IW0165-110.0-20230623	Total/NA	Water	8260D	
670-22009-2	LC34-IW0044D2-110.0-20230623	Total/NA	Water	8260D	
MB 680-786001/9	Method Blank	Total/NA	Water	8260D	
LCS 680-786001/5	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-786001/6	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 786080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-22009-2 - DL	LC34-IW0044D2-110.0-20230623	Total/NA	Water	8260D	
670-22009-3	LC34-IW0162-110.0-20230623	Total/NA	Water	8260D	
MB 680-786080/8	Method Blank	Total/NA	Water	8260D	
LCS 680-786080/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-786080/5	Lab Control Sample Dup	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22009-1

Client Sample ID: LC34-IW0165-110.0-20230623

Lab Sample ID: 670-22009-1

Date Collected: 06/23/23 09:00
Matrix: Water
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	786001	Y1S	EET SAV	06/28/23 19:59

Client Sample ID: LC34-IW0044D2-110.0-20230623

Lab Sample ID: 670-22009-2

Date Collected: 06/23/23 09:30
Matrix: Water
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	786001	Y1S	EET SAV	06/29/23 02:33
Total/NA	Analysis	8260D	DL	20	786080	Y1S	EET SAV	06/29/23 14:34

Client Sample ID: LC34-IW0162-110.0-20230623

Lab Sample ID: 670-22009-3

Date Collected: 06/23/23 10:10
Matrix: Water
Date Received: 06/23/23 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	786080	Y1S	EET SAV	06/29/23 14:15

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-22009-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-23
ANAB	Dept. of Defense ELAP	L2463	09-22-24
Arkansas DEQ	State	19-015-0	02-01-24
California	State	2939	06-30-23
Florida	NELAP	E87052	06-30-23
Georgia	State	E87052	06-30-23
Georgia (DW)	State	803	06-30-23
Guam	State	19-007R	04-17-24
Hawaii	State	<cert No.>	06-30-23
Illinois	NELAP	200022	11-30-23
Indiana	State	C-GA-02	06-30-23
Iowa	State	353	06-30-23
Kentucky (UST)	State	NA	06-30-23
Louisiana	NELAP	30690	06-30-23
Louisiana (All)	NELAP	30690	06-30-23
Louisiana (DW)	State	LA009	12-31-23
Maine	State	GA00006	09-25-24
Maryland	State	250	12-31-23
Massachusetts	State	M-GA006	06-30-23
Michigan	State	9925	06-30-23
Mississippi	State	<cert No.>	06-30-23
Nebraska	State	NE-OS-7-04	06-30-23
New Jersey	NELAP	GA769	06-30-23
New Mexico	State	GA00006	06-30-23
North Carolina (DW)	State	13701	07-31-23
North Carolina (WW/SW)	State	269	12-31-23
Pennsylvania	NELAP	68-00474	06-30-23
Puerto Rico	State	GA00006	01-01-24
South Carolina	State	98001	06-30-23
Tennessee	State	TN02961	06-30-23
Texas	NELAP	T1047004185-19-14	11-30-23
Texas	TCEQ Water Supply	T104704185	06-30-23
USDA	US Federal Programs	P330-18-00313	09-03-24
Virginia	NELAP	460161	06-14-24
Wyoming	State	8TMS-L	06-30-23

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22009-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET SAV
5030B	Purge and Trap	SW846	EET SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22009-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-22009-1	LC34-IW0165-110.0-20230623	Water	06/23/23 09:00	06/23/23 15:40
670-22009-2	LC34-IW0044D2-110.0-20230623	Water	06/23/23 09:30	06/23/23 15:40
670-22009-3	LC34-IW0162-110.0-20230623	Water	06/23/23 10:10	06/23/23 15:40

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 2705 | PAGE 1 OF 1

PROJECT NO: 112G08985	FACILITY: KSC-LC34	PROJECT MANAGER Mark Jonnet	PHONE NUMBER (412) 921-8622	LABORATORY NAME AND CONTACT: Eurofins — Kaitlin Dylonski
SAMPLERS (SIGNATURE) - Chuck Sorden		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER Eurofins Project #: 670011156		CITY, STATE Altamonte Springs, FL

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☒ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): G; PRESERVATIVE USED: HCl/4°C	TYPE OF ANALYSIS: 8260(MOD) NASA LC34 Custom List	COMMENTS
OC/23	0900	LC34-IW0165-110.0-20230623	165	105	115	GW	G	3		X	
1	0935	LC34-IW0044402-110.0-20230623	4402	1	1	1	1	1		1	
OC/23	1010	LC34-IW0162-110.0-20230623	162	105	115	GW	G	3		X	

670-22009 Chain of Custody

1. RELINQUISHED BY	DATE OC/23/23	TIME 1340	1. RECEIVED BY James W. Gregory	DATE 6/23/23	TIME 1340
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE 6/23/23	TIME 1540

COMMENTS: 1.0/0.5 596

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

FORM NO. TtNUS-001 4/02R 6/30/2023

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone. 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-11139 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-22009-1
Address: 5102 LaRoche Avenue, ,	Due Date Requested: 6/28/2023			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030B (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-IW0165-110 0-20230623 (670-22009-1)	6/23/23	09:00 Eastern		Water			X	3	
LC34-IW0044D2-110 0-20230623 (670-22009-2)	6/23/23	09:30 Eastern		Water			X	3	
LC34-IW0162-110 0-20230623 (670-22009-3)	6/23/23	10:10 Eastern		Water			X	3	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date:	Time.	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
1	BB	6/26 1451		TH	6-29-23	
2					4:30	
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 4.7 - 4.5

Ver 06/08/2021

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-11139.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 2 of 2
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-21998-1
Address: 5102 LaRoche Avenue, ,	Due Date Requested: 7/6/2023			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34 HCS	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030B (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code.						
LC34-RW3B-20230623 (670-21998-10)	6/23/23	09:10 Eastern		Water			X	3	
LC34-RW9A-20230623 (670-21998-11)	6/23/23	09:20 Eastern		Water			X	3	
LC34-RW17C-20230623 (670-21998-12)	6/23/23	09:30 Eastern		Water			X	3	
LC34-RW18C-20230623 (670-21998-13)	6/23/23	09:40 Eastern		Water			X	3	
LC34-RW19C-20230623 (670-21998-14)	6/23/23	09:50 Eastern		Water			X	3	
LC34-RW20C-20230623 (670-21998-15)	6/23/23	10:00 Eastern		Water			X	3	
LC34-RW21D-20230622 (670-21998-16)	6/22/23	15:00 Eastern		Water			X	3	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	BB	6/26 1451		[illegible]	06-27-23	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 9.30	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 4.7 - 4.3

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-22009-1

Login Number: 22009

List Number: 1

Creator: Bittle, David W

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-22009-1

Login Number: 22009
List Number: 2
Creator: Harley, Tynisha

List Source: Eurofins Savannah
List Creation: 06/27/23 01:16 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 7/13/2023 10:20:41 AM

JOB DESCRIPTION

NASA KSC LC34 HCS

JOB NUMBER

670-22766-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

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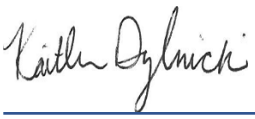

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Authorized for release by
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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-22766-1
Project/Site: NASA KSC LC34 HCS

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J1	Estimated value; value may not be accurate. Surrogate recovery outside of criteria.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-22766-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-22766-1

Receipt
The samples were received on 7/7/2023 4:32 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.4°C

GC/MS VOA
Method 8260D: The matrix spike (MS) recoveries for analytical batch 860-111855 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: Surrogate recovery for the following sample was outside control limits: (860-52798-B-10 MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Job ID: 670-22766-1
Project/Site: NASA KSC LC34 HCS

Client Sample ID: LC34-IW0162-110.0-20230707 — Lab Sample ID: 670-22766-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	10		1.0	0.71	ug/L	1		8260D	Total/NA
Trichloroethene	10		5.0	0.79	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0044D2-110.0-20230707 — Lab Sample ID: 670-22766-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	11		1.0	0.74	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	12		1.0	0.95	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene - DL	2700		25	18	ug/L	25		8260D	Total/NA
Trichloroethene - DL	2900		130	20	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	230		50	16	ug/L	25		8260D	Total/NA

Client Sample ID: LC34IW0165-110.0-20230707 — Lab Sample ID: 670-22766-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Job ID: 670-22766-1
Project/Site: NASA KSC LC34 HCS

Client Sample ID: LC34-IW0162-110.0-20230707
Lab Sample ID: 670-22766-1
Date Collected: 07/06/23 07:00
Matrix: Water
Date Received: 07/07/23 16:32

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			07/12/23 15:59	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			07/12/23 15:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			07/12/23 15:59	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			07/12/23 15:59	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			07/12/23 15:59	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			07/12/23 15:59	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			07/12/23 15:59	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			07/12/23 15:59	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			07/12/23 15:59	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			07/12/23 15:59	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			07/12/23 15:59	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			07/12/23 15:59	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			07/12/23 15:59	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			07/12/23 15:59	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			07/12/23 15:59	1
2-Hexanone	7.4	U	50	7.4	ug/L			07/12/23 15:59	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			07/12/23 15:59	1
Acetone	1.2	U	100	1.2	ug/L			07/12/23 15:59	1
Benzene	0.46	U	1.0	0.46	ug/L			07/12/23 15:59	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			07/12/23 15:59	1
Bromoform	0.63	U	5.0	0.63	ug/L			07/12/23 15:59	1
Bromomethane	1.4	U	5.0	1.4	ug/L			07/12/23 15:59	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			07/12/23 15:59	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			07/12/23 15:59	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			07/12/23 15:59	1
Chloroethane	2.0	U	10	2.0	ug/L			07/12/23 15:59	1
Chloroform	0.64	U	1.0	0.64	ug/L			07/12/23 15:59	1
Chloromethane	2.0	U	10	2.0	ug/L			07/12/23 15:59	1
cis-1,2-Dichloroethene	**10**		1.0	0.71	ug/L			07/12/23 15:59	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			07/12/23 15:59	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			07/12/23 15:59	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			07/12/23 15:59	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			07/12/23 15:59	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			07/12/23 15:59	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			07/12/23 15:59	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			07/12/23 15:59	1
Methyl acetate	4.0	U	20	4.0	ug/L			07/12/23 15:59	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			07/12/23 15:59	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			07/12/23 15:59	1
o-Xylene	0.55	U	1.0	0.55	ug/L			07/12/23 15:59	1
Styrene	0.66	U	1.0	0.66	ug/L			07/12/23 15:59	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			07/12/23 15:59	1
Toluene	0.48	U	1.0	0.48	ug/L			07/12/23 15:59	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			07/12/23 15:59	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			07/12/23 15:59	1
Trichloroethene	**10**		5.0	0.79	ug/L			07/12/23 15:59	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			07/12/23 15:59	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			07/12/23 15:59	1
Xylenes, Total	1.2	U	10	1.2	ug/L			07/12/23 15:59	1

Client Sample ID: LC34-IW0162-110.0-20230707
Lab Sample ID: 670-22766-1

Date Collected: 07/06/23 07:00
Matrix: Water
Date Received: 07/07/23 16:32

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		63 - 144		07/12/23 15:59	1
4-Bromofluorobenzene (Surr)	106		74 - 124		07/12/23 15:59	1
Dibromofluoromethane (Surr)	110		75 - 131		07/12/23 15:59	1
Toluene-d8 (Surr)	100		80 - 120		07/12/23 15:59	1

Client Sample ID: LC34-IW0044D2-110.0-20230707
Lab Sample ID: 670-22766-2

Date Collected: 07/06/23 07:30
Matrix: Water
Date Received: 07/07/23 16:32

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			07/12/23 16:20	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			07/12/23 16:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			07/12/23 16:20	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			07/12/23 16:20	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			07/12/23 16:20	1
1,1-Dichloroethene	**11**		1.0	0.74	ug/L			07/12/23 16:20	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			07/12/23 16:20	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			07/12/23 16:20	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			07/12/23 16:20	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			07/12/23 16:20	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			07/12/23 16:20	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			07/12/23 16:20	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			07/12/23 16:20	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			07/12/23 16:20	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			07/12/23 16:20	1
2-Hexanone	7.4	U	50	7.4	ug/L			07/12/23 16:20	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			07/12/23 16:20	1
Acetone	1.2	U	100	1.2	ug/L			07/12/23 16:20	1
Benzene	0.46	U	1.0	0.46	ug/L			07/12/23 16:20	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			07/12/23 16:20	1
Bromoform	0.63	U	5.0	0.63	ug/L			07/12/23 16:20	1
Bromomethane	1.4	U	5.0	1.4	ug/L			07/12/23 16:20	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			07/12/23 16:20	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			07/12/23 16:20	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			07/12/23 16:20	1
Chloroethane	2.0	U	10	2.0	ug/L			07/12/23 16:20	1
Chloroform	0.64	U	1.0	0.64	ug/L			07/12/23 16:20	1
Chloromethane	2.0	U	10	2.0	ug/L			07/12/23 16:20	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			07/12/23 16:20	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			07/12/23 16:20	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			07/12/23 16:20	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			07/12/23 16:20	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			07/12/23 16:20	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			07/12/23 16:20	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			07/12/23 16:20	1
Methyl acetate	4.0	U	20	4.0	ug/L			07/12/23 16:20	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			07/12/23 16:20	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			07/12/23 16:20	1
o-Xylene	0.55	U	1.0	0.55	ug/L			07/12/23 16:20	1

Client Sample ID: LC34-IW0044D2-110.0-20230707
Lab Sample ID: 670-22766-2

Date Collected: 07/06/23 07:30
Matrix: Water
Date Received: 07/07/23 16:32

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.66	U	1.0	0.66	ug/L			07/12/23 16:20	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			07/12/23 16:20	1
Toluene	0.48	U	1.0	0.48	ug/L			07/12/23 16:20	1
trans-1,2-Dichloroethene	**12**		1.0	0.95	ug/L			07/12/23 16:20	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			07/12/23 16:20	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			07/12/23 16:20	1
Xylenes, Total	1.2	U	10	1.2	ug/L			07/12/23 16:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*63 - 144*		*07/12/23 16:20*	*1*
4-Bromofluorobenzene (Surr)	*108*		*74 - 124*		*07/12/23 16:20*	*1*
Dibromofluoromethane (Surr)	*109*		*75 - 131*		*07/12/23 16:20*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/12/23 16:20*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**2700**		25	18	ug/L			07/12/23 17:12	25
Trichloroethene	**2900**		130	20	ug/L			07/12/23 17:12	25
Vinyl chloride	**230**		50	16	ug/L			07/12/23 17:12	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*75*		*63 - 144*		*07/12/23 17:12*	*25*
4-Bromofluorobenzene (Surr)	*93*		*74 - 124*		*07/12/23 17:12*	*25*
Dibromofluoromethane (Surr)	*103*		*75 - 131*		*07/12/23 17:12*	*25*
Toluene-d8 (Surr)	*96*		*80 - 120*		*07/12/23 17:12*	*25*

Client Sample ID: LC34IW0165-110.0-20230707
Lab Sample ID: 670-22766-3

Date Collected: 07/06/23 08:00
Matrix: Water
Date Received: 07/07/23 16:32

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			07/12/23 16:40	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			07/12/23 16:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			07/12/23 16:40	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			07/12/23 16:40	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			07/12/23 16:40	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			07/12/23 16:40	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			07/12/23 16:40	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			07/12/23 16:40	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			07/12/23 16:40	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			07/12/23 16:40	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			07/12/23 16:40	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			07/12/23 16:40	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			07/12/23 16:40	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			07/12/23 16:40	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			07/12/23 16:40	1
2-Hexanone	7.4	U	50	7.4	ug/L			07/12/23 16:40	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			07/12/23 16:40	1
Acetone	1.2	U	100	1.2	ug/L			07/12/23 16:40	1
Benzene	0.46	U	1.0	0.46	ug/L			07/12/23 16:40	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-22766-1

Client Sample ID: LC34IW0165-110.0-20230707
Date Collected: 07/06/23 08:00
Date Received: 07/07/23 16:32

Lab Sample ID: 670-22766-3
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			07/12/23 16:40	1
Bromoform	0.63	U	5.0	0.63	ug/L			07/12/23 16:40	1
Bromomethane	1.4	U	5.0	1.4	ug/L			07/12/23 16:40	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			07/12/23 16:40	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			07/12/23 16:40	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			07/12/23 16:40	1
Chloroethane	2.0	U	10	2.0	ug/L			07/12/23 16:40	1
Chloroform	0.64	U	1.0	0.64	ug/L			07/12/23 16:40	1
Chloromethane	2.0	U	10	2.0	ug/L			07/12/23 16:40	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			07/12/23 16:40	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			07/12/23 16:40	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			07/12/23 16:40	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			07/12/23 16:40	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			07/12/23 16:40	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			07/12/23 16:40	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			07/12/23 16:40	1
Methyl acetate	4.0	U	20	4.0	ug/L			07/12/23 16:40	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			07/12/23 16:40	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			07/12/23 16:40	1
o-Xylene	0.55	U	1.0	0.55	ug/L			07/12/23 16:40	1
Styrene	0.66	U	1.0	0.66	ug/L			07/12/23 16:40	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			07/12/23 16:40	1
Toluene	0.48	U	1.0	0.48	ug/L			07/12/23 16:40	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			07/12/23 16:40	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			07/12/23 16:40	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			07/12/23 16:40	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			07/12/23 16:40	1
Xylenes, Total	1.2	U	10	1.2	ug/L			07/12/23 16:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*63 - 144*		*07/12/23 16:40*	*1*
4-Bromofluorobenzene (Surr)	*107*		*74 - 124*		*07/12/23 16:40*	*1*
Dibromofluoromethane (Surr)	*109*		*75 - 131*		*07/12/23 16:40*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/12/23 16:40*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			07/12/23 17:33	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			07/12/23 17:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*63 - 144*		*07/12/23 17:33*	*1*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*		*07/12/23 17:33*	*1*
Dibromofluoromethane (Surr)	*89*		*75 - 131*		*07/12/23 17:33*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/12/23 17:33*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-22766-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(63-144)	(74-124)	(75-131)	(80-120)
670-22766-1	LC34-IW0162-110.0-20230707	97	106	110	100
670-22766-2	LC34-IW0044D2-110.0-20230707	109	108	109	101
670-22766-2 - DL	LC34-IW0044D2-110.0-20230707	75	93	103	96
670-22766-3	LC34IW0165-110.0-20230707	83	107	109	101
670-22766-3 - RA	LC34IW0165-110.0-20230707	103	100	89	100
860-52798-B-10 MS	Matrix Spike	174 J1	104	104	101
880-30524-C-1 MS	Matrix Spike	91	107	91	99
LCS 860-111855/7	Lab Control Sample	106	105	104	100
LCS 860-111865/3	Lab Control Sample	92	108	103	101
LCSD 860-111855/8	Lab Control Sample Dup	110	104	105	101
LCSD 860-111865/4	Lab Control Sample Dup	97	108	98	97
MB 860-111855/13	Method Blank	113	105	108	104
MB 860-111865/11	Method Blank	111	113	103	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 860-111855/13
Matrix: Water
Analysis Batch: 111855

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			07/12/23 14:17	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			07/12/23 14:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			07/12/23 14:17	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			07/12/23 14:17	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			07/12/23 14:17	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			07/12/23 14:17	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			07/12/23 14:17	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			07/12/23 14:17	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			07/12/23 14:17	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			07/12/23 14:17	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			07/12/23 14:17	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			07/12/23 14:17	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			07/12/23 14:17	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			07/12/23 14:17	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			07/12/23 14:17	1
2-Hexanone	7.4	U	50	7.4	ug/L			07/12/23 14:17	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			07/12/23 14:17	1
Acetone	1.2	U	100	1.2	ug/L			07/12/23 14:17	1
Benzene	0.46	U	1.0	0.46	ug/L			07/12/23 14:17	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			07/12/23 14:17	1
Bromoform	0.63	U	5.0	0.63	ug/L			07/12/23 14:17	1
Bromomethane	1.4	U	5.0	1.4	ug/L			07/12/23 14:17	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			07/12/23 14:17	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			07/12/23 14:17	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			07/12/23 14:17	1
Chloroethane	2.0	U	10	2.0	ug/L			07/12/23 14:17	1
Chloroform	0.64	U	1.0	0.64	ug/L			07/12/23 14:17	1
Chloromethane	2.0	U	10	2.0	ug/L			07/12/23 14:17	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			07/12/23 14:17	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			07/12/23 14:17	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			07/12/23 14:17	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			07/12/23 14:17	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			07/12/23 14:17	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			07/12/23 14:17	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			07/12/23 14:17	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			07/12/23 14:17	1
Methyl acetate	4.0	U	20	4.0	ug/L			07/12/23 14:17	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			07/12/23 14:17	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			07/12/23 14:17	1
o-Xylene	0.55	U	1.0	0.55	ug/L			07/12/23 14:17	1
Styrene	0.66	U	1.0	0.66	ug/L			07/12/23 14:17	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			07/12/23 14:17	1
Toluene	0.48	U	1.0	0.48	ug/L			07/12/23 14:17	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			07/12/23 14:17	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			07/12/23 14:17	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			07/12/23 14:17	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			07/12/23 14:17	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			07/12/23 14:17	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-111855/13
Matrix: Water
Analysis Batch: 111855

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.2	U	10	1.2	ug/L			07/12/23 14:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*63 - 144*		*07/12/23 14:17*	*1*
4-Bromofluorobenzene (Surr)	*105*		*74 - 124*		*07/12/23 14:17*	*1*
Dibromofluoromethane (Surr)	*108*		*75 - 131*		*07/12/23 14:17*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/12/23 14:17*	*1*

Lab Sample ID: LCS 860-111855/7
Matrix: Water
Analysis Batch: 111855

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	56.5		ug/L		113	70 - 130
1,1,2,2-Tetrachloroethane	50.0	49.4		ug/L		99	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	48.9		ug/L		98	60 - 140
1,1,2-Trichloroethane	50.0	51.1		ug/L		102	70 - 130
1,1-Dichloroethane	50.0	56.5		ug/L		113	70 - 130
1,1-Dichloroethene	50.0	50.8		ug/L		102	50 - 150
1,2,4-Trichlorobenzene	50.0	52.2		ug/L		104	75 - 135
1,2-Dibromo-3-Chloropropane	50.0	49.3		ug/L		99	59 - 125
1,2-Dibromoethane (EDB)	50.0	50.2		ug/L		100	73 - 125
1,2-Dichlorobenzene	50.0	52.2		ug/L		104	75 - 125
1,2-Dichloroethane	50.0	55.3		ug/L		111	72 - 130
1,2-Dichloropropane	50.0	54.6		ug/L		109	74 - 125
1,3-Dichlorobenzene	50.0	52.6		ug/L		105	75 - 125
1,4-Dichlorobenzene	50.0	51.4		ug/L		103	75 - 125
2-Butanone (MEK)	250	235		ug/L		94	60 - 140
2-Hexanone	250	270		ug/L		108	60 - 140
4-Methyl-2-pentanone	250	271		ug/L		108	60 - 140
Acetone	250	244		ug/L		98	60 - 140
Benzene	50.0	51.2		ug/L		102	75 - 125
Bromodichloromethane	50.0	55.5		ug/L		111	75 - 125
Bromoform	50.0	48.7		ug/L		97	70 - 130
Bromomethane	50.0	43.3		ug/L		87	60 - 140
Carbon disulfide	50.0	50.8		ug/L		102	60 - 140
Carbon tetrachloride	50.0	54.8		ug/L		110	70 - 130
Chlorobenzene	50.0	52.5		ug/L		105	65 - 135
Chloroethane	50.0	45.6		ug/L		91	60 - 140
Chloroform	50.0	57.7		ug/L		115	70 - 121
Chloromethane	50.0	41.6		ug/L		83	60 - 140
cis-1,2-Dichloroethene	50.0	57.2		ug/L		114	75 - 125
cis-1,3-Dichloropropene	50.0	55.9		ug/L		112	74 - 125
Cyclohexane	50.0	51.2		ug/L		102	70 - 130
Dibromochloromethane	50.0	51.7		ug/L		103	73 - 125
Dichlorodifluoromethane	50.0	36.1		ug/L		72	50 - 150
Ethylbenzene	50.0	55.1		ug/L		110	75 - 125
Isopropylbenzene	50.0	54.9		ug/L		110	75 - 125

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 860-111855/7
Matrix: Water
Analysis Batch: 111855

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
m,p-Xylenes			50.0	55.6		ug/L		111	75 - 125		
Methyl acetate			100	102		ug/L		102	60 - 140		
Methyl tert-butyl ether			50.0	52.6		ug/L		105	65 - 135		
Methylene Chloride			50.0	48.6		ug/L		97	71 - 125		
o-Xylene			50.0	55.8		ug/L		112	75 - 125		
Styrene			50.0	54.9		ug/L		110	75 - 125		
Tetrachloroethene			50.0	49.7		ug/L		99	71 - 125		
Toluene			50.0	53.5		ug/L		107	70 - 130		
trans-1,2-Dichloroethene			50.0	52.3		ug/L		105	75 - 125		
trans-1,3-Dichloropropene			50.0	55.9		ug/L		112	66 - 125		
Trichloroethene			50.0	54.3		ug/L		109	75 - 135		
Trichlorofluoromethane			50.0	50.3		ug/L		101	60 - 140		
Vinyl chloride			50.0	44.0		ug/L		88	60 - 140		
Xylenes, Total			100	111		ug/L		111	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*63 - 144*
4-Bromofluorobenzene (Surr)	*105*		*74 - 124*
Dibromofluoromethane (Surr)	*104*		*75 - 131*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: LCSD 860-111855/8
Matrix: Water
Analysis Batch: 111855

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			50.0	56.1		ug/L		112	70 - 130	1	25
1,1,2,2-Tetrachloroethane			50.0	47.7		ug/L		95	74 - 125	4	25
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	48.6		ug/L		97	60 - 140	1	25
1,1,2-Trichloroethane			50.0	50.7		ug/L		101	70 - 130	1	25
1,1-Dichloroethane			50.0	56.0		ug/L		112	70 - 130	1	25
1,1-Dichloroethene			50.0	50.6		ug/L		101	50 - 150	0	25
1,2,4-Trichlorobenzene			50.0	51.6		ug/L		103	75 - 135	1	25
1,2-Dibromo-3-Chloropropane			50.0	49.5		ug/L		99	59 - 125	0	25
1,2-Dibromoethane (EDB)			50.0	50.1		ug/L		100	73 - 125	0	25
1,2-Dichlorobenzene			50.0	51.0		ug/L		102	75 - 125	2	25
1,2-Dichloroethane			50.0	55.2		ug/L		110	72 - 130	0	25
1,2-Dichloropropane			50.0	53.6		ug/L		107	74 - 125	2	25
1,3-Dichlorobenzene			50.0	51.3		ug/L		103	75 - 125	2	25
1,4-Dichlorobenzene			50.0	50.4		ug/L		101	75 - 125	2	25
2-Butanone (MEK)			250	235		ug/L		94	60 - 140	0	25
2-Hexanone			250	271		ug/L		108	60 - 140	0	25
4-Methyl-2-pentanone			250	264		ug/L		106	60 - 140	2	25
Acetone			250	246		ug/L		98	60 - 140	1	25
Benzene			50.0	52.4		ug/L		105	75 - 125	2	25
Bromodichloromethane			50.0	53.8		ug/L		108	75 - 125	3	25
Bromoform			50.0	47.3		ug/L		95	70 - 130	3	25
Bromomethane			50.0	44.1		ug/L		88	60 - 140	2	25

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 860-111855/8
Matrix: Water
Analysis Batch: 111855

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon disulfide			50.0	49.7		ug/L		99	60 - 140	2	25
Carbon tetrachloride			50.0	53.6		ug/L		107	70 - 130	2	25
Chlorobenzene			50.0	52.4		ug/L		105	65 - 135	0	25
Chloroethane			50.0	46.1		ug/L		92	60 - 140	1	25
Chloroform			50.0	58.3		ug/L		117	70 - 121	1	25
Chloromethane			50.0	41.5		ug/L		83	60 - 140	0	25
cis-1,2-Dichloroethene			50.0	57.7		ug/L		115	75 - 125	1	25
cis-1,3-Dichloropropene			50.0	54.2		ug/L		108	74 - 125	3	25
Cyclohexane			50.0	50.0		ug/L		100	70 - 130	2	25
Dibromochloromethane			50.0	51.4		ug/L		103	73 - 125	1	25
Dichlorodifluoromethane			50.0	36.3		ug/L		73	50 - 150	1	25
Ethylbenzene			50.0	54.4		ug/L		109	75 - 125	1	25
Isopropylbenzene			50.0	54.5		ug/L		109	75 - 125	1	25
m,p-Xylenes			50.0	55.0		ug/L		110	75 - 125	1	25
Methyl acetate			100	101		ug/L		101	60 - 140	1	25
Methyl tert-butyl ether			50.0	52.8		ug/L		106	65 - 135	0	25
Methylene Chloride			50.0	48.2		ug/L		96	71 - 125	1	25
o-Xylene			50.0	55.3		ug/L		111	75 - 125	1	25
Styrene			50.0	54.1		ug/L		108	75 - 125	1	25
Tetrachloroethene			50.0	49.0		ug/L		98	71 - 125	2	25
Toluene			50.0	52.9		ug/L		106	70 - 130	1	25
trans-1,2-Dichloroethene			50.0	51.8		ug/L		104	75 - 125	1	25
trans-1,3-Dichloropropene			50.0	55.9		ug/L		112	66 - 125	0	25
Trichloroethene			50.0	53.3		ug/L		107	75 - 135	2	25
Trichlorofluoromethane			50.0	48.5		ug/L		97	60 - 140	4	25
Vinyl chloride			50.0	44.3		ug/L		89	60 - 140	1	25
Xylenes, Total			100	110		ug/L		110	75 - 125	1	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*110*		*63 - 144*
4-Bromofluorobenzene (Surr)	*104*		*74 - 124*
Dibromofluoromethane (Surr)	*105*		*75 - 131*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: 860-52798-B-10 MS
Matrix: Water
Analysis Batch: 111855

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	1.7	U	50.0	52.5		ug/L		105	75 - 125
1,1,2,2-Tetrachloroethane	0.47	U	50.0	48.8		ug/L		98	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	45.8		ug/L		92	60 - 140
1,1,2-Trichloroethane	0.51	U	50.0	49.7		ug/L		99	75 - 127
1,1-Dichloroethane	0.64	U	50.0	53.9		ug/L		108	72 - 125
1,1-Dichloroethene	0.74	U	50.0	48.0		ug/L		96	59 - 172
1,2,4-Trichlorobenzene	1.8	U	50.0	51.0		ug/L		102	75 - 135
1,2-Dibromo-3-Chloropropane	1.3	U	50.0	49.2		ug/L		98	59 - 125
1,2-Dibromoethane (EDB)	1.0	U	50.0	49.6		ug/L		99	73 - 125

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-52798-B-10 MS
Matrix: Water
Analysis Batch: 111855

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichlorobenzene	0.51	U	50.0	49.5		ug/L		99	75 - 125
1,2-Dichloroethane	0.59	U J3	50.0	85.4	J3	ug/L		171	68 - 127
1,2-Dichloropropane	0.67	U J3	50.0	80.9	J3	ug/L		162	74 - 125
1,3-Dichlorobenzene	0.51	U	50.0	49.9		ug/L		100	75 - 125
1,4-Dichlorobenzene	0.51	U	50.0	48.8		ug/L		98	75 - 125
2-Butanone (MEK)	8.3	U	250	232		ug/L		93	60 - 140
2-Hexanone	7.4	U	250	268		ug/L		107	60 - 140
4-Methyl-2-pentanone	7.5	U J3	250	437	J3	ug/L		175	60 - 140
Acetone	1.2	U	250	222		ug/L		89	60 - 140
Benzene	0.46	U J3	50.0	77.4	J3	ug/L		155	66 - 142
Bromodichloromethane	0.55	U J3	50.0	84.8	J3	ug/L		170	75 - 125
Bromoform	0.63	U	50.0	47.2		ug/L		94	75 - 125
Bromomethane	1.4	U	50.0	42.4		ug/L		85	60 - 140
Carbon disulfide	1.9	U	50.0	47.2		ug/L		94	60 - 140
Carbon tetrachloride	0.90	U	50.0	51.7		ug/L		103	62 - 125
Chlorobenzene	0.53	U	50.0	49.9		ug/L		100	60 - 133
Chloroethane	2.0	U	50.0	43.3		ug/L		87	60 - 140
Chloroform	1.4		50.0	55.8		ug/L		109	70 - 130
Chloromethane	2.0	U	50.0	38.4		ug/L		77	60 - 140
cis-1,2-Dichloroethene	0.71	U	50.0	57.4		ug/L		115	75 - 125
cis-1,3-Dichloropropene	1.1	U J3	50.0	85.9	J3	ug/L		172	74 - 125
Cyclohexane	1.5	U	50.0	45.8		ug/L		92	70 - 130
Dibromochloromethane	0.55	U	50.0	49.8		ug/L		100	73 - 125
Dichlorodifluoromethane	0.92	U J3	50.0	30.4	J3	ug/L		61	70 - 130
Ethylbenzene	0.41	U	50.0	51.7		ug/L		103	75 - 125
Isopropylbenzene	0.61	U	50.0	51.7		ug/L		103	75 - 125
m,p-Xylenes	1.2	U	50.0	52.0		ug/L		104	75 - 125
Methyl acetate	4.0	U	100	104		ug/L		104	60 - 140
Methyl tert-butyl ether	1.4	U	50.0	52.8		ug/L		106	65 - 135
Methylene Chloride	1.7	U	50.0	46.8		ug/L		94	75 - 125
o-Xylene	0.55	U	50.0	52.1		ug/L		104	75 - 125
Styrene	0.66	U	50.0	50.9		ug/L		102	75 - 125
Tetrachloroethene	0.80	U	50.0	46.1		ug/L		92	71 - 125
Toluene	0.48	U	50.0	50.0		ug/L		100	59 - 139
trans-1,2-Dichloroethene	0.95	U	50.0	50.2		ug/L		100	75 - 125
trans-1,3-Dichloropropene	1.3	U	50.0	54.7		ug/L		109	66 - 125
Trichloroethene	0.79	U	50.0	52.6		ug/L		105	62 - 137
Trichlorofluoromethane	0.64	U	50.0	48.1		ug/L		96	60 - 140
Vinyl chloride	0.64	U	50.0	41.2		ug/L		82	60 - 140
Xylenes, Total	1.2	U	100	104		ug/L		104	75 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*174*	*J1*	*63 - 144*
4-Bromofluorobenzene (Surr)	*104*		*74 - 124*
Dibromofluoromethane (Surr)	*104*		*75 - 131*
Toluene-d8 (Surr)	*101*		*80 - 120*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-111865/11
Matrix: Water
Analysis Batch: 111865

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			07/12/23 14:05	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			07/12/23 14:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			07/12/23 14:05	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			07/12/23 14:05	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			07/12/23 14:05	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			07/12/23 14:05	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			07/12/23 14:05	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			07/12/23 14:05	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			07/12/23 14:05	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			07/12/23 14:05	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			07/12/23 14:05	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			07/12/23 14:05	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			07/12/23 14:05	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			07/12/23 14:05	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			07/12/23 14:05	1
2-Hexanone	7.4	U	50	7.4	ug/L			07/12/23 14:05	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			07/12/23 14:05	1
Acetone	1.2	U	100	1.2	ug/L			07/12/23 14:05	1
Benzene	0.46	U	1.0	0.46	ug/L			07/12/23 14:05	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			07/12/23 14:05	1
Bromoform	0.63	U	5.0	0.63	ug/L			07/12/23 14:05	1
Bromomethane	1.4	U	5.0	1.4	ug/L			07/12/23 14:05	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			07/12/23 14:05	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			07/12/23 14:05	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			07/12/23 14:05	1
Chloroethane	2.0	U	10	2.0	ug/L			07/12/23 14:05	1
Chloroform	0.64	U	1.0	0.64	ug/L			07/12/23 14:05	1
Chloromethane	2.0	U	10	2.0	ug/L			07/12/23 14:05	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			07/12/23 14:05	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			07/12/23 14:05	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			07/12/23 14:05	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			07/12/23 14:05	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			07/12/23 14:05	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			07/12/23 14:05	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			07/12/23 14:05	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			07/12/23 14:05	1
Methyl acetate	4.0	U	20	4.0	ug/L			07/12/23 14:05	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			07/12/23 14:05	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			07/12/23 14:05	1
o-Xylene	0.55	U	1.0	0.55	ug/L			07/12/23 14:05	1
Styrene	0.66	U	1.0	0.66	ug/L			07/12/23 14:05	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			07/12/23 14:05	1
Toluene	0.48	U	1.0	0.48	ug/L			07/12/23 14:05	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			07/12/23 14:05	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			07/12/23 14:05	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			07/12/23 14:05	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			07/12/23 14:05	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			07/12/23 14:05	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-111865/11
Matrix: Water
Analysis Batch: 111865

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.2	U	10	1.2	ug/L			07/12/23 14:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*63 - 144*		*07/12/23 14:05*	*1*
4-Bromofluorobenzene (Surr)	*113*		*74 - 124*		*07/12/23 14:05*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 131*		*07/12/23 14:05*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/12/23 14:05*	*1*

Lab Sample ID: LCS 860-111865/3
Matrix: Water
Analysis Batch: 111865

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	46.4		ug/L		93	70 - 130
1,1,2,2-Tetrachloroethane	50.0	42.9		ug/L		86	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	48.9		ug/L		98	60 - 140
1,1,2-Trichloroethane	50.0	45.0		ug/L		90	70 - 130
1,1-Dichloroethane	50.0	39.8		ug/L		80	70 - 130
1,1-Dichloroethene	50.0	43.3		ug/L		87	50 - 150
1,2,4-Trichlorobenzene	50.0	47.7		ug/L		95	75 - 135
1,2-Dibromo-3-Chloropropane	50.0	39.4		ug/L		79	59 - 125
1,2-Dibromoethane (EDB)	50.0	46.5		ug/L		93	73 - 125
1,2-Dichlorobenzene	50.0	47.5		ug/L		95	75 - 125
1,2-Dichloroethane	50.0	43.7		ug/L		87	72 - 130
1,2-Dichloropropane	50.0	43.9		ug/L		88	74 - 125
1,3-Dichlorobenzene	50.0	47.2		ug/L		94	75 - 125
1,4-Dichlorobenzene	50.0	45.5		ug/L		91	75 - 125
2-Butanone (MEK)	250	212		ug/L		85	60 - 140
2-Hexanone	250	207		ug/L		83	60 - 140
4-Methyl-2-pentanone	250	190		ug/L		76	60 - 140
Acetone	250	189		ug/L		75	60 - 140
Benzene	50.0	43.2		ug/L		86	75 - 125
Bromodichloromethane	50.0	46.2		ug/L		92	75 - 125
Bromoform	50.0	46.8		ug/L		94	70 - 130
Bromomethane	50.0	30.3		ug/L		61	60 - 140
Carbon disulfide	50.0	42.1		ug/L		84	60 - 140
Carbon tetrachloride	50.0	48.2		ug/L		96	70 - 130
Chlorobenzene	50.0	47.5		ug/L		95	65 - 135
Chloroethane	50.0	45.1		ug/L		90	60 - 140
Chloroform	50.0	46.2		ug/L		92	70 - 121
Chloromethane	50.0	48.9		ug/L		98	60 - 140
cis-1,2-Dichloroethene	50.0	45.5		ug/L		91	75 - 125
cis-1,3-Dichloropropene	50.0	47.3		ug/L		95	74 - 125
Cyclohexane	50.0	47.0		ug/L		94	70 - 130
Dibromochloromethane	50.0	49.5		ug/L		99	73 - 125
Dichlorodifluoromethane	50.0	69.0		ug/L		138	50 - 150
Ethylbenzene	50.0	49.4		ug/L		99	75 - 125
Isopropylbenzene	50.0	51.5		ug/L		103	75 - 125

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 860-111865/3
Matrix: Water
Analysis Batch: 111865

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
m,p-Xylenes			50.0	51.0		ug/L		102	75 - 125		
Methyl acetate			100	74.7		ug/L		75	60 - 140		
Methyl tert-butyl ether			50.0	49.1		ug/L		98	65 - 135		
Methylene Chloride			50.0	39.8		ug/L		80	71 - 125		
o-Xylene			50.0	50.8		ug/L		102	75 - 125		
Styrene			50.0	51.5		ug/L		103	75 - 125		
Tetrachloroethene			50.0	51.7		ug/L		103	71 - 125		
Toluene			50.0	46.8		ug/L		94	70 - 130		
trans-1,2-Dichloroethene			50.0	42.6		ug/L		85	75 - 125		
trans-1,3-Dichloropropene			50.0	51.3		ug/L		103	66 - 125		
Trichloroethene			50.0	45.3		ug/L		91	75 - 135		
Vinyl chloride			50.0	56.8		ug/L		114	60 - 140		
Xylenes, Total			100	102		ug/L		102	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*63 - 144*
4-Bromofluorobenzene (Surr)	*108*		*74 - 124*
Dibromofluoromethane (Surr)	*103*		*75 - 131*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 860-111865/4
Matrix: Water
Analysis Batch: 111865

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			50.0	44.9		ug/L		90	70 - 130	3	25
1,1,2,2-Tetrachloroethane			50.0	45.0		ug/L		90	74 - 125	5	25
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	43.5		ug/L		87	60 - 140	12	25
1,1,2-Trichloroethane			50.0	45.7		ug/L		91	70 - 130	2	25
1,1-Dichloroethane			50.0	42.9		ug/L		86	70 - 130	8	25
1,1-Dichloroethene			50.0	42.2		ug/L		84	50 - 150	2	25
1,2,4-Trichlorobenzene			50.0	51.4		ug/L		103	75 - 135	7	25
1,2-Dibromo-3-Chloropropane			50.0	40.2		ug/L		80	59 - 125	2	25
1,2-Dibromoethane (EDB)			50.0	47.4		ug/L		95	73 - 125	2	25
1,2-Dichlorobenzene			50.0	47.6		ug/L		95	75 - 125	0	25
1,2-Dichloroethane			50.0	47.7		ug/L		95	72 - 130	9	25
1,2-Dichloropropane			50.0	48.6		ug/L		97	74 - 125	10	25
1,3-Dichlorobenzene			50.0	47.3		ug/L		95	75 - 125	0	25
1,4-Dichlorobenzene			50.0	45.3		ug/L		91	75 - 125	0	25
2-Butanone (MEK)			250	218		ug/L		87	60 - 140	3	25
2-Hexanone			250	204		ug/L		81	60 - 140	1	25
4-Methyl-2-pentanone			250	203		ug/L		81	60 - 140	7	25
Acetone			250	201		ug/L		80	60 - 140	6	25
Benzene			50.0	45.4		ug/L		91	75 - 125	5	25
Bromodichloromethane			50.0	50.5		ug/L		101	75 - 125	9	25
Bromoform			50.0	49.2		ug/L		98	70 - 130	5	25
Bromomethane			50.0	33.0		ug/L		66	60 - 140	8	25
Carbon disulfide			50.0	41.6		ug/L		83	60 - 140	1	25

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 860-111865/4
Matrix: Water
Analysis Batch: 111865

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon tetrachloride			50.0	55.9		ug/L		112	70 - 130	15	25
Chlorobenzene			50.0	47.1		ug/L		94	65 - 135	1	25
Chloroethane			50.0	42.3		ug/L		85	60 - 140	6	25
Chloroform			50.0	45.7		ug/L		91	70 - 121	1	25
Chloromethane			50.0	51.1		ug/L		102	60 - 140	4	25
cis-1,2-Dichloroethene			50.0	45.7		ug/L		91	75 - 125	0	25
cis-1,3-Dichloropropene			50.0	51.3		ug/L		103	74 - 125	8	25
Cyclohexane			50.0	44.3		ug/L		89	70 - 130	6	25
Dibromochloromethane			50.0	48.7		ug/L		97	73 - 125	2	25
Dichlorodifluoromethane			50.0	70.3		ug/L		141	50 - 150	2	25
Ethylbenzene			50.0	48.2		ug/L		96	75 - 125	3	25
Isopropylbenzene			50.0	50.4		ug/L		101	75 - 125	2	25
m,p-Xylenes			50.0	51.0		ug/L		102	75 - 125	0	25
Methyl acetate			100	73.0		ug/L		73	60 - 140	2	25
Methyl tert-butyl ether			50.0	47.7		ug/L		95	65 - 135	3	25
Methylene Chloride			50.0	41.6		ug/L		83	71 - 125	4	25
o-Xylene			50.0	50.3		ug/L		101	75 - 125	1	25
Styrene			50.0	51.3		ug/L		103	75 - 125	1	25
Tetrachloroethene			50.0	50.8		ug/L		102	71 - 125	2	25
Toluene			50.0	46.7		ug/L		93	70 - 130	0	25
trans-1,2-Dichloroethene			50.0	48.2		ug/L		96	75 - 125	12	25
trans-1,3-Dichloropropene			50.0	51.1		ug/L		102	66 - 125	0	25
Trichloroethene			50.0	49.1		ug/L		98	75 - 135	8	25
Trichlorofluoromethane			50.0	69.3		ug/L		139	60 - 140	2	25
Vinyl chloride			50.0	54.9		ug/L		110	60 - 140	3	25
Xylenes, Total			100	101		ug/L		101	75 - 125	0	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*63 - 144*
4-Bromofluorobenzene (Surr)	*108*		*74 - 124*
Dibromofluoromethane (Surr)	*98*		*75 - 131*
Toluene-d8 (Surr)	*97*		*80 - 120*

Lab Sample ID: 880-30524-C-1 MS
Matrix: Water
Analysis Batch: 111865

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	1.7	U	50.0	45.8		ug/L		92	75 - 125
1,1,2,2-Tetrachloroethane	0.47	U	50.0	47.5		ug/L		95	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	41.5		ug/L		83	60 - 140
1,1,2-Trichloroethane	0.51	U	50.0	47.2		ug/L		94	75 - 127
1,1-Dichloroethane	0.64	U	50.0	40.2		ug/L		80	72 - 125
1,1-Dichloroethene	0.74	U	50.0	42.5		ug/L		85	59 - 172
1,2,4-Trichlorobenzene	1.8	U	50.0	52.2		ug/L		104	75 - 135
1,2-Dibromo-3-Chloropropane	1.3	U	50.0	44.1		ug/L		88	59 - 125
1,2-Dibromoethane (EDB)	1.0	U	50.0	49.8		ug/L		100	73 - 125
1,2-Dichlorobenzene	0.51	U	50.0	50.7		ug/L		101	75 - 125

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 880-30524-C-1 MS
Matrix: Water
Analysis Batch: 111865

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichloroethane	0.59	U	50.0	46.3		ug/L		93	68 - 127
1,2-Dichloropropane	0.67	U	50.0	44.4		ug/L		89	74 - 125
1,3-Dichlorobenzene	0.51	U	50.0	51.0		ug/L		102	75 - 125
1,4-Dichlorobenzene	0.51	U	50.0	50.0		ug/L		100	75 - 125
2-Butanone (MEK)	8.3	U	250	224		ug/L		90	60 - 140
2-Hexanone	7.4	U	250	222		ug/L		89	60 - 140
4-Methyl-2-pentanone	7.5	U	250	210		ug/L		84	60 - 140
Acetone	1.2	U	250	184		ug/L		74	60 - 140
Benzene	0.46	U	50.0	43.7		ug/L		87	66 - 142
Bromodichloromethane	0.55	U	50.0	48.6		ug/L		97	75 - 125
Bromoform	0.63	U	50.0	50.0		ug/L		100	75 - 125
Bromomethane	1.4	U	50.0	30.4		ug/L		61	60 - 140
Carbon disulfide	1.9	U	50.0	42.6		ug/L		85	60 - 140
Carbon tetrachloride	0.90	U	50.0	47.4		ug/L		95	62 - 125
Chlorobenzene	0.53	U	50.0	46.8		ug/L		94	60 - 133
Chloroethane	2.0	U	50.0	42.7		ug/L		85	60 - 140
Chloroform	0.64	U	50.0	46.1		ug/L		92	70 - 130
Chloromethane	2.0	U	50.0	47.1		ug/L		94	60 - 140
cis-1,2-Dichloroethene	0.71	U	50.0	46.3		ug/L		93	75 - 125
cis-1,3-Dichloropropene	1.1	U	50.0	49.6		ug/L		99	74 - 125
Cyclohexane	1.5	U	50.0	44.3		ug/L		89	70 - 130
Dibromochloromethane	0.55	U	50.0	50.2		ug/L		100	73 - 125
Dichlorodifluoromethane	0.92	U	50.0	57.4		ug/L		115	70 - 130
Ethylbenzene	0.41	U	50.0	49.9		ug/L		100	75 - 125
Isopropylbenzene	0.61	U	50.0	51.4		ug/L		103	75 - 125
m,p-Xylenes	1.2	U	50.0	51.1		ug/L		102	75 - 125
Methyl acetate	4.0	U	100	80.4		ug/L		80	60 - 140
Methyl tert-butyl ether	1.4	U	50.0	50.5		ug/L		101	65 - 135
Methylene Chloride	1.7	U	50.0	42.3		ug/L		85	75 - 125
o-Xylene	0.55	U	50.0	52.1		ug/L		104	75 - 125
Styrene	0.66	U	50.0	52.9		ug/L		106	75 - 125
Tetrachloroethene	0.80	U	50.0	50.5		ug/L		101	71 - 125
Toluene	0.48	U	50.0	47.8		ug/L		96	59 - 139
trans-1,2-Dichloroethene	0.95	U	50.0	43.7		ug/L		87	75 - 125
trans-1,3-Dichloropropene	1.3	U	50.0	53.3		ug/L		107	66 - 125
Trichloroethene	0.79	U	50.0	46.1		ug/L		92	62 - 137
Trichlorofluoromethane	0.64	U J3	50.0	62.0		ug/L		124	60 - 140
Vinyl chloride	0.64	U	50.0	51.7		ug/L		103	60 - 140
Xylenes, Total	1.2	U	100	103		ug/L		103	75 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*63 - 144*
4-Bromofluorobenzene (Surr)	*107*		*74 - 124*
Dibromofluoromethane (Surr)	*91*		*75 - 131*
Toluene-d8 (Surr)	*99*		*80 - 120*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-22766-1

GC/MS VOA

Analysis Batch: 111855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-22766-1	LC34-IW0162-110.0-20230707	Total/NA	Water	8260D	
670-22766-2	LC34-IW0044D2-110.0-20230707	Total/NA	Water	8260D	
670-22766-2 - DL	LC34-IW0044D2-110.0-20230707	Total/NA	Water	8260D	
670-22766-3	LC34IW0165-110.0-20230707	Total/NA	Water	8260D	
MB 860-111855/13	Method Blank	Total/NA	Water	8260D	
LCS 860-111855/7	Lab Control Sample	Total/NA	Water	8260D	
LCSD 860-111855/8	Lab Control Sample Dup	Total/NA	Water	8260D	
860-52798-B-10 MS	Matrix Spike	Total/NA	Water	8260D	

Analysis Batch: 111865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-22766-3 - RA	LC34IW0165-110.0-20230707	Total/NA	Water	8260D	
MB 860-111865/11	Method Blank	Total/NA	Water	8260D	
LCS 860-111865/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 860-111865/4	Lab Control Sample Dup	Total/NA	Water	8260D	
880-30524-C-1 MS	Matrix Spike	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-22766-1
Project/Site: NASA KSC LC34 HCS

Client Sample ID: LC34-IW0162-110.0-20230707
Lab Sample ID: 670-22766-1
Date Collected: 07/06/23 07:00
Matrix: Water
Date Received: 07/07/23 16:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	111855	AN	EET HOU	07/12/23 15:59

Client Sample ID: LC34-IW0044D2-110.0-20230707
Lab Sample ID: 670-22766-2
Date Collected: 07/06/23 07:30
Matrix: Water
Date Received: 07/07/23 16:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	111855	AN	EET HOU	07/12/23 16:20
Total/NA	Analysis	8260D	DL	25	111855	AN	EET HOU	07/12/23 17:12

Client Sample ID: LC34IW0165-110.0-20230707
Lab Sample ID: 670-22766-3
Date Collected: 07/06/23 08:00
Matrix: Water
Date Received: 07/07/23 16:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	111855	AN	EET HOU	07/12/23 16:40
Total/NA	Analysis	8260D	RA	1	111865	AN	EET HOU	07/12/23 17:33

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-22766-1
Project/Site: NASA KSC LC34 HCS

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E871002	06-30-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D		Water	Cyclohexane

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-22766-1
Project/Site: NASA KSC LC34 HCS

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET HOU
5030C	Purge and Trap	SW846	EET HOU

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-22766-1
Project/Site: NASA KSC LC34 HCS

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-22766-1	LC34-IW0162-110.0-20230707	Water	07/06/23 07:00	07/07/23 16:32
670-22766-2	LC34-IW0044D2-110.0-20230707	Water	07/06/23 07:30	07/07/23 16:32
670-22766-3	LC34IW0165-110.0-20230707	Water	07/06/23 08:00	07/07/23 16:32

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3660 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08985	LC34 HCS	MARK JONNET	412 921 8622	ENCO / EUROFINS
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: DAN FORESTER	PHONE NUMBER: 304 780 1486	ADDRESS
		CARRIER/WAYBILL NUMBER: COURIER		CITY, STATE: ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G)
PRESERVATIVE USED

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS 8260 VOC's HCL G								COMMENTS
7 Jul	0700	LC34-IW0162-110.0-2023	0707 LC34	105	110	GW	G	3	X								
7 Jul	0730	LC34-IWC044D2-110.0-2023	0707 LC34	105	110	GW	G	3	X								
7 Jul	0800	LC34-IW0165-110.0-2023	0707 LC34	105	110	GW	G	3	X								

670-22766 Chain of Custody

1. RELINQUISHED BY	DATE 7 Jul 23	TIME 1014	1. RECEIVED BY	DATE 7 Jul	TIME 1014
2. RELINQUISHED BY	DATE 7-7-23	TIME 1445	2. RECEIVED BY	DATE 7/7/23	TIME 1445
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY MC	DATE 7/7/23	TIME 1632

COMMENTS JOB #

4.9 / 4.4

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

596 FORM NO. TtNUS-001 4/02R

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-22766-1

Login Number: 22766

List Number: 1

Creator: Clerisier, Meline

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-22766-1

Login Number: 22766
List Number: 2
Creator: Pena, Jesiel

List Source: Eurofins Houston
List Creation: 07/11/23 03:05 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-23640-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

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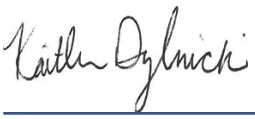

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Revision 1

Authorized for release by
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(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-23640-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-23640-1

Job ID: 670-23640-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-23640-1

REVISION

The report being provided is a revision of the original report sent on 7/26/2023. The report (revision 1) is being revised due to update of result and narration for detection of trichloroethene in method blank that was not initially reported..

Receipt
The samples were received on 7/21/2023 2:55 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C

GC/MS VOA
Method 8260D: The initial calibration verification (ICV) analyzed in batch 400-627009 was outside method criteria for the following analyte(s): Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-634409 recovered above the upper control limit for Methyl acetate. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-634409 recovered outside acceptance criteria, low biased, for Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0044D2-110.0-20230721 (670-23640-2). Elevated reporting limits (RLs) are provided.

Method 8260D: The laboratory control sample (LCS) for analytical batch 400-634565 recovered outside control limits for the following analyte: Bromomethane. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-634565 recovered above the upper control limit for Bromomethane and Chloromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-634565 were outside control limits for Bromomethane due to high bias for this analyte on this day of analysis.

Method 8260D: The method blank for analytical batch 400-634565 contained Trichloroethene above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-23640-1

Client Sample ID: LC34-IW0165-110.0-20230721 — Lab Sample ID: 670-23640-1

No Detections.

Client Sample ID: LC34-IW0044D2-110.0-20230721 — Lab Sample ID: 670-23640-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1900		10	2.0	ug/L	10		8260D	Total/NA
Trichloroethene	1600		10	1.5	ug/L	10		8260D	Total/NA
Vinyl chloride	150		10	5.0	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0162-110.0-20230721 — Lab Sample ID: 670-23640-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	5.9		1.0	0.20	ug/L	1		8260D	Total/NA
Trichloroethene	6.1		1.0	0.15	ug/L	1		8260D	Total/NA
Vinyl chloride	2.4		1.0	0.50	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-23640-1

Client Sample ID: LC34-IW0165-110.0-20230721
Date Collected: 07/21/23 10:30
Date Received: 07/21/23 14:55

Lab Sample ID: 670-23640-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			07/25/23 19:48	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			07/25/23 19:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			07/25/23 19:48	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			07/25/23 19:48	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			07/25/23 19:48	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/25/23 19:48	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			07/25/23 19:48	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			07/25/23 19:48	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			07/25/23 19:48	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			07/25/23 19:48	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			07/25/23 19:48	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			07/25/23 19:48	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			07/25/23 19:48	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			07/25/23 19:48	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			07/25/23 19:48	1
2-Hexanone	1.4	U	25	1.4	ug/L			07/25/23 19:48	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			07/25/23 19:48	1
Acetone	10	U	25	10	ug/L			07/25/23 19:48	1
Benzene	0.50	U	1.0	0.50	ug/L			07/25/23 19:48	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			07/25/23 19:48	1
Bromoform	0.25	U	5.0	0.25	ug/L			07/25/23 19:48	1
Bromomethane	0.98	U	1.0	0.98	ug/L			07/25/23 19:48	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			07/25/23 19:48	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			07/25/23 19:48	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/25/23 19:48	1
Chloroethane	0.76	U	1.0	0.76	ug/L			07/25/23 19:48	1
Chloroform	0.90	U	1.0	0.90	ug/L			07/25/23 19:48	1
Chloromethane	0.90	U	1.0	0.90	ug/L			07/25/23 19:48	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			07/25/23 19:48	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			07/25/23 19:48	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			07/25/23 19:48	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			07/25/23 19:48	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			07/25/23 19:48	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			07/25/23 19:48	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			07/25/23 19:48	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			07/25/23 19:48	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			07/25/23 19:48	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			07/25/23 19:48	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			07/25/23 19:48	1
o-Xylene	0.60	U	5.0	0.60	ug/L			07/25/23 19:48	1
Styrene	1.0	U	1.0	1.0	ug/L			07/25/23 19:48	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			07/25/23 19:48	1
Toluene	0.90	U	1.0	0.90	ug/L			07/25/23 19:48	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/25/23 19:48	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			07/25/23 19:48	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			07/25/23 19:48	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			07/25/23 19:48	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			07/25/23 19:48	1
Xylenes, Total	1.6	U	10	1.6	ug/L			07/25/23 19:48	1

Client Sample ID: LC34-IW0165-110.0-20230721

Lab Sample ID: 670-23640-1

Date Collected: 07/21/23 10:30
Matrix: Water
Date Received: 07/21/23 14:55

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 134*		*07/25/23 19:48*	*1*
Toluene-d8 (Surr)	*103*		*64 - 132*		*07/25/23 19:48*	*1*
4-Bromofluorobenzene	*101*		*72 - 130*		*07/25/23 19:48*	*1*
Dibromofluoromethane	*102*		*75 - 126*		*07/25/23 19:48*	*1*

Client Sample ID: LC34-IW0044D2-110.0-20230721

Lab Sample ID: 670-23640-2

Date Collected: 07/21/23 11:05
Matrix: Water
Date Received: 07/21/23 14:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.8	U	10	1.8	ug/L			07/26/23 11:57	10
1,1,2,2-Tetrachloroethane	5.0	U	10	5.0	ug/L			07/26/23 11:57	10
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	10	5.0	ug/L			07/26/23 11:57	10
1,1,2-Trichloroethane	2.1	U	50	2.1	ug/L			07/26/23 11:57	10
1,1-Dichloroethane	5.0	U	10	5.0	ug/L			07/26/23 11:57	10
1,1-Dichloroethene	5.0	U	10	5.0	ug/L			07/26/23 11:57	10
1,2,4-Trichlorobenzene	8.2	U	10	8.2	ug/L			07/26/23 11:57	10
1,2-Dibromo-3-Chloropropane	15	U	50	15	ug/L			07/26/23 11:57	10
1,2-Dibromoethane (EDB)	2.3	U	10	2.3	ug/L			07/26/23 11:57	10
1,2-Dichlorobenzene	5.0	U	10	5.0	ug/L			07/26/23 11:57	10
1,2-Dichloroethane	1.9	U	10	1.9	ug/L			07/26/23 11:57	10
1,2-Dichloropropane	5.0	U	10	5.0	ug/L			07/26/23 11:57	10
1,3-Dichlorobenzene	5.4	U	10	5.4	ug/L			07/26/23 11:57	10
1,4-Dichlorobenzene	6.4	U	10	6.4	ug/L			07/26/23 11:57	10
2-Butanone (MEK)	26	U	250	26	ug/L			07/26/23 11:57	10
2-Hexanone	14	U	250	14	ug/L			07/26/23 11:57	10
4-Methyl-2-pentanone	18	U	250	18	ug/L			07/26/23 11:57	10
Acetone	100	U	250	100	ug/L			07/26/23 11:57	10
Benzene	5.0	U	10	5.0	ug/L			07/26/23 11:57	10
Bromodichloromethane	5.0	U	10	5.0	ug/L			07/26/23 11:57	10
Bromoform	2.5	U	50	2.5	ug/L			07/26/23 11:57	10
Bromomethane	9.8	U J3	10	9.8	ug/L			07/26/23 11:57	10
Carbon disulfide	5.0	U	10	5.0	ug/L			07/26/23 11:57	10
Carbon tetrachloride	1.9	U	10	1.9	ug/L			07/26/23 11:57	10
Chlorobenzene	1.5	U	10	1.5	ug/L			07/26/23 11:57	10
Chloroethane	7.6	U	10	7.6	ug/L			07/26/23 11:57	10
Chloroform	9.0	U	10	9.0	ug/L			07/26/23 11:57	10
Chloromethane	9.0	U	10	9.0	ug/L			07/26/23 11:57	10
cis-1,2-Dichloroethene	**1900**		10	2.0	ug/L			07/26/23 11:57	10
cis-1,3-Dichloropropene	5.0	U	50	5.0	ug/L			07/26/23 11:57	10
Cyclohexane	5.0	U	10	5.0	ug/L			07/26/23 11:57	10
Dibromochloromethane	2.4	U	10	2.4	ug/L			07/26/23 11:57	10
Dichlorodifluoromethane	8.5	U	10	8.5	ug/L			07/26/23 11:57	10
Ethylbenzene	5.0	U	10	5.0	ug/L			07/26/23 11:57	10
Isopropylbenzene	5.3	U	10	5.3	ug/L			07/26/23 11:57	10
m,p-Xylenes	6.3	U	50	6.3	ug/L			07/26/23 11:57	10
Methyl acetate	6.1	U	50	6.1	ug/L			07/26/23 11:57	10
Methyl tert-butyl ether	2.2	U	10	2.2	ug/L			07/26/23 11:57	10
Methylene Chloride	30	U	50	30	ug/L			07/26/23 11:57	10

Client Sample ID: LC34-IW0044D2-110.0-20230721

Lab Sample ID: 670-23640-2

Date Collected: 07/21/23 11:05

Matrix: Water

Date Received: 07/21/23 14:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	6.0	U	50	6.0	ug/L			07/26/23 11:57	10
Styrene	10	U	10	10	ug/L			07/26/23 11:57	10
Tetrachloroethene	9.0	U	10	9.0	ug/L			07/26/23 11:57	10
Toluene	9.0	U	10	9.0	ug/L			07/26/23 11:57	10
trans-1,2-Dichloroethene	5.0	U	10	5.0	ug/L			07/26/23 11:57	10
trans-1,3-Dichloropropene	2.0	U	50	2.0	ug/L			07/26/23 11:57	10
Trichloroethene	**1600**		10	1.5	ug/L			07/26/23 11:57	10
Trichlorofluoromethane	5.2	U	10	5.2	ug/L			07/26/23 11:57	10
Vinyl chloride	**150**		10	5.0	ug/L			07/26/23 11:57	10
Xylenes, Total	16	U	100	16	ug/L			07/26/23 11:57	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*122*		*67 - 134*		*07/26/23 11:57*	*10*
Toluene-d8 (Surr)	*107*		*64 - 132*		*07/26/23 11:57*	*10*
4-Bromofluorobenzene	*103*		*72 - 130*		*07/26/23 11:57*	*10*
Dibromofluoromethane	*108*		*75 - 126*		*07/26/23 11:57*	*10*

Client Sample ID: LC34-IW0162-110.0-20230721

Lab Sample ID: 670-23640-3

Date Collected: 07/21/23 11:35

Matrix: Water

Date Received: 07/21/23 14:55

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			07/25/23 20:15	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			07/25/23 20:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			07/25/23 20:15	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			07/25/23 20:15	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			07/25/23 20:15	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/25/23 20:15	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			07/25/23 20:15	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			07/25/23 20:15	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			07/25/23 20:15	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			07/25/23 20:15	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			07/25/23 20:15	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			07/25/23 20:15	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			07/25/23 20:15	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			07/25/23 20:15	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			07/25/23 20:15	1
2-Hexanone	1.4	U	25	1.4	ug/L			07/25/23 20:15	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			07/25/23 20:15	1
Acetone	10	U	25	10	ug/L			07/25/23 20:15	1
Benzene	0.50	U	1.0	0.50	ug/L			07/25/23 20:15	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			07/25/23 20:15	1
Bromoform	0.25	U	5.0	0.25	ug/L			07/25/23 20:15	1
Bromomethane	0.98	U	1.0	0.98	ug/L			07/25/23 20:15	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			07/25/23 20:15	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			07/25/23 20:15	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/25/23 20:15	1
Chloroethane	0.76	U	1.0	0.76	ug/L			07/25/23 20:15	1
Chloroform	0.90	U	1.0	0.90	ug/L			07/25/23 20:15	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-23640-1

Client Sample ID: LC34-IW0162-110.0-20230721
Date Collected: 07/21/23 11:35
Date Received: 07/21/23 14:55

Lab Sample ID: 670-23640-3
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	0.90	U	1.0	0.90	ug/L			07/25/23 20:15	1
cis-1,2-Dichloroethene	**5.9**		1.0	0.20	ug/L			07/25/23 20:15	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			07/25/23 20:15	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			07/25/23 20:15	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			07/25/23 20:15	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			07/25/23 20:15	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			07/25/23 20:15	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			07/25/23 20:15	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			07/25/23 20:15	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			07/25/23 20:15	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			07/25/23 20:15	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			07/25/23 20:15	1
o-Xylene	0.60	U	5.0	0.60	ug/L			07/25/23 20:15	1
Styrene	1.0	U	1.0	1.0	ug/L			07/25/23 20:15	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			07/25/23 20:15	1
Toluene	0.90	U	1.0	0.90	ug/L			07/25/23 20:15	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/25/23 20:15	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			07/25/23 20:15	1
Trichloroethene	**6.1**		1.0	0.15	ug/L			07/25/23 20:15	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			07/25/23 20:15	1
Vinyl chloride	**2.4**		1.0	0.50	ug/L			07/25/23 20:15	1
Xylenes, Total	1.6	U	10	1.6	ug/L			07/25/23 20:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*67 - 134*		*07/25/23 20:15*	*1*
Toluene-d8 (Surr)	*102*		*64 - 132*		*07/25/23 20:15*	*1*
4-Bromofluorobenzene	*101*		*72 - 130*		*07/25/23 20:15*	*1*
Dibromofluoromethane	*104*		*75 - 126*		*07/25/23 20:15*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-23640-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(67-134)	(64-132)	(72-130)	(75-126)
400-240426-A-11 MS	Matrix Spike	106	101	99	102
400-240426-A-11 MSD	Matrix Spike Duplicate	108	102	100	101
670-23266-B-15 MS	Matrix Spike	118	102	101	102
670-23266-B-15 MSD	Matrix Spike Duplicate	120	103	103	105
670-23640-1	LC34-IW0165-110.0-20230721	107	103	101	102
670-23640-2	LC34-IW0044D2-110.0-20230721	122	107	103	108
670-23640-3	LC34-IW0162-110.0-20230721	111	102	101	104
LCS 400-634409/1002	Lab Control Sample	105	103	96	100
LCS 400-634565/1002	Lab Control Sample	114	102	100	104
LCS 400-634565/1003	Lab Control Sample	126	111	104	110
MB 400-634409/4	Method Blank	108	103	102	104
MB 400-634565/5	Method Blank	126	106	103	112

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 400-634409/4
Matrix: Water
Analysis Batch: 634409

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			07/25/23 10:20	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			07/25/23 10:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			07/25/23 10:20	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			07/25/23 10:20	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			07/25/23 10:20	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/25/23 10:20	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			07/25/23 10:20	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			07/25/23 10:20	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			07/25/23 10:20	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			07/25/23 10:20	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			07/25/23 10:20	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			07/25/23 10:20	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			07/25/23 10:20	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			07/25/23 10:20	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			07/25/23 10:20	1
2-Hexanone	1.4	U	25	1.4	ug/L			07/25/23 10:20	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			07/25/23 10:20	1
Acetone	10	U	25	10	ug/L			07/25/23 10:20	1
Benzene	0.50	U	1.0	0.50	ug/L			07/25/23 10:20	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			07/25/23 10:20	1
Bromoform	0.25	U	5.0	0.25	ug/L			07/25/23 10:20	1
Bromomethane	0.98	U	1.0	0.98	ug/L			07/25/23 10:20	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			07/25/23 10:20	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			07/25/23 10:20	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/25/23 10:20	1
Chloroethane	0.76	U	1.0	0.76	ug/L			07/25/23 10:20	1
Chloroform	0.90	U	1.0	0.90	ug/L			07/25/23 10:20	1
Chloromethane	0.90	U	1.0	0.90	ug/L			07/25/23 10:20	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			07/25/23 10:20	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			07/25/23 10:20	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			07/25/23 10:20	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			07/25/23 10:20	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			07/25/23 10:20	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			07/25/23 10:20	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			07/25/23 10:20	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			07/25/23 10:20	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			07/25/23 10:20	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			07/25/23 10:20	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			07/25/23 10:20	1
o-Xylene	0.60	U	5.0	0.60	ug/L			07/25/23 10:20	1
Styrene	1.0	U	1.0	1.0	ug/L			07/25/23 10:20	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			07/25/23 10:20	1
Toluene	0.90	U	1.0	0.90	ug/L			07/25/23 10:20	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/25/23 10:20	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			07/25/23 10:20	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			07/25/23 10:20	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			07/25/23 10:20	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			07/25/23 10:20	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-634409/4
Matrix: Water
Analysis Batch: 634409

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.6	U	10	1.6	ug/L			07/25/23 10:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*67 - 134*		*07/25/23 10:20*	*1*
Toluene-d8 (Surr)	*103*		*64 - 132*		*07/25/23 10:20*	*1*
4-Bromofluorobenzene	*102*		*72 - 130*		*07/25/23 10:20*	*1*
Dibromofluoromethane	*104*		*75 - 126*		*07/25/23 10:20*	*1*

Lab Sample ID: LCS 400-634409/1002
Matrix: Water
Analysis Batch: 634409

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	50.3		ug/L		101	68 - 130
1,1,2,2-Tetrachloroethane	50.0	50.5		ug/L		101	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	46.8		ug/L		94	60 - 139
1,1,2-Trichloroethane	50.0	53.7		ug/L		107	70 - 130
1,1-Dichloroethane	50.0	50.8		ug/L		102	70 - 130
1,1-Dichloroethene	50.0	42.1		ug/L		84	63 - 134
1,2,4-Trichlorobenzene	50.0	49.5		ug/L		99	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	50.0		ug/L		100	54 - 135
1,2-Dibromoethane (EDB)	50.0	52.3		ug/L		105	70 - 130
1,2-Dichlorobenzene	50.0	51.6		ug/L		103	67 - 130
1,2-Dichloroethane	50.0	53.5		ug/L		107	69 - 130
1,2-Dichloropropane	50.0	51.6		ug/L		103	70 - 130
1,3-Dichlorobenzene	50.0	49.8		ug/L		100	70 - 130
1,4-Dichlorobenzene	50.0	50.2		ug/L		100	70 - 130
2-Butanone (MEK)	200	213		ug/L		107	61 - 145
2-Hexanone	200	229		ug/L		115	65 - 137
4-Methyl-2-pentanone	200	219		ug/L		109	69 - 138
Acetone	200	191		ug/L		96	43 - 160
Benzene	50.0	51.3		ug/L		103	70 - 130
Bromodichloromethane	50.0	51.4		ug/L		103	67 - 133
Bromoform	50.0	48.9		ug/L		98	57 - 140
Bromomethane	50.0	50.0		ug/L		100	10 - 160
Carbon disulfide	50.0	47.6		ug/L		95	61 - 137
Carbon tetrachloride	50.0	50.2		ug/L		100	61 - 137
Chlorobenzene	50.0	51.3		ug/L		103	70 - 130
Chloroethane	50.0	55.3		ug/L		111	55 - 141
Chloroform	50.0	50.8		ug/L		102	69 - 130
Chloromethane	50.0	40.1		ug/L		80	58 - 137
cis-1,2-Dichloroethene	50.0	51.5		ug/L		103	68 - 130
cis-1,3-Dichloropropene	50.0	50.9		ug/L		102	69 - 132
Cyclohexane	50.0	50.8		ug/L		102	70 - 130
Dibromochloromethane	50.0	51.2		ug/L		102	67 - 135
Dichlorodifluoromethane	50.0	29.1		ug/L		58	41 - 146
Ethylbenzene	50.0	52.0		ug/L		104	70 - 130
Isopropylbenzene	50.0	51.3		ug/L		103	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-634409/1002
Matrix: Water
Analysis Batch: 634409

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	51.2		ug/L		102	70 - 130
Methyl acetate	100	139		ug/L		139	45 - 159
Methyl tert-butyl ether	50.0	49.8		ug/L		100	66 - 130
Methylene Chloride	50.0	54.1		ug/L		108	66 - 135
o-Xylene	50.0	51.2		ug/L		102	70 - 130
Styrene	50.0	51.3		ug/L		103	70 - 130
Tetrachloroethene	50.0	49.7		ug/L		99	65 - 130
Toluene	50.0	51.7		ug/L		103	70 - 130
trans-1,2-Dichloroethene	50.0	50.7		ug/L		101	70 - 130
trans-1,3-Dichloropropene	50.0	53.9		ug/L		108	63 - 130
Trichloroethene	50.0	49.8		ug/L		100	70 - 130
Trichlorofluoromethane	50.0	43.1		ug/L		86	65 - 138
Vinyl chloride	50.0	40.4		ug/L		81	59 - 136
Xylenes, Total	100	102		ug/L		102	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*67 - 134*
Toluene-d8 (Surr)	*103*		*64 - 132*
4-Bromofluorobenzene	*96*		*72 - 130*
Dibromofluoromethane	*100*		*75 - 126*

Lab Sample ID: 400-240426-A-11 MS
Matrix: Water
Analysis Batch: 634409

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	54.3		ug/L		109	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	56.2		ug/L		112	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	49.9		ug/L		100	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	57.2		ug/L		114	66 - 131
1,1-Dichloroethane	0.50	U	50.0	54.2		ug/L		108	61 - 144
1,1-Dichloroethene	0.50	U	50.0	50.9		ug/L		102	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	52.1		ug/L		104	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	56.7		ug/L		113	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	56.1		ug/L		112	64 - 132
1,2-Dichlorobenzene	0.50	U	50.0	53.9		ug/L		108	52 - 137
1,2-Dichloroethane	0.19	U	50.0	58.9		ug/L		118	60 - 141
1,2-Dichloropropane	0.50	U	50.0	54.5		ug/L		109	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	52.1		ug/L		104	54 - 135
1,4-Dichlorobenzene	0.64	U	50.0	52.0		ug/L		104	53 - 135
2-Butanone (MEK)	2.6	U	200	219		ug/L		109	55 - 150
2-Hexanone	1.4	U	200	246		ug/L		123	65 - 140
4-Methyl-2-pentanone	1.8	U	200	250		ug/L		125	63 - 146
Acetone	10	U	200	189		ug/L		95	43 - 150
Benzene	5.3		50.0	63.8		ug/L		117	56 - 142
Bromodichloromethane	0.50	U	50.0	55.2		ug/L		110	59 - 143
Bromoform	0.25	U	50.0	53.0		ug/L		106	50 - 140
Bromomethane	0.98	U	50.0	42.3		ug/L		85	10 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-240426-A-11 MS
Matrix: Water
Analysis Batch: 634409

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	0.50	U	50.0	46.4		ug/L		93	48 - 150
Carbon tetrachloride	0.19	U	50.0	53.6		ug/L		107	55 - 145
Chlorobenzene	0.15	U	50.0	53.9		ug/L		108	64 - 130
Chloroethane	0.76	U	50.0	60.9		ug/L		122	50 - 150
Chloroform	0.90	U	50.0	55.6		ug/L		111	60 - 141
Chloromethane	0.90	U	50.0	45.3		ug/L		91	49 - 148
cis-1,2-Dichloroethene	0.20	U	50.0	55.6		ug/L		111	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	54.9		ug/L		110	57 - 140
Cyclohexane	0.50	U	50.0	52.3		ug/L		105	58 - 141
Dibromochloromethane	0.24	U	50.0	53.4		ug/L		107	56 - 143
Dichlorodifluoromethane	0.85	U	50.0	50.2		ug/L		100	16 - 150
Ethylbenzene	0.50	U	50.0	54.4		ug/L		109	58 - 131
Isopropylbenzene	0.53	U	50.0	53.6		ug/L		107	56 - 133
m,p-Xylenes	0.63	U	50.0	54.0		ug/L		108	57 - 130
Methyl acetate	0.61	U	100	118		ug/L		118	21 - 150
Methyl tert-butyl ether	0.22	U	50.0	54.1		ug/L		108	59 - 137
Methylene Chloride	3.0	U	50.0	52.1		ug/L		104	60 - 146
o-Xylene	0.60	U	50.0	53.5		ug/L		107	61 - 130
Styrene	1.0	U	50.0	53.4		ug/L		107	58 - 131
Tetrachloroethene	0.90	U	50.0	50.6		ug/L		101	52 - 133
Toluene	0.90	U	50.0	54.3		ug/L		109	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	53.8		ug/L		108	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	55.8		ug/L		112	53 - 133
Trichloroethene	0.15	U	50.0	53.3		ug/L		107	64 - 136
Trichlorofluoromethane	0.52	U	50.0	53.6		ug/L		107	54 - 150
Vinyl chloride	0.50	U	50.0	48.9		ug/L		98	46 - 150
Xylenes, Total	1.6	U	100	108		ug/L		108	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*67 - 134*
Toluene-d8 (Surr)	*101*		*64 - 132*
4-Bromofluorobenzene	*99*		*72 - 130*
Dibromofluoromethane	*102*		*75 - 126*

Lab Sample ID: 400-240426-A-11 MSD
Matrix: Water
Analysis Batch: 634409

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	49.7		ug/L		99	57 - 142	9	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	51.5		ug/L		103	66 - 135	9	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	45.9		ug/L		92	55 - 150	8	30
1,1,2-Trichloroethane	0.21	U	50.0	52.3		ug/L		105	66 - 131	9	30
1,1-Dichloroethane	0.50	U	50.0	49.9		ug/L		100	61 - 144	8	30
1,1-Dichloroethene	0.50	U	50.0	45.6		ug/L		91	54 - 147	11	30
1,2,4-Trichlorobenzene	0.82	U	50.0	47.3		ug/L		95	39 - 148	10	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	51.7		ug/L		103	45 - 135	9	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	51.6		ug/L		103	64 - 132	8	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-240426-A-11 MSD
Matrix: Water
Analysis Batch: 634409

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichlorobenzene	0.50	U	50.0	48.7		ug/L		97	52 - 137	10	30
1,2-Dichloroethane	0.19	U	50.0	54.0		ug/L		108	60 - 141	9	30
1,2-Dichloropropane	0.50	U	50.0	51.3		ug/L		103	66 - 137	6	30
1,3-Dichlorobenzene	0.54	U	50.0	46.6		ug/L		93	54 - 135	11	30
1,4-Dichlorobenzene	0.64	U	50.0	46.7		ug/L		93	53 - 135	11	30
2-Butanone (MEK)	2.6	U	200	200		ug/L		100	55 - 150	9	30
2-Hexanone	1.4	U	200	226		ug/L		113	65 - 140	8	30
4-Methyl-2-pentanone	1.8	U	200	224		ug/L		112	63 - 146	11	30
Acetone	10	U	200	171		ug/L		86	43 - 150	10	30
Benzene	5.3		50.0	59.5		ug/L		108	56 - 142	7	30
Bromodichloromethane	0.50	U	50.0	49.6		ug/L		99	59 - 143	11	30
Bromoform	0.25	U	50.0	47.4		ug/L		95	50 - 140	11	30
Bromomethane	0.98	U	50.0	43.0		ug/L		86	10 - 150	2	50
Carbon disulfide	0.50	U	50.0	45.7		ug/L		91	48 - 150	1	30
Carbon tetrachloride	0.19	U	50.0	48.3		ug/L		97	55 - 145	10	30
Chlorobenzene	0.15	U	50.0	48.6		ug/L		97	64 - 130	10	30
Chloroethane	0.76	U	50.0	60.1		ug/L		120	50 - 150	1	30
Chloroform	0.90	U	50.0	50.6		ug/L		101	60 - 141	9	30
Chloromethane	0.90	U	50.0	48.1		ug/L		96	49 - 148	6	31
cis-1,2-Dichloroethene	0.20	U	50.0	50.7		ug/L		101	59 - 143	9	30
cis-1,3-Dichloropropene	0.50	U	50.0	49.4		ug/L		99	57 - 140	11	30
Cyclohexane	0.50	U	50.0	48.7		ug/L		97	58 - 141	7	30
Dibromochloromethane	0.24	U	50.0	49.1		ug/L		98	56 - 143	8	30
Dichlorodifluoromethane	0.85	U	50.0	54.4		ug/L		109	16 - 150	8	31
Ethylbenzene	0.50	U	50.0	49.7		ug/L		99	58 - 131	9	30
Isopropylbenzene	0.53	U	50.0	48.9		ug/L		98	56 - 133	9	30
m,p-Xylenes	0.63	U	50.0	49.4		ug/L		99	57 - 130	9	30
Methyl acetate	0.61	U	100	111		ug/L		111	21 - 150	6	30
Methyl tert-butyl ether	0.22	U	50.0	49.4		ug/L		99	59 - 137	9	30
Methylene Chloride	3.0	U	50.0	46.7		ug/L		93	60 - 146	11	32
o-Xylene	0.60	U	50.0	49.3		ug/L		99	61 - 130	8	30
Styrene	1.0	U	50.0	48.3		ug/L		97	58 - 131	10	30
Tetrachloroethene	0.90	U	50.0	46.7		ug/L		93	52 - 133	8	30
Toluene	0.90	U	50.0	50.1		ug/L		100	65 - 130	8	30
trans-1,2-Dichloroethene	0.50	U	50.0	48.2		ug/L		96	61 - 143	11	30
trans-1,3-Dichloropropene	0.20	U	50.0	51.8		ug/L		104	53 - 133	8	30
Trichloroethene	0.15	U	50.0	47.5		ug/L		95	64 - 136	12	30
Trichlorofluoromethane	0.52	U	50.0	53.6		ug/L		107	54 - 150	0	30
Vinyl chloride	0.50	U	50.0	53.9		ug/L		108	46 - 150	10	30
Xylenes, Total	1.6	U	100	98.6		ug/L		99	59 - 130	9	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*67 - 134*
Toluene-d8 (Surr)	*102*		*64 - 132*
4-Bromofluorobenzene	*100*		*72 - 130*
Dibromofluoromethane	*101*		*75 - 126*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-634565/5
Matrix: Water
Analysis Batch: 634565

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			07/26/23 09:52	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			07/26/23 09:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			07/26/23 09:52	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			07/26/23 09:52	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			07/26/23 09:52	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/26/23 09:52	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			07/26/23 09:52	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			07/26/23 09:52	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			07/26/23 09:52	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			07/26/23 09:52	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			07/26/23 09:52	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			07/26/23 09:52	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			07/26/23 09:52	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			07/26/23 09:52	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			07/26/23 09:52	1
2-Hexanone	1.4	U	25	1.4	ug/L			07/26/23 09:52	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			07/26/23 09:52	1
Acetone	10	U	25	10	ug/L			07/26/23 09:52	1
Benzene	0.50	U	1.0	0.50	ug/L			07/26/23 09:52	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			07/26/23 09:52	1
Bromoform	0.25	U	5.0	0.25	ug/L			07/26/23 09:52	1
Bromomethane	0.98	U	1.0	0.98	ug/L			07/26/23 09:52	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			07/26/23 09:52	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			07/26/23 09:52	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/26/23 09:52	1
Chloroethane	0.76	U	1.0	0.76	ug/L			07/26/23 09:52	1
Chloroform	0.90	U	1.0	0.90	ug/L			07/26/23 09:52	1
Chloromethane	0.90	U	1.0	0.90	ug/L			07/26/23 09:52	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			07/26/23 09:52	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			07/26/23 09:52	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			07/26/23 09:52	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			07/26/23 09:52	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			07/26/23 09:52	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			07/26/23 09:52	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			07/26/23 09:52	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			07/26/23 09:52	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			07/26/23 09:52	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			07/26/23 09:52	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			07/26/23 09:52	1
o-Xylene	0.60	U	5.0	0.60	ug/L			07/26/23 09:52	1
Styrene	1.0	U	1.0	1.0	ug/L			07/26/23 09:52	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			07/26/23 09:52	1
Toluene	0.90	U	1.0	0.90	ug/L			07/26/23 09:52	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/26/23 09:52	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			07/26/23 09:52	1
Trichloroethene	1.42		1.0	0.15	ug/L			07/26/23 09:52	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			07/26/23 09:52	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			07/26/23 09:52	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-634565/5
Matrix: Water
Analysis Batch: 634565

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.6	U	10	1.6	ug/L			07/26/23 09:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*126*		*67 - 134*		*07/26/23 09:52*	*1*
Toluene-d8 (Surr)	*106*		*64 - 132*		*07/26/23 09:52*	*1*
4-Bromofluorobenzene	*103*		*72 - 130*		*07/26/23 09:52*	*1*
Dibromofluoromethane	*112*		*75 - 126*		*07/26/23 09:52*	*1*

Lab Sample ID: LCS 400-634565/1002
Matrix: Water
Analysis Batch: 634565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	52.9		ug/L		106	68 - 130
1,1,2,2-Tetrachloroethane	50.0	49.2		ug/L		98	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	44.2		ug/L		88	60 - 139
1,1,2-Trichloroethane	50.0	55.1		ug/L		110	70 - 130
1,1-Dichloroethane	50.0	55.9		ug/L		112	70 - 130
1,1-Dichloroethene	50.0	48.7		ug/L		97	63 - 134
1,2,4-Trichlorobenzene	50.0	49.8		ug/L		100	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	47.0		ug/L		94	54 - 135
1,2-Dibromoethane (EDB)	50.0	50.1		ug/L		100	70 - 130
1,2-Dichlorobenzene	50.0	54.8		ug/L		110	67 - 130
1,2-Dichloroethane	50.0	59.0		ug/L		118	69 - 130
1,2-Dichloropropane	50.0	59.8		ug/L		120	70 - 130
1,3-Dichlorobenzene	50.0	53.7		ug/L		107	70 - 130
1,4-Dichlorobenzene	50.0	54.5		ug/L		109	70 - 130
Benzene	50.0	55.2		ug/L		110	70 - 130
Bromodichloromethane	50.0	57.9		ug/L		116	67 - 133
Bromoform	50.0	43.2		ug/L		86	57 - 140
Bromomethane	50.0	85.1	J3	ug/L		170	10 - 160
Carbon disulfide	50.0	48.3		ug/L		97	61 - 137
Carbon tetrachloride	50.0	54.1		ug/L		108	61 - 137
Chlorobenzene	50.0	53.8		ug/L		108	70 - 130
Chloroethane	50.0	52.6		ug/L		105	55 - 141
Chloroform	50.0	55.8		ug/L		112	69 - 130
Chloromethane	50.0	62.2		ug/L		124	58 - 137
cis-1,2-Dichloroethene	50.0	55.7		ug/L		111	68 - 130
cis-1,3-Dichloropropene	50.0	55.3		ug/L		111	69 - 132
Cyclohexane	50.0	51.1		ug/L		102	70 - 130
Dibromochloromethane	50.0	51.6		ug/L		103	67 - 135
Dichlorodifluoromethane	50.0	49.8		ug/L		100	41 - 146
Ethylbenzene	50.0	56.3		ug/L		113	70 - 130
Isopropylbenzene	50.0	55.4		ug/L		111	70 - 130
m,p-Xylenes	50.0	55.5		ug/L		111	70 - 130
Methyl acetate	100	113		ug/L		113	45 - 159
Methyl tert-butyl ether	50.0	49.4		ug/L		99	66 - 130
Methylene Chloride	50.0	52.1		ug/L		104	66 - 135

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-634565/1002
Matrix: Water
Analysis Batch: 634565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	50.0	55.0		ug/L		110	70 - 130
Styrene	50.0	52.2		ug/L		104	70 - 130
Tetrachloroethene	50.0	55.6		ug/L		111	65 - 130
Toluene	50.0	54.1		ug/L		108	70 - 130
trans-1,2-Dichloroethene	50.0	49.8		ug/L		100	70 - 130
trans-1,3-Dichloropropene	50.0	52.2		ug/L		104	63 - 130
Trichloroethene	50.0	55.7		ug/L		111	70 - 130
Trichlorofluoromethane	50.0	45.5		ug/L		91	65 - 138
Vinyl chloride	50.0	49.9		ug/L		100	59 - 136
Xylenes, Total	100	110		ug/L		110	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*114*		*67 - 134*
Toluene-d8 (Surr)	*102*		*64 - 132*
4-Bromofluorobenzene	*100*		*72 - 130*
Dibromofluoromethane	*104*		*75 - 126*

Lab Sample ID: LCS 400-634565/1003
Matrix: Water
Analysis Batch: 634565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-Butanone (MEK)	200	163		ug/L		81	61 - 145
2-Hexanone	200	177		ug/L		88	65 - 137
4-Methyl-2-pentanone	200	184		ug/L		92	69 - 138
Acetone	200	197		ug/L		98	43 - 160

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*126*		*67 - 134*
Toluene-d8 (Surr)	*111*		*64 - 132*
4-Bromofluorobenzene	*104*		*72 - 130*
Dibromofluoromethane	*110*		*75 - 126*

Lab Sample ID: 670-23266-B-15 MS
Matrix: Water
Analysis Batch: 634565

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	44.3		ug/L		89	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	42.5		ug/L		85	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	39.6		ug/L		79	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	48.0		ug/L		96	66 - 131
1,1-Dichloroethane	0.50	U	50.0	50.3		ug/L		101	61 - 144
1,1-Dichloroethene	0.50	U	50.0	43.5		ug/L		87	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	32.0		ug/L		64	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	41.0		ug/L		82	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	44.2		ug/L		88	64 - 132

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-23266-B-15 MS
Matrix: Water
Analysis Batch: 634565

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichlorobenzene	0.50	U	50.0	37.5		ug/L		75	52 - 137
1,2-Dichloroethane	0.19	U	50.0	52.1		ug/L		104	60 - 141
1,2-Dichloropropane	0.50	U	50.0	51.6		ug/L		103	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	35.2		ug/L		70	54 - 135
1,4-Dichlorobenzene	0.64	U	50.0	35.3		ug/L		71	53 - 135
2-Butanone (MEK)	2.6	U	200	199		ug/L		99	55 - 150
2-Hexanone	1.4	U	200	208		ug/L		104	65 - 140
4-Methyl-2-pentanone	1.8	U	200	230		ug/L		115	63 - 146
Acetone	10	U	200	235		ug/L		117	43 - 150
Benzene	0.50	U	50.0	45.1		ug/L		90	56 - 142
Bromodichloromethane	0.50	U	50.0	50.4		ug/L		101	59 - 143
Bromoform	0.25	U	50.0	36.2		ug/L		72	50 - 140
Bromomethane	0.98	U J3	50.0	83.8	J3	ug/L		168	10 - 150
Carbon disulfide	0.50	U	50.0	41.4		ug/L		83	48 - 150
Carbon tetrachloride	0.19	U	50.0	45.1		ug/L		90	55 - 145
Chlorobenzene	0.15	U	50.0	40.3		ug/L		81	64 - 130
Chloroethane	0.76	U	50.0	53.3		ug/L		107	50 - 150
Chloroform	0.90	U	50.0	48.6		ug/L		97	60 - 141
Chloromethane	0.90	U	50.0	54.5		ug/L		109	49 - 148
cis-1,2-Dichloroethene	10		50.0	58.7		ug/L		97	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	45.7		ug/L		91	57 - 140
Cyclohexane	0.50	U	50.0	43.2		ug/L		86	58 - 141
Dibromochloromethane	0.24	U	50.0	42.3		ug/L		85	56 - 143
Dichlorodifluoromethane	0.85	U	50.0	46.2		ug/L		92	16 - 150
Ethylbenzene	0.50	U	50.0	40.6		ug/L		81	58 - 131
Isopropylbenzene	0.53	U	50.0	37.4		ug/L		75	56 - 133
m,p-Xylenes	0.63	U	50.0	39.3		ug/L		79	57 - 130
Methyl acetate	0.61	U	100	106		ug/L		106	21 - 150
Methyl tert-butyl ether	0.22	U	50.0	46.9		ug/L		94	59 - 137
Methylene Chloride	3.0	U	50.0	46.5		ug/L		93	60 - 146
o-Xylene	0.60	U	50.0	39.4		ug/L		79	61 - 130
Styrene	1.0	U	50.0	37.2		ug/L		74	58 - 131
Tetrachloroethene	0.90	U	50.0	41.9		ug/L		84	52 - 133
Toluene	0.90	U	50.0	42.2		ug/L		84	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	43.9		ug/L		88	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	43.4		ug/L		87	53 - 133
Trichloroethene	2.0		50.0	47.7		ug/L		91	64 - 136
Trichlorofluoromethane	0.52	U	50.0	42.7		ug/L		85	54 - 150
Vinyl chloride	0.50	U	50.0	47.3		ug/L		95	46 - 150
Xylenes, Total	1.6	U	100	78.7		ug/L		79	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*118*		*67 - 134*
Toluene-d8 (Surr)	*102*		*64 - 132*
4-Bromofluorobenzene	*101*		*72 - 130*
Dibromofluoromethane	*102*		*75 - 126*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-23266-B-15 MSD
Matrix: Water
Analysis Batch: 634565

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	46.6		ug/L		93	57 - 142	5	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	39.8		ug/L		80	66 - 135	7	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	40.7		ug/L		81	55 - 150	3	30
1,1,2-Trichloroethane	0.21	U	50.0	46.6		ug/L		93	66 - 131	3	30
1,1-Dichloroethane	0.50	U	50.0	51.2		ug/L		102	61 - 144	2	30
1,1-Dichloroethene	0.50	U	50.0	45.9		ug/L		92	54 - 147	5	30
1,2,4-Trichlorobenzene	0.82	U	50.0	24.2		ug/L		48	39 - 148	28	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	38.3		ug/L		77	45 - 135	7	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	42.4		ug/L		85	64 - 132	4	30
1,2-Dichlorobenzene	0.50	U	50.0	30.8		ug/L		62	52 - 137	20	30
1,2-Dichloroethane	0.19	U	50.0	53.0		ug/L		106	60 - 141	2	30
1,2-Dichloropropane	0.50	U	50.0	53.1		ug/L		106	66 - 137	3	30
1,3-Dichlorobenzene	0.54	U	50.0	29.3		ug/L		59	54 - 135	18	30
1,4-Dichlorobenzene	0.64	U	50.0	28.7		ug/L		57	53 - 135	21	30
2-Butanone (MEK)	2.6	U	200	206		ug/L		103	55 - 150	3	30
2-Hexanone	1.4	U	200	208		ug/L		104	65 - 140	0	30
4-Methyl-2-pentanone	1.8	U	200	240		ug/L		120	63 - 146	5	30
Acetone	10	U	200	245		ug/L		122	43 - 150	4	30
Benzene	0.50	U	50.0	46.3		ug/L		93	56 - 142	3	30
Bromodichloromethane	0.50	U	50.0	51.1		ug/L		102	59 - 143	2	30
Bromoform	0.25	U	50.0	34.6		ug/L		69	50 - 140	5	30
Bromomethane	0.98	U J3	50.0	81.1	J3	ug/L		162	10 - 150	3	50
Carbon disulfide	0.50	U	50.0	43.5		ug/L		87	48 - 150	5	30
Carbon tetrachloride	0.19	U	50.0	46.3		ug/L		93	55 - 145	3	30
Chlorobenzene	0.15	U	50.0	37.3		ug/L		75	64 - 130	8	30
Chloroethane	0.76	U	50.0	50.3		ug/L		101	50 - 150	6	30
Chloroform	0.90	U	50.0	49.3		ug/L		99	60 - 141	1	30
Chloromethane	0.90	U	50.0	57.7		ug/L		115	49 - 148	6	31
cis-1,2-Dichloroethene	10		50.0	59.6		ug/L		99	59 - 143	2	30
cis-1,3-Dichloropropene	0.50	U	50.0	46.9		ug/L		94	57 - 140	2	30
Cyclohexane	0.50	U	50.0	45.6		ug/L		91	58 - 141	5	30
Dibromochloromethane	0.24	U	50.0	41.1		ug/L		82	56 - 143	3	30
Dichlorodifluoromethane	0.85	U	50.0	50.9		ug/L		102	16 - 150	10	31
Ethylbenzene	0.50	U	50.0	37.9		ug/L		76	58 - 131	7	30
Isopropylbenzene	0.53	U	50.0	34.3		ug/L		69	56 - 133	9	30
m,p-Xylenes	0.63	U	50.0	36.4		ug/L		73	57 - 130	8	30
Methyl acetate	0.61	U	100	112		ug/L		112	21 - 150	5	30
Methyl tert-butyl ether	0.22	U	50.0	49.2		ug/L		98	59 - 137	5	30
Methylene Chloride	3.0	U	50.0	47.9		ug/L		96	60 - 146	3	32
o-Xylene	0.60	U	50.0	35.9		ug/L		72	61 - 130	9	30
Styrene	1.0	U	50.0	33.4		ug/L		67	58 - 131	11	30
Tetrachloroethene	0.90	U	50.0	39.2		ug/L		78	52 - 133	7	30
Toluene	0.90	U	50.0	41.6		ug/L		83	65 - 130	1	30
trans-1,2-Dichloroethene	0.50	U	50.0	44.9		ug/L		90	61 - 143	2	30
trans-1,3-Dichloropropene	0.20	U	50.0	41.7		ug/L		83	53 - 133	4	30
Trichloroethene	2.0		50.0	47.4		ug/L		91	64 - 136	1	30
Trichlorofluoromethane	0.52	U	50.0	43.0		ug/L		86	54 - 150	1	30
Vinyl chloride	0.50	U	50.0	50.5		ug/L		101	46 - 150	7	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-23266-B-15 MSD
Matrix: Water
Analysis Batch: 634565

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	1.6	U	100	72.3		ug/L		72	59 - 130	8	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*120*		*67 - 134*
Toluene-d8 (Surr)	*103*		*64 - 132*
4-Bromofluorobenzene	*103*		*72 - 130*
Dibromofluoromethane	*105*		*75 - 126*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-23640-1

GC/MS VOA

Analysis Batch: 634409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-23640-1	LC34-IW0165-110.0-20230721	Total/NA	Water	8260D	
670-23640-3	LC34-IW0162-110.0-20230721	Total/NA	Water	8260D	
MB 400-634409/4	Method Blank	Total/NA	Water	8260D	
LCS 400-634409/1002	Lab Control Sample	Total/NA	Water	8260D	
400-240426-A-11 MS	Matrix Spike	Total/NA	Water	8260D	
400-240426-A-11 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 634565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-23640-2	LC34-IW0044D2-110.0-20230721	Total/NA	Water	8260D	
MB 400-634565/5	Method Blank	Total/NA	Water	8260D	
LCS 400-634565/1002	Lab Control Sample	Total/NA	Water	8260D	
LCS 400-634565/1003	Lab Control Sample	Total/NA	Water	8260D	
670-23266-B-15 MS	Matrix Spike	Total/NA	Water	8260D	
670-23266-B-15 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-23640-1

Client Sample ID: LC34-IW0165-110.0-20230721
Lab Sample ID: 670-23640-1
Date Collected: 07/21/23 10:30
Matrix: Water
Date Received: 07/21/23 14:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	634409	BPO	EET PEN	07/25/23 19:48

Client Sample ID: LC34-IW0044D2-110.0-20230721
Lab Sample ID: 670-23640-2
Date Collected: 07/21/23 11:05
Matrix: Water
Date Received: 07/21/23 14:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	634565	WPD	EET PEN	07/26/23 11:57

Client Sample ID: LC34-IW0162-110.0-20230721
Lab Sample ID: 670-23640-3
Date Collected: 07/21/23 11:35
Matrix: Water
Date Received: 07/21/23 14:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	634409	BPO	EET PEN	07/25/23 20:15

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-23640-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E81010	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-23640-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-23640-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-23640-1	LC34-IW0165-110.0-20230721	Water	07/21/23 10:30	07/21/23 14:55
670-23640-2	LC34-IW0044D2-110.0-20230721	Water	07/21/23 11:05	07/21/23 14:55
670-23640-3	LC34-IW0162-110.0-20230721	Water	07/21/23 11:35	07/21/23 14:55

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3694 | PAGE 1 OF 1

PROJECT NO: 112G08985	FACILITY: KSC-LC34	PROJECT MANAGER Mark Sonnet	PHONE NUMBER (412) 921-8622	LABORATORY NAME AND CONTACT: Eurofins — Kaitlin Dylnick
SAMPLERS (SIGNATURE) - Chuck Sorden		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER Eurofins Project # 67001156		CITY, STATE Altamonte Springs, FL

~~STANDARD TAT~~ RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☑ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): G	PRESERVATIVE USED: HCl/4°C	TYPE OF ANALYSIS: 8260D (MOD) LC34 Custom	COMMENTS
07/21	1030	LC34-~~IW0~~IW0165-110.0-20230721	IW165	105	115	GW	G	3	X			
〃	1105	LC34-IW0044A2-110.0-20230721	44D2	〃	〃	〃	〃	〃	〃			
07/21	1135	LC34-IW0162-110.0-20230721	162	105	115	GW	G	3	X			

670-23640 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	07/21/23	1300	1. RECEIVED BY	7-21-23	1300
2. RELINQUISHED BY	7-21-23	1440	2. RECEIVED BY	7/21	1450
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 2.7/2.2

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 4/02R

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3694 | PAGE 1 OF 1

PROJECT NO: 112G08985	FACILITY: KSC-LC34	PROJECT MANAGER Mark Sonnet	PHONE NUMBER (412) 921-8622	LABORATORY NAME AND CONTACT: Eurofins — Kaitlin Dylnick
SAMPLERS (SIGNATURE) - Chuck Sorden		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER Eurofins Project # 67001156		CITY, STATE Altamonte Springs, FL

~~STANDARD TAT~~ ☒
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☑ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): G	PRESERVATIVE USED: HCl/4°C	TYPE OF ANALYSIS: 8260D-(MOD) LC34 Custom	COMMENTS
07/21	1030	LC34-~~IW0165~~-110.0-20230721	IW165	105	115	GW	G	3	X			
1	1105	LC34-IW0044~~A2~~-110.0-20230721	44D2	1	1	1	1	1	1			
07/21	1135	LC34-IW0162-110.0-20230721	162	105	115	GW	G	3	X			

670-23640 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	07/21/23	1300	1. RECEIVED BY	7-21-23	1500
2. RELINQUISHED BY	7-21-23	1440	2. RECEIVED BY	7/21	1450
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 2.7/2.2

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (RETURNED) PINK (FILE COPY)

8/1/2023 (Rev. 1)
FORM NO. TtNUS-001

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-12330.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-23640-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 8/3/2023			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-IW0165-110.0-20230721 (670-23640-1)	7/21/23	10:30 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-IW004402-110.0-20230721 (670-23640-2)	7/21/23	11:05 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-IW0162-110.0-20230721 (670-23640-3)	7/21/23	11:35 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:		Date/Time: 7/21 1511	Company	Received by:	Date/Time:	Company
Relinquished by:		Date/Time:	Company	Received by:	Date/Time: 7.22.23 7:44	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.7 IR8

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-23640-1

Login Number: 23640
List Number: 1
Creator: Beck, Brent

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-23640-1

Login Number: 23640
List Number: 2
Creator: Roberts, Alexis J

List Source: Eurofins Pensacola
List Creation: 07/22/23 11:48 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-24141-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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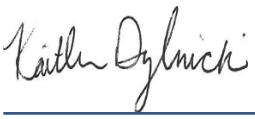
The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-24141-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-24141-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-24141-1

Receipt
The samples were received on 7/31/2023 12:31 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.5°C

GC/MS VOA
Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-RW17C-20230731 (670-24141-4), LC34-RW18C-20230731 (670-24141-5), LC34-RW19C-20230731 (670-24141-6), LC34-RW20C-20230731 (670-24141-7) and LC34-RW21D-20230731 (670-24141-8). Elevated reporting limits (RLs) are provided.

Method 8260D: The matrix spike (MS) recovery for analytical batch 400-636199 was outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-636199 recovered outside acceptance criteria, low biased, for Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The initial calibration verification (ICV) analyzed in batch 400-633903 was outside method criteria for the following analyte(s): Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24141-1

Client Sample ID: LC34-GAC-20230731 — Lab Sample ID: 670-24141-1

No Detections.

Client Sample ID: LC34-AS1-20230731 — Lab Sample ID: 670-24141-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.9		1.0	0.20	ug/L	1		8260D	Total/NA
Trichloroethene	5.3		1.0	0.15	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-AS2-20230731 — Lab Sample ID: 670-24141-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	57		1.0	0.20	ug/L	1		8260D	Total/NA
Trichloroethene	100		1.0	0.15	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-RW17C-20230731 — Lab Sample ID: 670-24141-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	5800		1000	200	ug/L	1000		8260D	Total/NA
Trichloroethene	180000		1000	150	ug/L	1000		8260D	Total/NA

Client Sample ID: LC34-RW18C-20230731 — Lab Sample ID: 670-24141-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	290		200	100	ug/L	200		8260D	Total/NA
cis-1,2-Dichloroethene	15000		200	40	ug/L	200		8260D	Total/NA
Trichloroethene	15000		200	30	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-RW19C-20230731 — Lab Sample ID: 670-24141-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3300		2000	400	ug/L	2000		8260D	Total/NA
Trichloroethene	320000		2000	300	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-RW20C-20230731 — Lab Sample ID: 670-24141-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	79	I	100	50	ug/L	100		8260D	Total/NA
cis-1,2-Dichloroethene	460		100	20	ug/L	100		8260D	Total/NA
Trichloroethene	10000		100	15	ug/L	100		8260D	Total/NA
Vinyl chloride	77	I	100	50	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-RW21D-20230731 — Lab Sample ID: 670-24141-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2300		200	40	ug/L	200		8260D	Total/NA
Trichloroethene	30000		200	30	ug/L	200		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24141-1

Client Sample ID: LC34-GAC-20230731
Date Collected: 07/31/23 05:30
Date Received: 07/31/23 12:31

Lab Sample ID: 670-24141-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			08/08/23 10:53	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			08/08/23 10:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			08/08/23 10:53	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			08/08/23 10:53	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			08/08/23 10:53	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/08/23 10:53	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			08/08/23 10:53	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			08/08/23 10:53	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			08/08/23 10:53	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			08/08/23 10:53	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			08/08/23 10:53	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			08/08/23 10:53	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			08/08/23 10:53	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			08/08/23 10:53	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			08/08/23 10:53	1
2-Hexanone	1.4	U	25	1.4	ug/L			08/08/23 10:53	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			08/08/23 10:53	1
Acetone	10	U	25	10	ug/L			08/08/23 10:53	1
Benzene	0.50	U	1.0	0.50	ug/L			08/08/23 10:53	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			08/08/23 10:53	1
Bromoform	0.25	U	5.0	0.25	ug/L			08/08/23 10:53	1
Bromomethane	0.98	U	1.0	0.98	ug/L			08/08/23 10:53	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			08/08/23 10:53	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			08/08/23 10:53	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			08/08/23 10:53	1
Chloroethane	0.76	U	1.0	0.76	ug/L			08/08/23 10:53	1
Chloroform	0.90	U	1.0	0.90	ug/L			08/08/23 10:53	1
Chloromethane	0.90	U	1.0	0.90	ug/L			08/08/23 10:53	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			08/08/23 10:53	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			08/08/23 10:53	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			08/08/23 10:53	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			08/08/23 10:53	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			08/08/23 10:53	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			08/08/23 10:53	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			08/08/23 10:53	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			08/08/23 10:53	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			08/08/23 10:53	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			08/08/23 10:53	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			08/08/23 10:53	1
o-Xylene	0.60	U	5.0	0.60	ug/L			08/08/23 10:53	1
Styrene	1.0	U	1.0	1.0	ug/L			08/08/23 10:53	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			08/08/23 10:53	1
Toluene	0.90	U	1.0	0.90	ug/L			08/08/23 10:53	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/08/23 10:53	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			08/08/23 10:53	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			08/08/23 10:53	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			08/08/23 10:53	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			08/08/23 10:53	1
Xylenes, Total	1.6	U	10	1.6	ug/L			08/08/23 10:53	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24141-1

Client Sample ID: LC34-GAC-20230731

Lab Sample ID: 670-24141-1

Date Collected: 07/31/23 05:30

Matrix: Water

Date Received: 07/31/23 12:31

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*67 - 134*		*08/08/23 10:53*	*1*
Toluene-d8 (Surr)	*93*		*64 - 132*		*08/08/23 10:53*	*1*
4-Bromofluorobenzene	*96*		*72 - 130*		*08/08/23 10:53*	*1*
Dibromofluoromethane	*100*		*75 - 126*		*08/08/23 10:53*	*1*

Client Sample ID: LC34-AS1-20230731

Lab Sample ID: 670-24141-2

Date Collected: 07/31/23 05:40

Matrix: Water

Date Received: 07/31/23 12:31

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			08/08/23 11:17	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			08/08/23 11:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			08/08/23 11:17	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			08/08/23 11:17	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			08/08/23 11:17	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/08/23 11:17	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			08/08/23 11:17	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			08/08/23 11:17	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			08/08/23 11:17	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			08/08/23 11:17	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			08/08/23 11:17	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			08/08/23 11:17	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			08/08/23 11:17	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			08/08/23 11:17	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			08/08/23 11:17	1
2-Hexanone	1.4	U	25	1.4	ug/L			08/08/23 11:17	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			08/08/23 11:17	1
Acetone	10	U	25	10	ug/L			08/08/23 11:17	1
Benzene	0.50	U	1.0	0.50	ug/L			08/08/23 11:17	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			08/08/23 11:17	1
Bromoform	0.25	U	5.0	0.25	ug/L			08/08/23 11:17	1
Bromomethane	0.98	U	1.0	0.98	ug/L			08/08/23 11:17	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			08/08/23 11:17	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			08/08/23 11:17	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			08/08/23 11:17	1
Chloroethane	0.76	U	1.0	0.76	ug/L			08/08/23 11:17	1
Chloroform	0.90	U	1.0	0.90	ug/L			08/08/23 11:17	1
Chloromethane	0.90	U	1.0	0.90	ug/L			08/08/23 11:17	1
cis-1,2-Dichloroethene	**1.9**		1.0	0.20	ug/L			08/08/23 11:17	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			08/08/23 11:17	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			08/08/23 11:17	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			08/08/23 11:17	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			08/08/23 11:17	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			08/08/23 11:17	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			08/08/23 11:17	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			08/08/23 11:17	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			08/08/23 11:17	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			08/08/23 11:17	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			08/08/23 11:17	1

Client Sample ID: LC34-AS1-20230731

Lab Sample ID: 670-24141-2

Date Collected: 07/31/23 05:40

Matrix: Water

Date Received: 07/31/23 12:31

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.60	U	5.0	0.60	ug/L			08/08/23 11:17	1
Styrene	1.0	U	1.0	1.0	ug/L			08/08/23 11:17	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			08/08/23 11:17	1
Toluene	0.90	U	1.0	0.90	ug/L			08/08/23 11:17	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/08/23 11:17	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			08/08/23 11:17	1
Trichloroethene	**5.3**		1.0	0.15	ug/L			08/08/23 11:17	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			08/08/23 11:17	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			08/08/23 11:17	1
Xylenes, Total	1.6	U	10	1.6	ug/L			08/08/23 11:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*67 - 134*		*08/08/23 11:17*	*1*
Toluene-d8 (Surr)	*93*		*64 - 132*		*08/08/23 11:17*	*1*
4-Bromofluorobenzene	*96*		*72 - 130*		*08/08/23 11:17*	*1*
Dibromofluoromethane	*102*		*75 - 126*		*08/08/23 11:17*	*1*

Client Sample ID: LC34-AS2-20230731

Lab Sample ID: 670-24141-3

Date Collected: 07/31/23 05:50

Matrix: Water

Date Received: 07/31/23 12:31

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			08/08/23 11:42	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			08/08/23 11:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			08/08/23 11:42	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			08/08/23 11:42	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			08/08/23 11:42	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/08/23 11:42	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			08/08/23 11:42	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			08/08/23 11:42	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			08/08/23 11:42	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			08/08/23 11:42	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			08/08/23 11:42	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			08/08/23 11:42	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			08/08/23 11:42	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			08/08/23 11:42	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			08/08/23 11:42	1
2-Hexanone	1.4	U	25	1.4	ug/L			08/08/23 11:42	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			08/08/23 11:42	1
Acetone	10	U	25	10	ug/L			08/08/23 11:42	1
Benzene	0.50	U	1.0	0.50	ug/L			08/08/23 11:42	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			08/08/23 11:42	1
Bromoform	0.25	U	5.0	0.25	ug/L			08/08/23 11:42	1
Bromomethane	0.98	U	1.0	0.98	ug/L			08/08/23 11:42	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			08/08/23 11:42	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			08/08/23 11:42	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			08/08/23 11:42	1
Chloroethane	0.76	U	1.0	0.76	ug/L			08/08/23 11:42	1
Chloroform	0.90	U	1.0	0.90	ug/L			08/08/23 11:42	1

Client Sample ID: LC34-AS2-20230731

Lab Sample ID: 670-24141-3

Date Collected: 07/31/23 05:50

Matrix: Water

Date Received: 07/31/23 12:31

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	0.90	U	1.0	0.90	ug/L			08/08/23 11:42	1
cis-1,2-Dichloroethene	**57**		1.0	0.20	ug/L			08/08/23 11:42	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			08/08/23 11:42	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			08/08/23 11:42	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			08/08/23 11:42	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			08/08/23 11:42	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			08/08/23 11:42	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			08/08/23 11:42	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			08/08/23 11:42	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			08/08/23 11:42	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			08/08/23 11:42	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			08/08/23 11:42	1
o-Xylene	0.60	U	5.0	0.60	ug/L			08/08/23 11:42	1
Styrene	1.0	U	1.0	1.0	ug/L			08/08/23 11:42	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			08/08/23 11:42	1
Toluene	0.90	U	1.0	0.90	ug/L			08/08/23 11:42	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/08/23 11:42	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			08/08/23 11:42	1
Trichloroethene	**100**		1.0	0.15	ug/L			08/08/23 11:42	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			08/08/23 11:42	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			08/08/23 11:42	1
Xylenes, Total	1.6	U	10	1.6	ug/L			08/08/23 11:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*08/08/23 11:42*	*1*
Toluene-d8 (Surr)	*93*		*64 - 132*		*08/08/23 11:42*	*1*
4-Bromofluorobenzene	*94*		*72 - 130*		*08/08/23 11:42*	*1*
Dibromofluoromethane	*103*		*75 - 126*		*08/08/23 11:42*	*1*

Client Sample ID: LC34-RW17C-20230731

Lab Sample ID: 670-24141-4

Date Collected: 07/31/23 06:00

Matrix: Water

Date Received: 07/31/23 12:31

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	180	U	1000	180	ug/L			08/08/23 17:47	1000
1,1,2,2-Tetrachloroethane	500	U	1000	500	ug/L			08/08/23 17:47	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	500	U	1000	500	ug/L			08/08/23 17:47	1000
1,1,2-Trichloroethane	210	U	5000	210	ug/L			08/08/23 17:47	1000
1,1-Dichloroethane	500	U	1000	500	ug/L			08/08/23 17:47	1000
1,1-Dichloroethene	500	U	1000	500	ug/L			08/08/23 17:47	1000
1,2,4-Trichlorobenzene	820	U	1000	820	ug/L			08/08/23 17:47	1000
1,2-Dibromo-3-Chloropropane	1500	U	5000	1500	ug/L			08/08/23 17:47	1000
1,2-Dibromoethane (EDB)	230	U	1000	230	ug/L			08/08/23 17:47	1000
1,2-Dichlorobenzene	500	U	1000	500	ug/L			08/08/23 17:47	1000
1,2-Dichloroethane	190	U	1000	190	ug/L			08/08/23 17:47	1000
1,2-Dichloropropane	500	U	1000	500	ug/L			08/08/23 17:47	1000
1,3-Dichlorobenzene	540	U	1000	540	ug/L			08/08/23 17:47	1000
1,4-Dichlorobenzene	640	U	1000	640	ug/L			08/08/23 17:47	1000
2-Butanone (MEK)	2600	U	25000	2600	ug/L			08/08/23 17:47	1000

Client Sample ID: LC34-RW17C-20230731

Lab Sample ID: 670-24141-4

Date Collected: 07/31/23 06:00

Matrix: Water

Date Received: 07/31/23 12:31

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	1400	U	25000	1400	ug/L			08/08/23 17:47	1000
4-Methyl-2-pentanone	1800	U	25000	1800	ug/L			08/08/23 17:47	1000
Acetone	10000	U	25000	10000	ug/L			08/08/23 17:47	1000
Benzene	500	U	1000	500	ug/L			08/08/23 17:47	1000
Bromodichloromethane	500	U	1000	500	ug/L			08/08/23 17:47	1000
Bromoform	250	U	5000	250	ug/L			08/08/23 17:47	1000
Bromomethane	980	U	1000	980	ug/L			08/08/23 17:47	1000
Carbon disulfide	500	U	1000	500	ug/L			08/08/23 17:47	1000
Carbon tetrachloride	190	U	1000	190	ug/L			08/08/23 17:47	1000
Chlorobenzene	150	U	1000	150	ug/L			08/08/23 17:47	1000
Chloroethane	760	U	1000	760	ug/L			08/08/23 17:47	1000
Chloroform	900	U	1000	900	ug/L			08/08/23 17:47	1000
Chloromethane	900	U	1000	900	ug/L			08/08/23 17:47	1000
cis-1,2-Dichloroethene	**5800**		1000	200	ug/L			08/08/23 17:47	1000
cis-1,3-Dichloropropene	500	U	5000	500	ug/L			08/08/23 17:47	1000
Cyclohexane	500	U	1000	500	ug/L			08/08/23 17:47	1000
Dibromochloromethane	240	U	1000	240	ug/L			08/08/23 17:47	1000
Dichlorodifluoromethane	850	U	1000	850	ug/L			08/08/23 17:47	1000
Ethylbenzene	500	U	1000	500	ug/L			08/08/23 17:47	1000
Isopropylbenzene	530	U	1000	530	ug/L			08/08/23 17:47	1000
m,p-Xylenes	630	U	5000	630	ug/L			08/08/23 17:47	1000
Methyl acetate	610	U	5000	610	ug/L			08/08/23 17:47	1000
Methyl tert-butyl ether	220	U	1000	220	ug/L			08/08/23 17:47	1000
Methylene Chloride	3000	U	5000	3000	ug/L			08/08/23 17:47	1000
o-Xylene	600	U	5000	600	ug/L			08/08/23 17:47	1000
Styrene	1000	U	1000	1000	ug/L			08/08/23 17:47	1000
Tetrachloroethene	900	U	1000	900	ug/L			08/08/23 17:47	1000
Toluene	900	U	1000	900	ug/L			08/08/23 17:47	1000
trans-1,2-Dichloroethene	500	U	1000	500	ug/L			08/08/23 17:47	1000
trans-1,3-Dichloropropene	200	U	5000	200	ug/L			08/08/23 17:47	1000
Trichloroethene	**180000**		1000	150	ug/L			08/08/23 17:47	1000
Trichlorofluoromethane	520	U	1000	520	ug/L			08/08/23 17:47	1000
Vinyl chloride	500	U	1000	500	ug/L			08/08/23 17:47	1000
Xylenes, Total	1600	U	10000	1600	ug/L			08/08/23 17:47	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*67 - 134*		*08/08/23 17:47*	*1000*
Toluene-d8 (Surr)	*93*		*64 - 132*		*08/08/23 17:47*	*1000*
4-Bromofluorobenzene	*92*		*72 - 130*		*08/08/23 17:47*	*1000*
Dibromofluoromethane	*101*		*75 - 126*		*08/08/23 17:47*	*1000*

Client Sample ID: LC34-RW18C-20230731

Lab Sample ID: 670-24141-5

Date Collected: 07/31/23 06:10

Matrix: Water

Date Received: 07/31/23 12:31

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	36	U	200	36	ug/L			08/08/23 16:58	200
1,1,2,2-Tetrachloroethane	100	U	200	100	ug/L			08/08/23 16:58	200

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24141-1

Client Sample ID: LC34-RW18C-20230731
Date Collected: 07/31/23 06:10
Date Received: 07/31/23 12:31

Lab Sample ID: 670-24141-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	**290**		200	100	ug/L			08/08/23 16:58	200
1,1,2-Trichloroethane	42	U	1000	42	ug/L			08/08/23 16:58	200
1,1-Dichloroethane	100	U	200	100	ug/L			08/08/23 16:58	200
1,1-Dichloroethene	100	U	200	100	ug/L			08/08/23 16:58	200
1,2,4-Trichlorobenzene	160	U	200	160	ug/L			08/08/23 16:58	200
1,2-Dibromo-3-Chloropropane	300	U	1000	300	ug/L			08/08/23 16:58	200
1,2-Dibromoethane (EDB)	46	U	200	46	ug/L			08/08/23 16:58	200
1,2-Dichlorobenzene	100	U	200	100	ug/L			08/08/23 16:58	200
1,2-Dichloroethane	38	U	200	38	ug/L			08/08/23 16:58	200
1,2-Dichloropropane	100	U	200	100	ug/L			08/08/23 16:58	200
1,3-Dichlorobenzene	110	U	200	110	ug/L			08/08/23 16:58	200
1,4-Dichlorobenzene	130	U	200	130	ug/L			08/08/23 16:58	200
2-Butanone (MEK)	520	U	5000	520	ug/L			08/08/23 16:58	200
2-Hexanone	280	U	5000	280	ug/L			08/08/23 16:58	200
4-Methyl-2-pentanone	360	U	5000	360	ug/L			08/08/23 16:58	200
Acetone	2000	U	5000	2000	ug/L			08/08/23 16:58	200
Benzene	100	U	200	100	ug/L			08/08/23 16:58	200
Bromodichloromethane	100	U	200	100	ug/L			08/08/23 16:58	200
Bromoform	50	U	1000	50	ug/L			08/08/23 16:58	200
Bromomethane	200	U	200	200	ug/L			08/08/23 16:58	200
Carbon disulfide	100	U	200	100	ug/L			08/08/23 16:58	200
Carbon tetrachloride	38	U	200	38	ug/L			08/08/23 16:58	200
Chlorobenzene	30	U	200	30	ug/L			08/08/23 16:58	200
Chloroethane	150	U	200	150	ug/L			08/08/23 16:58	200
Chloroform	180	U	200	180	ug/L			08/08/23 16:58	200
Chloromethane	180	U	200	180	ug/L			08/08/23 16:58	200
cis-1,2-Dichloroethene	**15000**		200	40	ug/L			08/08/23 16:58	200
cis-1,3-Dichloropropene	100	U	1000	100	ug/L			08/08/23 16:58	200
Cyclohexane	100	U	200	100	ug/L			08/08/23 16:58	200
Dibromochloromethane	48	U	200	48	ug/L			08/08/23 16:58	200
Dichlorodifluoromethane	170	U	200	170	ug/L			08/08/23 16:58	200
Ethylbenzene	100	U	200	100	ug/L			08/08/23 16:58	200
Isopropylbenzene	110	U	200	110	ug/L			08/08/23 16:58	200
m,p-Xylenes	130	U	1000	130	ug/L			08/08/23 16:58	200
Methyl acetate	120	U	1000	120	ug/L			08/08/23 16:58	200
Methyl tert-butyl ether	44	U	200	44	ug/L			08/08/23 16:58	200
Methylene Chloride	600	U	1000	600	ug/L			08/08/23 16:58	200
o-Xylene	120	U	1000	120	ug/L			08/08/23 16:58	200
Styrene	200	U	200	200	ug/L			08/08/23 16:58	200
Tetrachloroethene	180	U	200	180	ug/L			08/08/23 16:58	200
Toluene	180	U	200	180	ug/L			08/08/23 16:58	200
trans-1,2-Dichloroethene	100	U	200	100	ug/L			08/08/23 16:58	200
trans-1,3-Dichloropropene	40	U	1000	40	ug/L			08/08/23 16:58	200
Trichloroethene	**15000**		200	30	ug/L			08/08/23 16:58	200
Trichlorofluoromethane	100	U	200	100	ug/L			08/08/23 16:58	200
Vinyl chloride	100	U	200	100	ug/L			08/08/23 16:58	200
Xylenes, Total	320	U	2000	320	ug/L			08/08/23 16:58	200

Client Sample ID: LC34-RW18C-20230731

Lab Sample ID: 670-24141-5

Date Collected: 07/31/23 06:10

Matrix: Water

Date Received: 07/31/23 12:31

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*117*		*67 - 134*		*08/08/23 16:58*	*200*
Toluene-d8 (Surr)	*95*		*64 - 132*		*08/08/23 16:58*	*200*
4-Bromofluorobenzene	*95*		*72 - 130*		*08/08/23 16:58*	*200*
Dibromofluoromethane	*122*		*75 - 126*		*08/08/23 16:58*	*200*

Client Sample ID: LC34-RW19C-20230731

Lab Sample ID: 670-24141-6

Date Collected: 07/31/23 06:20

Matrix: Water

Date Received: 07/31/23 12:31

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	360	U	2000	360	ug/L			08/08/23 18:12	2000
1,1,2,2-Tetrachloroethane	1000	U	2000	1000	ug/L			08/08/23 18:12	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	1000	U	2000	1000	ug/L			08/08/23 18:12	2000
1,1,2-Trichloroethane	420	U	10000	420	ug/L			08/08/23 18:12	2000
1,1-Dichloroethane	1000	U	2000	1000	ug/L			08/08/23 18:12	2000
1,1-Dichloroethene	1000	U	2000	1000	ug/L			08/08/23 18:12	2000
1,2,4-Trichlorobenzene	1600	U	2000	1600	ug/L			08/08/23 18:12	2000
1,2-Dibromo-3-Chloropropane	3000	U	10000	3000	ug/L			08/08/23 18:12	2000
1,2-Dibromoethane (EDB)	460	U	2000	460	ug/L			08/08/23 18:12	2000
1,2-Dichlorobenzene	1000	U	2000	1000	ug/L			08/08/23 18:12	2000
1,2-Dichloroethane	380	U	2000	380	ug/L			08/08/23 18:12	2000
1,2-Dichloropropane	1000	U	2000	1000	ug/L			08/08/23 18:12	2000
1,3-Dichlorobenzene	1100	U	2000	1100	ug/L			08/08/23 18:12	2000
1,4-Dichlorobenzene	1300	U	2000	1300	ug/L			08/08/23 18:12	2000
2-Butanone (MEK)	5200	U	50000	5200	ug/L			08/08/23 18:12	2000
2-Hexanone	2800	U	50000	2800	ug/L			08/08/23 18:12	2000
4-Methyl-2-pentanone	3600	U	50000	3600	ug/L			08/08/23 18:12	2000
Acetone	20000	U	50000	20000	ug/L			08/08/23 18:12	2000
Benzene	1000	U	2000	1000	ug/L			08/08/23 18:12	2000
Bromodichloromethane	1000	U	2000	1000	ug/L			08/08/23 18:12	2000
Bromoform	500	U	10000	500	ug/L			08/08/23 18:12	2000
Bromomethane	2000	U	2000	2000	ug/L			08/08/23 18:12	2000
Carbon disulfide	1000	U	2000	1000	ug/L			08/08/23 18:12	2000
Carbon tetrachloride	380	U	2000	380	ug/L			08/08/23 18:12	2000
Chlorobenzene	300	U	2000	300	ug/L			08/08/23 18:12	2000
Chloroethane	1500	U	2000	1500	ug/L			08/08/23 18:12	2000
Chloroform	1800	U	2000	1800	ug/L			08/08/23 18:12	2000
Chloromethane	1800	U	2000	1800	ug/L			08/08/23 18:12	2000
cis-1,2-Dichloroethene	**3300**		2000	400	ug/L			08/08/23 18:12	2000
cis-1,3-Dichloropropene	1000	U	10000	1000	ug/L			08/08/23 18:12	2000
Cyclohexane	1000	U	2000	1000	ug/L			08/08/23 18:12	2000
Dibromochloromethane	480	U	2000	480	ug/L			08/08/23 18:12	2000
Dichlorodifluoromethane	1700	U	2000	1700	ug/L			08/08/23 18:12	2000
Ethylbenzene	1000	U	2000	1000	ug/L			08/08/23 18:12	2000
Isopropylbenzene	1100	U	2000	1100	ug/L			08/08/23 18:12	2000
m,p-Xylenes	1300	U	10000	1300	ug/L			08/08/23 18:12	2000
Methyl acetate	1200	U	10000	1200	ug/L			08/08/23 18:12	2000
Methyl tert-butyl ether	440	U	2000	440	ug/L			08/08/23 18:12	2000
Methylene Chloride	6000	U	10000	6000	ug/L			08/08/23 18:12	2000

Client Sample ID: LC34-RW19C-20230731 — **Lab Sample ID: 670-24141-6**
Date Collected: 07/31/23 06:20 — **Matrix: Water**
Date Received: 07/31/23 12:31

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	1200	U	10000	1200	ug/L			08/08/23 18:12	2000
Styrene	2000	U	2000	2000	ug/L			08/08/23 18:12	2000
Tetrachloroethene	1800	U	2000	1800	ug/L			08/08/23 18:12	2000
Toluene	1800	U	2000	1800	ug/L			08/08/23 18:12	2000
trans-1,2-Dichloroethene	1000	U	2000	1000	ug/L			08/08/23 18:12	2000
trans-1,3-Dichloropropene	400	U	10000	400	ug/L			08/08/23 18:12	2000
Trichloroethene	**320000**		2000	300	ug/L			08/08/23 18:12	2000
Trichlorofluoromethane	1000	U	2000	1000	ug/L			08/08/23 18:12	2000
Vinyl chloride	1000	U	2000	1000	ug/L			08/08/23 18:12	2000
Xylenes, Total	3200	U	20000	3200	ug/L			08/08/23 18:12	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*67 - 134*		*08/08/23 18:12*	*2000*
Toluene-d8 (Surr)	*94*		*64 - 132*		*08/08/23 18:12*	*2000*
4-Bromofluorobenzene	*90*		*72 - 130*		*08/08/23 18:12*	*2000*
Dibromofluoromethane	*100*		*75 - 126*		*08/08/23 18:12*	*2000*

Client Sample ID: LC34-RW20C-20230731 — **Lab Sample ID: 670-24141-7**
Date Collected: 07/31/23 06:30 — **Matrix: Water**
Date Received: 07/31/23 12:31

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	18	U	100	18	ug/L			08/08/23 16:13	100
1,1,2,2-Tetrachloroethane	50	U	100	50	ug/L			08/08/23 16:13	100
1,1,2-Trichloro-1,2,2-trifluoroethane	**79**	**I**	100	50	ug/L			08/08/23 16:13	100
1,1,2-Trichloroethane	21	U	500	21	ug/L			08/08/23 16:13	100
1,1-Dichloroethane	50	U	100	50	ug/L			08/08/23 16:13	100
1,1-Dichloroethene	50	U	100	50	ug/L			08/08/23 16:13	100
1,2,4-Trichlorobenzene	82	U	100	82	ug/L			08/08/23 16:13	100
1,2-Dibromo-3-Chloropropane	150	U	500	150	ug/L			08/08/23 16:13	100
1,2-Dibromoethane (EDB)	23	U	100	23	ug/L			08/08/23 16:13	100
1,2-Dichlorobenzene	50	U	100	50	ug/L			08/08/23 16:13	100
1,2-Dichloroethane	19	U	100	19	ug/L			08/08/23 16:13	100
1,2-Dichloropropane	50	U	100	50	ug/L			08/08/23 16:13	100
1,3-Dichlorobenzene	54	U	100	54	ug/L			08/08/23 16:13	100
1,4-Dichlorobenzene	64	U	100	64	ug/L			08/08/23 16:13	100
2-Butanone (MEK)	260	U	2500	260	ug/L			08/08/23 16:13	100
2-Hexanone	140	U	2500	140	ug/L			08/08/23 16:13	100
4-Methyl-2-pentanone	180	U	2500	180	ug/L			08/08/23 16:13	100
Acetone	1000	U	2500	1000	ug/L			08/08/23 16:13	100
Benzene	50	U	100	50	ug/L			08/08/23 16:13	100
Bromodichloromethane	50	U	100	50	ug/L			08/08/23 16:13	100
Bromoform	25	U	500	25	ug/L			08/08/23 16:13	100
Bromomethane	98	U	100	98	ug/L			08/08/23 16:13	100
Carbon disulfide	50	U	100	50	ug/L			08/08/23 16:13	100
Carbon tetrachloride	19	U	100	19	ug/L			08/08/23 16:13	100
Chlorobenzene	15	U	100	15	ug/L			08/08/23 16:13	100
Chloroethane	76	U	100	76	ug/L			08/08/23 16:13	100

Client Sample ID: LC34-RW20C-20230731

Lab Sample ID: 670-24141-7

Date Collected: 07/31/23 06:30

Matrix: Water

Date Received: 07/31/23 12:31

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	90	U	100	90	ug/L			08/08/23 16:13	100
Chloromethane	90	U	100	90	ug/L			08/08/23 16:13	100
cis-1,2-Dichloroethene	**460**		100	20	ug/L			08/08/23 16:13	100
cis-1,3-Dichloropropene	50	U	500	50	ug/L			08/08/23 16:13	100
Cyclohexane	50	U	100	50	ug/L			08/08/23 16:13	100
Dibromochloromethane	24	U	100	24	ug/L			08/08/23 16:13	100
Dichlorodifluoromethane	85	U	100	85	ug/L			08/08/23 16:13	100
Ethylbenzene	50	U	100	50	ug/L			08/08/23 16:13	100
Isopropylbenzene	53	U	100	53	ug/L			08/08/23 16:13	100
m,p-Xylenes	63	U	500	63	ug/L			08/08/23 16:13	100
Methyl acetate	61	U	500	61	ug/L			08/08/23 16:13	100
Methyl tert-butyl ether	22	U	100	22	ug/L			08/08/23 16:13	100
Methylene Chloride	300	U	500	300	ug/L			08/08/23 16:13	100
o-Xylene	60	U	500	60	ug/L			08/08/23 16:13	100
Styrene	100	U	100	100	ug/L			08/08/23 16:13	100
Tetrachloroethene	90	U	100	90	ug/L			08/08/23 16:13	100
Toluene	90	U	100	90	ug/L			08/08/23 16:13	100
trans-1,2-Dichloroethene	50	U	100	50	ug/L			08/08/23 16:13	100
trans-1,3-Dichloropropene	20	U	500	20	ug/L			08/08/23 16:13	100
Trichloroethene	**10000**		100	15	ug/L			08/08/23 16:13	100
Trichlorofluoromethane	52	U	100	52	ug/L			08/08/23 16:13	100
Vinyl chloride	**77**	**I**	100	50	ug/L			08/08/23 16:13	100
Xylenes, Total	160	U	1000	160	ug/L			08/08/23 16:13	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*67 - 134*		*08/08/23 16:13*	*100*
Toluene-d8 (Surr)	*93*		*64 - 132*		*08/08/23 16:13*	*100*
4-Bromofluorobenzene	*93*		*72 - 130*		*08/08/23 16:13*	*100*
Dibromofluoromethane	*102*		*75 - 126*		*08/08/23 16:13*	*100*

Client Sample ID: LC34-RW21D-20230731

Lab Sample ID: 670-24141-8

Date Collected: 07/31/23 05:00

Matrix: Water

Date Received: 07/31/23 12:31

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	36	U	200	36	ug/L			08/08/23 17:22	200
1,1,2,2-Tetrachloroethane	100	U	200	100	ug/L			08/08/23 17:22	200
1,1,2-Trichloro-1,2,2-trifluoroethane	100	U	200	100	ug/L			08/08/23 17:22	200
1,1,2-Trichloroethane	42	U	1000	42	ug/L			08/08/23 17:22	200
1,1-Dichloroethane	100	U	200	100	ug/L			08/08/23 17:22	200
1,1-Dichloroethene	100	U	200	100	ug/L			08/08/23 17:22	200
1,2,4-Trichlorobenzene	160	U	200	160	ug/L			08/08/23 17:22	200
1,2-Dibromo-3-Chloropropane	300	U	1000	300	ug/L			08/08/23 17:22	200
1,2-Dibromoethane (EDB)	46	U	200	46	ug/L			08/08/23 17:22	200
1,2-Dichlorobenzene	100	U	200	100	ug/L			08/08/23 17:22	200
1,2-Dichloroethane	38	U	200	38	ug/L			08/08/23 17:22	200
1,2-Dichloropropane	100	U	200	100	ug/L			08/08/23 17:22	200
1,3-Dichlorobenzene	110	U	200	110	ug/L			08/08/23 17:22	200
1,4-Dichlorobenzene	130	U	200	130	ug/L			08/08/23 17:22	200

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24141-1

Client Sample ID: LC34-RW21D-20230731
Date Collected: 07/31/23 05:00
Date Received: 07/31/23 12:31

Lab Sample ID: 670-24141-8
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	520	U	5000	520	ug/L			08/08/23 17:22	200
2-Hexanone	280	U	5000	280	ug/L			08/08/23 17:22	200
4-Methyl-2-pentanone	360	U	5000	360	ug/L			08/08/23 17:22	200
Acetone	2000	U	5000	2000	ug/L			08/08/23 17:22	200
Benzene	100	U	200	100	ug/L			08/08/23 17:22	200
Bromodichloromethane	100	U	200	100	ug/L			08/08/23 17:22	200
Bromoform	50	U	1000	50	ug/L			08/08/23 17:22	200
Bromomethane	200	U	200	200	ug/L			08/08/23 17:22	200
Carbon disulfide	100	U	200	100	ug/L			08/08/23 17:22	200
Carbon tetrachloride	38	U	200	38	ug/L			08/08/23 17:22	200
Chlorobenzene	30	U	200	30	ug/L			08/08/23 17:22	200
Chloroethane	150	U	200	150	ug/L			08/08/23 17:22	200
Chloroform	180	U	200	180	ug/L			08/08/23 17:22	200
Chloromethane	180	U	200	180	ug/L			08/08/23 17:22	200
cis-1,2-Dichloroethene	**2300**		200	40	ug/L			08/08/23 17:22	200
cis-1,3-Dichloropropene	100	U	1000	100	ug/L			08/08/23 17:22	200
Cyclohexane	100	U	200	100	ug/L			08/08/23 17:22	200
Dibromochloromethane	48	U	200	48	ug/L			08/08/23 17:22	200
Dichlorodifluoromethane	170	U	200	170	ug/L			08/08/23 17:22	200
Ethylbenzene	100	U	200	100	ug/L			08/08/23 17:22	200
Isopropylbenzene	110	U	200	110	ug/L			08/08/23 17:22	200
m,p-Xylenes	130	U	1000	130	ug/L			08/08/23 17:22	200
Methyl acetate	120	U	1000	120	ug/L			08/08/23 17:22	200
Methyl tert-butyl ether	44	U	200	44	ug/L			08/08/23 17:22	200
Methylene Chloride	600	U	1000	600	ug/L			08/08/23 17:22	200
o-Xylene	120	U	1000	120	ug/L			08/08/23 17:22	200
Styrene	200	U	200	200	ug/L			08/08/23 17:22	200
Tetrachloroethene	180	U	200	180	ug/L			08/08/23 17:22	200
Toluene	180	U	200	180	ug/L			08/08/23 17:22	200
trans-1,2-Dichloroethene	100	U	200	100	ug/L			08/08/23 17:22	200
trans-1,3-Dichloropropene	40	U	1000	40	ug/L			08/08/23 17:22	200
Trichloroethene	**30000**		200	30	ug/L			08/08/23 17:22	200
Trichlorofluoromethane	100	U	200	100	ug/L			08/08/23 17:22	200
Vinyl chloride	100	U	200	100	ug/L			08/08/23 17:22	200
Xylenes, Total	320	U	2000	320	ug/L			08/08/23 17:22	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*67 - 134*		*08/08/23 17:22*	*200*
Toluene-d8 (Surr)	*93*		*64 - 132*		*08/08/23 17:22*	*200*
4-Bromofluorobenzene	*96*		*72 - 130*		*08/08/23 17:22*	*200*
Dibromofluoromethane	*100*		*75 - 126*		*08/08/23 17:22*	*200*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24141-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(67-134)	(64-132)	(72-130)	(75-126)
400-241571-A-1 MS	Matrix Spike	90	95	93	118
400-241571-A-1 MSD	Matrix Spike Duplicate	94	95	99	102
670-24141-1	LC34-GAC-20230731	89	93	96	100
670-24141-2	LC34-AS1-20230731	93	93	96	102
670-24141-3	LC34-AS2-20230731	103	93	94	103
670-24141-4	LC34-RW17C-20230731	93	93	92	101
670-24141-5	LC34-RW18C-20230731	117	95	95	122
670-24141-6	LC34-RW19C-20230731	94	94	90	100
670-24141-7	LC34-RW20C-20230731	90	93	93	102
670-24141-8	LC34-RW21D-20230731	88	93	96	100
LCS 400-636199/1002	Lab Control Sample	92	95	96	100
MB 400-636199/4	Method Blank	90	94	97	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 400-636199/4
Matrix: Water
Analysis Batch: 636199

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			08/08/23 08:07	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			08/08/23 08:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			08/08/23 08:07	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			08/08/23 08:07	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			08/08/23 08:07	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/08/23 08:07	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			08/08/23 08:07	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			08/08/23 08:07	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			08/08/23 08:07	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			08/08/23 08:07	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			08/08/23 08:07	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			08/08/23 08:07	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			08/08/23 08:07	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			08/08/23 08:07	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			08/08/23 08:07	1
2-Hexanone	1.4	U	25	1.4	ug/L			08/08/23 08:07	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			08/08/23 08:07	1
Acetone	10	U	25	10	ug/L			08/08/23 08:07	1
Benzene	0.50	U	1.0	0.50	ug/L			08/08/23 08:07	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			08/08/23 08:07	1
Bromoform	0.25	U	5.0	0.25	ug/L			08/08/23 08:07	1
Bromomethane	0.98	U	1.0	0.98	ug/L			08/08/23 08:07	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			08/08/23 08:07	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			08/08/23 08:07	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			08/08/23 08:07	1
Chloroethane	0.76	U	1.0	0.76	ug/L			08/08/23 08:07	1
Chloroform	0.90	U	1.0	0.90	ug/L			08/08/23 08:07	1
Chloromethane	0.90	U	1.0	0.90	ug/L			08/08/23 08:07	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			08/08/23 08:07	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			08/08/23 08:07	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			08/08/23 08:07	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			08/08/23 08:07	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			08/08/23 08:07	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			08/08/23 08:07	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			08/08/23 08:07	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			08/08/23 08:07	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			08/08/23 08:07	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			08/08/23 08:07	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			08/08/23 08:07	1
o-Xylene	0.60	U	5.0	0.60	ug/L			08/08/23 08:07	1
Styrene	1.0	U	1.0	1.0	ug/L			08/08/23 08:07	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			08/08/23 08:07	1
Toluene	0.90	U	1.0	0.90	ug/L			08/08/23 08:07	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/08/23 08:07	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			08/08/23 08:07	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			08/08/23 08:07	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			08/08/23 08:07	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			08/08/23 08:07	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-636199/4
Matrix: Water
Analysis Batch: 636199

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.6	U	10	1.6	ug/L			08/08/23 08:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*67 - 134*		*08/08/23 08:07*	*1*
Toluene-d8 (Surr)	*94*		*64 - 132*		*08/08/23 08:07*	*1*
4-Bromofluorobenzene	*97*		*72 - 130*		*08/08/23 08:07*	*1*
Dibromofluoromethane	*100*		*75 - 126*		*08/08/23 08:07*	*1*

Lab Sample ID: LCS 400-636199/1002
Matrix: Water
Analysis Batch: 636199

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	50.0		ug/L		100	68 - 130
1,1,2,2-Tetrachloroethane	50.0	42.7		ug/L		85	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	48.7		ug/L		97	60 - 139
1,1,2-Trichloroethane	50.0	46.3		ug/L		93	70 - 130
1,1-Dichloroethane	50.0	49.9		ug/L		100	70 - 130
1,1-Dichloroethene	50.0	50.1		ug/L		100	63 - 134
1,2,4-Trichlorobenzene	50.0	52.3		ug/L		105	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	46.3		ug/L		93	54 - 135
1,2-Dibromoethane (EDB)	50.0	47.6		ug/L		95	70 - 130
1,2-Dichlorobenzene	50.0	48.5		ug/L		97	67 - 130
1,2-Dichloroethane	50.0	48.1		ug/L		96	69 - 130
1,2-Dichloropropane	50.0	51.8		ug/L		104	70 - 130
1,3-Dichlorobenzene	50.0	48.1		ug/L		96	70 - 130
1,4-Dichlorobenzene	50.0	47.9		ug/L		96	70 - 130
2-Butanone (MEK)	200	229		ug/L		114	61 - 145
2-Hexanone	200	201		ug/L		101	65 - 137
4-Methyl-2-pentanone	200	190		ug/L		95	69 - 138
Acetone	200	226		ug/L		113	43 - 160
Benzene	50.0	50.6		ug/L		101	70 - 130
Bromodichloromethane	50.0	51.6		ug/L		103	67 - 133
Bromoform	50.0	48.2		ug/L		96	57 - 140
Bromomethane	25.0	26.7		ug/L		107	10 - 160
Carbon disulfide	50.0	50.6		ug/L		101	61 - 137
Carbon tetrachloride	50.0	52.4		ug/L		105	61 - 137
Chlorobenzene	50.0	48.7		ug/L		97	70 - 130
Chloroethane	25.0	24.0		ug/L		96	55 - 141
Chloroform	50.0	49.3		ug/L		99	69 - 130
Chloromethane	25.0	21.7		ug/L		87	58 - 137
cis-1,2-Dichloroethene	50.0	49.7		ug/L		99	68 - 130
cis-1,3-Dichloropropene	50.0	52.6		ug/L		105	69 - 132
Cyclohexane	50.0	51.5		ug/L		103	70 - 130
Dibromochloromethane	50.0	49.4		ug/L		99	67 - 135
Dichlorodifluoromethane	25.0	17.4		ug/L		70	41 - 146
Ethylbenzene	50.0	48.0		ug/L		96	70 - 130
Isopropylbenzene	50.0	48.5		ug/L		97	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-636199/1002
Matrix: Water
Analysis Batch: 636199

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	47.9		ug/L		96	70 - 130
Methyl acetate	100	87.7		ug/L		88	45 - 159
Methyl tert-butyl ether	50.0	48.8		ug/L		98	66 - 130
Methylene Chloride	50.0	48.6		ug/L		97	66 - 135
o-Xylene	50.0	47.9		ug/L		96	70 - 130
Styrene	50.0	48.0		ug/L		96	70 - 130
Tetrachloroethene	50.0	47.4		ug/L		95	65 - 130
Toluene	50.0	47.3		ug/L		95	70 - 130
trans-1,2-Dichloroethene	50.0	49.7		ug/L		99	70 - 130
trans-1,3-Dichloropropene	50.0	46.6		ug/L		93	63 - 130
Trichloroethene	50.0	51.7		ug/L		103	70 - 130
Trichlorofluoromethane	25.0	22.2		ug/L		89	65 - 138
Vinyl chloride	25.0	22.2		ug/L		89	59 - 136
Xylenes, Total	100	95.8		ug/L		96	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*67 - 134*
Toluene-d8 (Surr)	*95*		*64 - 132*
4-Bromofluorobenzene	*96*		*72 - 130*
Dibromofluoromethane	*100*		*75 - 126*

Lab Sample ID: 400-241571-A-1 MS
Matrix: Water
Analysis Batch: 636199

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	56.9		ug/L		114	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	39.1		ug/L		78	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	60.2		ug/L		120	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	43.7		ug/L		87	66 - 131
1,1-Dichloroethane	0.50	U	50.0	58.1		ug/L		116	61 - 144
1,1-Dichloroethene	0.50	U	50.0	64.5		ug/L		129	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	42.3		ug/L		85	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	48.5		ug/L		97	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	43.4		ug/L		87	64 - 132
1,2-Dichlorobenzene	0.50	U	50.0	40.7		ug/L		81	52 - 137
1,2-Dichloroethane	0.19	U	50.0	43.4		ug/L		87	60 - 141
1,2-Dichloropropane	0.50	U	50.0	47.0		ug/L		94	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	40.0		ug/L		80	54 - 135
1,4-Dichlorobenzene	0.64	U	50.0	40.1		ug/L		80	53 - 135
2-Butanone (MEK)	2.6	U	200	157		ug/L		78	55 - 150
2-Hexanone	1.4	U J3	200	124	J3	ug/L		62	65 - 140
4-Methyl-2-pentanone	1.8	U	200	170		ug/L		85	63 - 146
Acetone	15	I	200	130		ug/L		57	43 - 150
Benzene	1.5		50.0	48.0		ug/L		93	56 - 142
Bromodichloromethane	0.62	I	50.0	46.5		ug/L		92	59 - 143
Bromoform	0.25	U	50.0	46.3		ug/L		93	50 - 140
Bromomethane	0.98	U	25.0	20.8		ug/L		83	10 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-241571-A-1 MS
Matrix: Water
Analysis Batch: 636199

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	0.50	U	50.0	64.8		ug/L		130	48 - 150
Carbon tetrachloride	0.19	U	50.0	59.3		ug/L		119	55 - 145
Chlorobenzene	0.15	U	50.0	43.1		ug/L		86	64 - 130
Chloroethane	0.76	U	25.0	22.7		ug/L		91	50 - 150
Chloroform	4.4		50.0	59.2		ug/L		110	60 - 141
Chloromethane	0.90	U	25.0	20.2		ug/L		81	49 - 148
cis-1,2-Dichloroethene	0.20	U	50.0	57.4		ug/L		115	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	46.0		ug/L		92	57 - 140
Cyclohexane	0.50	U	50.0	57.6		ug/L		115	58 - 141
Dibromochloromethane	0.24	U	50.0	45.8		ug/L		92	56 - 143
Dichlorodifluoromethane	0.85	U	25.0	16.9		ug/L		68	16 - 150
Ethylbenzene	0.50	U	50.0	42.8		ug/L		86	58 - 131
Isopropylbenzene	0.53	U	50.0	42.2		ug/L		84	56 - 133
m,p-Xylenes	3.0	I	50.0	45.2		ug/L		84	57 - 130
Methyl acetate	1.1	I	100	125		ug/L		124	21 - 150
Methyl tert-butyl ether	0.22	U	50.0	56.6		ug/L		113	59 - 137
Methylene Chloride	3.0	U	50.0	66.7		ug/L		133	60 - 146
o-Xylene	6.1		50.0	48.3		ug/L		84	61 - 130
Styrene	1.0	U	50.0	41.5		ug/L		83	58 - 131
Tetrachloroethene	0.90	U	50.0	43.3		ug/L		87	52 - 133
Toluene	2.3		50.0	45.3		ug/L		86	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	59.4		ug/L		119	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	40.6		ug/L		81	53 - 133
Trichloroethene	0.15	U	50.0	48.2		ug/L		96	64 - 136
Trichlorofluoromethane	0.52	U	25.0	25.1		ug/L		100	54 - 150
Vinyl chloride	0.50	U	25.0	21.3		ug/L		85	46 - 150
Xylenes, Total	9.1	I	100	93.5		ug/L		84	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*67 - 134*
Toluene-d8 (Surr)	*95*		*64 - 132*
4-Bromofluorobenzene	*93*		*72 - 130*
Dibromofluoromethane	*118*		*75 - 126*

Lab Sample ID: 400-241571-A-1 MSD
Matrix: Water
Analysis Batch: 636199

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	54.0		ug/L		108	57 - 142	5	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	49.3		ug/L		99	66 - 135	23	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	62.9		ug/L		126	55 - 150	4	30
1,1,2-Trichloroethane	0.21	U	50.0	51.0		ug/L		102	66 - 131	15	30
1,1-Dichloroethane	0.50	U	50.0	53.1		ug/L		106	61 - 144	9	30
1,1-Dichloroethene	0.50	U	50.0	62.4		ug/L		125	54 - 147	3	30
1,2,4-Trichlorobenzene	0.82	U	50.0	40.7		ug/L		81	39 - 148	4	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	59.4		ug/L		119	45 - 135	20	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	49.5		ug/L		99	64 - 132	13	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-241571-A-1 MSD
Matrix: Water
Analysis Batch: 636199

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichlorobenzene	0.50	U	50.0	46.0		ug/L		92	52 - 137	12	30
1,2-Dichloroethane	0.19	U	50.0	51.3		ug/L		103	60 - 141	17	30
1,2-Dichloropropane	0.50	U	50.0	53.3		ug/L		107	66 - 137	13	30
1,3-Dichlorobenzene	0.54	U	50.0	45.8		ug/L		92	54 - 135	14	30
1,4-Dichlorobenzene	0.64	U	50.0	44.9		ug/L		90	53 - 135	11	30
2-Butanone (MEK)	2.6	U	200	159		ug/L		80	55 - 150	2	30
2-Hexanone	1.4	U J3	200	139		ug/L		69	65 - 140	12	30
4-Methyl-2-pentanone	1.8	U	200	203		ug/L		101	63 - 146	18	30
Acetone	15	I	200	132		ug/L		58	43 - 150	2	30
Benzene	1.5		50.0	54.6		ug/L		106	56 - 142	13	30
Bromodichloromethane	0.62	I	50.0	53.2		ug/L		105	59 - 143	13	30
Bromoform	0.25	U	50.0	54.5		ug/L		109	50 - 140	16	30
Bromomethane	0.98	U	25.0	27.9		ug/L		111	10 - 150	29	50
Carbon disulfide	0.50	U	50.0	64.8		ug/L		130	48 - 150	0	30
Carbon tetrachloride	0.19	U	50.0	56.3		ug/L		113	55 - 145	5	30
Chlorobenzene	0.15	U	50.0	48.2		ug/L		96	64 - 130	11	30
Chloroethane	0.76	U	25.0	27.3		ug/L		109	50 - 150	19	30
Chloroform	4.4		50.0	57.3		ug/L		106	60 - 141	3	30
Chloromethane	0.90	U	25.0	23.7		ug/L		95	49 - 148	16	31
cis-1,2-Dichloroethene	0.20	U	50.0	53.0		ug/L		106	59 - 143	8	30
cis-1,3-Dichloropropene	0.50	U	50.0	52.5		ug/L		105	57 - 140	13	30
Cyclohexane	0.50	U	50.0	55.8		ug/L		112	58 - 141	3	30
Dibromochloromethane	0.24	U	50.0	51.0		ug/L		102	56 - 143	11	30
Dichlorodifluoromethane	0.85	U	25.0	19.2		ug/L		77	16 - 150	13	31
Ethylbenzene	0.50	U	50.0	48.2		ug/L		96	58 - 131	12	30
Isopropylbenzene	0.53	U	50.0	47.4		ug/L		95	56 - 133	11	30
m,p-Xylenes	3.0	I	50.0	51.2		ug/L		96	57 - 130	12	30
Methyl acetate	1.1	I	100	117		ug/L		116	21 - 150	6	30
Methyl tert-butyl ether	0.22	U	50.0	51.6		ug/L		103	59 - 137	9	30
Methylene Chloride	3.0	U	50.0	67.9		ug/L		136	60 - 146	2	32
o-Xylene	6.1		50.0	54.4		ug/L		97	61 - 130	12	30
Styrene	1.0	U	50.0	46.0		ug/L		92	58 - 131	10	30
Tetrachloroethene	0.90	U	50.0	48.4		ug/L		97	52 - 133	11	30
Toluene	2.3		50.0	51.4		ug/L		98	65 - 130	13	30
trans-1,2-Dichloroethene	0.50	U	50.0	55.3		ug/L		111	61 - 143	7	30
trans-1,3-Dichloropropene	0.20	U	50.0	47.0		ug/L		94	53 - 133	14	30
Trichloroethene	0.15	U	50.0	56.3		ug/L		113	64 - 136	16	30
Trichlorofluoromethane	0.52	U	25.0	26.6		ug/L		106	54 - 150	6	30
Vinyl chloride	0.50	U	25.0	24.6		ug/L		98	46 - 150	14	30
Xylenes, Total	9.1	I	100	106		ug/L		96	59 - 130	12	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*67 - 134*
Toluene-d8 (Surr)	*95*		*64 - 132*
4-Bromofluorobenzene	*99*		*72 - 130*
Dibromofluoromethane	*102*		*75 - 126*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24141-1

GC/MS VOA

Analysis Batch: 636199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-24141-1	LC34-GAC-20230731	Total/NA	Water	8260D	
670-24141-2	LC34-AS1-20230731	Total/NA	Water	8260D	
670-24141-3	LC34-AS2-20230731	Total/NA	Water	8260D	
670-24141-4	LC34-RW17C-20230731	Total/NA	Water	8260D	
670-24141-5	LC34-RW18C-20230731	Total/NA	Water	8260D	
670-24141-6	LC34-RW19C-20230731	Total/NA	Water	8260D	
670-24141-7	LC34-RW20C-20230731	Total/NA	Water	8260D	
670-24141-8	LC34-RW21D-20230731	Total/NA	Water	8260D	
MB 400-636199/4	Method Blank	Total/NA	Water	8260D	
LCS 400-636199/1002	Lab Control Sample	Total/NA	Water	8260D	
400-241571-A-1 MS	Matrix Spike	Total/NA	Water	8260D	
400-241571-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24141-1

Client Sample ID: LC34-GAC-20230731
Lab Sample ID: 670-24141-1
Date Collected: 07/31/23 05:30
Matrix: Water
Date Received: 07/31/23 12:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636199	WPD	EET PEN	08/08/23 10:53

Client Sample ID: LC34-AS1-20230731
Lab Sample ID: 670-24141-2
Date Collected: 07/31/23 05:40
Matrix: Water
Date Received: 07/31/23 12:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636199	WPD	EET PEN	08/08/23 11:17

Client Sample ID: LC34-AS2-20230731
Lab Sample ID: 670-24141-3
Date Collected: 07/31/23 05:50
Matrix: Water
Date Received: 07/31/23 12:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636199	WPD	EET PEN	08/08/23 11:42

Client Sample ID: LC34-RW17C-20230731
Lab Sample ID: 670-24141-4
Date Collected: 07/31/23 06:00
Matrix: Water
Date Received: 07/31/23 12:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1000	636199	WPD	EET PEN	08/08/23 17:47

Client Sample ID: LC34-RW18C-20230731
Lab Sample ID: 670-24141-5
Date Collected: 07/31/23 06:10
Matrix: Water
Date Received: 07/31/23 12:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	636199	WPD	EET PEN	08/08/23 16:58

Client Sample ID: LC34-RW19C-20230731
Lab Sample ID: 670-24141-6
Date Collected: 07/31/23 06:20
Matrix: Water
Date Received: 07/31/23 12:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2000	636199	WPD	EET PEN	08/08/23 18:12

Client Sample ID: LC34-RW20C-20230731
Lab Sample ID: 670-24141-7
Date Collected: 07/31/23 06:30
Matrix: Water
Date Received: 07/31/23 12:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		100	636199	WPD	EET PEN	08/08/23 16:13

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24141-1

Client Sample ID: LC34-RW21D-20230731
Date Collected: 07/31/23 05:00
Date Received: 07/31/23 12:31

Lab Sample ID: 670-24141-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	636199	WPD	EET PEN	08/08/23 17:22

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-24141-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E81010	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24141-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24141-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-24141-1	LC34-GAC-20230731	Water	07/31/23 05:30	07/31/23 12:31
670-24141-2	LC34-AS1-20230731	Water	07/31/23 05:40	07/31/23 12:31
670-24141-3	LC34-AS2-20230731	Water	07/31/23 05:50	07/31/23 12:31
670-24141-4	LC34-RW17C-20230731	Water	07/31/23 06:00	07/31/23 12:31
670-24141-5	LC34-RW18C-20230731	Water	07/31/23 06:10	07/31/23 12:31
670-24141-6	LC34-RW19C-20230731	Water	07/31/23 06:20	07/31/23 12:31
670-24141-7	LC34-RW20C-20230731	Water	07/31/23 06:30	07/31/23 12:31
670-24141-8	LC34-RW21D-20230731	Water	07/31/23 05:00	07/31/23 12:31

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3653 | PAGE 1 OF 1

PROJECT NO: 112G08985	FACILITY: LC 34 HCS	PROJECT MANAGER MARK JONNET	PHONE NUMBER 412-921-8622	LABORATORY NAME AND CONTACT: ENCO, ELRO FINS
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER DAN FORESTER	PHONE NUMBER 304-780-1426	ADDRESS
		CARRIER/WAYBILL NUMBER COURIER		CITY, STATE ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G
PRESERVATIVE USED: HCL
TYPE OF ANALYSIS: VOC-8260

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS		COMMENTS
31 JUL	0530	LC34-GAC-20230731	HCS LC34	/	/	GW	G	3	X	
	0540	LC34-AS2-20230731								
	0550	LC34-ASQ-20230731								
	0600	LC34-RW1C-20230731								
	0610	LC34-RW[illegible]-20230731								
	0620	LC34-RW19C-20230731								
	0630	LC35-RW20C-20230731								
/	0500	LC34-RW21D-20230731	/	/	/	/	/	/	/	

670-24141 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	31JUL23	0600	1. RECEIVED BY	07/31/23	0800
2. RELINQUISHED BY	07/31/23	1210	2. RECEIVED BY	7/31/23	1210
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	7/31	1430

COMMENTS 2,0,1,5

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 4/02R

FORM NO. TtNUS-001

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-12708.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-24141-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 8/11/2023			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC POL / SW3	Project #: 67000968			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) Full List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC-34-GAC-20230731 (670-24141-1)	7/31/23	05:30 Eastern		Water			X	3	unp incase of HDSP in HCL
LC-34-AS1-20230731 (670-24141-2)	7/31/23	05:40 Eastern		Water			X	3	unp incase of HDSP in HCL
LC-34-AS2-20230731 (670-24141-3)	7/31/23	05:50 Eastern		Water			X	3	unp incase of HDSP in HCL
LC-34-RW17C-20230731 (670-24141-4)	7/31/23	06:00 Eastern		Water			X	3	unp incase of HDSP in HCL
LC-34-RW18C-20230731 (670-24141-5)	7/31/23	06:10 Eastern		Water			X	3	unp incase of HDSP in HCL
LC-34-RW19C-20230731 (670-24141-6)	7/31/23	06:20 Eastern		Water			X	3	unp incase of HDSP in HCL
LC-34-RW20C-20230731 (670-24141-7)	7/31/23	06:30 Eastern		Water			X	3	unp incase of HDSP in HCL
LC-34-RW21D-20230731 (670-24141-8)	7/31/23	05:00 Eastern		Water			X	3	unp incase of HDSP in HCL

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	7/31 1516		Samuel Cuta	8/1/23 0852	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.1 IR ID

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-24141-1

Login Number: 24141

List Source: Eurofins Orlando

List Number: 1

Creator: Beck, Brent

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-24141-1

Login Number: 24141
List Number: 2
Creator: Earnest, Tamantha

List Source: Eurofins Pensacola
List Creation: 08/01/23 01:42 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.1°C IR10
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 8/16/2023 3:17:45 PM

JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-24475-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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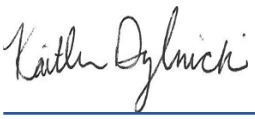
Authorization



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Authorized for release by
Kaitlin Dylnicki, Project Manager
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(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-24475-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-24475-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-24475-1

Receipt

The samples were received on 8/4/2023 3:50 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.3°C

GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-636212 recovered above the upper control limit for Methyl acetate. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-636212 recovered outside acceptance criteria, low biased, for 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1-Dichloroethene, Bromomethane, Carbon disulfide, Chloromethane and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 400-636212 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-636385 recovered outside acceptance criteria, low biased, for Carbon disulfide and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0044D2-110.0-20230804 (670-24475-2). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-636385 recovered above the upper control limit for 1,2-Dichloroethane-d4 (Surr). The percent recovery was within limits. Therefore, the data is reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24475-1

Client Sample ID: LC34-IW0165-110.0-20230804 — Lab Sample ID: 670-24475-1

No Detections.

Client Sample ID: LC34-IW0044D2-110.0-20230804 — Lab Sample ID: 670-24475-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2200		10	2.0	ug/L	10		8260D	Total/NA
trans-1,2-Dichloroethene - RA	5.9	I	10	5.0	ug/L	10		8260D	Total/NA
Trichloroethene - RA	2400		10	1.5	ug/L	10		8260D	Total/NA
Vinyl chloride - RA	130		10	5.0	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0162-110.0-20230804 — Lab Sample ID: 670-24475-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4.9		1.0	0.20	ug/L	1		8260D	Total/NA
Trichloroethene	6.0		1.0	0.15	ug/L	1		8260D	Total/NA
Vinyl chloride	2.5		1.0	0.50	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24475-1

Client Sample ID: LC34-IW0165-110.0-20230804
Date Collected: 08/04/23 09:50
Date Received: 08/04/23 15:50

Lab Sample ID: 670-24475-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			08/09/23 13:33	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			08/09/23 13:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			08/09/23 13:33	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			08/09/23 13:33	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			08/09/23 13:33	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/09/23 13:33	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			08/09/23 13:33	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			08/09/23 13:33	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			08/09/23 13:33	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			08/09/23 13:33	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			08/09/23 13:33	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			08/09/23 13:33	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			08/09/23 13:33	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			08/09/23 13:33	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			08/09/23 13:33	1
2-Hexanone	1.4	U	25	1.4	ug/L			08/09/23 13:33	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			08/09/23 13:33	1
Acetone	10	U	25	10	ug/L			08/09/23 13:33	1
Benzene	0.50	U	1.0	0.50	ug/L			08/09/23 13:33	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			08/09/23 13:33	1
Bromoform	0.25	U	5.0	0.25	ug/L			08/09/23 13:33	1
Bromomethane	0.98	U	1.0	0.98	ug/L			08/09/23 13:33	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			08/09/23 13:33	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			08/09/23 13:33	1
Chlorobenzene	0.90	U	1.0	0.90	ug/L			08/09/23 13:33	1
Chloroethane	0.76	U	1.0	0.76	ug/L			08/09/23 13:33	1
Chloroform	0.90	U	1.0	0.90	ug/L			08/09/23 13:33	1
Chloromethane	0.90	U	1.0	0.90	ug/L			08/09/23 13:33	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			08/09/23 13:33	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			08/09/23 13:33	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			08/09/23 13:33	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			08/09/23 13:33	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			08/09/23 13:33	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			08/09/23 13:33	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			08/09/23 13:33	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			08/09/23 13:33	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			08/09/23 13:33	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			08/09/23 13:33	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			08/09/23 13:33	1
o-Xylene	0.60	U	5.0	0.60	ug/L			08/09/23 13:33	1
Styrene	1.0	U	1.0	1.0	ug/L			08/09/23 13:33	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			08/09/23 13:33	1
Toluene	0.90	U	1.0	0.90	ug/L			08/09/23 13:33	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/09/23 13:33	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			08/09/23 13:33	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			08/09/23 13:33	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			08/09/23 13:33	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			08/09/23 13:33	1
Xylenes, Total	1.6	U	10	1.6	ug/L			08/09/23 13:33	1

Client Sample ID: LC34-IW0165-110.0-20230804
Lab Sample ID: 670-24475-1

Date Collected: 08/04/23 09:50
Matrix: Water
Date Received: 08/04/23 15:50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*130*		*67 - 134*		*08/09/23 13:33*	*1*
Toluene-d8 (Surr)	*101*		*64 - 132*		*08/09/23 13:33*	*1*
4-Bromofluorobenzene	*99*		*72 - 130*		*08/09/23 13:33*	*1*
Dibromofluoromethane	*117*		*75 - 126*		*08/09/23 13:33*	*1*

Client Sample ID: LC34-IW0044D2-110.0-20230804
Lab Sample ID: 670-24475-2

Date Collected: 08/04/23 10:25
Matrix: Water
Date Received: 08/04/23 15:50

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	2200		10	2.0	ug/L			08/08/23 13:20	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*67 - 134*		*08/08/23 13:20*	*10*
Toluene-d8 (Surr)	*104*		*64 - 132*		*08/08/23 13:20*	*10*
4-Bromofluorobenzene	*105*		*72 - 130*		*08/08/23 13:20*	*10*
Dibromofluoromethane	*100*		*75 - 126*		*08/08/23 13:20*	*10*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.8	U	10	1.8	ug/L			08/09/23 13:56	10
1,1,2,2-Tetrachloroethane	5.0	U	10	5.0	ug/L			08/09/23 13:56	10
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	10	5.0	ug/L			08/09/23 13:56	10
1,1,2-Trichloroethane	2.1	U	50	2.1	ug/L			08/09/23 13:56	10
1,1-Dichloroethane	5.0	U	10	5.0	ug/L			08/09/23 13:56	10
1,1-Dichloroethene	5.0	U	10	5.0	ug/L			08/09/23 13:56	10
1,2,4-Trichlorobenzene	8.2	U	10	8.2	ug/L			08/09/23 13:56	10
1,2-Dibromo-3-Chloropropane	15	U	50	15	ug/L			08/09/23 13:56	10
1,2-Dibromoethane (EDB)	2.3	U	10	2.3	ug/L			08/09/23 13:56	10
1,2-Dichlorobenzene	5.0	U	10	5.0	ug/L			08/09/23 13:56	10
1,2-Dichloroethane	1.9	U	10	1.9	ug/L			08/09/23 13:56	10
1,2-Dichloropropane	5.0	U	10	5.0	ug/L			08/09/23 13:56	10
1,3-Dichlorobenzene	5.4	U	10	5.4	ug/L			08/09/23 13:56	10
1,4-Dichlorobenzene	6.4	U	10	6.4	ug/L			08/09/23 13:56	10
2-Butanone (MEK)	26	U	250	26	ug/L			08/09/23 13:56	10
2-Hexanone	14	U	250	14	ug/L			08/09/23 13:56	10
4-Methyl-2-pentanone	18	U	250	18	ug/L			08/09/23 13:56	10
Acetone	100	U	250	100	ug/L			08/09/23 13:56	10
Benzene	5.0	U	10	5.0	ug/L			08/09/23 13:56	10
Bromodichloromethane	5.0	U	10	5.0	ug/L			08/09/23 13:56	10
Bromoform	2.5	U	50	2.5	ug/L			08/09/23 13:56	10
Bromomethane	9.8	U	10	9.8	ug/L			08/09/23 13:56	10
Carbon disulfide	5.0	U	10	5.0	ug/L			08/09/23 13:56	10
Carbon tetrachloride	1.9	U	10	1.9	ug/L			08/09/23 13:56	10
Chlorobenzene	9.0	U	10	9.0	ug/L			08/09/23 13:56	10
Chloroethane	7.6	U	10	7.6	ug/L			08/09/23 13:56	10
Chloroform	9.0	U	10	9.0	ug/L			08/09/23 13:56	10
Chloromethane	9.0	U	10	9.0	ug/L			08/09/23 13:56	10
cis-1,3-Dichloropropene	5.0	U	50	5.0	ug/L			08/09/23 13:56	10
Cyclohexane	5.0	U	10	5.0	ug/L			08/09/23 13:56	10

Client Sample ID: LC34-IW0044D2-110.0-20230804

Lab Sample ID: 670-24475-2

Date Collected: 08/04/23 10:25

Matrix: Water

Date Received: 08/04/23 15:50

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	2.4	U	10	2.4	ug/L			08/09/23 13:56	10
Dichlorodifluoromethane	8.5	U	10	8.5	ug/L			08/09/23 13:56	10
Ethylbenzene	5.0	U	10	5.0	ug/L			08/09/23 13:56	10
Isopropylbenzene	5.3	U	10	5.3	ug/L			08/09/23 13:56	10
m,p-Xylenes	6.3	U	50	6.3	ug/L			08/09/23 13:56	10
Methyl acetate	6.1	U	50	6.1	ug/L			08/09/23 13:56	10
Methyl tert-butyl ether	2.2	U	10	2.2	ug/L			08/09/23 13:56	10
Methylene Chloride	30	U	50	30	ug/L			08/09/23 13:56	10
o-Xylene	6.0	U	50	6.0	ug/L			08/09/23 13:56	10
Styrene	10	U	10	10	ug/L			08/09/23 13:56	10
Tetrachloroethene	9.0	U	10	9.0	ug/L			08/09/23 13:56	10
Toluene	9.0	U	10	9.0	ug/L			08/09/23 13:56	10
trans-1,2-Dichloroethene	**5.9**	**I**	10	5.0	ug/L			08/09/23 13:56	10
trans-1,3-Dichloropropene	2.0	U	50	2.0	ug/L			08/09/23 13:56	10
Trichloroethene	**2400**		10	1.5	ug/L			08/09/23 13:56	10
Trichlorofluoromethane	5.2	U	10	5.2	ug/L			08/09/23 13:56	10
Vinyl chloride	**130**		10	5.0	ug/L			08/09/23 13:56	10
Xylenes, Total	16	U	100	16	ug/L			08/09/23 13:56	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*128*		*67 - 134*		*08/09/23 13:56*	*10*
Toluene-d8 (Surr)	*98*		*64 - 132*		*08/09/23 13:56*	*10*
4-Bromofluorobenzene	*100*		*72 - 130*		*08/09/23 13:56*	*10*
Dibromofluoromethane	*115*		*75 - 126*		*08/09/23 13:56*	*10*

Client Sample ID: LC34-IW0162-110.0-20230804

Lab Sample ID: 670-24475-3

Date Collected: 08/04/23 11:00

Matrix: Water

Date Received: 08/04/23 15:50

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			08/08/23 16:06	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			08/08/23 16:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			08/08/23 16:06	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			08/08/23 16:06	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			08/08/23 16:06	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/08/23 16:06	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			08/08/23 16:06	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			08/08/23 16:06	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			08/08/23 16:06	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			08/08/23 16:06	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			08/08/23 16:06	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			08/08/23 16:06	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			08/08/23 16:06	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			08/08/23 16:06	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			08/08/23 16:06	1
2-Hexanone	1.4	U	25	1.4	ug/L			08/08/23 16:06	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			08/08/23 16:06	1
Acetone	10	U	25	10	ug/L			08/08/23 16:06	1
Benzene	0.50	U	1.0	0.50	ug/L			08/08/23 16:06	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24475-1

Client Sample ID: LC34-IW0162-110.0-20230804
Date Collected: 08/04/23 11:00
Date Received: 08/04/23 15:50

Lab Sample ID: 670-24475-3
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			08/08/23 16:06	1
Bromoform	0.25	U	5.0	0.25	ug/L			08/08/23 16:06	1
Bromomethane	0.98	U	1.0	0.98	ug/L			08/08/23 16:06	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			08/08/23 16:06	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			08/08/23 16:06	1
Chlorobenzene	0.90	U	1.0	0.90	ug/L			08/08/23 16:06	1
Chloroethane	0.76	U	1.0	0.76	ug/L			08/08/23 16:06	1
Chloroform	0.90	U	1.0	0.90	ug/L			08/08/23 16:06	1
Chloromethane	0.90	U	1.0	0.90	ug/L			08/08/23 16:06	1
cis-1,2-Dichloroethene	**4.9**		1.0	0.20	ug/L			08/08/23 16:06	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			08/08/23 16:06	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			08/08/23 16:06	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			08/08/23 16:06	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			08/08/23 16:06	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			08/08/23 16:06	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			08/08/23 16:06	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			08/08/23 16:06	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			08/08/23 16:06	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			08/08/23 16:06	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			08/08/23 16:06	1
o-Xylene	0.60	U	5.0	0.60	ug/L			08/08/23 16:06	1
Styrene	1.0	U	1.0	1.0	ug/L			08/08/23 16:06	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			08/08/23 16:06	1
Toluene	0.90	U	1.0	0.90	ug/L			08/08/23 16:06	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/08/23 16:06	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			08/08/23 16:06	1
Trichloroethene	**6.0**		1.0	0.15	ug/L			08/08/23 16:06	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			08/08/23 16:06	1
Vinyl chloride	**2.5**		1.0	0.50	ug/L			08/08/23 16:06	1
Xylenes, Total	1.6	U	10	1.6	ug/L			08/08/23 16:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*115*		*67 - 134*		*08/08/23 16:06*	*1*
Toluene-d8 (Surr)	*104*		*64 - 132*		*08/08/23 16:06*	*1*
4-Bromofluorobenzene	*104*		*72 - 130*		*08/08/23 16:06*	*1*
Dibromofluoromethane	*104*		*75 - 126*		*08/08/23 16:06*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24475-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(67-134)	(64-132)	(72-130)	(75-126)
400-241118-D-3 MS	Matrix Spike	111	106	109	100
400-241118-D-3 MSD	Matrix Spike Duplicate	109	104	106	98
670-24475-1	LC34-IW0165-110.0-20230804	130	101	99	117
670-24475-1 MS	LC34-IW0165-110.0-20230804	128	100	101	111
670-24475-1 MSD	LC34-IW0165-110.0-20230804	127	99	102	112
670-24475-2	LC34-IW0044D2-110.0-20230804	109	104	105	100
670-24475-2 - RA	LC34-IW0044D2-110.0-20230804	128	98	100	115
670-24475-3	LC34-IW0162-110.0-20230804	115	104	104	104
LCS 400-636212/1002	Lab Control Sample	113	103	105	103
LCS 400-636385/1002	Lab Control Sample	131	99	102	112
MB 400-636212/4	Method Blank	110	102	103	100
MB 400-636385/26	Method Blank	129	101	100	116

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 400-636212/4
Matrix: Water
Analysis Batch: 636212

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			08/08/23 11:57	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			08/08/23 11:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			08/08/23 11:57	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			08/08/23 11:57	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			08/08/23 11:57	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/08/23 11:57	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			08/08/23 11:57	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			08/08/23 11:57	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			08/08/23 11:57	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			08/08/23 11:57	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			08/08/23 11:57	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			08/08/23 11:57	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			08/08/23 11:57	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			08/08/23 11:57	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			08/08/23 11:57	1
2-Hexanone	1.4	U	25	1.4	ug/L			08/08/23 11:57	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			08/08/23 11:57	1
Acetone	10	U	25	10	ug/L			08/08/23 11:57	1
Benzene	0.50	U	1.0	0.50	ug/L			08/08/23 11:57	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			08/08/23 11:57	1
Bromoform	0.25	U	5.0	0.25	ug/L			08/08/23 11:57	1
Bromomethane	0.98	U	1.0	0.98	ug/L			08/08/23 11:57	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			08/08/23 11:57	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			08/08/23 11:57	1
Chlorobenzene	0.90	U	1.0	0.90	ug/L			08/08/23 11:57	1
Chloroethane	0.76	U	1.0	0.76	ug/L			08/08/23 11:57	1
Chloroform	0.90	U	1.0	0.90	ug/L			08/08/23 11:57	1
Chloromethane	0.90	U	1.0	0.90	ug/L			08/08/23 11:57	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			08/08/23 11:57	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			08/08/23 11:57	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			08/08/23 11:57	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			08/08/23 11:57	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			08/08/23 11:57	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			08/08/23 11:57	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			08/08/23 11:57	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			08/08/23 11:57	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			08/08/23 11:57	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			08/08/23 11:57	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			08/08/23 11:57	1
o-Xylene	0.60	U	5.0	0.60	ug/L			08/08/23 11:57	1
Styrene	1.0	U	1.0	1.0	ug/L			08/08/23 11:57	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			08/08/23 11:57	1
Toluene	0.90	U	1.0	0.90	ug/L			08/08/23 11:57	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/08/23 11:57	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			08/08/23 11:57	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			08/08/23 11:57	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			08/08/23 11:57	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			08/08/23 11:57	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-636212/4
Matrix: Water
Analysis Batch: 636212

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.6	U	10	1.6	ug/L			08/08/23 11:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*67 - 134*		*08/08/23 11:57*	*1*
Toluene-d8 (Surr)	*102*		*64 - 132*		*08/08/23 11:57*	*1*
4-Bromofluorobenzene	*103*		*72 - 130*		*08/08/23 11:57*	*1*
Dibromofluoromethane	*100*		*75 - 126*		*08/08/23 11:57*	*1*

Lab Sample ID: LCS 400-636212/1002
Matrix: Water
Analysis Batch: 636212

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	46.8		ug/L		94	68 - 130
1,1,2,2-Tetrachloroethane	50.0	47.3		ug/L		95	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	39.0		ug/L		78	60 - 139
1,1,2-Trichloroethane	50.0	47.2		ug/L		94	70 - 130
1,1-Dichloroethane	50.0	46.4		ug/L		93	70 - 130
1,1-Dichloroethene	50.0	38.2		ug/L		76	63 - 134
1,2,4-Trichlorobenzene	50.0	47.1		ug/L		94	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	46.8		ug/L		94	54 - 135
1,2-Dibromoethane (EDB)	50.0	46.6		ug/L		93	70 - 130
1,2-Dichlorobenzene	50.0	46.4		ug/L		93	67 - 130
1,2-Dichloroethane	50.0	48.9		ug/L		98	69 - 130
1,2-Dichloropropane	50.0	45.6		ug/L		91	70 - 130
1,3-Dichlorobenzene	50.0	45.9		ug/L		92	70 - 130
1,4-Dichlorobenzene	50.0	45.7		ug/L		91	70 - 130
2-Butanone (MEK)	200	189		ug/L		94	61 - 145
2-Hexanone	200	217		ug/L		109	65 - 137
4-Methyl-2-pentanone	200	205		ug/L		103	69 - 138
Acetone	200	171		ug/L		85	43 - 160
Benzene	50.0	45.6		ug/L		91	70 - 130
Bromodichloromethane	50.0	45.6		ug/L		91	67 - 133
Bromoform	50.0	45.0		ug/L		90	57 - 140
Bromomethane	50.0	29.2		ug/L		58	10 - 160
Carbon disulfide	50.0	39.4		ug/L		79	61 - 137
Carbon tetrachloride	50.0	45.7		ug/L		91	61 - 137
Chlorobenzene	50.0	46.1		ug/L		92	70 - 130
Chloroethane	50.0	45.5		ug/L		91	55 - 141
Chloroform	50.0	46.2		ug/L		92	69 - 130
Chloromethane	50.0	37.2		ug/L		74	58 - 137
cis-1,2-Dichloroethene	50.0	47.8		ug/L		96	68 - 130
cis-1,3-Dichloropropene	50.0	46.2		ug/L		92	69 - 132
Cyclohexane	50.0	45.1		ug/L		90	70 - 130
Dibromochloromethane	50.0	44.6		ug/L		89	67 - 135
Dichlorodifluoromethane	50.0	36.6		ug/L		73	41 - 146
Ethylbenzene	50.0	46.8		ug/L		94	70 - 130
Isopropylbenzene	50.0	46.6		ug/L		93	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-636212/1002
Matrix: Water
Analysis Batch: 636212

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	47.1		ug/L		94	70 - 130
Methyl acetate	100	128		ug/L		128	45 - 159
Methyl tert-butyl ether	50.0	44.6		ug/L		89	66 - 130
Methylene Chloride	50.0	46.1		ug/L		92	66 - 135
o-Xylene	50.0	46.3		ug/L		93	70 - 130
Styrene	50.0	45.0		ug/L		90	70 - 130
Tetrachloroethene	50.0	48.9		ug/L		98	65 - 130
Toluene	50.0	46.4		ug/L		93	70 - 130
trans-1,2-Dichloroethene	50.0	44.4		ug/L		89	70 - 130
trans-1,3-Dichloropropene	50.0	47.9		ug/L		96	63 - 130
Trichloroethene	50.0	44.5		ug/L		89	70 - 130
Trichlorofluoromethane	50.0	41.3		ug/L		83	65 - 138
Vinyl chloride	50.0	41.9		ug/L		84	59 - 136
Xylenes, Total	100	93.4		ug/L		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*113*		*67 - 134*
Toluene-d8 (Surr)	*103*		*64 - 132*
4-Bromofluorobenzene	*105*		*72 - 130*
Dibromofluoromethane	*103*		*75 - 126*

Lab Sample ID: 400-241118-D-3 MS
Matrix: Water
Analysis Batch: 636212

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	38.6		ug/L		77	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	46.9		ug/L		94	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	33.6		ug/L		67	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	43.2		ug/L		86	66 - 131
1,1-Dichloroethane	0.50	U	50.0	40.2		ug/L		80	61 - 144
1,1-Dichloroethene	0.50	U	50.0	32.2		ug/L		64	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	35.6		ug/L		71	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	46.8		ug/L		94	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	41.8		ug/L		84	64 - 132
1,2-Dichlorobenzene	0.50	U	50.0	37.1		ug/L		74	52 - 137
1,2-Dichloroethane	0.19	U	50.0	42.6		ug/L		85	60 - 141
1,2-Dichloropropane	0.50	U	50.0	39.1		ug/L		78	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	35.1		ug/L		70	54 - 135
1,4-Dichlorobenzene	0.64	U	50.0	35.2		ug/L		70	53 - 135
2-Butanone (MEK)	2.6	U	200	165		ug/L		83	55 - 150
2-Hexanone	1.4	U	200	204		ug/L		102	65 - 140
4-Methyl-2-pentanone	1.8	U	200	194		ug/L		97	63 - 146
Acetone	10	U	200	139		ug/L		70	43 - 150
Benzene	0.50	U	50.0	38.3		ug/L		77	56 - 142
Bromodichloromethane	0.50	U	50.0	39.7		ug/L		79	59 - 143
Bromoform	0.25	U	50.0	42.9		ug/L		86	50 - 140
Bromomethane	0.98	U	50.0	28.0		ug/L		56	10 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-241118-D-3 MS
Matrix: Water
Analysis Batch: 636212

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	0.50	U	50.0	31.7		ug/L		63	48 - 150
Carbon tetrachloride	0.19	U	50.0	36.7		ug/L		73	55 - 145
Chlorobenzene	0.90	U	50.0	36.4		ug/L		73	64 - 130
Chloroethane	0.76	U	50.0	38.9		ug/L		78	50 - 150
Chloroform	1.5		50.0	40.6		ug/L		78	60 - 141
Chloromethane	0.90	U J3	50.0	29.6		ug/L		59	49 - 148
cis-1,2-Dichloroethene	0.20	U	50.0	40.7		ug/L		81	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	38.4		ug/L		77	57 - 140
Cyclohexane	0.50	U	50.0	36.5		ug/L		73	58 - 141
Dibromochloromethane	0.24	U	50.0	39.3		ug/L		79	56 - 143
Dichlorodifluoromethane	0.85	U	50.0	28.2		ug/L		56	16 - 150
Ethylbenzene	0.50	U	50.0	35.8		ug/L		72	58 - 131
Isopropylbenzene	0.53	U	50.0	33.2		ug/L		66	56 - 133
m,p-Xylenes	0.63	U	50.0	35.2		ug/L		70	57 - 130
Methyl acetate	0.61	U	100	99.1		ug/L		99	21 - 150
Methyl tert-butyl ether	0.22	U	50.0	39.5		ug/L		79	59 - 137
Methylene Chloride	3.0	U	50.0	37.3		ug/L		75	60 - 146
o-Xylene	0.60	U	50.0	35.3		ug/L		71	61 - 130
Styrene	1.0	U	50.0	34.7		ug/L		69	58 - 131
Tetrachloroethene	0.90	U	50.0	33.2		ug/L		66	52 - 133
Toluene	0.90	U	50.0	38.1		ug/L		76	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	36.6		ug/L		73	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	41.2		ug/L		82	53 - 133
Trichloroethene	0.15	U	50.0	35.2		ug/L		70	64 - 136
Trichlorofluoromethane	0.52	U	50.0	35.3		ug/L		71	54 - 150
Vinyl chloride	0.50	U	50.0	35.0		ug/L		70	46 - 150
Xylenes, Total	1.6	U	100	70.5		ug/L		70	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*111*		*67 - 134*
Toluene-d8 (Surr)	*106*		*64 - 132*
4-Bromofluorobenzene	*109*		*72 - 130*
Dibromofluoromethane	*100*		*75 - 126*

Lab Sample ID: 400-241118-D-3 MSD
Matrix: Water
Analysis Batch: 636212

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	43.8		ug/L		88	57 - 142	12	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	51.1		ug/L		102	66 - 135	9	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	37.6		ug/L		75	55 - 150	11	30
1,1,2-Trichloroethane	0.21	U	50.0	49.0		ug/L		98	66 - 131	13	30
1,1-Dichloroethane	0.50	U	50.0	46.7		ug/L		93	61 - 144	15	30
1,1-Dichloroethene	0.50	U	50.0	36.5		ug/L		73	54 - 147	12	30
1,2,4-Trichlorobenzene	0.82	U	50.0	36.7		ug/L		73	39 - 148	3	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	51.5		ug/L		103	45 - 135	10	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	47.8		ug/L		96	64 - 132	13	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-241118-D-3 MSD
Matrix: Water
Analysis Batch: 636212

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichlorobenzene	0.50	U	50.0	38.0		ug/L		76	52 - 137	3	30
1,2-Dichloroethane	0.19	U	50.0	50.1		ug/L		100	60 - 141	16	30
1,2-Dichloropropane	0.50	U	50.0	45.0		ug/L		90	66 - 137	14	30
1,3-Dichlorobenzene	0.54	U	50.0	36.3		ug/L		73	54 - 135	3	30
1,4-Dichlorobenzene	0.64	U	50.0	36.1		ug/L		72	53 - 135	2	30
2-Butanone (MEK)	2.6	U	200	194		ug/L		97	55 - 150	16	30
2-Hexanone	1.4	U	200	236		ug/L		118	65 - 140	14	30
4-Methyl-2-pentanone	1.8	U	200	226		ug/L		113	63 - 146	15	30
Acetone	10	U	200	159		ug/L		79	43 - 150	13	30
Benzene	0.50	U	50.0	43.8		ug/L		88	56 - 142	13	30
Bromodichloromethane	0.50	U	50.0	46.0		ug/L		92	59 - 143	15	30
Bromoform	0.25	U	50.0	47.3		ug/L		95	50 - 140	10	30
Bromomethane	0.98	U	50.0	28.5		ug/L		57	10 - 150	2	50
Carbon disulfide	0.50	U	50.0	37.2		ug/L		74	48 - 150	16	30
Carbon tetrachloride	0.19	U	50.0	41.8		ug/L		84	55 - 145	13	30
Chlorobenzene	0.90	U	50.0	40.3		ug/L		81	64 - 130	10	30
Chloroethane	0.76	U	50.0	44.8		ug/L		90	50 - 150	14	30
Chloroform	1.5		50.0	46.6		ug/L		90	60 - 141	14	30
Chloromethane	0.90	U J3	50.0	42.0	J3	ug/L		84	49 - 148	35	31
cis-1,2-Dichloroethene	0.20	U	50.0	47.2		ug/L		94	59 - 143	15	30
cis-1,3-Dichloropropene	0.50	U	50.0	43.8		ug/L		88	57 - 140	13	30
Cyclohexane	0.50	U	50.0	39.9		ug/L		80	58 - 141	9	30
Dibromochloromethane	0.24	U	50.0	44.9		ug/L		90	56 - 143	13	30
Dichlorodifluoromethane	0.85	U	50.0	36.5		ug/L		73	16 - 150	26	31
Ethylbenzene	0.50	U	50.0	38.3		ug/L		77	58 - 131	7	30
Isopropylbenzene	0.53	U	50.0	35.3		ug/L		71	56 - 133	6	30
m,p-Xylenes	0.63	U	50.0	37.9		ug/L		76	57 - 130	7	30
Methyl acetate	0.61	U	100	117		ug/L		117	21 - 150	16	30
Methyl tert-butyl ether	0.22	U	50.0	48.0		ug/L		96	59 - 137	20	30
Methylene Chloride	3.0	U	50.0	45.0		ug/L		90	60 - 146	19	32
o-Xylene	0.60	U	50.0	38.5		ug/L		77	61 - 130	9	30
Styrene	1.0	U	50.0	37.7		ug/L		75	58 - 131	8	30
Tetrachloroethene	0.90	U	50.0	35.8		ug/L		72	52 - 133	7	30
Toluene	0.90	U	50.0	42.1		ug/L		84	65 - 130	10	30
trans-1,2-Dichloroethene	0.50	U	50.0	42.6		ug/L		85	61 - 143	15	30
trans-1,3-Dichloropropene	0.20	U	50.0	48.1		ug/L		96	53 - 133	15	30
Trichloroethene	0.15	U	50.0	39.9		ug/L		80	64 - 136	13	30
Trichlorofluoromethane	0.52	U	50.0	40.5		ug/L		81	54 - 150	14	30
Vinyl chloride	0.50	U	50.0	43.9		ug/L		88	46 - 150	23	30
Xylenes, Total	1.6	U	100	76.4		ug/L		76	59 - 130	8	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*109*		*67 - 134*
Toluene-d8 (Surr)	*104*		*64 - 132*
4-Bromofluorobenzene	*106*		*72 - 130*
Dibromofluoromethane	*98*		*75 - 126*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-636385/26
Matrix: Water
Analysis Batch: 636385

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			08/09/23 12:35	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			08/09/23 12:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			08/09/23 12:35	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			08/09/23 12:35	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			08/09/23 12:35	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/09/23 12:35	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			08/09/23 12:35	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			08/09/23 12:35	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			08/09/23 12:35	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			08/09/23 12:35	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			08/09/23 12:35	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			08/09/23 12:35	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			08/09/23 12:35	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			08/09/23 12:35	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			08/09/23 12:35	1
2-Hexanone	1.4	U	25	1.4	ug/L			08/09/23 12:35	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			08/09/23 12:35	1
Acetone	10	U	25	10	ug/L			08/09/23 12:35	1
Benzene	0.50	U	1.0	0.50	ug/L			08/09/23 12:35	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			08/09/23 12:35	1
Bromoform	0.25	U	5.0	0.25	ug/L			08/09/23 12:35	1
Bromomethane	0.98	U	1.0	0.98	ug/L			08/09/23 12:35	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			08/09/23 12:35	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			08/09/23 12:35	1
Chlorobenzene	0.90	U	1.0	0.90	ug/L			08/09/23 12:35	1
Chloroethane	0.76	U	1.0	0.76	ug/L			08/09/23 12:35	1
Chloroform	0.90	U	1.0	0.90	ug/L			08/09/23 12:35	1
Chloromethane	0.90	U	1.0	0.90	ug/L			08/09/23 12:35	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			08/09/23 12:35	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			08/09/23 12:35	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			08/09/23 12:35	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			08/09/23 12:35	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			08/09/23 12:35	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			08/09/23 12:35	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			08/09/23 12:35	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			08/09/23 12:35	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			08/09/23 12:35	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			08/09/23 12:35	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			08/09/23 12:35	1
o-Xylene	0.60	U	5.0	0.60	ug/L			08/09/23 12:35	1
Styrene	1.0	U	1.0	1.0	ug/L			08/09/23 12:35	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			08/09/23 12:35	1
Toluene	0.90	U	1.0	0.90	ug/L			08/09/23 12:35	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/09/23 12:35	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			08/09/23 12:35	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			08/09/23 12:35	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			08/09/23 12:35	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			08/09/23 12:35	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-636385/26
Matrix: Water
Analysis Batch: 636385

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.6	U	10	1.6	ug/L			08/09/23 12:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*129*		*67 - 134*		*08/09/23 12:35*	*1*
Toluene-d8 (Surr)	*101*		*64 - 132*		*08/09/23 12:35*	*1*
4-Bromofluorobenzene	*100*		*72 - 130*		*08/09/23 12:35*	*1*
Dibromofluoromethane	*116*		*75 - 126*		*08/09/23 12:35*	*1*

Lab Sample ID: LCS 400-636385/1002
Matrix: Water
Analysis Batch: 636385

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	45.9		ug/L		92	68 - 130
1,1,2,2-Tetrachloroethane	50.0	52.3		ug/L		105	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	40.6		ug/L		81	60 - 139
1,1,2-Trichloroethane	50.0	50.9		ug/L		102	70 - 130
1,1-Dichloroethane	50.0	44.8		ug/L		90	70 - 130
1,1-Dichloroethene	50.0	41.3		ug/L		83	63 - 134
1,2,4-Trichlorobenzene	50.0	48.0		ug/L		96	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	45.4		ug/L		91	54 - 135
1,2-Dibromoethane (EDB)	50.0	50.7		ug/L		101	70 - 130
1,2-Dichlorobenzene	50.0	49.8		ug/L		100	67 - 130
1,2-Dichloroethane	50.0	55.3		ug/L		111	69 - 130
1,2-Dichloropropane	50.0	47.7		ug/L		95	70 - 130
1,3-Dichlorobenzene	50.0	49.1		ug/L		98	70 - 130
1,4-Dichlorobenzene	50.0	49.1		ug/L		98	70 - 130
2-Butanone (MEK)	200	187		ug/L		93	61 - 145
2-Hexanone	200	208		ug/L		104	65 - 137
4-Methyl-2-pentanone	200	215		ug/L		108	69 - 138
Acetone	200	208		ug/L		104	43 - 160
Benzene	50.0	44.3		ug/L		89	70 - 130
Bromodichloromethane	50.0	49.2		ug/L		98	67 - 133
Bromoform	50.0	49.3		ug/L		99	57 - 140
Bromomethane	50.0	51.2		ug/L		102	10 - 160
Carbon disulfide	50.0	36.9		ug/L		74	61 - 137
Carbon tetrachloride	50.0	47.7		ug/L		95	61 - 137
Chlorobenzene	50.0	46.8		ug/L		94	70 - 130
Chloroethane	50.0	50.5		ug/L		101	55 - 141
Chloroform	50.0	47.6		ug/L		95	69 - 130
Chloromethane	50.0	41.2		ug/L		82	58 - 137
cis-1,2-Dichloroethene	50.0	45.1		ug/L		90	68 - 130
cis-1,3-Dichloropropene	50.0	44.3		ug/L		89	69 - 132
Cyclohexane	50.0	41.0		ug/L		82	70 - 130
Dibromochloromethane	50.0	51.5		ug/L		103	67 - 135
Dichlorodifluoromethane	50.0	40.0		ug/L		80	41 - 146
Ethylbenzene	50.0	46.9		ug/L		94	70 - 130
Isopropylbenzene	50.0	48.9		ug/L		98	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-636385/1002
Matrix: Water
Analysis Batch: 636385

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	46.5		ug/L		93	70 - 130
Methyl acetate	100	94.1		ug/L		94	45 - 159
Methyl tert-butyl ether	50.0	48.1		ug/L		96	66 - 130
Methylene Chloride	50.0	51.5		ug/L		103	66 - 135
o-Xylene	50.0	47.3		ug/L		95	70 - 130
Styrene	50.0	46.8		ug/L		94	70 - 130
Tetrachloroethene	50.0	41.3		ug/L		83	65 - 130
Toluene	50.0	42.9		ug/L		86	70 - 130
trans-1,2-Dichloroethene	50.0	42.5		ug/L		85	70 - 130
trans-1,3-Dichloropropene	50.0	49.8		ug/L		100	63 - 130
Trichloroethene	50.0	45.0		ug/L		90	70 - 130
Trichlorofluoromethane	50.0	50.0		ug/L		100	65 - 138
Vinyl chloride	50.0	43.8		ug/L		88	59 - 136
Xylenes, Total	100	93.7		ug/L		94	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*131*		*67 - 134*
Toluene-d8 (Surr)	*99*		*64 - 132*
4-Bromofluorobenzene	*102*		*72 - 130*
Dibromofluoromethane	*112*		*75 - 126*

Lab Sample ID: 670-24475-1 MS
Matrix: Water
Analysis Batch: 636385

Client Sample ID: LC34-IW0165-110.0-20230804
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	49.9		ug/L		100	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	63.6		ug/L		127	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	43.8		ug/L		88	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	59.0		ug/L		118	66 - 131
1,1-Dichloroethane	0.50	U	50.0	52.0		ug/L		104	61 - 144
1,1-Dichloroethene	0.50	U	50.0	46.2		ug/L		92	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	43.6		ug/L		87	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	52.3		ug/L		105	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	57.3		ug/L		115	64 - 132
1,2-Dichlorobenzene	0.50	U	50.0	48.7		ug/L		97	52 - 137
1,2-Dichloroethane	0.19	U	50.0	63.6		ug/L		127	60 - 141
1,2-Dichloropropane	0.50	U	50.0	54.3		ug/L		109	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	44.7		ug/L		89	54 - 135
1,4-Dichlorobenzene	0.64	U	50.0	45.5		ug/L		91	53 - 135
2-Butanone (MEK)	2.6	U	200	203		ug/L		102	55 - 150
2-Hexanone	1.4	U	200	243		ug/L		121	65 - 140
4-Methyl-2-pentanone	1.8	U	200	250		ug/L		125	63 - 146
Acetone	10	U	200	202		ug/L		101	43 - 150
Benzene	0.50	U	50.0	49.6		ug/L		99	56 - 142
Bromodichloromethane	0.50	U	50.0	55.8		ug/L		112	59 - 143
Bromoform	0.25	U	50.0	55.5		ug/L		111	50 - 140
Bromomethane	0.98	U	50.0	30.6		ug/L		61	10 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-24475-1 MS
Matrix: Water
Analysis Batch: 636385

Client Sample ID: LC34-IW0165-110.0-20230804
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	0.50	U	50.0	42.2		ug/L		84	48 - 150
Carbon tetrachloride	0.19	U	50.0	51.0		ug/L		102	55 - 145
Chlorobenzene	0.90	U	50.0	47.6		ug/L		95	64 - 130
Chloroethane	0.76	U	50.0	32.3		ug/L		65	50 - 150
Chloroform	0.90	U	50.0	54.9		ug/L		110	60 - 141
Chloromethane	0.90	U	50.0	37.3		ug/L		75	49 - 148
cis-1,2-Dichloroethene	0.20	U	50.0	51.9		ug/L		104	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	49.1		ug/L		98	57 - 140
Cyclohexane	0.50	U	50.0	43.6		ug/L		87	58 - 141
Dibromochloromethane	0.24	U	50.0	58.3		ug/L		117	56 - 143
Dichlorodifluoromethane	0.85	U	50.0	42.9		ug/L		86	16 - 150
Ethylbenzene	0.50	U	50.0	45.3		ug/L		91	58 - 131
Isopropylbenzene	0.53	U	50.0	43.2		ug/L		86	56 - 133
m,p-Xylenes	0.63	U	50.0	43.9		ug/L		88	57 - 130
Methyl acetate	0.61	U	100	110		ug/L		110	21 - 150
Methyl tert-butyl ether	0.22	U	50.0	55.3		ug/L		111	59 - 137
Methylene Chloride	3.0	U	50.0	52.6		ug/L		105	60 - 146
o-Xylene	0.60	U	50.0	46.2		ug/L		92	61 - 130
Styrene	1.0	U	50.0	46.2		ug/L		92	58 - 131
Tetrachloroethene	0.90	U	50.0	33.9		ug/L		68	52 - 133
Toluene	0.90	U	50.0	45.1		ug/L		90	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	47.7		ug/L		95	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	56.0		ug/L		112	53 - 133
Trichloroethene	0.15	U	50.0	47.2		ug/L		94	64 - 136
Trichlorofluoromethane	0.52	U	50.0	52.1		ug/L		104	54 - 150
Vinyl chloride	0.50	U	50.0	44.2		ug/L		88	46 - 150
Xylenes, Total	1.6	U	100	90.1		ug/L		90	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*128*		*67 - 134*
Toluene-d8 (Surr)	*100*		*64 - 132*
4-Bromofluorobenzene	*101*		*72 - 130*
Dibromofluoromethane	*111*		*75 - 126*

Lab Sample ID: 670-24475-1 MSD
Matrix: Water
Analysis Batch: 636385

Client Sample ID: LC34-IW0165-110.0-20230804
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	47.8		ug/L		96	57 - 142	4	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	56.9		ug/L		114	66 - 135	11	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	41.9		ug/L		84	55 - 150	4	30
1,1,2-Trichloroethane	0.21	U	50.0	54.4		ug/L		109	66 - 131	8	30
1,1-Dichloroethane	0.50	U	50.0	48.3		ug/L		97	61 - 144	7	30
1,1-Dichloroethene	0.50	U	50.0	44.2		ug/L		88	54 - 147	5	30
1,2,4-Trichlorobenzene	0.82	U	50.0	49.7		ug/L		99	39 - 148	13	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	45.7		ug/L		91	45 - 135	13	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	53.9		ug/L		108	64 - 132	6	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-24475-1 MSD
Matrix: Water
Analysis Batch: 636385

Client Sample ID: LC34-IW0165-110.0-20230804
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichlorobenzene	0.50	U	50.0	52.3		ug/L		105	52 - 137	7	30
1,2-Dichloroethane	0.19	U	50.0	58.5		ug/L		117	60 - 141	8	30
1,2-Dichloropropane	0.50	U	50.0	51.7		ug/L		103	66 - 137	5	30
1,3-Dichlorobenzene	0.54	U	50.0	51.0		ug/L		102	54 - 135	13	30
1,4-Dichlorobenzene	0.64	U	50.0	51.3		ug/L		103	53 - 135	12	30
2-Butanone (MEK)	2.6	U	200	184		ug/L		92	55 - 150	10	30
2-Hexanone	1.4	U	200	211		ug/L		106	65 - 140	14	30
4-Methyl-2-pentanone	1.8	U	200	224		ug/L		112	63 - 146	11	30
Acetone	10	U	200	183		ug/L		92	43 - 150	10	30
Benzene	0.50	U	50.0	47.7		ug/L		95	56 - 142	4	30
Bromodichloromethane	0.50	U	50.0	52.8		ug/L		106	59 - 143	5	30
Bromoform	0.25	U	50.0	50.3		ug/L		101	50 - 140	10	30
Bromomethane	0.98	U	50.0	22.1		ug/L		44	10 - 150	32	50
Carbon disulfide	0.50	U	50.0	40.5		ug/L		81	48 - 150	4	30
Carbon tetrachloride	0.19	U	50.0	48.9		ug/L		98	55 - 145	4	30
Chlorobenzene	0.90	U	50.0	49.9		ug/L		100	64 - 130	5	30
Chloroethane	0.76	U	50.0	35.0		ug/L		70	50 - 150	8	30
Chloroform	0.90	U	50.0	51.5		ug/L		103	60 - 141	6	30
Chloromethane	0.90	U	50.0	32.6		ug/L		65	49 - 148	14	31
cis-1,2-Dichloroethene	0.20	U	50.0	48.6		ug/L		97	59 - 143	7	30
cis-1,3-Dichloropropene	0.50	U	50.0	47.2		ug/L		94	57 - 140	4	30
Cyclohexane	0.50	U	50.0	43.1		ug/L		86	58 - 141	1	30
Dibromochloromethane	0.24	U	50.0	54.4		ug/L		109	56 - 143	7	30
Dichlorodifluoromethane	0.85	U	50.0	40.0		ug/L		80	16 - 150	7	31
Ethylbenzene	0.50	U	50.0	50.1		ug/L		100	58 - 131	10	30
Isopropylbenzene	0.53	U	50.0	51.7		ug/L		103	56 - 133	18	30
m,p-Xylenes	0.63	U	50.0	49.4		ug/L		99	57 - 130	12	30
Methyl acetate	0.61	U	100	96.8		ug/L		97	21 - 150	13	30
Methyl tert-butyl ether	0.22	U	50.0	51.4		ug/L		103	59 - 137	7	30
Methylene Chloride	3.0	U	50.0	52.1		ug/L		104	60 - 146	1	32
o-Xylene	0.60	U	50.0	50.1		ug/L		100	61 - 130	8	30
Styrene	1.0	U	50.0	50.1		ug/L		100	58 - 131	8	30
Tetrachloroethene	0.90	U	50.0	36.6		ug/L		73	52 - 133	8	30
Toluene	0.90	U	50.0	45.8		ug/L		92	65 - 130	2	30
trans-1,2-Dichloroethene	0.50	U	50.0	45.0		ug/L		90	61 - 143	6	30
trans-1,3-Dichloropropene	0.20	U	50.0	52.7		ug/L		105	53 - 133	6	30
Trichloroethene	0.15	U	50.0	46.2		ug/L		92	64 - 136	2	30
Trichlorofluoromethane	0.52	U	50.0	49.0		ug/L		98	54 - 150	6	30
Vinyl chloride	0.50	U	50.0	44.2		ug/L		88	46 - 150	0	30
Xylenes, Total	1.6	U	100	99.5		ug/L		100	59 - 130	10	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*127*		*67 - 134*
Toluene-d8 (Surr)	*99*		*64 - 132*
4-Bromofluorobenzene	*102*		*72 - 130*
Dibromofluoromethane	*112*		*75 - 126*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24475-1

GC/MS VOA

Analysis Batch: 636212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-24475-2	LC34-IW0044D2-110.0-20230804	Total/NA	Water	8260D	
670-24475-3	LC34-IW0162-110.0-20230804	Total/NA	Water	8260D	
MB 400-636212/4	Method Blank	Total/NA	Water	8260D	
LCS 400-636212/1002	Lab Control Sample	Total/NA	Water	8260D	
400-241118-D-3 MS	Matrix Spike	Total/NA	Water	8260D	
400-241118-D-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 636385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-24475-1	LC34-IW0165-110.0-20230804	Total/NA	Water	8260D	
670-24475-2 - RA	LC34-IW0044D2-110.0-20230804	Total/NA	Water	8260D	
MB 400-636385/26	Method Blank	Total/NA	Water	8260D	
LCS 400-636385/1002	Lab Control Sample	Total/NA	Water	8260D	
670-24475-1 MS	LC34-IW0165-110.0-20230804	Total/NA	Water	8260D	
670-24475-1 MSD	LC34-IW0165-110.0-20230804	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24475-1

Client Sample ID: LC34-IW0165-110.0-20230804

Lab Sample ID: 670-24475-1

Date Collected: 08/04/23 09:50
Matrix: Water
Date Received: 08/04/23 15:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636385	CH	EET PEN	08/09/23 13:33

Client Sample ID: LC34-IW0044D2-110.0-20230804

Lab Sample ID: 670-24475-2

Date Collected: 08/04/23 10:25
Matrix: Water
Date Received: 08/04/23 15:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	10	636385	CH	EET PEN	08/09/23 13:56
Total/NA	Analysis	8260D		10	636212	BPO	EET PEN	08/08/23 13:20

Client Sample ID: LC34-IW0162-110.0-20230804

Lab Sample ID: 670-24475-3

Date Collected: 08/04/23 11:00
Matrix: Water
Date Received: 08/04/23 15:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	636212	BPO	EET PEN	08/08/23 16:06

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-24475-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E81010	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-24475-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-24475-1
Project/Site: NASA KSC LC34

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-24475-1	LC34-IW0165-110.0-20230804	Water	08/04/23 09:50	08/04/23 15:50
670-24475-2	LC34-IW0044D2-110.0-20230804	Water	08/04/23 10:25	08/04/23 15:50
670-24475-3	LC34-IW0162-110.0-20230804	Water	08/04/23 11:00	08/04/23 15:50

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3654 | PAGE 1 OF 1

PROJECT NO: 112G06985	FACILITY: KSC-LC34	PROJECT MANAGER: Mark Sonner	PHONE NUMBER: (412) 921-8622	LABORATORY NAME AND CONTACT: Eurofins — Kaitlin Dylnicki
SAMPLERS (SIGNATURE): - Chuck Sorden		FIELD OPERATIONS LEADER: Chuck Sorden	PHONE NUMBER: (321) 591-7580	ADDRESS: 481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER		CITY, STATE: Altamonte Springs, FL

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☒ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): G; PRESERVATIVE USED: 4C/4oC; TYPE OF ANALYSIS: 8260D-(MOD) NASA LC34 Custom List	COMMENTS
08/04	0950	LC34-SW0165-110.0-20230804	165	105	115	GW	G	3	X	
1	1025	LC34-SW004402-110.0-20230804	4402	1	1	1	1	1	1	
08/04	1100	LC34-SW0162-110.0-20230804	162	105	115	GW	G	3	X	

670-24475 Chain of Custody

1. RELINQUISHED BY	DATE 8/04/23	TIME 1325	1. RECEIVED BY	DATE 8/4/03	TIME 1325
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE 8/4	TIME 1550
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

2, 8/2, 3 596

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-007

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-13002.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-24475-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 8/9/2023			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-SW0165-110.0-20230804 (670-24475-1)	8/4/23	09:50 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-IW0044D2-110.0-20230804 (670-24475-2)	8/4/23	10:25 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-IW0162-110.0-20230804 (670-24475-3)	8/4/23	11:00 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	al	8-7-23 1[illegible]			8/8/23 855	ETS
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.8°C IR

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-24475-1

Login Number: 24475

List Number: 1

Creator: Wehr, Alex C

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-24475-1

Login Number: 24475
List Number: 2
Creator: Perez, Trina M

List Source: Eurofins Pensacola
List Creation: 08/08/23 11:25 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.8°C IR-10
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 8/25/2023 2:43:25 PM

JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-25336-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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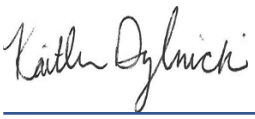

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Authorized for release by
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(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-25336-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-25336-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-25336-1

Receipt
The samples were received on 8/18/2023 4:12 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.5°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 400-638093 recovered outside acceptance criteria, low biased, for Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0044D2-110.0-20230818 (670-25336-2). Elevated reporting limits (RLs) are provided.

Method 8260D: The matrix spike duplicate (MSD) recovery for analytical batch 400-638093 was outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The initial calibration verification (ICV) analyzed in batch 400-633903 was outside method criteria for the following analyte(s): Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-638289 recovered outside acceptance criteria, low biased, for Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-25336-1

Client Sample ID: LC34-IW0165-110.0-20230818 — Lab Sample ID: 670-25336-1

No Detections.

Client Sample ID: LC34-IW0044D2-110.0-20230818 — Lab Sample ID: 670-25336-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	5.3	I	10	5.0	ug/L	10		8260D	Total/NA
cis-1,2-Dichloroethene	2000		10	2.0	ug/L	10		8260D	Total/NA
trans-1,2-Dichloroethene	12		10	5.0	ug/L	10		8260D	Total/NA
Trichloroethene	2400		10	1.5	ug/L	10		8260D	Total/NA
Vinyl chloride	210		10	5.0	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0162-110.0-20230818 — Lab Sample ID: 670-25336-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.6		1.0	0.20	ug/L	1		8260D	Total/NA
Trichloroethene	5.3		1.0	0.15	ug/L	1		8260D	Total/NA
Vinyl chloride	2.3		1.0	0.50	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-25336-1

Client Sample ID: LC34-IW0165-110.0-20230818
Date Collected: 08/18/23 09:35
Date Received: 08/18/23 16:12

Lab Sample ID: 670-25336-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			08/24/23 16:10	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			08/24/23 16:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			08/24/23 16:10	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			08/24/23 16:10	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			08/24/23 16:10	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/24/23 16:10	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			08/24/23 16:10	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			08/24/23 16:10	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			08/24/23 16:10	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			08/24/23 16:10	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			08/24/23 16:10	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			08/24/23 16:10	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			08/24/23 16:10	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			08/24/23 16:10	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			08/24/23 16:10	1
2-Hexanone	1.4	U	25	1.4	ug/L			08/24/23 16:10	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			08/24/23 16:10	1
Acetone	10	U	25	10	ug/L			08/24/23 16:10	1
Benzene	0.50	U	1.0	0.50	ug/L			08/24/23 16:10	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			08/24/23 16:10	1
Bromoform	0.25	U	5.0	0.25	ug/L			08/24/23 16:10	1
Bromomethane	0.98	U	1.0	0.98	ug/L			08/24/23 16:10	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			08/24/23 16:10	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			08/24/23 16:10	1
Chlorobenzene	0.90	U	1.0	0.90	ug/L			08/24/23 16:10	1
Chloroethane	0.76	U	1.0	0.76	ug/L			08/24/23 16:10	1
Chloroform	0.90	U	1.0	0.90	ug/L			08/24/23 16:10	1
Chloromethane	0.90	U	1.0	0.90	ug/L			08/24/23 16:10	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			08/24/23 16:10	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			08/24/23 16:10	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			08/24/23 16:10	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			08/24/23 16:10	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			08/24/23 16:10	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			08/24/23 16:10	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			08/24/23 16:10	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			08/24/23 16:10	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			08/24/23 16:10	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			08/24/23 16:10	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			08/24/23 16:10	1
o-Xylene	0.60	U	5.0	0.60	ug/L			08/24/23 16:10	1
Styrene	1.0	U	1.0	1.0	ug/L			08/24/23 16:10	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			08/24/23 16:10	1
Toluene	0.90	U	1.0	0.90	ug/L			08/24/23 16:10	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/24/23 16:10	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			08/24/23 16:10	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			08/24/23 16:10	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			08/24/23 16:10	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			08/24/23 16:10	1
Xylenes, Total	1.6	U	10	1.6	ug/L			08/24/23 16:10	1

Client Sample ID: LC34-IW0165-110.0-20230818

Lab Sample ID: 670-25336-1

Date Collected: 08/18/23 09:35

Matrix: Water

Date Received: 08/18/23 16:12

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		67 - 134		08/24/23 16:10	1
Toluene-d8 (Surr)	99		64 - 132		08/24/23 16:10	1
4-Bromofluorobenzene	106		72 - 130		08/24/23 16:10	1
Dibromofluoromethane	99		75 - 126		08/24/23 16:10	1

Client Sample ID: LC34-IW0044D2-110.0-20230818

Lab Sample ID: 670-25336-2

Date Collected: 08/18/23 10:10

Matrix: Water

Date Received: 08/18/23 16:12

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.8	U	10	1.8	ug/L			08/23/23 15:15	10
1,1,2,2-Tetrachloroethane	5.0	U	10	5.0	ug/L			08/23/23 15:15	10
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	10	5.0	ug/L			08/23/23 15:15	10
1,1,2-Trichloroethane	2.1	U	50	2.1	ug/L			08/23/23 15:15	10
1,1-Dichloroethane	5.0	U	10	5.0	ug/L			08/23/23 15:15	10
1,1-Dichloroethene	**5.3**	**I**	10	5.0	ug/L			08/23/23 15:15	10
1,2,4-Trichlorobenzene	8.2	U	10	8.2	ug/L			08/23/23 15:15	10
1,2-Dibromo-3-Chloropropane	15	U	50	15	ug/L			08/23/23 15:15	10
1,2-Dibromoethane (EDB)	2.3	U	10	2.3	ug/L			08/23/23 15:15	10
1,2-Dichlorobenzene	5.0	U	10	5.0	ug/L			08/23/23 15:15	10
1,2-Dichloroethane	1.9	U	10	1.9	ug/L			08/23/23 15:15	10
1,2-Dichloropropane	5.0	U	10	5.0	ug/L			08/23/23 15:15	10
1,3-Dichlorobenzene	5.4	U	10	5.4	ug/L			08/23/23 15:15	10
1,4-Dichlorobenzene	6.4	U	10	6.4	ug/L			08/23/23 15:15	10
2-Butanone (MEK)	26	U	250	26	ug/L			08/23/23 15:15	10
2-Hexanone	14	U	250	14	ug/L			08/23/23 15:15	10
4-Methyl-2-pentanone	18	U	250	18	ug/L			08/23/23 15:15	10
Acetone	100	U	250	100	ug/L			08/23/23 15:15	10
Benzene	5.0	U	10	5.0	ug/L			08/23/23 15:15	10
Bromodichloromethane	5.0	U	10	5.0	ug/L			08/23/23 15:15	10
Bromoform	2.5	U	50	2.5	ug/L			08/23/23 15:15	10
Bromomethane	9.8	U	10	9.8	ug/L			08/23/23 15:15	10
Carbon disulfide	5.0	U	10	5.0	ug/L			08/23/23 15:15	10
Carbon tetrachloride	1.9	U	10	1.9	ug/L			08/23/23 15:15	10
Chlorobenzene	9.0	U	10	9.0	ug/L			08/23/23 15:15	10
Chloroethane	7.6	U	10	7.6	ug/L			08/23/23 15:15	10
Chloroform	9.0	U	10	9.0	ug/L			08/23/23 15:15	10
Chloromethane	9.0	U	10	9.0	ug/L			08/23/23 15:15	10
cis-1,2-Dichloroethene	**2000**		10	2.0	ug/L			08/23/23 15:15	10
cis-1,3-Dichloropropene	5.0	U	50	5.0	ug/L			08/23/23 15:15	10
Cyclohexane	5.0	U	10	5.0	ug/L			08/23/23 15:15	10
Dibromochloromethane	2.4	U	10	2.4	ug/L			08/23/23 15:15	10
Dichlorodifluoromethane	8.5	U	10	8.5	ug/L			08/23/23 15:15	10
Ethylbenzene	5.0	U	10	5.0	ug/L			08/23/23 15:15	10
Isopropylbenzene	5.3	U	10	5.3	ug/L			08/23/23 15:15	10
m,p-Xylenes	6.3	U	50	6.3	ug/L			08/23/23 15:15	10
Methyl acetate	6.1	U	50	6.1	ug/L			08/23/23 15:15	10
Methyl tert-butyl ether	2.2	U	10	2.2	ug/L			08/23/23 15:15	10
Methylene Chloride	30	U	50	30	ug/L			08/23/23 15:15	10

Client Sample ID: LC34-IW0044D2-110.0-20230818

Lab Sample ID: 670-25336-2

Date Collected: 08/18/23 10:10

Matrix: Water

Date Received: 08/18/23 16:12

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	6.0	U	50	6.0	ug/L			08/23/23 15:15	10
Styrene	10	U	10	10	ug/L			08/23/23 15:15	10
Tetrachloroethene	9.0	U	10	9.0	ug/L			08/23/23 15:15	10
Toluene	9.0	U	10	9.0	ug/L			08/23/23 15:15	10
trans-1,2-Dichloroethene	**12**		10	5.0	ug/L			08/23/23 15:15	10
trans-1,3-Dichloropropene	2.0	U	50	2.0	ug/L			08/23/23 15:15	10
Trichloroethene	**2400**		10	1.5	ug/L			08/23/23 15:15	10
Trichlorofluoromethane	5.2	U	10	5.2	ug/L			08/23/23 15:15	10
Vinyl chloride	**210**		10	5.0	ug/L			08/23/23 15:15	10
Xylenes, Total	16	U	100	16	ug/L			08/23/23 15:15	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*08/23/23 15:15*	*10*
Toluene-d8 (Surr)	*98*		*64 - 132*		*08/23/23 15:15*	*10*
4-Bromofluorobenzene	*108*		*72 - 130*		*08/23/23 15:15*	*10*
Dibromofluoromethane	*96*		*75 - 126*		*08/23/23 15:15*	*10*

Client Sample ID: LC34-IW0162-110.0-20230818

Lab Sample ID: 670-25336-3

Date Collected: 08/18/23 10:45

Matrix: Water

Date Received: 08/18/23 16:12

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			08/23/23 14:51	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			08/23/23 14:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			08/23/23 14:51	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			08/23/23 14:51	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			08/23/23 14:51	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/23/23 14:51	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			08/23/23 14:51	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			08/23/23 14:51	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			08/23/23 14:51	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			08/23/23 14:51	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			08/23/23 14:51	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			08/23/23 14:51	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			08/23/23 14:51	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			08/23/23 14:51	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			08/23/23 14:51	1
2-Hexanone	1.4	U	25	1.4	ug/L			08/23/23 14:51	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			08/23/23 14:51	1
Acetone	10	U	25	10	ug/L			08/23/23 14:51	1
Benzene	0.50	U	1.0	0.50	ug/L			08/23/23 14:51	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			08/23/23 14:51	1
Bromoform	0.25	U	5.0	0.25	ug/L			08/23/23 14:51	1
Bromomethane	0.98	U	1.0	0.98	ug/L			08/23/23 14:51	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			08/23/23 14:51	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			08/23/23 14:51	1
Chlorobenzene	0.90	U	1.0	0.90	ug/L			08/23/23 14:51	1
Chloroethane	0.76	U	1.0	0.76	ug/L			08/23/23 14:51	1
Chloroform	0.90	U	1.0	0.90	ug/L			08/23/23 14:51	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-25336-1

Client Sample ID: LC34-IW0162-110.0-20230818
Date Collected: 08/18/23 10:45
Date Received: 08/18/23 16:12

Lab Sample ID: 670-25336-3
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	0.90	U	1.0	0.90	ug/L			08/23/23 14:51	1
cis-1,2-Dichloroethene	**3.6**		1.0	0.20	ug/L			08/23/23 14:51	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			08/23/23 14:51	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			08/23/23 14:51	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			08/23/23 14:51	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			08/23/23 14:51	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			08/23/23 14:51	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			08/23/23 14:51	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			08/23/23 14:51	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			08/23/23 14:51	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			08/23/23 14:51	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			08/23/23 14:51	1
o-Xylene	0.60	U	5.0	0.60	ug/L			08/23/23 14:51	1
Styrene	1.0	U	1.0	1.0	ug/L			08/23/23 14:51	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			08/23/23 14:51	1
Toluene	0.90	U	1.0	0.90	ug/L			08/23/23 14:51	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/23/23 14:51	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			08/23/23 14:51	1
Trichloroethene	**5.3**		1.0	0.15	ug/L			08/23/23 14:51	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			08/23/23 14:51	1
Vinyl chloride	**2.3**		1.0	0.50	ug/L			08/23/23 14:51	1
Xylenes, Total	1.6	U	10	1.6	ug/L			08/23/23 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*67 - 134*		*08/23/23 14:51*	*1*
Toluene-d8 (Surr)	*98*		*64 - 132*		*08/23/23 14:51*	*1*
4-Bromofluorobenzene	*107*		*72 - 130*		*08/23/23 14:51*	*1*
Dibromofluoromethane	*97*		*75 - 126*		*08/23/23 14:51*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-25336-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(67-134)	(64-132)	(72-130)	(75-126)
400-242033-A-2 MS	Matrix Spike	104	97	105	97
400-242033-A-2 MSD	Matrix Spike Duplicate	101	100	107	96
400-242145-A-4 MS	Matrix Spike	104	99	104	97
400-242145-A-4 MSD	Matrix Spike Duplicate	99	99	106	97
670-25336-1	LC34-IW0165-110.0-20230818	110	99	106	99
670-25336-2	LC34-IW0044D2-110.0-20230818	103	98	108	96
670-25336-3	LC34-IW0162-110.0-20230818	106	98	107	97
LCS 400-638093/1002	Lab Control Sample	101	98	103	98
LCS 400-638289/1002	Lab Control Sample	101	99	106	96
MB 400-638093/5	Method Blank	103	98	107	95
MB 400-638289/4	Method Blank	107	98	107	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 400-638093/5
Matrix: Water
Analysis Batch: 638093

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			08/23/23 11:08	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			08/23/23 11:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			08/23/23 11:08	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			08/23/23 11:08	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			08/23/23 11:08	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/23/23 11:08	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			08/23/23 11:08	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			08/23/23 11:08	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			08/23/23 11:08	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			08/23/23 11:08	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			08/23/23 11:08	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			08/23/23 11:08	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			08/23/23 11:08	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			08/23/23 11:08	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			08/23/23 11:08	1
2-Hexanone	1.4	U	25	1.4	ug/L			08/23/23 11:08	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			08/23/23 11:08	1
Acetone	10	U	25	10	ug/L			08/23/23 11:08	1
Benzene	0.50	U	1.0	0.50	ug/L			08/23/23 11:08	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			08/23/23 11:08	1
Bromoform	0.25	U	5.0	0.25	ug/L			08/23/23 11:08	1
Bromomethane	0.98	U	1.0	0.98	ug/L			08/23/23 11:08	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			08/23/23 11:08	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			08/23/23 11:08	1
Chlorobenzene	0.90	U	1.0	0.90	ug/L			08/23/23 11:08	1
Chloroethane	0.76	U	1.0	0.76	ug/L			08/23/23 11:08	1
Chloroform	0.90	U	1.0	0.90	ug/L			08/23/23 11:08	1
Chloromethane	0.90	U	1.0	0.90	ug/L			08/23/23 11:08	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			08/23/23 11:08	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			08/23/23 11:08	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			08/23/23 11:08	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			08/23/23 11:08	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			08/23/23 11:08	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			08/23/23 11:08	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			08/23/23 11:08	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			08/23/23 11:08	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			08/23/23 11:08	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			08/23/23 11:08	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			08/23/23 11:08	1
o-Xylene	0.60	U	5.0	0.60	ug/L			08/23/23 11:08	1
Styrene	1.0	U	1.0	1.0	ug/L			08/23/23 11:08	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			08/23/23 11:08	1
Toluene	0.90	U	1.0	0.90	ug/L			08/23/23 11:08	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/23/23 11:08	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			08/23/23 11:08	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			08/23/23 11:08	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			08/23/23 11:08	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			08/23/23 11:08	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-638093/5
Matrix: Water
Analysis Batch: 638093

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.6	U	10	1.6	ug/L			08/23/23 11:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*08/23/23 11:08*	*1*
Toluene-d8 (Surr)	*98*		*64 - 132*		*08/23/23 11:08*	*1*
4-Bromofluorobenzene	*107*		*72 - 130*		*08/23/23 11:08*	*1*
Dibromofluoromethane	*95*		*75 - 126*		*08/23/23 11:08*	*1*

Lab Sample ID: LCS 400-638093/1002
Matrix: Water
Analysis Batch: 638093

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	48.2		ug/L		96	68 - 130
1,1,2,2-Tetrachloroethane	50.0	46.9		ug/L		94	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	45.2		ug/L		90	60 - 139
1,1,2-Trichloroethane	50.0	48.8		ug/L		98	70 - 130
1,1-Dichloroethane	50.0	51.2		ug/L		102	70 - 130
1,1-Dichloroethene	50.0	45.7		ug/L		91	63 - 134
1,2,4-Trichlorobenzene	50.0	53.4		ug/L		107	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	48.6		ug/L		97	54 - 135
1,2-Dibromoethane (EDB)	50.0	46.9		ug/L		94	70 - 130
1,2-Dichlorobenzene	50.0	49.8		ug/L		100	67 - 130
1,2-Dichloroethane	50.0	50.2		ug/L		100	69 - 130
1,2-Dichloropropane	50.0	51.3		ug/L		103	70 - 130
1,3-Dichlorobenzene	50.0	49.7		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	50.6		ug/L		101	70 - 130
2-Butanone (MEK)	200	236		ug/L		118	61 - 145
2-Hexanone	200	244		ug/L		122	65 - 137
4-Methyl-2-pentanone	200	213		ug/L		107	69 - 138
Acetone	200	260		ug/L		130	43 - 160
Benzene	50.0	48.6		ug/L		97	70 - 130
Bromodichloromethane	50.0	50.5		ug/L		101	67 - 133
Bromoform	50.0	50.4		ug/L		101	57 - 140
Bromomethane	25.0	22.1		ug/L		89	10 - 160
Carbon disulfide	50.0	48.2		ug/L		96	61 - 137
Carbon tetrachloride	50.0	49.5		ug/L		99	61 - 137
Chlorobenzene	50.0	47.4		ug/L		95	70 - 130
Chloroethane	25.0	23.7		ug/L		95	55 - 141
Chloroform	50.0	48.8		ug/L		98	69 - 130
Chloromethane	25.0	22.7		ug/L		91	58 - 137
cis-1,2-Dichloroethene	50.0	51.3		ug/L		103	68 - 130
cis-1,3-Dichloropropene	50.0	50.9		ug/L		102	69 - 132
Cyclohexane	50.0	48.4		ug/L		97	70 - 130
Dibromochloromethane	50.0	49.0		ug/L		98	67 - 135
Dichlorodifluoromethane	25.0	15.5		ug/L		62	41 - 146
Ethylbenzene	50.0	49.5		ug/L		99	70 - 130
Isopropylbenzene	50.0	48.4		ug/L		97	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-638093/1002
Matrix: Water
Analysis Batch: 638093

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	49.2		ug/L		98	70 - 130
Methyl acetate	100	96.8		ug/L		97	45 - 159
Methyl tert-butyl ether	50.0	48.2		ug/L		96	66 - 130
Methylene Chloride	50.0	45.6		ug/L		91	66 - 135
o-Xylene	50.0	49.2		ug/L		98	70 - 130
Styrene	50.0	47.2		ug/L		94	70 - 130
Tetrachloroethene	50.0	46.8		ug/L		94	65 - 130
Toluene	50.0	47.8		ug/L		96	70 - 130
trans-1,2-Dichloroethene	50.0	47.9		ug/L		96	70 - 130
trans-1,3-Dichloropropene	50.0	49.2		ug/L		98	63 - 130
Trichloroethene	50.0	46.2		ug/L		92	70 - 130
Trichlorofluoromethane	25.0	24.3		ug/L		97	65 - 138
Vinyl chloride	25.0	22.2		ug/L		89	59 - 136
Xylenes, Total	100	98.4		ug/L		98	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*
Toluene-d8 (Surr)	*98*		*64 - 132*
4-Bromofluorobenzene	*103*		*72 - 130*
Dibromofluoromethane	*98*		*75 - 126*

Lab Sample ID: 400-242033-A-2 MS
Matrix: Water
Analysis Batch: 638093

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	48.4		ug/L		97	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	49.7		ug/L		99	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	45.3		ug/L		91	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	48.9		ug/L		98	66 - 131
1,1-Dichloroethane	0.50	U	50.0	51.4		ug/L		103	61 - 144
1,1-Dichloroethene	0.50	U	50.0	49.6		ug/L		99	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	37.0		ug/L		74	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	47.1		ug/L		94	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	46.0		ug/L		92	64 - 132
1,2-Dichlorobenzene	0.50	U	50.0	38.6		ug/L		77	52 - 137
1,2-Dichloroethane	0.19	U	50.0	51.2		ug/L		102	60 - 141
1,2-Dichloropropane	0.50	U	50.0	52.1		ug/L		104	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	38.2		ug/L		76	54 - 135
1,4-Dichlorobenzene	0.64	U	50.0	38.6		ug/L		77	53 - 135
2-Butanone (MEK)	2.6	U	200	154		ug/L		77	55 - 150
2-Hexanone	1.4	U	200	172		ug/L		86	65 - 140
4-Methyl-2-pentanone	1.8	U	200	222		ug/L		111	63 - 146
Acetone	290		200	409		ug/L		62	43 - 150
Benzene	2.1		50.0	50.2		ug/L		96	56 - 142
Bromodichloromethane	0.50	U	50.0	51.1		ug/L		102	59 - 143
Bromoform	0.47	I	50.0	51.6		ug/L		102	50 - 140
Bromomethane	0.98	U	25.0	24.6		ug/L		98	10 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-242033-A-2 MS
Matrix: Water
Analysis Batch: 638093

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	0.50	U	50.0	48.4		ug/L		97	48 - 150
Carbon tetrachloride	0.19	U	50.0	48.6		ug/L		97	55 - 145
Chlorobenzene	0.90	U	50.0	41.5		ug/L		83	64 - 130
Chloroethane	0.76	U J3	25.0	37.0		ug/L		148	50 - 150
Chloroform	5.7		50.0	54.5		ug/L		98	60 - 141
Chloromethane	0.90	U	25.0	25.5		ug/L		102	49 - 148
cis-1,2-Dichloroethene	2.9		50.0	54.8		ug/L		104	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	49.1		ug/L		98	57 - 140
Cyclohexane	0.50	U	50.0	49.0		ug/L		98	58 - 141
Dibromochloromethane	0.24	U	50.0	46.8		ug/L		94	56 - 143
Dichlorodifluoromethane	0.85	U	25.0	15.8		ug/L		63	16 - 150
Ethylbenzene	2.0		50.0	45.0		ug/L		86	58 - 131
Isopropylbenzene	1.5		50.0	41.0		ug/L		79	56 - 133
m,p-Xylenes	1.0	I	50.0	42.1		ug/L		82	57 - 130
Methyl acetate	0.61	U	100	109		ug/L		109	21 - 150
Methyl tert-butyl ether	0.22	U	50.0	49.7		ug/L		99	59 - 137
Methylene Chloride	3.0	U	50.0	46.5		ug/L		93	60 - 146
o-Xylene	0.61	I	50.0	42.7		ug/L		84	61 - 130
Styrene	5.4		50.0	45.0		ug/L		79	58 - 131
Tetrachloroethene	0.90	U	50.0	40.8		ug/L		82	52 - 133
Toluene	0.90	U	50.0	44.3		ug/L		89	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	45.6		ug/L		91	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	46.7		ug/L		93	53 - 133
Trichloroethene	0.15	U	50.0	46.0		ug/L		92	64 - 136
Trichlorofluoromethane	0.52	U	25.0	23.7		ug/L		95	54 - 150
Vinyl chloride	0.50	U	25.0	22.2		ug/L		89	46 - 150
Xylenes, Total	1.6	I	100	84.8		ug/L		83	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*67 - 134*
Toluene-d8 (Surr)	*97*		*64 - 132*
4-Bromofluorobenzene	*105*		*72 - 130*
Dibromofluoromethane	*97*		*75 - 126*

Lab Sample ID: 400-242033-A-2 MSD
Matrix: Water
Analysis Batch: 638093

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	51.1		ug/L		102	57 - 142	5	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	48.2		ug/L		96	66 - 135	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	50.0		ug/L		100	55 - 150	10	30
1,1,2-Trichloroethane	0.21	U	50.0	50.5		ug/L		101	66 - 131	3	30
1,1-Dichloroethane	0.50	U	50.0	54.5		ug/L		109	61 - 144	6	30
1,1-Dichloroethene	0.50	U	50.0	51.5		ug/L		103	54 - 147	4	30
1,2,4-Trichlorobenzene	0.82	U	50.0	35.6		ug/L		71	39 - 148	4	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	47.3		ug/L		95	45 - 135	0	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	47.5		ug/L		95	64 - 132	3	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-242033-A-2 MSD
Matrix: Water
Analysis Batch: 638093

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichlorobenzene	0.50	U	50.0	39.6		ug/L		79	52 - 137	3	30
1,2-Dichloroethane	0.19	U	50.0	51.7		ug/L		103	60 - 141	1	30
1,2-Dichloropropane	0.50	U	50.0	54.5		ug/L		109	66 - 137	4	30
1,3-Dichlorobenzene	0.54	U	50.0	39.5		ug/L		79	54 - 135	3	30
1,4-Dichlorobenzene	0.64	U	50.0	38.7		ug/L		77	53 - 135	0	30
2-Butanone (MEK)	2.6	U	200	145		ug/L		73	55 - 150	6	30
2-Hexanone	1.4	U	200	167		ug/L		84	65 - 140	3	30
4-Methyl-2-pentanone	1.8	U	200	213		ug/L		107	63 - 146	4	30
Acetone	290		200	395		ug/L		55	43 - 150	3	30
Benzene	2.1		50.0	53.3		ug/L		102	56 - 142	6	30
Bromodichloromethane	0.50	U	50.0	54.1		ug/L		108	59 - 143	6	30
Bromoform	0.47	I	50.0	51.7		ug/L		103	50 - 140	0	30
Bromomethane	0.98	U	25.0	34.9		ug/L		140	10 - 150	35	50
Carbon disulfide	0.50	U	50.0	51.6		ug/L		103	48 - 150	6	30
Carbon tetrachloride	0.19	U	50.0	51.4		ug/L		103	55 - 145	6	30
Chlorobenzene	0.90	U	50.0	44.4		ug/L		89	64 - 130	7	30
Chloroethane	0.76	U J3	25.0	40.4	J3	ug/L		161	50 - 150	9	30
Chloroform	5.7		50.0	57.1		ug/L		103	60 - 141	5	30
Chloromethane	0.90	U	25.0	27.2		ug/L		109	49 - 148	7	31
cis-1,2-Dichloroethene	2.9		50.0	57.6		ug/L		109	59 - 143	5	30
cis-1,3-Dichloropropene	0.50	U	50.0	50.1		ug/L		100	57 - 140	2	30
Cyclohexane	0.50	U	50.0	51.4		ug/L		103	58 - 141	5	30
Dibromochloromethane	0.24	U	50.0	49.1		ug/L		98	56 - 143	5	30
Dichlorodifluoromethane	0.85	U	25.0	18.7		ug/L		75	16 - 150	17	31
Ethylbenzene	2.0		50.0	48.7		ug/L		93	58 - 131	8	30
Isopropylbenzene	1.5		50.0	44.2		ug/L		85	56 - 133	8	30
m,p-Xylenes	1.0	I	50.0	45.5		ug/L		89	57 - 130	8	30
Methyl acetate	0.61	U	100	106		ug/L		106	21 - 150	2	30
Methyl tert-butyl ether	0.22	U	50.0	50.4		ug/L		101	59 - 137	1	30
Methylene Chloride	3.0	U	50.0	48.8		ug/L		98	60 - 146	5	32
o-Xylene	0.61	I	50.0	45.7		ug/L		90	61 - 130	7	30
Styrene	5.4		50.0	47.9		ug/L		85	58 - 131	6	30
Tetrachloroethene	0.90	U	50.0	45.2		ug/L		90	52 - 133	10	30
Toluene	0.90	U	50.0	48.5		ug/L		97	65 - 130	9	30
trans-1,2-Dichloroethene	0.50	U	50.0	51.5		ug/L		103	61 - 143	12	30
trans-1,3-Dichloropropene	0.20	U	50.0	49.1		ug/L		98	53 - 133	5	30
Trichloroethene	0.15	U	50.0	47.9		ug/L		96	64 - 136	4	30
Trichlorofluoromethane	0.52	U	25.0	28.7		ug/L		115	54 - 150	19	30
Vinyl chloride	0.50	U	25.0	28.2		ug/L		113	46 - 150	24	30
Xylenes, Total	1.6	I	100	91.2		ug/L		90	59 - 130	7	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*
Toluene-d8 (Surr)	*100*		*64 - 132*
4-Bromofluorobenzene	*107*		*72 - 130*
Dibromofluoromethane	*96*		*75 - 126*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-638289/4
Matrix: Water
Analysis Batch: 638289

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			08/24/23 08:04	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			08/24/23 08:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			08/24/23 08:04	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			08/24/23 08:04	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			08/24/23 08:04	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/24/23 08:04	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			08/24/23 08:04	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			08/24/23 08:04	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			08/24/23 08:04	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			08/24/23 08:04	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			08/24/23 08:04	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			08/24/23 08:04	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			08/24/23 08:04	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			08/24/23 08:04	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			08/24/23 08:04	1
2-Hexanone	1.4	U	25	1.4	ug/L			08/24/23 08:04	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			08/24/23 08:04	1
Acetone	10	U	25	10	ug/L			08/24/23 08:04	1
Benzene	0.50	U	1.0	0.50	ug/L			08/24/23 08:04	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			08/24/23 08:04	1
Bromoform	0.25	U	5.0	0.25	ug/L			08/24/23 08:04	1
Bromomethane	0.98	U	1.0	0.98	ug/L			08/24/23 08:04	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			08/24/23 08:04	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			08/24/23 08:04	1
Chlorobenzene	0.90	U	1.0	0.90	ug/L			08/24/23 08:04	1
Chloroethane	0.76	U	1.0	0.76	ug/L			08/24/23 08:04	1
Chloroform	0.90	U	1.0	0.90	ug/L			08/24/23 08:04	1
Chloromethane	0.90	U	1.0	0.90	ug/L			08/24/23 08:04	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			08/24/23 08:04	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			08/24/23 08:04	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			08/24/23 08:04	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			08/24/23 08:04	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			08/24/23 08:04	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			08/24/23 08:04	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			08/24/23 08:04	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			08/24/23 08:04	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			08/24/23 08:04	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			08/24/23 08:04	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			08/24/23 08:04	1
o-Xylene	0.60	U	5.0	0.60	ug/L			08/24/23 08:04	1
Styrene	1.0	U	1.0	1.0	ug/L			08/24/23 08:04	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			08/24/23 08:04	1
Toluene	0.90	U	1.0	0.90	ug/L			08/24/23 08:04	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			08/24/23 08:04	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			08/24/23 08:04	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			08/24/23 08:04	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			08/24/23 08:04	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			08/24/23 08:04	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-638289/4
Matrix: Water
Analysis Batch: 638289

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.6	U	10	1.6	ug/L			08/24/23 08:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 134*		*08/24/23 08:04*	*1*
Toluene-d8 (Surr)	*98*		*64 - 132*		*08/24/23 08:04*	*1*
4-Bromofluorobenzene	*107*		*72 - 130*		*08/24/23 08:04*	*1*
Dibromofluoromethane	*98*		*75 - 126*		*08/24/23 08:04*	*1*

Lab Sample ID: LCS 400-638289/1002
Matrix: Water
Analysis Batch: 638289

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	51.1		ug/L		102	68 - 130
1,1,2,2-Tetrachloroethane	50.0	47.2		ug/L		94	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	47.3		ug/L		95	60 - 139
1,1,2-Trichloroethane	50.0	50.7		ug/L		101	70 - 130
1,1-Dichloroethane	50.0	54.9		ug/L		110	70 - 130
1,1-Dichloroethene	50.0	49.6		ug/L		99	63 - 134
1,2,4-Trichlorobenzene	50.0	54.8		ug/L		110	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	46.0		ug/L		92	54 - 135
1,2-Dibromoethane (EDB)	50.0	46.8		ug/L		94	70 - 130
1,2-Dichlorobenzene	50.0	50.8		ug/L		102	67 - 130
1,2-Dichloroethane	50.0	52.2		ug/L		104	69 - 130
1,2-Dichloropropane	50.0	55.5		ug/L		111	70 - 130
1,3-Dichlorobenzene	50.0	52.0		ug/L		104	70 - 130
1,4-Dichlorobenzene	50.0	51.0		ug/L		102	70 - 130
2-Butanone (MEK)	200	233		ug/L		116	61 - 145
2-Hexanone	200	249		ug/L		125	65 - 137
4-Methyl-2-pentanone	200	214		ug/L		107	69 - 138
Acetone	200	255		ug/L		127	43 - 160
Benzene	50.0	52.1		ug/L		104	70 - 130
Bromodichloromethane	50.0	53.0		ug/L		106	67 - 133
Bromoform	50.0	50.5		ug/L		101	57 - 140
Bromomethane	25.0	25.7		ug/L		103	10 - 160
Carbon disulfide	50.0	52.0		ug/L		104	61 - 137
Carbon tetrachloride	50.0	51.8		ug/L		104	61 - 137
Chlorobenzene	50.0	50.0		ug/L		100	70 - 130
Chloroethane	25.0	29.1		ug/L		117	55 - 141
Chloroform	50.0	51.5		ug/L		103	69 - 130
Chloromethane	25.0	29.6		ug/L		118	58 - 137
cis-1,2-Dichloroethene	50.0	54.5		ug/L		109	68 - 130
cis-1,3-Dichloropropene	50.0	53.8		ug/L		108	69 - 132
Cyclohexane	50.0	52.2		ug/L		104	70 - 130
Dibromochloromethane	50.0	49.8		ug/L		100	67 - 135
Dichlorodifluoromethane	25.0	18.9		ug/L		76	41 - 146
Ethylbenzene	50.0	52.6		ug/L		105	70 - 130
Isopropylbenzene	50.0	50.6		ug/L		101	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-638289/1002
Matrix: Water
Analysis Batch: 638289

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	52.2		ug/L		104	70 - 130
Methyl acetate	100	98.3		ug/L		98	45 - 159
Methyl tert-butyl ether	50.0	50.0		ug/L		100	66 - 130
Methylene Chloride	50.0	49.2		ug/L		98	66 - 135
o-Xylene	50.0	51.6		ug/L		103	70 - 130
Styrene	50.0	49.0		ug/L		98	70 - 130
Tetrachloroethene	50.0	49.3		ug/L		99	65 - 130
Toluene	50.0	50.8		ug/L		102	70 - 130
trans-1,2-Dichloroethene	50.0	52.2		ug/L		104	70 - 130
trans-1,3-Dichloropropene	50.0	51.1		ug/L		102	63 - 130
Trichloroethene	50.0	48.5		ug/L		97	70 - 130
Trichlorofluoromethane	25.0	29.7		ug/L		119	65 - 138
Vinyl chloride	25.0	28.1		ug/L		112	59 - 136
Xylenes, Total	100	104		ug/L		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*
Toluene-d8 (Surr)	*99*		*64 - 132*
4-Bromofluorobenzene	*106*		*72 - 130*
Dibromofluoromethane	*96*		*75 - 126*

Lab Sample ID: 400-242145-A-4 MS
Matrix: Water
Analysis Batch: 638289

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	45.4		ug/L		91	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	42.8		ug/L		86	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	43.0		ug/L		86	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	45.4		ug/L		91	66 - 131
1,1-Dichloroethane	0.50	U	50.0	49.2		ug/L		98	61 - 144
1,1-Dichloroethene	0.50	U	50.0	44.4		ug/L		89	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	36.9		ug/L		74	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	42.4		ug/L		85	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	43.2		ug/L		86	64 - 132
1,2-Dichlorobenzene	0.50	U	50.0	37.0		ug/L		74	52 - 137
1,2-Dichloroethane	0.19	U	50.0	48.6		ug/L		97	60 - 141
1,2-Dichloropropane	0.50	U	50.0	49.1		ug/L		98	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	35.4		ug/L		71	54 - 135
1,4-Dichlorobenzene	0.64	U	50.0	35.5		ug/L		71	53 - 135
2-Butanone (MEK)	2.6	U	200	130		ug/L		65	55 - 150
2-Hexanone	1.4	U	200	150		ug/L		75	65 - 140
4-Methyl-2-pentanone	1.8	U	200	194		ug/L		97	63 - 146
Acetone	10	U	200	92.0		ug/L		46	43 - 150
Benzene	0.50	U	50.0	45.8		ug/L		92	56 - 142
Bromodichloromethane	0.50	U	50.0	47.8		ug/L		96	59 - 143
Bromoform	0.25	U	50.0	44.4		ug/L		89	50 - 140
Bromomethane	0.98	U	25.0	17.5		ug/L		70	10 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-242145-A-4 MS
Matrix: Water
Analysis Batch: 638289

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	0.50	U	50.0	45.8		ug/L		92	48 - 150
Carbon tetrachloride	0.19	U	50.0	45.5		ug/L		91	55 - 145
Chlorobenzene	0.90	U	50.0	39.2		ug/L		78	64 - 130
Chloroethane	0.76	U	25.0	23.5		ug/L		94	50 - 150
Chloroform	0.90	U	50.0	45.8		ug/L		92	60 - 141
Chloromethane	0.90	U	25.0	20.7		ug/L		83	49 - 148
cis-1,2-Dichloroethene	0.20	U	50.0	48.3		ug/L		97	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	46.2		ug/L		92	57 - 140
Cyclohexane	0.50	U	50.0	45.5		ug/L		91	58 - 141
Dibromochloromethane	0.24	U	50.0	44.5		ug/L		89	56 - 143
Dichlorodifluoromethane	0.85	U	25.0	13.6		ug/L		54	16 - 150
Ethylbenzene	0.50	U	50.0	39.3		ug/L		79	58 - 131
Isopropylbenzene	0.53	U	50.0	36.6		ug/L		73	56 - 133
m,p-Xylenes	0.63	U	50.0	38.8		ug/L		78	57 - 130
Methyl acetate	0.61	U	100	98.5		ug/L		98	21 - 150
Methyl tert-butyl ether	0.35	I	50.0	47.2		ug/L		94	59 - 137
Methylene Chloride	3.0	U	50.0	44.6		ug/L		89	60 - 146
o-Xylene	0.60	U	50.0	38.9		ug/L		78	61 - 130
Styrene	1.0	U	50.0	37.3		ug/L		75	58 - 131
Tetrachloroethene	0.90	U	50.0	38.6		ug/L		77	52 - 133
Toluene	0.90	U	50.0	41.0		ug/L		82	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	45.2		ug/L		90	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	44.4		ug/L		89	53 - 133
Trichloroethene	0.15	U	50.0	42.2		ug/L		84	64 - 136
Trichlorofluoromethane	0.52	U	25.0	21.6		ug/L		86	54 - 150
Vinyl chloride	0.50	U	25.0	20.1		ug/L		81	46 - 150
Xylenes, Total	1.6	U	100	77.7		ug/L		78	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*67 - 134*
Toluene-d8 (Surr)	*99*		*64 - 132*
4-Bromofluorobenzene	*104*		*72 - 130*
Dibromofluoromethane	*97*		*75 - 126*

Lab Sample ID: 400-242145-A-4 MSD
Matrix: Water
Analysis Batch: 638289

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	48.8		ug/L		98	57 - 142	7	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	46.9		ug/L		94	66 - 135	9	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	46.9		ug/L		94	55 - 150	8	30
1,1,2-Trichloroethane	0.21	U	50.0	49.4		ug/L		99	66 - 131	8	30
1,1-Dichloroethane	0.50	U	50.0	52.9		ug/L		106	61 - 144	7	30
1,1-Dichloroethene	0.50	U	50.0	48.2		ug/L		96	54 - 147	8	30
1,2,4-Trichlorobenzene	0.82	U	50.0	39.7		ug/L		79	39 - 148	7	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	45.7		ug/L		91	45 - 135	8	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	46.8		ug/L		94	64 - 132	8	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-242145-A-4 MSD
Matrix: Water
Analysis Batch: 638289

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichlorobenzene	0.50	U	50.0	41.0		ug/L		82	52 - 137	10	30
1,2-Dichloroethane	0.19	U	50.0	51.7		ug/L		103	60 - 141	6	30
1,2-Dichloropropane	0.50	U	50.0	53.2		ug/L		106	66 - 137	8	30
1,3-Dichlorobenzene	0.54	U	50.0	40.4		ug/L		81	54 - 135	13	30
1,4-Dichlorobenzene	0.64	U	50.0	40.1		ug/L		80	53 - 135	12	30
2-Butanone (MEK)	2.6	U	200	139		ug/L		69	55 - 150	6	30
2-Hexanone	1.4	U	200	163		ug/L		82	65 - 140	8	30
4-Methyl-2-pentanone	1.8	U	200	207		ug/L		103	63 - 146	6	30
Acetone	10	U	200	101		ug/L		51	43 - 150	10	30
Benzene	0.50	U	50.0	49.7		ug/L		99	56 - 142	8	30
Bromodichloromethane	0.50	U	50.0	49.1		ug/L		98	59 - 143	3	30
Bromoform	0.25	U	50.0	47.9		ug/L		96	50 - 140	8	30
Bromomethane	0.98	U	25.0	16.1		ug/L		64	10 - 150	8	50
Carbon disulfide	0.50	U	50.0	49.4		ug/L		99	48 - 150	8	30
Carbon tetrachloride	0.19	U	50.0	48.7		ug/L		97	55 - 145	7	30
Chlorobenzene	0.90	U	50.0	43.9		ug/L		88	64 - 130	11	30
Chloroethane	0.76	U	25.0	27.2		ug/L		109	50 - 150	15	30
Chloroform	0.90	U	50.0	49.4		ug/L		99	60 - 141	8	30
Chloromethane	0.90	U	25.0	27.1		ug/L		108	49 - 148	27	31
cis-1,2-Dichloroethene	0.20	U	50.0	52.0		ug/L		104	59 - 143	7	30
cis-1,3-Dichloropropene	0.50	U	50.0	50.0		ug/L		100	57 - 140	8	30
Cyclohexane	0.50	U	50.0	50.3		ug/L		101	58 - 141	10	30
Dibromochloromethane	0.24	U	50.0	47.1		ug/L		94	56 - 143	6	30
Dichlorodifluoromethane	0.85	U	25.0	17.2		ug/L		69	16 - 150	23	31
Ethylbenzene	0.50	U	50.0	45.0		ug/L		90	58 - 131	14	30
Isopropylbenzene	0.53	U	50.0	43.1		ug/L		86	56 - 133	16	30
m,p-Xylenes	0.63	U	50.0	44.3		ug/L		89	57 - 130	13	30
Methyl acetate	0.61	U	100	108		ug/L		108	21 - 150	9	30
Methyl tert-butyl ether	0.35	I	50.0	50.9		ug/L		101	59 - 137	7	30
Methylene Chloride	3.0	U	50.0	47.3		ug/L		95	60 - 146	6	32
o-Xylene	0.60	U	50.0	44.3		ug/L		89	61 - 130	13	30
Styrene	1.0	U	50.0	41.7		ug/L		83	58 - 131	11	30
Tetrachloroethene	0.90	U	50.0	43.4		ug/L		87	52 - 133	12	30
Toluene	0.90	U	50.0	46.7		ug/L		93	65 - 130	13	30
trans-1,2-Dichloroethene	0.50	U	50.0	49.8		ug/L		100	61 - 143	10	30
trans-1,3-Dichloropropene	0.20	U	50.0	47.6		ug/L		95	53 - 133	7	30
Trichloroethene	0.15	U	50.0	45.6		ug/L		91	64 - 136	8	30
Trichlorofluoromethane	0.52	U	25.0	27.1		ug/L		108	54 - 150	23	30
Vinyl chloride	0.50	U	25.0	25.6		ug/L		102	46 - 150	24	30
Xylenes, Total	1.6	U	100	88.6		ug/L		89	59 - 130	13	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*67 - 134*
Toluene-d8 (Surr)	*99*		*64 - 132*
4-Bromofluorobenzene	*106*		*72 - 130*
Dibromofluoromethane	*97*		*75 - 126*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-25336-1

GC/MS VOA

Analysis Batch: 638093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-25336-2	LC34-IW0044D2-110.0-20230818	Total/NA	Water	8260D	
670-25336-3	LC34-IW0162-110.0-20230818	Total/NA	Water	8260D	
MB 400-638093/5	Method Blank	Total/NA	Water	8260D	
LCS 400-638093/1002	Lab Control Sample	Total/NA	Water	8260D	
400-242033-A-2 MS	Matrix Spike	Total/NA	Water	8260D	
400-242033-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 638289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-25336-1	LC34-IW0165-110.0-20230818	Total/NA	Water	8260D	
MB 400-638289/4	Method Blank	Total/NA	Water	8260D	
LCS 400-638289/1002	Lab Control Sample	Total/NA	Water	8260D	
400-242145-A-4 MS	Matrix Spike	Total/NA	Water	8260D	
400-242145-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-25336-1

Client Sample ID: LC34-IW0165-110.0-20230818

Lab Sample ID: 670-25336-1

Date Collected: 08/18/23 09:35
Matrix: Water
Date Received: 08/18/23 16:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	638289	WPD	EET PEN	08/24/23 16:10

Client Sample ID: LC34-IW0044D2-110.0-20230818

Lab Sample ID: 670-25336-2

Date Collected: 08/18/23 10:10
Matrix: Water
Date Received: 08/18/23 16:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	638093	WPD	EET PEN	08/23/23 15:15

Client Sample ID: LC34-IW0162-110.0-20230818

Lab Sample ID: 670-25336-3

Date Collected: 08/18/23 10:45
Matrix: Water
Date Received: 08/18/23 16:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	638093	WPD	EET PEN	08/23/23 14:51

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-25336-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E81010	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-25336-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-25336-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-25336-1	LC34-IW0165-110.0-20230818	Water	08/18/23 09:35	08/18/23 16:12
670-25336-2	LC34-IW0044D2-110.0-20230818	Water	08/18/23 10:10	08/18/23 16:12
670-25336-3	LC34-IW0162-110.0-20230818	Water	08/18/23 10:45	08/18/23 16:12

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3655 | PAGE 1 OF 1

PROJECT NO: 112G08985	FACILITY: KSC-LC34	PROJECT MANAGER Mark Sonnet	PHONE NUMBER (412) 921-8622	LABORATORY NAME AND CONTACT: Eurofins — Kaitlin Dylnicki
SAMPLERS (SIGNATURE) Chuck Sorden		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER		CITY, STATE Altamonte Springs, FL

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☒ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): G; PRESERVATIVE USED: AC/4°C; TYPE OF ANALYSIS: 62COD-(MOD) NASA LC34 Custom List	COMMENTS
08/18	0935	LC34-GW0165-110.0-20230818	165	105	115	GW	G	3	X	
08/18	1010	LC34-GW0044D2-110.0-20230818	44D2	105	115	GW	G	3	X	
08/18	1045	LC34-GW0162-110.0-20230818	162	105	115	GW	G	3	X	

670-25336 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	08/18/23	1355	1. RECEIVED BY Jarrett Gregory	8/18/23	1355
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE 8-18-23	TIME 1606

COMMENTS 20 | 15

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

FORM NO. TtNUS-001

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-13751.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-25336-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 8/23/2023			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-IW0165-110.0-20230818 (670-25336-1)	8/18/23	09:35 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-IW0044D2-110.0-20230818 (670-25336-2)	8/18/23	10:10 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-IW0162-110.0-20230818 (670-25336-3)	8/18/23	10:45 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time:	Company	Received by	Date/Time	Company
[illegible]	8/21 1416		BP	08/22/23 0057	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.6°C IR

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-25336-1

Login Number: 25336

List Source: Eurofins Orlando

List Number: 1

Creator: Lavardera, Angelina

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-25336-1

Login Number: 25336
List Number: 2
Creator: Earnest, Tamantha

List Source: Eurofins Pensacola
List Creation: 08/22/23 01:20 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.6°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 9/8/2023 4:45:30 PM

JOB DESCRIPTION

NASA KSC LC34 HCS

JOB NUMBER

670-25814-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

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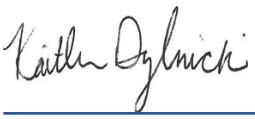

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Authorized for release by
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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-25814-1
Project/Site: NASA KSC LC34 HCS

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-25814-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
Job: 670-25814-1

Receipt
The samples were received on 8/28/2023 1:18 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.5º C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 680-796088 recovered above the upper control limit for Chloromethane and Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 680-796088 recovered outside control limits for the following analytes: Trichlorofluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-RW17C-20230828 (670-25814-4), LC34-RW18C-20230828 (670-25814-5), LC34-RW19C-20230828 (670-25814-6), LC34-RW20C-20230828 (670-25814-7) and LC34-RW21D-20230828 (670-25814-8). Elevated reporting limits (RLs) are provided.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-796088.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-25814-1

Client Sample ID: LC34-GAC-20230828 — Lab Sample ID: 670-25814-1

No Detections.

Client Sample ID: LC34-AS1-20230828 — Lab Sample ID: 670-25814-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.99	I	1.0	0.25	ug/L	1		8260D	Total/NA
Trichloroethene	0.88	I	1.0	0.20	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-AS2-20230828 — Lab Sample ID: 670-25814-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	110		1.0	0.25	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	0.83	I	1.0	0.34	ug/L	1		8260D	Total/NA
Trichloroethene	150		1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride	0.89	I	1.0	0.40	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-RW17C-20230828 — Lab Sample ID: 670-25814-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	10000		2000	500	ug/L	2000		8260D	Total/NA
Trichloroethene	220000		2000	400	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-RW18C-20230828 — Lab Sample ID: 670-25814-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	13000		250	63	ug/L	250		8260D	Total/NA
Trichloroethene	12000		250	50	ug/L	250		8260D	Total/NA

Client Sample ID: LC34-RW19C-20230828 — Lab Sample ID: 670-25814-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4400		2500	630	ug/L	2500		8260D	Total/NA
Trichloroethene	250000		2500	500	ug/L	2500		8260D	Total/NA

Client Sample ID: LC34-RW20C-20230828 — Lab Sample ID: 670-25814-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	840		250	63	ug/L	250		8260D	Total/NA
Trichloroethene	16000		250	50	ug/L	250		8260D	Total/NA

Client Sample ID: LC34-RW21D-20230828 — Lab Sample ID: 670-25814-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2300		250	63	ug/L	250		8260D	Total/NA
Trichloroethene	18000		250	50	ug/L	250		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-25814-1

Client Sample ID: LC34-GAC-20230828
Date Collected: 08/28/23 10:15
Date Received: 08/28/23 13:18

Lab Sample ID: 670-25814-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			09/01/23 12:54	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			09/01/23 12:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			09/01/23 12:54	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			09/01/23 12:54	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			09/01/23 12:54	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			09/01/23 12:54	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			09/01/23 12:54	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			09/01/23 12:54	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			09/01/23 12:54	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/01/23 12:54	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			09/01/23 12:54	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			09/01/23 12:54	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/01/23 12:54	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/01/23 12:54	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			09/01/23 12:54	1
2-Hexanone	3.2	U	10	3.2	ug/L			09/01/23 12:54	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			09/01/23 12:54	1
Acetone	3.7	U	10	3.7	ug/L			09/01/23 12:54	1
Benzene	0.27	U	1.0	0.27	ug/L			09/01/23 12:54	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			09/01/23 12:54	1
Bromoform	0.59	U	1.0	0.59	ug/L			09/01/23 12:54	1
Bromomethane	3.7	U	5.0	3.7	ug/L			09/01/23 12:54	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			09/01/23 12:54	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			09/01/23 12:54	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			09/01/23 12:54	1
Chloroethane	4.6	U	5.0	4.6	ug/L			09/01/23 12:54	1
Chloroform	0.27	U	1.0	0.27	ug/L			09/01/23 12:54	1
Chloromethane	0.54	U	1.0	0.54	ug/L			09/01/23 12:54	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			09/01/23 12:54	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			09/01/23 12:54	1
Cyclohexane	0.28	U	2.0	0.28	ug/L			09/01/23 12:54	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			09/01/23 12:54	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			09/01/23 12:54	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			09/01/23 12:54	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			09/01/23 12:54	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			09/01/23 12:54	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			09/01/23 12:54	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			09/01/23 12:54	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			09/01/23 12:54	1
o-Xylene	0.26	U	1.0	0.26	ug/L			09/01/23 12:54	1
Styrene	0.27	U	1.0	0.27	ug/L			09/01/23 12:54	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			09/01/23 12:54	1
Toluene	0.25	U	1.0	0.25	ug/L			09/01/23 12:54	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			09/01/23 12:54	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			09/01/23 12:54	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			09/01/23 12:54	1
Trichlorofluoromethane	0.33	U J3	1.0	0.33	ug/L			09/01/23 12:54	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			09/01/23 12:54	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			09/01/23 12:54	1

Client Sample ID: LC34-GAC-20230828
Lab Sample ID: 670-25814-1

Date Collected: 08/28/23 10:15
Matrix: Water
Date Received: 08/28/23 13:18

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*60 - 124*		*09/01/23 12:54*	*1*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*		*09/01/23 12:54*	*1*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*09/01/23 12:54*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*09/01/23 12:54*	*1*

Client Sample ID: LC34-AS1-20230828
Lab Sample ID: 670-25814-2

Date Collected: 08/28/23 10:20
Matrix: Water
Date Received: 08/28/23 13:18

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			09/01/23 13:13	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			09/01/23 13:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			09/01/23 13:13	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			09/01/23 13:13	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			09/01/23 13:13	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			09/01/23 13:13	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			09/01/23 13:13	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			09/01/23 13:13	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			09/01/23 13:13	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/01/23 13:13	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			09/01/23 13:13	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			09/01/23 13:13	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/01/23 13:13	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/01/23 13:13	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			09/01/23 13:13	1
2-Hexanone	3.2	U	10	3.2	ug/L			09/01/23 13:13	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			09/01/23 13:13	1
Acetone	3.7	U	10	3.7	ug/L			09/01/23 13:13	1
Benzene	0.27	U	1.0	0.27	ug/L			09/01/23 13:13	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			09/01/23 13:13	1
Bromoform	0.59	U	1.0	0.59	ug/L			09/01/23 13:13	1
Bromomethane	3.7	U	5.0	3.7	ug/L			09/01/23 13:13	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			09/01/23 13:13	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			09/01/23 13:13	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			09/01/23 13:13	1
Chloroethane	4.6	U	5.0	4.6	ug/L			09/01/23 13:13	1
Chloroform	0.27	U	1.0	0.27	ug/L			09/01/23 13:13	1
Chloromethane	0.54	U	1.0	0.54	ug/L			09/01/23 13:13	1
cis-1,2-Dichloroethene	**0.99**	**I**	1.0	0.25	ug/L			09/01/23 13:13	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			09/01/23 13:13	1
Cyclohexane	0.28	U	2.0	0.28	ug/L			09/01/23 13:13	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			09/01/23 13:13	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			09/01/23 13:13	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			09/01/23 13:13	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			09/01/23 13:13	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			09/01/23 13:13	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			09/01/23 13:13	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			09/01/23 13:13	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			09/01/23 13:13	1

Client Sample ID: LC34-AS1-20230828
Lab Sample ID: 670-25814-2

Date Collected: 08/28/23 10:20
Matrix: Water
Date Received: 08/28/23 13:18

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.26	U	1.0	0.26	ug/L			09/01/23 13:13	1
Styrene	0.27	U	1.0	0.27	ug/L			09/01/23 13:13	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			09/01/23 13:13	1
Toluene	0.25	U	1.0	0.25	ug/L			09/01/23 13:13	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			09/01/23 13:13	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			09/01/23 13:13	1
Trichloroethene	**0.88**	**I**	1.0	0.20	ug/L			09/01/23 13:13	1
Trichlorofluoromethane	0.33	U J3	1.0	0.33	ug/L			09/01/23 13:13	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			09/01/23 13:13	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			09/01/23 13:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 124*		*09/01/23 13:13*	*1*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*		*09/01/23 13:13*	*1*
Dibromofluoromethane (Surr)	*104*		*70 - 130*		*09/01/23 13:13*	*1*
Toluene-d8 (Surr)	*90*		*70 - 130*		*09/01/23 13:13*	*1*

Client Sample ID: LC34-AS2-20230828
Lab Sample ID: 670-25814-3

Date Collected: 08/28/23 10:25
Matrix: Water
Date Received: 08/28/23 13:18

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			09/01/23 13:32	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			09/01/23 13:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			09/01/23 13:32	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			09/01/23 13:32	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			09/01/23 13:32	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			09/01/23 13:32	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			09/01/23 13:32	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			09/01/23 13:32	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			09/01/23 13:32	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/01/23 13:32	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			09/01/23 13:32	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			09/01/23 13:32	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/01/23 13:32	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/01/23 13:32	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			09/01/23 13:32	1
2-Hexanone	3.2	U	10	3.2	ug/L			09/01/23 13:32	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			09/01/23 13:32	1
Acetone	3.7	U	10	3.7	ug/L			09/01/23 13:32	1
Benzene	0.27	U	1.0	0.27	ug/L			09/01/23 13:32	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			09/01/23 13:32	1
Bromoform	0.59	U	1.0	0.59	ug/L			09/01/23 13:32	1
Bromomethane	3.7	U	5.0	3.7	ug/L			09/01/23 13:32	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			09/01/23 13:32	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			09/01/23 13:32	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			09/01/23 13:32	1
Chloroethane	4.6	U	5.0	4.6	ug/L			09/01/23 13:32	1
Chloroform	0.27	U	1.0	0.27	ug/L			09/01/23 13:32	1

Client Sample ID: LC34-AS2-20230828
Lab Sample ID: 670-25814-3

Date Collected: 08/28/23 10:25
Matrix: Water
Date Received: 08/28/23 13:18

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	0.54	U	1.0	0.54	ug/L			09/01/23 13:32	1
cis-1,2-Dichloroethene	**110**		1.0	0.25	ug/L			09/01/23 13:32	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			09/01/23 13:32	1
Cyclohexane	0.28	U	2.0	0.28	ug/L			09/01/23 13:32	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			09/01/23 13:32	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			09/01/23 13:32	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			09/01/23 13:32	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			09/01/23 13:32	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			09/01/23 13:32	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			09/01/23 13:32	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			09/01/23 13:32	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			09/01/23 13:32	1
o-Xylene	0.26	U	1.0	0.26	ug/L			09/01/23 13:32	1
Styrene	0.27	U	1.0	0.27	ug/L			09/01/23 13:32	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			09/01/23 13:32	1
Toluene	0.25	U	1.0	0.25	ug/L			09/01/23 13:32	1
trans-1,2-Dichloroethene	**0.83**	**I**	1.0	0.34	ug/L			09/01/23 13:32	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			09/01/23 13:32	1
Trichloroethene	**150**		1.0	0.20	ug/L			09/01/23 13:32	1
Trichlorofluoromethane	0.33	U J3	1.0	0.33	ug/L			09/01/23 13:32	1
Vinyl chloride	**0.89**	**I**	1.0	0.40	ug/L			09/01/23 13:32	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			09/01/23 13:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*60 - 124*		*09/01/23 13:32*	*1*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*		*09/01/23 13:32*	*1*
Dibromofluoromethane (Surr)	*104*		*70 - 130*		*09/01/23 13:32*	*1*
Toluene-d8 (Surr)	*91*		*70 - 130*		*09/01/23 13:32*	*1*

Client Sample ID: LC34-RW17C-20230828
Lab Sample ID: 670-25814-4

Date Collected: 08/28/23 10:30
Matrix: Water
Date Received: 08/28/23 13:18

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	420	U	2000	420	ug/L			09/01/23 13:51	2000
1,1,2,2-Tetrachloroethane	800	U	2000	800	ug/L			09/01/23 13:51	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	460	U	2000	460	ug/L			09/01/23 13:51	2000
1,1,2-Trichloroethane	640	U	2000	640	ug/L			09/01/23 13:51	2000
1,1-Dichloroethane	660	U	2000	660	ug/L			09/01/23 13:51	2000
1,1-Dichloroethene	660	U	2000	660	ug/L			09/01/23 13:51	2000
1,2,4-Trichlorobenzene	1100	U	10000	1100	ug/L			09/01/23 13:51	2000
1,2-Dibromo-3-Chloropropane	3600	U	10000	3600	ug/L			09/01/23 13:51	2000
1,2-Dibromoethane (EDB)	660	U	2000	660	ug/L			09/01/23 13:51	2000
1,2-Dichlorobenzene	620	U	2000	620	ug/L			09/01/23 13:51	2000
1,2-Dichloroethane	500	U	2000	500	ug/L			09/01/23 13:51	2000
1,2-Dichloropropane	440	U	2000	440	ug/L			09/01/23 13:51	2000
1,3-Dichlorobenzene	620	U	2000	620	ug/L			09/01/23 13:51	2000
1,4-Dichlorobenzene	620	U	2000	620	ug/L			09/01/23 13:51	2000
2-Butanone (MEK)	13000	U	20000	13000	ug/L			09/01/23 13:51	2000

Client Sample ID: LC34-RW17C-20230828
Lab Sample ID: 670-25814-4

Date Collected: 08/28/23 10:30
Matrix: Water
Date Received: 08/28/23 13:18

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	6400	U	20000	6400	ug/L			09/01/23 13:51	2000
4-Methyl-2-pentanone	5400	U	20000	5400	ug/L			09/01/23 13:51	2000
Acetone	7400	U	20000	7400	ug/L			09/01/23 13:51	2000
Benzene	540	U	2000	540	ug/L			09/01/23 13:51	2000
Bromodichloromethane	500	U	2000	500	ug/L			09/01/23 13:51	2000
Bromoform	1200	U	2000	1200	ug/L			09/01/23 13:51	2000
Bromomethane	7400	U	10000	7400	ug/L			09/01/23 13:51	2000
Carbon disulfide	860	U	4000	860	ug/L			09/01/23 13:51	2000
Carbon tetrachloride	600	U	2000	600	ug/L			09/01/23 13:51	2000
Chlorobenzene	300	U	2000	300	ug/L			09/01/23 13:51	2000
Chloroethane	9200	U	10000	9200	ug/L			09/01/23 13:51	2000
Chloroform	540	U	2000	540	ug/L			09/01/23 13:51	2000
Chloromethane	1100	U	2000	1100	ug/L			09/01/23 13:51	2000
cis-1,2-Dichloroethene	**10000**		2000	500	ug/L			09/01/23 13:51	2000
cis-1,3-Dichloropropene	520	U	2000	520	ug/L			09/01/23 13:51	2000
Cyclohexane	560	U	4000	560	ug/L			09/01/23 13:51	2000
Dibromochloromethane	780	U	2000	780	ug/L			09/01/23 13:51	2000
Dichlorodifluoromethane	720	U	2000	720	ug/L			09/01/23 13:51	2000
Ethylbenzene	400	U	2000	400	ug/L			09/01/23 13:51	2000
Isopropylbenzene	520	U	2000	520	ug/L			09/01/23 13:51	2000
m,p-Xylenes	980	U	2000	980	ug/L			09/01/23 13:51	2000
Methyl acetate	6400	U	10000	6400	ug/L			09/01/23 13:51	2000
Methyl tert-butyl ether	1600	U	10000	1600	ug/L			09/01/23 13:51	2000
Methylene Chloride	6400	U	10000	6400	ug/L			09/01/23 13:51	2000
o-Xylene	520	U	2000	520	ug/L			09/01/23 13:51	2000
Styrene	540	U	2000	540	ug/L			09/01/23 13:51	2000
Tetrachloroethene	700	U	2000	700	ug/L			09/01/23 13:51	2000
Toluene	500	U	2000	500	ug/L			09/01/23 13:51	2000
trans-1,2-Dichloroethene	680	U	2000	680	ug/L			09/01/23 13:51	2000
trans-1,3-Dichloropropene	460	U	2000	460	ug/L			09/01/23 13:51	2000
Trichloroethene	**220000**		2000	400	ug/L			09/01/23 13:51	2000
Trichlorofluoromethane	660	U J3	2000	660	ug/L			09/01/23 13:51	2000
Vinyl chloride	800	U	2000	800	ug/L			09/01/23 13:51	2000
Xylenes, Total	460	U	2000	460	ug/L			09/01/23 13:51	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*60 - 124*		*09/01/23 13:51*	*2000*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*		*09/01/23 13:51*	*2000*
Dibromofluoromethane (Surr)	*104*		*70 - 130*		*09/01/23 13:51*	*2000*
Toluene-d8 (Surr)	*93*		*70 - 130*		*09/01/23 13:51*	*2000*

Client Sample ID: LC34-RW18C-20230828
Lab Sample ID: 670-25814-5

Date Collected: 08/28/23 10:35
Matrix: Water
Date Received: 08/28/23 13:18

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	53	U	250	53	ug/L			09/01/23 14:10	250
1,1,2,2-Tetrachloroethane	100	U	250	100	ug/L			09/01/23 14:10	250
1,1,2-Trichloro-1,2,2-trifluoroethane	58	U	250	58	ug/L			09/01/23 14:10	250

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-25814-1

Client Sample ID: LC34-RW18C-20230828
Date Collected: 08/28/23 10:35
Date Received: 08/28/23 13:18

Lab Sample ID: 670-25814-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	80	U	250	80	ug/L			09/01/23 14:10	250
1,1-Dichloroethane	83	U	250	83	ug/L			09/01/23 14:10	250
1,1-Dichloroethene	83	U	250	83	ug/L			09/01/23 14:10	250
1,2,4-Trichlorobenzene	130	U	1300	130	ug/L			09/01/23 14:10	250
1,2-Dibromo-3-Chloropropane	450	U	1300	450	ug/L			09/01/23 14:10	250
1,2-Dibromoethane (EDB)	83	U	250	83	ug/L			09/01/23 14:10	250
1,2-Dichlorobenzene	78	U	250	78	ug/L			09/01/23 14:10	250
1,2-Dichloroethane	63	U	250	63	ug/L			09/01/23 14:10	250
1,2-Dichloropropane	55	U	250	55	ug/L			09/01/23 14:10	250
1,3-Dichlorobenzene	78	U	250	78	ug/L			09/01/23 14:10	250
1,4-Dichlorobenzene	78	U	250	78	ug/L			09/01/23 14:10	250
2-Butanone (MEK)	1600	U	2500	1600	ug/L			09/01/23 14:10	250
2-Hexanone	800	U	2500	800	ug/L			09/01/23 14:10	250
4-Methyl-2-pentanone	680	U	2500	680	ug/L			09/01/23 14:10	250
Acetone	930	U	2500	930	ug/L			09/01/23 14:10	250
Benzene	68	U	250	68	ug/L			09/01/23 14:10	250
Bromodichloromethane	63	U	250	63	ug/L			09/01/23 14:10	250
Bromoform	150	U	250	150	ug/L			09/01/23 14:10	250
Bromomethane	930	U	1300	930	ug/L			09/01/23 14:10	250
Carbon disulfide	110	U	500	110	ug/L			09/01/23 14:10	250
Carbon tetrachloride	75	U	250	75	ug/L			09/01/23 14:10	250
Chlorobenzene	38	U	250	38	ug/L			09/01/23 14:10	250
Chloroethane	1200	U	1300	1200	ug/L			09/01/23 14:10	250
Chloroform	68	U	250	68	ug/L			09/01/23 14:10	250
Chloromethane	140	U	250	140	ug/L			09/01/23 14:10	250
cis-1,2-Dichloroethene	**13000**		250	63	ug/L			09/01/23 14:10	250
cis-1,3-Dichloropropene	65	U	250	65	ug/L			09/01/23 14:10	250
Cyclohexane	70	U	500	70	ug/L			09/01/23 14:10	250
Dibromochloromethane	98	U	250	98	ug/L			09/01/23 14:10	250
Dichlorodifluoromethane	90	U	250	90	ug/L			09/01/23 14:10	250
Ethylbenzene	50	U	250	50	ug/L			09/01/23 14:10	250
Isopropylbenzene	65	U	250	65	ug/L			09/01/23 14:10	250
m,p-Xylenes	120	U	250	120	ug/L			09/01/23 14:10	250
Methyl acetate	800	U	1300	800	ug/L			09/01/23 14:10	250
Methyl tert-butyl ether	200	U	1300	200	ug/L			09/01/23 14:10	250
Methylene Chloride	800	U	1300	800	ug/L			09/01/23 14:10	250
o-Xylene	65	U	250	65	ug/L			09/01/23 14:10	250
Styrene	68	U	250	68	ug/L			09/01/23 14:10	250
Tetrachloroethene	88	U	250	88	ug/L			09/01/23 14:10	250
Toluene	63	U	250	63	ug/L			09/01/23 14:10	250
trans-1,2-Dichloroethene	85	U	250	85	ug/L			09/01/23 14:10	250
trans-1,3-Dichloropropene	58	U	250	58	ug/L			09/01/23 14:10	250
Trichloroethene	**12000**		250	50	ug/L			09/01/23 14:10	250
Trichlorofluoromethane	83	U J3	250	83	ug/L			09/01/23 14:10	250
Vinyl chloride	100	U	250	100	ug/L			09/01/23 14:10	250
Xylenes, Total	58	U	250	58	ug/L			09/01/23 14:10	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*60 - 124*		*09/01/23 14:10*	*250*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*		*09/01/23 14:10*	*250*

Client Sample ID: LC34-RW18C-20230828

Lab Sample ID: 670-25814-5

Date Collected: 08/28/23 10:35

Matrix: Water

Date Received: 08/28/23 13:18

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*104*		*70 - 130*		*09/01/23 14:10*	*250*
Toluene-d8 (Surr)	*92*		*70 - 130*		*09/01/23 14:10*	*250*

Client Sample ID: LC34-RW19C-20230828

Lab Sample ID: 670-25814-6

Date Collected: 08/28/23 10:40

Matrix: Water

Date Received: 08/28/23 13:18

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	530	U	2500	530	ug/L			09/01/23 14:29	2500
1,1,2,2-Tetrachloroethane	1000	U	2500	1000	ug/L			09/01/23 14:29	2500
1,1,2-Trichloro-1,2,2-trifluoroethane	580	U	2500	580	ug/L			09/01/23 14:29	2500
1,1,2-Trichloroethane	800	U	2500	800	ug/L			09/01/23 14:29	2500
1,1-Dichloroethane	830	U	2500	830	ug/L			09/01/23 14:29	2500
1,1-Dichloroethene	830	U	2500	830	ug/L			09/01/23 14:29	2500
1,2,4-Trichlorobenzene	1300	U	13000	1300	ug/L			09/01/23 14:29	2500
1,2-Dibromo-3-Chloropropane	4500	U	13000	4500	ug/L			09/01/23 14:29	2500
1,2-Dibromoethane (EDB)	830	U	2500	830	ug/L			09/01/23 14:29	2500
1,2-Dichlorobenzene	780	U	2500	780	ug/L			09/01/23 14:29	2500
1,2-Dichloroethane	630	U	2500	630	ug/L			09/01/23 14:29	2500
1,2-Dichloropropane	550	U	2500	550	ug/L			09/01/23 14:29	2500
1,3-Dichlorobenzene	780	U	2500	780	ug/L			09/01/23 14:29	2500
1,4-Dichlorobenzene	780	U	2500	780	ug/L			09/01/23 14:29	2500
2-Butanone (MEK)	16000	U	25000	16000	ug/L			09/01/23 14:29	2500
2-Hexanone	8000	U	25000	8000	ug/L			09/01/23 14:29	2500
4-Methyl-2-pentanone	6800	U	25000	6800	ug/L			09/01/23 14:29	2500
Acetone	9300	U	25000	9300	ug/L			09/01/23 14:29	2500
Benzene	680	U	2500	680	ug/L			09/01/23 14:29	2500
Bromodichloromethane	630	U	2500	630	ug/L			09/01/23 14:29	2500
Bromoform	1500	U	2500	1500	ug/L			09/01/23 14:29	2500
Bromomethane	9300	U	13000	9300	ug/L			09/01/23 14:29	2500
Carbon disulfide	1100	U	5000	1100	ug/L			09/01/23 14:29	2500
Carbon tetrachloride	750	U	2500	750	ug/L			09/01/23 14:29	2500
Chlorobenzene	380	U	2500	380	ug/L			09/01/23 14:29	2500
Chloroethane	12000	U	13000	12000	ug/L			09/01/23 14:29	2500
Chloroform	680	U	2500	680	ug/L			09/01/23 14:29	2500
Chloromethane	1400	U	2500	1400	ug/L			09/01/23 14:29	2500
cis-1,2-Dichloroethene	**4400**		2500	630	ug/L			09/01/23 14:29	2500
cis-1,3-Dichloropropene	650	U	2500	650	ug/L			09/01/23 14:29	2500
Cyclohexane	700	U	5000	700	ug/L			09/01/23 14:29	2500
Dibromochloromethane	980	U	2500	980	ug/L			09/01/23 14:29	2500
Dichlorodifluoromethane	900	U	2500	900	ug/L			09/01/23 14:29	2500
Ethylbenzene	500	U	2500	500	ug/L			09/01/23 14:29	2500
Isopropylbenzene	650	U	2500	650	ug/L			09/01/23 14:29	2500
m,p-Xylenes	1200	U	2500	1200	ug/L			09/01/23 14:29	2500
Methyl acetate	8000	U	13000	8000	ug/L			09/01/23 14:29	2500
Methyl tert-butyl ether	2000	U	13000	2000	ug/L			09/01/23 14:29	2500
Methylene Chloride	8000	U	13000	8000	ug/L			09/01/23 14:29	2500
o-Xylene	650	U	2500	650	ug/L			09/01/23 14:29	2500

Client Sample ID: LC34-RW19C-20230828
Lab Sample ID: 670-25814-6

Date Collected: 08/28/23 10:40
Matrix: Water
Date Received: 08/28/23 13:18

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	680	U	2500	680	ug/L			09/01/23 14:29	2500
Tetrachloroethene	880	U	2500	880	ug/L			09/01/23 14:29	2500
Toluene	630	U	2500	630	ug/L			09/01/23 14:29	2500
trans-1,2-Dichloroethene	850	U	2500	850	ug/L			09/01/23 14:29	2500
trans-1,3-Dichloropropene	580	U	2500	580	ug/L			09/01/23 14:29	2500
Trichloroethene	**250000**		2500	500	ug/L			09/01/23 14:29	2500
Trichlorofluoromethane	830	U J3	2500	830	ug/L			09/01/23 14:29	2500
Vinyl chloride	1000	U	2500	1000	ug/L			09/01/23 14:29	2500
Xylenes, Total	580	U	2500	580	ug/L			09/01/23 14:29	2500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*60 - 124*		*09/01/23 14:29*	*2500*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*		*09/01/23 14:29*	*2500*
Dibromofluoromethane (Surr)	*104*		*70 - 130*		*09/01/23 14:29*	*2500*
Toluene-d8 (Surr)	*91*		*70 - 130*		*09/01/23 14:29*	*2500*

Client Sample ID: LC34-RW20C-20230828
Lab Sample ID: 670-25814-7

Date Collected: 08/28/23 10:45
Matrix: Water
Date Received: 08/28/23 13:18

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	53	U	250	53	ug/L			09/01/23 14:48	250
1,1,2,2-Tetrachloroethane	100	U	250	100	ug/L			09/01/23 14:48	250
1,1,2-Trichloro-1,2,2-trifluoroethane	58	U	250	58	ug/L			09/01/23 14:48	250
1,1,2-Trichloroethane	80	U	250	80	ug/L			09/01/23 14:48	250
1,1-Dichloroethane	83	U	250	83	ug/L			09/01/23 14:48	250
1,1-Dichloroethene	83	U	250	83	ug/L			09/01/23 14:48	250
1,2,4-Trichlorobenzene	130	U	1300	130	ug/L			09/01/23 14:48	250
1,2-Dibromo-3-Chloropropane	450	U	1300	450	ug/L			09/01/23 14:48	250
1,2-Dibromoethane (EDB)	83	U	250	83	ug/L			09/01/23 14:48	250
1,2-Dichlorobenzene	78	U	250	78	ug/L			09/01/23 14:48	250
1,2-Dichloroethane	63	U	250	63	ug/L			09/01/23 14:48	250
1,2-Dichloropropane	55	U	250	55	ug/L			09/01/23 14:48	250
1,3-Dichlorobenzene	78	U	250	78	ug/L			09/01/23 14:48	250
1,4-Dichlorobenzene	78	U	250	78	ug/L			09/01/23 14:48	250
2-Butanone (MEK)	1600	U	2500	1600	ug/L			09/01/23 14:48	250
2-Hexanone	800	U	2500	800	ug/L			09/01/23 14:48	250
4-Methyl-2-pentanone	680	U	2500	680	ug/L			09/01/23 14:48	250
Acetone	930	U	2500	930	ug/L			09/01/23 14:48	250
Benzene	68	U	250	68	ug/L			09/01/23 14:48	250
Bromodichloromethane	63	U	250	63	ug/L			09/01/23 14:48	250
Bromoform	150	U	250	150	ug/L			09/01/23 14:48	250
Bromomethane	930	U	1300	930	ug/L			09/01/23 14:48	250
Carbon disulfide	110	U	500	110	ug/L			09/01/23 14:48	250
Carbon tetrachloride	75	U	250	75	ug/L			09/01/23 14:48	250
Chlorobenzene	38	U	250	38	ug/L			09/01/23 14:48	250
Chloroethane	1200	U	1300	1200	ug/L			09/01/23 14:48	250
Chloroform	68	U	250	68	ug/L			09/01/23 14:48	250
Chloromethane	140	U	250	140	ug/L			09/01/23 14:48	250

Client Sample ID: LC34-RW20C-20230828
Lab Sample ID: 670-25814-7

Date Collected: 08/28/23 10:45
Matrix: Water
Date Received: 08/28/23 13:18

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**840**		250	63	ug/L			09/01/23 14:48	250
cis-1,3-Dichloropropene	65	U	250	65	ug/L			09/01/23 14:48	250
Cyclohexane	70	U	500	70	ug/L			09/01/23 14:48	250
Dibromochloromethane	98	U	250	98	ug/L			09/01/23 14:48	250
Dichlorodifluoromethane	90	U	250	90	ug/L			09/01/23 14:48	250
Ethylbenzene	50	U	250	50	ug/L			09/01/23 14:48	250
Isopropylbenzene	65	U	250	65	ug/L			09/01/23 14:48	250
m,p-Xylenes	120	U	250	120	ug/L			09/01/23 14:48	250
Methyl acetate	800	U	1300	800	ug/L			09/01/23 14:48	250
Methyl tert-butyl ether	200	U	1300	200	ug/L			09/01/23 14:48	250
Methylene Chloride	800	U	1300	800	ug/L			09/01/23 14:48	250
o-Xylene	65	U	250	65	ug/L			09/01/23 14:48	250
Styrene	68	U	250	68	ug/L			09/01/23 14:48	250
Tetrachloroethene	88	U	250	88	ug/L			09/01/23 14:48	250
Toluene	63	U	250	63	ug/L			09/01/23 14:48	250
trans-1,2-Dichloroethene	85	U	250	85	ug/L			09/01/23 14:48	250
trans-1,3-Dichloropropene	58	U	250	58	ug/L			09/01/23 14:48	250
Trichloroethene	**16000**		250	50	ug/L			09/01/23 14:48	250
Trichlorofluoromethane	83	U J3	250	83	ug/L			09/01/23 14:48	250
Vinyl chloride	100	U	250	100	ug/L			09/01/23 14:48	250
Xylenes, Total	58	U	250	58	ug/L			09/01/23 14:48	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*60 - 124*		*09/01/23 14:48*	*250*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*		*09/01/23 14:48*	*250*
Dibromofluoromethane (Surr)	*103*		*70 - 130*		*09/01/23 14:48*	*250*
Toluene-d8 (Surr)	*93*		*70 - 130*		*09/01/23 14:48*	*250*

Client Sample ID: LC34-RW21D-20230828
Lab Sample ID: 670-25814-8

Date Collected: 08/28/23 10:50
Matrix: Water
Date Received: 08/28/23 13:18

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	53	U	250	53	ug/L			09/01/23 15:07	250
1,1,2,2-Tetrachloroethane	100	U	250	100	ug/L			09/01/23 15:07	250
1,1,2-Trichloro-1,2,2-trifluoroethane	58	U	250	58	ug/L			09/01/23 15:07	250
1,1,2-Trichloroethane	80	U	250	80	ug/L			09/01/23 15:07	250
1,1-Dichloroethane	83	U	250	83	ug/L			09/01/23 15:07	250
1,1-Dichloroethene	83	U	250	83	ug/L			09/01/23 15:07	250
1,2,4-Trichlorobenzene	130	U	1300	130	ug/L			09/01/23 15:07	250
1,2-Dibromo-3-Chloropropane	450	U	1300	450	ug/L			09/01/23 15:07	250
1,2-Dibromoethane (EDB)	83	U	250	83	ug/L			09/01/23 15:07	250
1,2-Dichlorobenzene	78	U	250	78	ug/L			09/01/23 15:07	250
1,2-Dichloroethane	63	U	250	63	ug/L			09/01/23 15:07	250
1,2-Dichloropropane	55	U	250	55	ug/L			09/01/23 15:07	250
1,3-Dichlorobenzene	78	U	250	78	ug/L			09/01/23 15:07	250
1,4-Dichlorobenzene	78	U	250	78	ug/L			09/01/23 15:07	250
2-Butanone (MEK)	1600	U	2500	1600	ug/L			09/01/23 15:07	250
2-Hexanone	800	U	2500	800	ug/L			09/01/23 15:07	250

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-25814-1

Client Sample ID: LC34-RW21D-20230828
Date Collected: 08/28/23 10:50
Date Received: 08/28/23 13:18

Lab Sample ID: 670-25814-8
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	680	U	2500	680	ug/L			09/01/23 15:07	250
Acetone	930	U	2500	930	ug/L			09/01/23 15:07	250
Benzene	68	U	250	68	ug/L			09/01/23 15:07	250
Bromodichloromethane	63	U	250	63	ug/L			09/01/23 15:07	250
Bromoform	150	U	250	150	ug/L			09/01/23 15:07	250
Bromomethane	930	U	1300	930	ug/L			09/01/23 15:07	250
Carbon disulfide	110	U	500	110	ug/L			09/01/23 15:07	250
Carbon tetrachloride	75	U	250	75	ug/L			09/01/23 15:07	250
Chlorobenzene	38	U	250	38	ug/L			09/01/23 15:07	250
Chloroethane	1200	U	1300	1200	ug/L			09/01/23 15:07	250
Chloroform	68	U	250	68	ug/L			09/01/23 15:07	250
Chloromethane	140	U	250	140	ug/L			09/01/23 15:07	250
cis-1,2-Dichloroethene	**2300**		250	63	ug/L			09/01/23 15:07	250
cis-1,3-Dichloropropene	65	U	250	65	ug/L			09/01/23 15:07	250
Cyclohexane	70	U	500	70	ug/L			09/01/23 15:07	250
Dibromochloromethane	98	U	250	98	ug/L			09/01/23 15:07	250
Dichlorodifluoromethane	90	U	250	90	ug/L			09/01/23 15:07	250
Ethylbenzene	50	U	250	50	ug/L			09/01/23 15:07	250
Isopropylbenzene	65	U	250	65	ug/L			09/01/23 15:07	250
m,p-Xylenes	120	U	250	120	ug/L			09/01/23 15:07	250
Methyl acetate	800	U	1300	800	ug/L			09/01/23 15:07	250
Methyl tert-butyl ether	200	U	1300	200	ug/L			09/01/23 15:07	250
Methylene Chloride	800	U	1300	800	ug/L			09/01/23 15:07	250
o-Xylene	65	U	250	65	ug/L			09/01/23 15:07	250
Styrene	68	U	250	68	ug/L			09/01/23 15:07	250
Tetrachloroethene	88	U	250	88	ug/L			09/01/23 15:07	250
Toluene	63	U	250	63	ug/L			09/01/23 15:07	250
trans-1,2-Dichloroethene	85	U	250	85	ug/L			09/01/23 15:07	250
trans-1,3-Dichloropropene	58	U	250	58	ug/L			09/01/23 15:07	250
Trichloroethene	**18000**		250	50	ug/L			09/01/23 15:07	250
Trichlorofluoromethane	83	U J3	250	83	ug/L			09/01/23 15:07	250
Vinyl chloride	100	U	250	100	ug/L			09/01/23 15:07	250
Xylenes, Total	58	U	250	58	ug/L			09/01/23 15:07	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*60 - 124*		*09/01/23 15:07*	*250*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*		*09/01/23 15:07*	*250*
Dibromofluoromethane (Surr)	*104*		*70 - 130*		*09/01/23 15:07*	*250*
Toluene-d8 (Surr)	*92*		*70 - 130*		*09/01/23 15:07*	*250*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-25814-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-124)	(70-130)	(70-130)	(70-130)
670-25814-1	LC34-GAC-20230828	100	115	105	94
670-25814-2	LC34-AS1-20230828	97	113	104	90
670-25814-3	LC34-AS2-20230828	99	112	104	91
670-25814-4	LC34-RW17C-20230828	99	109	104	93
670-25814-5	LC34-RW18C-20230828	99	111	104	92
670-25814-6	LC34-RW19C-20230828	100	112	104	91
670-25814-7	LC34-RW20C-20230828	100	112	103	93
670-25814-8	LC34-RW21D-20230828	98	110	104	92
LCS 680-796088/3	Lab Control Sample	93	110	100	92
LCSD 680-796088/4	Lab Control Sample Dup	95	112	103	94
MB 680-796088/7	Method Blank	97	109	104	92

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 680-796088/7
Matrix: Water
Analysis Batch: 796088

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			09/01/23 11:20	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			09/01/23 11:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			09/01/23 11:20	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			09/01/23 11:20	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			09/01/23 11:20	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			09/01/23 11:20	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			09/01/23 11:20	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			09/01/23 11:20	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			09/01/23 11:20	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/01/23 11:20	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			09/01/23 11:20	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			09/01/23 11:20	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/01/23 11:20	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/01/23 11:20	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			09/01/23 11:20	1
2-Hexanone	3.2	U	10	3.2	ug/L			09/01/23 11:20	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			09/01/23 11:20	1
Acetone	3.7	U	10	3.7	ug/L			09/01/23 11:20	1
Benzene	0.27	U	1.0	0.27	ug/L			09/01/23 11:20	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			09/01/23 11:20	1
Bromoform	0.59	U	1.0	0.59	ug/L			09/01/23 11:20	1
Bromomethane	3.7	U	5.0	3.7	ug/L			09/01/23 11:20	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			09/01/23 11:20	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			09/01/23 11:20	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			09/01/23 11:20	1
Chloroethane	4.6	U	5.0	4.6	ug/L			09/01/23 11:20	1
Chloroform	0.27	U	1.0	0.27	ug/L			09/01/23 11:20	1
Chloromethane	0.54	U	1.0	0.54	ug/L			09/01/23 11:20	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			09/01/23 11:20	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			09/01/23 11:20	1
Cyclohexane	0.28	U	2.0	0.28	ug/L			09/01/23 11:20	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			09/01/23 11:20	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			09/01/23 11:20	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			09/01/23 11:20	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			09/01/23 11:20	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			09/01/23 11:20	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			09/01/23 11:20	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			09/01/23 11:20	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			09/01/23 11:20	1
o-Xylene	0.26	U	1.0	0.26	ug/L			09/01/23 11:20	1
Styrene	0.27	U	1.0	0.27	ug/L			09/01/23 11:20	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			09/01/23 11:20	1
Toluene	0.25	U	1.0	0.25	ug/L			09/01/23 11:20	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			09/01/23 11:20	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			09/01/23 11:20	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			09/01/23 11:20	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			09/01/23 11:20	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			09/01/23 11:20	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-796088/7
Matrix: Water
Analysis Batch: 796088

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	0.23	U	1.0	0.23	ug/L			09/01/23 11:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 124*		*09/01/23 11:20*	*1*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*		*09/01/23 11:20*	*1*
Dibromofluoromethane (Surr)	*104*		*70 - 130*		*09/01/23 11:20*	*1*
Toluene-d8 (Surr)	*92*		*70 - 130*		*09/01/23 11:20*	*1*

Lab Sample ID: LCS 680-796088/3
Matrix: Water
Analysis Batch: 796088

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	52.1		ug/L		104	70 - 130
1,1,2,2-Tetrachloroethane	50.0	48.0		ug/L		96	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	48.5		ug/L		97	63 - 141
1,1,2-Trichloroethane	50.0	51.7		ug/L		103	70 - 130
1,1-Dichloroethane	50.0	51.9		ug/L		104	70 - 130
1,1-Dichloroethene	50.0	48.8		ug/L		98	70 - 130
1,2,4-Trichlorobenzene	50.0	51.1		ug/L		102	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	44.1		ug/L		88	70 - 130
1,2-Dibromoethane (EDB)	50.0	47.3		ug/L		95	70 - 130
1,2-Dichlorobenzene	50.0	51.0		ug/L		102	70 - 130
1,2-Dichloroethane	50.0	46.8		ug/L		94	70 - 130
1,2-Dichloropropane	50.0	54.4		ug/L		109	70 - 130
1,3-Dichlorobenzene	50.0	52.5		ug/L		105	70 - 130
1,4-Dichlorobenzene	50.0	51.3		ug/L		103	70 - 130
2-Butanone (MEK)	250	212		ug/L		85	69 - 120
2-Hexanone	250	214		ug/L		86	70 - 130
4-Methyl-2-pentanone	250	203		ug/L		81	68 - 120
Acetone	250	218		ug/L		87	67 - 120
Benzene	50.0	53.6		ug/L		107	70 - 130
Bromodichloromethane	50.0	51.8		ug/L		104	70 - 130
Bromoform	50.0	47.4		ug/L		95	69 - 129
Bromomethane	50.0	55.2		ug/L		110	28 - 192
Carbon disulfide	50.0	40.8		ug/L		82	70 - 130
Carbon tetrachloride	50.0	53.5		ug/L		107	70 - 130
Chlorobenzene	50.0	48.6		ug/L		97	70 - 130
Chloroethane	50.0	46.4		ug/L		93	31 - 213
Chloroform	50.0	55.0		ug/L		110	70 - 130
Chloromethane	50.0	61.3		ug/L		123	59 - 127
cis-1,2-Dichloroethene	50.0	52.7		ug/L		105	70 - 130
cis-1,3-Dichloropropene	50.0	48.1		ug/L		96	70 - 130
Cyclohexane	50.0	48.2		ug/L		96	23 - 175
Dibromochloromethane	50.0	51.5		ug/L		103	70 - 130
Dichlorodifluoromethane	50.0	44.0		ug/L		88	70 - 130
Ethylbenzene	50.0	52.9		ug/L		106	70 - 130
Isopropylbenzene	50.0	55.4		ug/L		111	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-796088/3
Matrix: Water
Analysis Batch: 796088

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	54.6		ug/L		109	70 - 130
Methyl acetate	100	78.1		ug/L		78	67 - 120
Methyl tert-butyl ether	50.0	51.4		ug/L		103	70 - 130
Methylene Chloride	50.0	53.2		ug/L		106	70 - 130
o-Xylene	50.0	54.3		ug/L		109	70 - 130
Styrene	50.0	53.1		ug/L		106	70 - 130
Tetrachloroethene	50.0	54.0		ug/L		108	70 - 130
Toluene	50.0	51.4		ug/L		103	70 - 130
trans-1,2-Dichloroethene	50.0	50.2		ug/L		100	70 - 130
trans-1,3-Dichloropropene	50.0	50.3		ug/L		101	70 - 130
Trichloroethene	50.0	48.2		ug/L		96	70 - 130
Trichlorofluoromethane	50.0	106	J3	ug/L		212	63 - 142
Vinyl chloride	50.0	46.0		ug/L		92	66 - 129
Xylenes, Total	100	109		ug/L		109	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*60 - 124*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
Dibromofluoromethane (Surr)	*100*		*70 - 130*
Toluene-d8 (Surr)	*92*		*70 - 130*

Lab Sample ID: LCSD 680-796088/4
Matrix: Water
Analysis Batch: 796088

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	52.9		ug/L		106	70 - 130	1	30
1,1,2,2-Tetrachloroethane	50.0	49.0		ug/L		98	70 - 130	2	30
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	47.9		ug/L		96	63 - 141	1	30
1,1,2-Trichloroethane	50.0	52.8		ug/L		106	70 - 130	2	30
1,1-Dichloroethane	50.0	52.4		ug/L		105	70 - 130	1	30
1,1-Dichloroethene	50.0	53.4		ug/L		107	70 - 130	9	20
1,2,4-Trichlorobenzene	50.0	49.8		ug/L		100	70 - 130	3	30
1,2-Dibromo-3-Chloropropane	50.0	44.6		ug/L		89	70 - 130	1	30
1,2-Dibromoethane (EDB)	50.0	47.7		ug/L		95	70 - 130	1	30
1,2-Dichlorobenzene	50.0	51.2		ug/L		102	70 - 130	0	30
1,2-Dichloroethane	50.0	47.8		ug/L		96	70 - 130	2	50
1,2-Dichloropropane	50.0	55.0		ug/L		110	70 - 130	1	20
1,3-Dichlorobenzene	50.0	52.6		ug/L		105	70 - 130	0	30
1,4-Dichlorobenzene	50.0	51.5		ug/L		103	70 - 130	0	30
2-Butanone (MEK)	250	226		ug/L		90	69 - 120	6	30
2-Hexanone	250	217		ug/L		87	70 - 130	1	20
4-Methyl-2-pentanone	250	207		ug/L		83	68 - 120	2	30
Acetone	250	226		ug/L		91	67 - 120	4	30
Benzene	50.0	53.1		ug/L		106	70 - 130	1	30
Bromodichloromethane	50.0	53.8		ug/L		108	70 - 130	4	30
Bromoform	50.0	48.2		ug/L		96	69 - 129	2	30
Bromomethane	50.0	56.4		ug/L		113	28 - 192	2	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-796088/4
Matrix: Water
Analysis Batch: 796088

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon disulfide			50.0	44.1		ug/L		88	70 - 130	8	30
Carbon tetrachloride			50.0	52.1		ug/L		104	70 - 130	3	30
Chlorobenzene			50.0	48.7		ug/L		97	70 - 130	0	30
Chloroethane			50.0	48.9		ug/L		98	31 - 213	5	30
Chloroform			50.0	55.8		ug/L		112	70 - 130	1	30
Chloromethane			50.0	58.2		ug/L		116	59 - 127	5	30
cis-1,2-Dichloroethene			50.0	52.3		ug/L		105	70 - 130	1	30
cis-1,3-Dichloropropene			50.0	48.5		ug/L		97	70 - 130	1	20
Cyclohexane			50.0	48.4		ug/L		97	23 - 175	0	30
Dibromochloromethane			50.0	51.7		ug/L		103	70 - 130	0	30
Dichlorodifluoromethane			50.0	45.4		ug/L		91	70 - 130	3	40
Ethylbenzene			50.0	52.6		ug/L		105	70 - 130	0	20
Isopropylbenzene			50.0	55.0		ug/L		110	70 - 130	1	30
m,p-Xylenes			50.0	54.4		ug/L		109	70 - 130	0	30
Methyl acetate			100	79.2		ug/L		79	67 - 120	1	30
Methyl tert-butyl ether			50.0	52.3		ug/L		105	70 - 130	2	30
Methylene Chloride			50.0	53.4		ug/L		107	70 - 130	1	30
o-Xylene			50.0	54.2		ug/L		108	70 - 130	0	30
Styrene			50.0	52.8		ug/L		106	70 - 130	1	30
Tetrachloroethene			50.0	53.7		ug/L		107	70 - 130	1	30
Toluene			50.0	50.9		ug/L		102	70 - 130	1	30
trans-1,2-Dichloroethene			50.0	51.0		ug/L		102	70 - 130	2	30
trans-1,3-Dichloropropene			50.0	50.2		ug/L		100	70 - 130	0	30
Trichloroethene			50.0	47.8		ug/L		96	70 - 130	1	30
Trichlorofluoromethane			50.0	107	J3	ug/L		213	63 - 142	0	30
Vinyl chloride			50.0	45.5		ug/L		91	66 - 129	1	30
Xylenes, Total			100	109		ug/L		109	70 - 130	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 124*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
Dibromofluoromethane (Surr)	*103*		*70 - 130*
Toluene-d8 (Surr)	*94*		*70 - 130*

QC Association Summary

Client: Tetra Tech, Inc.
Job ID: 670-25814-1
Project/Site: NASA KSC LC34 HCS

GC/MS VOA

Analysis Batch: 796088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-25814-1	LC34-GAC-20230828	Total/NA	Water	8260D	
670-25814-2	LC34-AS1-20230828	Total/NA	Water	8260D	
670-25814-3	LC34-AS2-20230828	Total/NA	Water	8260D	
670-25814-4	LC34-RW17C-20230828	Total/NA	Water	8260D	
670-25814-5	LC34-RW18C-20230828	Total/NA	Water	8260D	
670-25814-6	LC34-RW19C-20230828	Total/NA	Water	8260D	
670-25814-7	LC34-RW20C-20230828	Total/NA	Water	8260D	
670-25814-8	LC34-RW21D-20230828	Total/NA	Water	8260D	
MB 680-796088/7	Method Blank	Total/NA	Water	8260D	
LCS 680-796088/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-796088/4	Lab Control Sample Dup	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-25814-1

Client Sample ID: LC34-GAC-20230828
Lab Sample ID: 670-25814-1
Date Collected: 08/28/23 10:15
Matrix: Water
Date Received: 08/28/23 13:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	796088	UI	EET SAV	09/01/23 12:54

Client Sample ID: LC34-AS1-20230828
Lab Sample ID: 670-25814-2
Date Collected: 08/28/23 10:20
Matrix: Water
Date Received: 08/28/23 13:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	796088	UI	EET SAV	09/01/23 13:13

Client Sample ID: LC34-AS2-20230828
Lab Sample ID: 670-25814-3
Date Collected: 08/28/23 10:25
Matrix: Water
Date Received: 08/28/23 13:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	796088	UI	EET SAV	09/01/23 13:32

Client Sample ID: LC34-RW17C-20230828
Lab Sample ID: 670-25814-4
Date Collected: 08/28/23 10:30
Matrix: Water
Date Received: 08/28/23 13:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2000	796088	UI	EET SAV	09/01/23 13:51

Client Sample ID: LC34-RW18C-20230828
Lab Sample ID: 670-25814-5
Date Collected: 08/28/23 10:35
Matrix: Water
Date Received: 08/28/23 13:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		250	796088	UI	EET SAV	09/01/23 14:10

Client Sample ID: LC34-RW19C-20230828
Lab Sample ID: 670-25814-6
Date Collected: 08/28/23 10:40
Matrix: Water
Date Received: 08/28/23 13:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2500	796088	UI	EET SAV	09/01/23 14:29

Client Sample ID: LC34-RW20C-20230828
Lab Sample ID: 670-25814-7
Date Collected: 08/28/23 10:45
Matrix: Water
Date Received: 08/28/23 13:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		250	796088	UI	EET SAV	09/01/23 14:48

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-25814-1
Project/Site: NASA KSC LC34 HCS

Client Sample ID: LC34-RW21D-20230828
Lab Sample ID: 670-25814-8

Date Collected: 08/28/23 10:50
Matrix: Water
Date Received: 08/28/23 13:18

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		250	796088	UI	EET SAV	09/01/23 15:07

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-25814-1
Project/Site: NASA KSC LC34 HCS

Laboratory: Eurofins Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-24
ANAB	Dept. of Defense ELAP	L2463	09-22-24
Arkansas DEQ	State	19-015-0	02-01-24
California	State	2939	06-30-23 *
Florida	NELAP	E87052	06-30-24
Georgia	State	E87052	06-30-24
Georgia (DW)	State	803	06-30-24
Guam	State	19-007R	04-17-24
Hawaii	State	<cert No.>	06-30-24
Illinois	NELAP	200022	11-30-23
Indiana	State	C-GA-02	06-30-24
Iowa	State	353	07-01-25
Kentucky (UST)	State	NA	06-30-24
Louisiana	NELAP	30690	06-30-24
Louisiana (All)	NELAP	30690	06-30-24
Louisiana (DW)	State	LA009	12-31-23
Maine	State	GA00006	09-25-24
Maryland	State	250	12-31-23
Massachusetts	State	M-GA006	06-30-24
Michigan	State	9925	06-30-24
Mississippi	State	<cert No.>	06-30-24
Nebraska	State	NE-OS-7-04	06-30-24
New Jersey	NELAP	GA769	06-30-24
New Mexico	State	GA00006	06-30-24
North Carolina (DW)	State	13701	07-31-24
North Carolina (WW/SW)	State	269	12-31-23
Pennsylvania	NELAP	68-00474	06-30-24
Puerto Rico	State	GA00006	01-01-24
South Carolina	State	98001	06-30-23 *
Tennessee	State	TN02961	06-30-24
Texas	NELAP	T1047004185	11-30-23
Texas	TCEQ Water Supply	T104704185	06-30-24
USDA	US Federal Programs	P330-18-00313	09-03-24
Virginia	NELAP	460161	06-14-24
Wyoming	State	8TMS-L	06-30-23 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-25814-1
Project/Site: NASA KSC LC34 HCS

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET SAV
5030B	Purge and Trap	SW846	EET SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HCS

Job ID: 670-25814-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-25814-1	LC34-GAC-20230828	Water	08/28/23 10:15	08/28/23 13:18
670-25814-2	LC34-AS1-20230828	Water	08/28/23 10:20	08/28/23 13:18
670-25814-3	LC34-AS2-20230828	Water	08/28/23 10:25	08/28/23 13:18
670-25814-4	LC34-RW17C-20230828	Water	08/28/23 10:30	08/28/23 13:18
670-25814-5	LC34-RW18C-20230828	Water	08/28/23 10:35	08/28/23 13:18
670-25814-6	LC34-RW19C-20230828	Water	08/28/23 10:40	08/28/23 13:18
670-25814-7	LC34-RW20C-20230828	Water	08/28/23 10:45	08/28/23 13:18
670-25814-8	LC34-RW21D-20230828	Water	08/28/23 10:50	08/28/23 13:18

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3656 | PAGE 1 OF 1

PROJECT NO: 112G08985	FACILITY: LC34 HCS	PROJECT MANAGER MARIC JANNEY	PHONE NUMBER 412-921-8622	LABORATORY NAME AND CONTACT: ENCO / EUROFINS
SAMPLERS (SIGNATURE) Chuck Sorden		FIELD OPERATIONS LEADER JOAN FORSTER	PHONE NUMBER 304-780-7428	ADDRESS 481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER		CITY, STATE ORLANDO, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2023)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): G	PRESERVATIVE USED: HCL	TYPE OF ANALYSIS: 8260 VOC's	COMMENTS
28 AUG	1015	LC34-GAC-20230828	LC34 HCS	/	/	GW	G	3	X			
	1020	LC34-AS1-20230828		/	/							
	1025	LC34-AS2-20230828		/	/							
	1030	LC34-RW17C-20230828		/	/							
	1035	LC34-RW18C-20230828		/	/							
	1040	LC34-RW19C-20230828		/	/							
	1045	LC34-RW20C-20230828		/	/							
	1050	LC34-RW21D-20230828		/	/	/	/	/	/			

670-25814 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	08/28/23	1306	1. RECEIVED BY	8/29/	1307
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	8-28-23	1307

COMMENTS 2,0/1,5

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

FORM NO. TtNUS-001 4/02R

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-14142.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-25814-1
Address: 5102 LaRoche Avenue, ,	Due Date Requested: 9/8/2023			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34 HCS	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030B NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-GAC-20230828 (670-25814-1)	8/28/23	10:15 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-AS1-20230828 (670-25814-2)	8/28/23	10:20 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-AS2-20230828 (670-25814-3)	8/28/23	10:25 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW17C-20230828 (670-25814-4)	8/28/23	10:30 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW18C-20230828 (670-25814-5)	8/28/23	10:35 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW19C-20230828 (670-25814-6)	8/28/23	10:40 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW20C-20230828 (670-25814-7)	8/28/23	10:45 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW21D-20230828 (670-25814-8)	8/28/23	10:50 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	DN	8/28 1519		T. Harley	08-29-23	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11:16	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.7 - 4.8

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-25814-1

Login Number: 25814

List Number: 1

Creator: Beck, Brent

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-25814-1

Login Number: 25814
List Number: 2
Creator: Harley, Tynisha

List Source: Eurofins Savannah
List Creation: 08/29/23 12:49 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-26136-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

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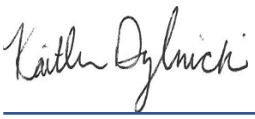

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Authorized for release by
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Definitions/Glossary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26136-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-26136-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-26136-1

REVISION

The report being provided is a revision of the original report sent on 9/7/2023. The report (revision 1) is being revised due to update of the reporting limit for cyclohexane..

Receipt
The samples were received on 9/1/2023 3:56 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.8°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 680-796791 recovered above the upper control limit for Chloromethane and Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: LC34-IW0165-110.0-20230901 (670-26136-1), LC34-IW0044D2-110.0-20230901 (670-26136-2) and LC34-IW0162-110.0-20230901 (670-26136-3).

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 680-796791 was outside the method criteria for the following analyte(s): Chloroethane. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 680-796791 recovered outside control limits for the following analytes: Chloromethane and Trichlorofluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-796791.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26136-1

Client Sample ID: LC34-IW0165-110.0-20230901 — Lab Sample ID: 670-26136-1

No Detections.

Client Sample ID: LC34-IW0044D2-110.0-20230901 — Lab Sample ID: 670-26136-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	410		250	93	ug/L	25		8260D	Total/NA
cis-1,2-Dichloroethene	1800		25	6.3	ug/L	25		8260D	Total/NA
Trichloroethene	2800		25	5.0	ug/L	25		8260D	Total/NA
Vinyl chloride	190		25	10	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-IW0162-110.0-20230901 — Lab Sample ID: 670-26136-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.7		1.0	0.25	ug/L	1		8260D	Total/NA
Trichloroethene	5.2		1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride	3.1		1.0	0.40	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26136-1

Client Sample ID: LC34-IW0165-110.0-20230901
Date Collected: 09/01/23 10:15
Date Received: 09/01/23 15:56

Lab Sample ID: 670-26136-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			09/07/23 13:41	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			09/07/23 13:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			09/07/23 13:41	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			09/07/23 13:41	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			09/07/23 13:41	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			09/07/23 13:41	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			09/07/23 13:41	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			09/07/23 13:41	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			09/07/23 13:41	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/07/23 13:41	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			09/07/23 13:41	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			09/07/23 13:41	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/07/23 13:41	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/07/23 13:41	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			09/07/23 13:41	1
2-Hexanone	3.2	U	10	3.2	ug/L			09/07/23 13:41	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			09/07/23 13:41	1
Acetone	3.7	U	10	3.7	ug/L			09/07/23 13:41	1
Benzene	0.27	U	1.0	0.27	ug/L			09/07/23 13:41	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			09/07/23 13:41	1
Bromoform	0.59	U	1.0	0.59	ug/L			09/07/23 13:41	1
Bromomethane	3.7	U	5.0	3.7	ug/L			09/07/23 13:41	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			09/07/23 13:41	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			09/07/23 13:41	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			09/07/23 13:41	1
Chloroethane	4.6	U	5.0	4.6	ug/L			09/07/23 13:41	1
Chloroform	0.27	U	1.0	0.27	ug/L			09/07/23 13:41	1
Chloromethane	0.54	U J3	1.0	0.54	ug/L			09/07/23 13:41	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			09/07/23 13:41	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			09/07/23 13:41	1
Cyclohexane	0.28	U	2.0	0.28	ug/L			09/07/23 13:41	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			09/07/23 13:41	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			09/07/23 13:41	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			09/07/23 13:41	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			09/07/23 13:41	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			09/07/23 13:41	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			09/07/23 13:41	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			09/07/23 13:41	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			09/07/23 13:41	1
o-Xylene	0.26	U	1.0	0.26	ug/L			09/07/23 13:41	1
Styrene	0.27	U	1.0	0.27	ug/L			09/07/23 13:41	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			09/07/23 13:41	1
Toluene	0.25	U	1.0	0.25	ug/L			09/07/23 13:41	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			09/07/23 13:41	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			09/07/23 13:41	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			09/07/23 13:41	1
Trichlorofluoromethane	0.33	U J3	1.0	0.33	ug/L			09/07/23 13:41	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			09/07/23 13:41	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			09/07/23 13:41	1

Client Sample ID: LC34-IW0165-110.0-20230901

Lab Sample ID: 670-26136-1

Date Collected: 09/01/23 10:15

Matrix: Water

Date Received: 09/01/23 15:56

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		60 - 124		09/07/23 13:41	1
4-Bromofluorobenzene (Surr)	115		70 - 130		09/07/23 13:41	1
Dibromofluoromethane (Surr)	105		70 - 130		09/07/23 13:41	1
Toluene-d8 (Surr)	94		70 - 130		09/07/23 13:41	1

Client Sample ID: LC34-IW0044D2-110.0-20230901

Lab Sample ID: 670-26136-2

Date Collected: 09/01/23 10:50

Matrix: Water

Date Received: 09/01/23 15:56

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	5.3	U	25	5.3	ug/L			09/07/23 14:02	25
1,1,2,2-Tetrachloroethane	10	U	25	10	ug/L			09/07/23 14:02	25
1,1,2-Trichloro-1,2,2-trifluoroethane	5.8	U	25	5.8	ug/L			09/07/23 14:02	25
1,1,2-Trichloroethane	8.0	U	25	8.0	ug/L			09/07/23 14:02	25
1,1-Dichloroethane	8.3	U	25	8.3	ug/L			09/07/23 14:02	25
1,1-Dichloroethene	8.3	U	25	8.3	ug/L			09/07/23 14:02	25
1,2,4-Trichlorobenzene	13	U	130	13	ug/L			09/07/23 14:02	25
1,2-Dibromo-3-Chloropropane	45	U	130	45	ug/L			09/07/23 14:02	25
1,2-Dibromoethane (EDB)	8.3	U	25	8.3	ug/L			09/07/23 14:02	25
1,2-Dichlorobenzene	7.8	U	25	7.8	ug/L			09/07/23 14:02	25
1,2-Dichloroethane	6.3	U	25	6.3	ug/L			09/07/23 14:02	25
1,2-Dichloropropane	5.5	U	25	5.5	ug/L			09/07/23 14:02	25
1,3-Dichlorobenzene	7.8	U	25	7.8	ug/L			09/07/23 14:02	25
1,4-Dichlorobenzene	7.8	U	25	7.8	ug/L			09/07/23 14:02	25
2-Butanone (MEK)	160	U	250	160	ug/L			09/07/23 14:02	25
2-Hexanone	80	U	250	80	ug/L			09/07/23 14:02	25
4-Methyl-2-pentanone	68	U	250	68	ug/L			09/07/23 14:02	25
Acetone	**410**		250	93	ug/L			09/07/23 14:02	25
Benzene	6.8	U	25	6.8	ug/L			09/07/23 14:02	25
Bromodichloromethane	6.3	U	25	6.3	ug/L			09/07/23 14:02	25
Bromoform	15	U	25	15	ug/L			09/07/23 14:02	25
Bromomethane	93	U	130	93	ug/L			09/07/23 14:02	25
Carbon disulfide	11	U	50	11	ug/L			09/07/23 14:02	25
Carbon tetrachloride	7.5	U	25	7.5	ug/L			09/07/23 14:02	25
Chlorobenzene	3.8	U	25	3.8	ug/L			09/07/23 14:02	25
Chloroethane	120	U	130	120	ug/L			09/07/23 14:02	25
Chloroform	6.8	U	25	6.8	ug/L			09/07/23 14:02	25
Chloromethane	14	U J3	25	14	ug/L			09/07/23 14:02	25
cis-1,2-Dichloroethene	**1800**		25	6.3	ug/L			09/07/23 14:02	25
cis-1,3-Dichloropropene	6.5	U	25	6.5	ug/L			09/07/23 14:02	25
Cyclohexane	7.0	U	50	7.0	ug/L			09/07/23 14:02	25
Dibromochloromethane	9.8	U	25	9.8	ug/L			09/07/23 14:02	25
Dichlorodifluoromethane	9.0	U	25	9.0	ug/L			09/07/23 14:02	25
Ethylbenzene	5.0	U	25	5.0	ug/L			09/07/23 14:02	25
Isopropylbenzene	6.5	U	25	6.5	ug/L			09/07/23 14:02	25
m,p-Xylenes	12	U	25	12	ug/L			09/07/23 14:02	25
Methyl acetate	80	U	130	80	ug/L			09/07/23 14:02	25
Methyl tert-butyl ether	20	U	130	20	ug/L			09/07/23 14:02	25
Methylene Chloride	80	U	130	80	ug/L			09/07/23 14:02	25

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26136-1

Client Sample ID: LC34-IW0044D2-110.0-20230901

Lab Sample ID: 670-26136-2

Date Collected: 09/01/23 10:50

Matrix: Water

Date Received: 09/01/23 15:56

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	6.5	U	25	6.5	ug/L			09/07/23 14:02	25
Styrene	6.8	U	25	6.8	ug/L			09/07/23 14:02	25
Tetrachloroethene	8.8	U	25	8.8	ug/L			09/07/23 14:02	25
Toluene	6.3	U	25	6.3	ug/L			09/07/23 14:02	25
trans-1,2-Dichloroethene	8.5	U	25	8.5	ug/L			09/07/23 14:02	25
trans-1,3-Dichloropropene	5.8	U	25	5.8	ug/L			09/07/23 14:02	25
Trichloroethene	**2800**		25	5.0	ug/L			09/07/23 14:02	25
Trichlorofluoromethane	8.3	U J3	25	8.3	ug/L			09/07/23 14:02	25
Vinyl chloride	**190**		25	10	ug/L			09/07/23 14:02	25
Xylenes, Total	5.8	U	25	5.8	ug/L			09/07/23 14:02	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 124*		*09/07/23 14:02*	*25*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*		*09/07/23 14:02*	*25*
Dibromofluoromethane (Surr)	*106*		*70 - 130*		*09/07/23 14:02*	*25*
Toluene-d8 (Surr)	*93*		*70 - 130*		*09/07/23 14:02*	*25*

Client Sample ID: LC34-IW0162-110.0-20230901

Lab Sample ID: 670-26136-3

Date Collected: 09/01/23 11:25

Matrix: Water

Date Received: 09/01/23 15:56

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			09/07/23 14:21	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			09/07/23 14:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			09/07/23 14:21	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			09/07/23 14:21	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			09/07/23 14:21	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			09/07/23 14:21	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			09/07/23 14:21	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			09/07/23 14:21	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			09/07/23 14:21	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/07/23 14:21	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			09/07/23 14:21	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			09/07/23 14:21	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/07/23 14:21	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/07/23 14:21	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			09/07/23 14:21	1
2-Hexanone	3.2	U	10	3.2	ug/L			09/07/23 14:21	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			09/07/23 14:21	1
Acetone	3.7	U	10	3.7	ug/L			09/07/23 14:21	1
Benzene	0.27	U	1.0	0.27	ug/L			09/07/23 14:21	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			09/07/23 14:21	1
Bromoform	0.59	U	1.0	0.59	ug/L			09/07/23 14:21	1
Bromomethane	3.7	U	5.0	3.7	ug/L			09/07/23 14:21	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			09/07/23 14:21	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			09/07/23 14:21	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			09/07/23 14:21	1
Chloroethane	4.6	U	5.0	4.6	ug/L			09/07/23 14:21	1
Chloroform	0.27	U	1.0	0.27	ug/L			09/07/23 14:21	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26136-1

Client Sample ID: LC34-IW0162-110.0-20230901
Date Collected: 09/01/23 11:25
Date Received: 09/01/23 15:56

Lab Sample ID: 670-26136-3
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	0.54	U J3	1.0	0.54	ug/L			09/07/23 14:21	1
cis-1,2-Dichloroethene	**3.7**		1.0	0.25	ug/L			09/07/23 14:21	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			09/07/23 14:21	1
Cyclohexane	0.28	U	2.0	0.28	ug/L			09/07/23 14:21	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			09/07/23 14:21	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			09/07/23 14:21	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			09/07/23 14:21	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			09/07/23 14:21	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			09/07/23 14:21	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			09/07/23 14:21	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			09/07/23 14:21	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			09/07/23 14:21	1
o-Xylene	0.26	U	1.0	0.26	ug/L			09/07/23 14:21	1
Styrene	0.27	U	1.0	0.27	ug/L			09/07/23 14:21	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			09/07/23 14:21	1
Toluene	0.25	U	1.0	0.25	ug/L			09/07/23 14:21	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			09/07/23 14:21	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			09/07/23 14:21	1
Trichloroethene	**5.2**		1.0	0.20	ug/L			09/07/23 14:21	1
Trichlorofluoromethane	0.33	U J3	1.0	0.33	ug/L			09/07/23 14:21	1
Vinyl chloride	**3.1**		1.0	0.40	ug/L			09/07/23 14:21	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			09/07/23 14:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 124*		*09/07/23 14:21*	*1*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*		*09/07/23 14:21*	*1*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*09/07/23 14:21*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*		*09/07/23 14:21*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26136-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-124)	(70-130)	(70-130)	(70-130)
670-26136-1	LC34-IW0165-110.0-20230901	98	115	105	94
670-26136-2	LC34-IW0044D2-110.0-20230901	97	111	106	93
670-26136-3	LC34-IW0162-110.0-20230901	97	117	105	95
LCS 680-796791/4	Lab Control Sample	92	111	103	94
LCSD 680-796791/5	Lab Control Sample Dup	94	110	103	94
MB 680-796791/8	Method Blank	96	118	104	94

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26136-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 680-796791/8
Matrix: Water
Analysis Batch: 796791

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			09/07/23 12:23	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			09/07/23 12:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			09/07/23 12:23	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			09/07/23 12:23	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			09/07/23 12:23	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			09/07/23 12:23	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			09/07/23 12:23	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			09/07/23 12:23	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			09/07/23 12:23	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/07/23 12:23	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			09/07/23 12:23	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			09/07/23 12:23	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/07/23 12:23	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/07/23 12:23	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			09/07/23 12:23	1
2-Hexanone	3.2	U	10	3.2	ug/L			09/07/23 12:23	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			09/07/23 12:23	1
Acetone	3.7	U	10	3.7	ug/L			09/07/23 12:23	1
Benzene	0.27	U	1.0	0.27	ug/L			09/07/23 12:23	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			09/07/23 12:23	1
Bromoform	0.59	U	1.0	0.59	ug/L			09/07/23 12:23	1
Bromomethane	3.7	U	5.0	3.7	ug/L			09/07/23 12:23	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			09/07/23 12:23	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			09/07/23 12:23	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			09/07/23 12:23	1
Chloroethane	4.6	U	5.0	4.6	ug/L			09/07/23 12:23	1
Chloroform	0.27	U	1.0	0.27	ug/L			09/07/23 12:23	1
Chloromethane	0.54	U	1.0	0.54	ug/L			09/07/23 12:23	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			09/07/23 12:23	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			09/07/23 12:23	1
Cyclohexane	0.28	U	2.0	0.28	ug/L			09/07/23 12:23	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			09/07/23 12:23	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			09/07/23 12:23	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			09/07/23 12:23	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			09/07/23 12:23	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			09/07/23 12:23	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			09/07/23 12:23	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			09/07/23 12:23	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			09/07/23 12:23	1
o-Xylene	0.26	U	1.0	0.26	ug/L			09/07/23 12:23	1
Styrene	0.27	U	1.0	0.27	ug/L			09/07/23 12:23	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			09/07/23 12:23	1
Toluene	0.25	U	1.0	0.25	ug/L			09/07/23 12:23	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			09/07/23 12:23	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			09/07/23 12:23	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			09/07/23 12:23	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			09/07/23 12:23	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			09/07/23 12:23	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-796791/8
Matrix: Water
Analysis Batch: 796791

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	0.23	U	1.0	0.23	ug/L			09/07/23 12:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*60 - 124*		*09/07/23 12:23*	*1*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*		*09/07/23 12:23*	*1*
Dibromofluoromethane (Surr)	*104*		*70 - 130*		*09/07/23 12:23*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*09/07/23 12:23*	*1*

Lab Sample ID: LCS 680-796791/4
Matrix: Water
Analysis Batch: 796791

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	51.3		ug/L		103	70 - 130
1,1,2,2-Tetrachloroethane	50.0	48.0		ug/L		96	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	50.1		ug/L		100	63 - 141
1,1,2-Trichloroethane	50.0	52.4		ug/L		105	70 - 130
1,1-Dichloroethane	50.0	53.2		ug/L		106	70 - 130
1,1-Dichloroethene	50.0	50.9		ug/L		102	70 - 130
1,2,4-Trichlorobenzene	50.0	47.9		ug/L		96	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	47.1		ug/L		94	70 - 130
1,2-Dibromoethane (EDB)	50.0	47.1		ug/L		94	70 - 130
1,2-Dichlorobenzene	50.0	51.8		ug/L		104	70 - 130
1,2-Dichloroethane	50.0	46.9		ug/L		94	70 - 130
1,2-Dichloropropane	50.0	54.4		ug/L		109	70 - 130
1,3-Dichlorobenzene	50.0	53.2		ug/L		106	70 - 130
1,4-Dichlorobenzene	50.0	50.9		ug/L		102	70 - 130
2-Butanone (MEK)	250	228		ug/L		91	69 - 120
2-Hexanone	250	244		ug/L		98	70 - 130
4-Methyl-2-pentanone	250	225		ug/L		90	68 - 120
Acetone	250	236		ug/L		95	67 - 120
Benzene	50.0	54.0		ug/L		108	70 - 130
Bromodichloromethane	50.0	50.9		ug/L		102	70 - 130
Bromoform	50.0	44.3		ug/L		89	69 - 129
Bromomethane	50.0	51.3		ug/L		103	28 - 192
Carbon disulfide	50.0	47.9		ug/L		96	70 - 130
Carbon tetrachloride	50.0	51.2		ug/L		102	70 - 130
Chlorobenzene	50.0	48.1		ug/L		96	70 - 130
Chloroethane	50.0	31.0		ug/L		62	31 - 213
Chloroform	50.0	54.0		ug/L		108	70 - 130
Chloromethane	50.0	67.5	J3	ug/L		135	59 - 127
cis-1,2-Dichloroethene	50.0	54.1		ug/L		108	70 - 130
cis-1,3-Dichloropropene	50.0	47.5		ug/L		95	70 - 130
Cyclohexane	50.0	51.1		ug/L		102	23 - 175
Dibromochloromethane	50.0	49.4		ug/L		99	70 - 130
Dichlorodifluoromethane	50.0	46.6		ug/L		93	70 - 130
Ethylbenzene	50.0	52.4		ug/L		105	70 - 130
Isopropylbenzene	50.0	54.5		ug/L		109	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-796791/4
Matrix: Water
Analysis Batch: 796791

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	53.8		ug/L		108	70 - 130
Methyl acetate	100	87.4		ug/L		87	67 - 120
Methyl tert-butyl ether	50.0	51.1		ug/L		102	70 - 130
Methylene Chloride	50.0	46.6		ug/L		93	70 - 130
o-Xylene	50.0	53.1		ug/L		106	70 - 130
Styrene	50.0	54.6		ug/L		109	70 - 130
Tetrachloroethene	50.0	52.4		ug/L		105	70 - 130
Toluene	50.0	51.5		ug/L		103	70 - 130
trans-1,2-Dichloroethene	50.0	51.3		ug/L		103	70 - 130
trans-1,3-Dichloropropene	50.0	49.6		ug/L		99	70 - 130
Trichloroethene	50.0	49.2		ug/L		98	70 - 130
Trichlorofluoromethane	50.0	90.8	J3	ug/L		182	63 - 142
Vinyl chloride	50.0	45.5		ug/L		91	66 - 129
Xylenes, Total	100	107		ug/L		107	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*60 - 124*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
Dibromofluoromethane (Surr)	*103*		*70 - 130*
Toluene-d8 (Surr)	*94*		*70 - 130*

Lab Sample ID: LCSD 680-796791/5
Matrix: Water
Analysis Batch: 796791

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	51.8		ug/L		104	70 - 130	1	30
1,1,2,2-Tetrachloroethane	50.0	49.6		ug/L		99	70 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	48.2		ug/L		96	63 - 141	4	30
1,1,2-Trichloroethane	50.0	53.9		ug/L		108	70 - 130	3	30
1,1-Dichloroethane	50.0	55.0		ug/L		110	70 - 130	3	30
1,1-Dichloroethene	50.0	58.9		ug/L		118	70 - 130	15	20
1,2,4-Trichlorobenzene	50.0	45.0		ug/L		90	70 - 130	6	30
1,2-Dibromo-3-Chloropropane	50.0	44.3		ug/L		89	70 - 130	6	30
1,2-Dibromoethane (EDB)	50.0	48.3		ug/L		97	70 - 130	2	30
1,2-Dichlorobenzene	50.0	50.4		ug/L		101	70 - 130	3	30
1,2-Dichloroethane	50.0	48.4		ug/L		97	70 - 130	3	50
1,2-Dichloropropane	50.0	55.6		ug/L		111	70 - 130	2	20
1,3-Dichlorobenzene	50.0	51.9		ug/L		104	70 - 130	2	30
1,4-Dichlorobenzene	50.0	50.3		ug/L		101	70 - 130	1	30
2-Butanone (MEK)	250	240		ug/L		96	69 - 120	5	30
2-Hexanone	250	255		ug/L		102	70 - 130	4	20
4-Methyl-2-pentanone	250	233		ug/L		93	68 - 120	4	30
Acetone	250	259		ug/L		103	67 - 120	9	30
Benzene	50.0	54.8		ug/L		110	70 - 130	2	30
Bromodichloromethane	50.0	51.8		ug/L		104	70 - 130	2	30
Bromoform	50.0	45.7		ug/L		91	69 - 129	3	30
Bromomethane	50.0	53.8		ug/L		108	28 - 192	5	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-796791/5
Matrix: Water
Analysis Batch: 796791

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon disulfide			50.0	48.8		ug/L		98	70 - 130	2	30
Carbon tetrachloride			50.0	51.4		ug/L		103	70 - 130	0	30
Chlorobenzene			50.0	48.9		ug/L		98	70 - 130	2	30
Chloroethane			50.0	27.9		ug/L		56	31 - 213	11	30
Chloroform			50.0	55.6		ug/L		111	70 - 130	3	30
Chloromethane			50.0	71.1	J3	ug/L		142	59 - 127	5	30
cis-1,2-Dichloroethene			50.0	55.1		ug/L		110	70 - 130	2	30
cis-1,3-Dichloropropene			50.0	48.5		ug/L		97	70 - 130	2	20
Cyclohexane			50.0	52.6		ug/L		105	23 - 175	3	30
Dibromochloromethane			50.0	50.0		ug/L		100	70 - 130	1	30
Dichlorodifluoromethane			50.0	35.2		ug/L		70	70 - 130	28	40
Ethylbenzene			50.0	53.1		ug/L		106	70 - 130	1	20
Isopropylbenzene			50.0	55.4		ug/L		111	70 - 130	2	30
m,p-Xylenes			50.0	54.6		ug/L		109	70 - 130	2	30
Methyl acetate			100	91.3		ug/L		91	67 - 120	4	30
Methyl tert-butyl ether			50.0	52.6		ug/L		105	70 - 130	3	30
Methylene Chloride			50.0	49.3		ug/L		99	70 - 130	6	30
o-Xylene			50.0	54.5		ug/L		109	70 - 130	3	30
Styrene			50.0	55.8		ug/L		112	70 - 130	2	30
Tetrachloroethene			50.0	53.6		ug/L		107	70 - 130	2	30
Toluene			50.0	52.8		ug/L		106	70 - 130	2	30
trans-1,2-Dichloroethene			50.0	52.6		ug/L		105	70 - 130	2	30
trans-1,3-Dichloropropene			50.0	51.0		ug/L		102	70 - 130	3	30
Trichloroethene			50.0	49.7		ug/L		99	70 - 130	1	30
Trichlorofluoromethane			50.0	70.6		ug/L		141	63 - 142	25	30
Vinyl chloride			50.0	49.7		ug/L		99	66 - 129	9	30
Xylenes, Total			100	109		ug/L		109	70 - 130	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*60 - 124*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
Dibromofluoromethane (Surr)	*103*		*70 - 130*
Toluene-d8 (Surr)	*94*		*70 - 130*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26136-1

GC/MS VOA

Analysis Batch: 796791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-26136-1	LC34-IW0165-110.0-20230901	Total/NA	Water	8260D	
670-26136-2	LC34-IW0044D2-110.0-20230901	Total/NA	Water	8260D	
670-26136-3	LC34-IW0162-110.0-20230901	Total/NA	Water	8260D	
MB 680-796791/8	Method Blank	Total/NA	Water	8260D	
LCS 680-796791/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-796791/5	Lab Control Sample Dup	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26136-1

Client Sample ID: LC34-IW0165-110.0-20230901
Lab Sample ID: 670-26136-1
Date Collected: 09/01/23 10:15
Matrix: Water
Date Received: 09/01/23 15:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	796791	MLL	EET SAV	09/07/23 13:41

Client Sample ID: LC34-IW0044D2-110.0-20230901
Lab Sample ID: 670-26136-2
Date Collected: 09/01/23 10:50
Matrix: Water
Date Received: 09/01/23 15:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		25	796791	MLL	EET SAV	09/07/23 14:02

Client Sample ID: LC34-IW0162-110.0-20230901
Lab Sample ID: 670-26136-3
Date Collected: 09/01/23 11:25
Matrix: Water
Date Received: 09/01/23 15:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	796791	MLL	EET SAV	09/07/23 14:21

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26136-1

Laboratory: Eurofins Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-24
ANAB	Dept. of Defense ELAP	L2463	09-22-24
Arkansas DEQ	State	19-015-0	02-01-24
California	State	2939	06-30-23 *
Florida	NELAP	E87052	06-30-24
Georgia	State	E87052	06-30-24
Georgia (DW)	State	803	06-30-24
Guam	State	19-007R	04-17-24
Hawaii	State	<cert No.>	06-30-24
Illinois	NELAP	200022	11-30-23
Indiana	State	C-GA-02	06-30-24
Iowa	State	353	07-01-25
Kentucky (UST)	State	NA	06-30-24
Louisiana	NELAP	30690	06-30-24
Louisiana (All)	NELAP	30690	06-30-24
Louisiana (DW)	State	LA009	12-31-23
Maine	State	GA00006	09-25-24
Maryland	State	250	12-31-23
Massachusetts	State	M-GA006	06-30-24
Michigan	State	9925	06-30-24
Mississippi	State	<cert No.>	06-30-24
Nebraska	State	NE-OS-7-04	06-30-24
New Jersey	NELAP	GA769	06-30-24
New Mexico	State	GA00006	06-30-24
North Carolina (DW)	State	13701	07-31-24
North Carolina (WW/SW)	State	269	12-31-23
Pennsylvania	NELAP	68-00474	06-30-24
Puerto Rico	State	GA00006	01-01-24
South Carolina	State	98001	06-30-23 *
Tennessee	State	TN02961	06-30-24
Texas	NELAP	T1047004185	11-30-23
Texas	TCEQ Water Supply	T104704185	06-30-24
USDA	US Federal Programs	P330-18-00313	09-03-24
Virginia	NELAP	460161	06-14-24
Wyoming	State	8TMS-L	06-30-23 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26136-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET SAV
5030B	Purge and Trap	SW846	EET SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26136-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-26136-1	LC34-IW0165-110.0-20230901	Water	09/01/23 10:15	09/01/23 15:56
670-26136-2	LC34-IW0044D2-110.0-20230901	Water	09/01/23 10:50	09/01/23 15:56
670-26136-3	LC34-IW0162-110.0-20230901	Water	09/01/23 11:25	09/01/23 15:56

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3707 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112 G 089 85	KSC-LC34	Mark Jonnet	(412) 921-8622	Eurofins — Kaitlin Dylnicki
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
[signature] - Chuck Sorden		Chuck Sorden	(321) 591-7580	481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER		CITY, STATE
		Eurofins Project #: 67001156		Altamonte Springs, FL

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☒ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G

PRESERVATIVE USED: HCl/4°C

TYPE OF ANALYSIS: 8260D-(MOD) NASA LC34 Custom List

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	8260D-(MOD) NASA LC34 Custom List								COMMENTS
09/01	1015	LC34-IW0165-110.0-20230901	165	105	115	GW	G	3	X								
09/01	1050	LC34-IW0044D2-110.0-20230901	44D2	105	115	GW	G	3	X								
09/01	1125	LC34-IW0162-110.0-20230901	162	105	115	GW	G	3	X								

670-26136 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY [signature]	09/01/23	1400	1. RECEIVED BY James W Gregory	9/1/23	1400
2. RELINQUISHED BY			2. RECEIVED BY MC	9/1/23	1556
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS

3.3 12.8

596

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R

FORM NO. TNUS-001

9/8/2023 (Rev. 1)

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-14467.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-26136-1
Address: 5102 LaRoche Avenue, ,	Due Date Requested: 9/7/2023			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030B (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-IW0165-110.0-20230901 (670-26136-1)	9/1/23	10:15 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-IW0044D2-110.0-20230901 (670-26136-2)	9/1/23	10:50 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-IW0162-110.0-20230901 (670-26136-3)	9/1/23	11:25 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	9/5 1400		TH	09-06-23	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12:14	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.7 - 2.8

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-26136-1

Login Number: 26136
List Number: 1
Creator: Clerisier, Meline

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-26136-1

Login Number: 26136
List Number: 2
Creator: Harley, Tynisha

List Source: Eurofins Savannah
List Creation: 09/06/23 12:19 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 9/21/2023 3:48:10 AM

JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-26913-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

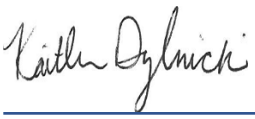
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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9/21/2023 3:48:10 AM

Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-26913-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-26913-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-26913-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 9/16/2023 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.8°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 680-798769 recovered above the upper control limit for 1,1,2-Trichloro-1,2,2-trifluoroethane, Bromomethane and Chloroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 680-798769/3).

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-798769.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26913-1

Client Sample ID: LC34-IW0162-110.0-20230915 — Lab Sample ID: 670-26913-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.1		1.0	0.25	ug/L	1		8260D	Total/NA
Trichloroethene	4.4		1.0	0.20	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0044D2-110.0-20230915 — Lab Sample ID: 670-26913-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2600		200	50	ug/L	200		8260D	Total/NA
Trichloroethene	12000		200	40	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-IW00165-110.0-20230915 — Lab Sample ID: 670-26913-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26913-1

Client Sample ID: LC34-IW0162-110.0-20230915
Date Collected: 09/15/23 10:46
Date Received: 09/16/23 08:00

Lab Sample ID: 670-26913-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			09/20/23 16:22	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			09/20/23 16:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			09/20/23 16:22	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			09/20/23 16:22	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			09/20/23 16:22	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			09/20/23 16:22	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			09/20/23 16:22	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			09/20/23 16:22	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			09/20/23 16:22	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/20/23 16:22	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			09/20/23 16:22	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			09/20/23 16:22	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/20/23 16:22	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/20/23 16:22	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			09/20/23 16:22	1
2-Hexanone	3.2	U	10	3.2	ug/L			09/20/23 16:22	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			09/20/23 16:22	1
Acetone	3.7	U	10	3.7	ug/L			09/20/23 16:22	1
Benzene	0.27	U	1.0	0.27	ug/L			09/20/23 16:22	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			09/20/23 16:22	1
Bromoform	0.59	U	1.0	0.59	ug/L			09/20/23 16:22	1
Bromomethane	3.7	U	5.0	3.7	ug/L			09/20/23 16:22	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			09/20/23 16:22	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			09/20/23 16:22	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			09/20/23 16:22	1
Chloroethane	4.6	U	5.0	4.6	ug/L			09/20/23 16:22	1
Chloroform	0.27	U	1.0	0.27	ug/L			09/20/23 16:22	1
Chloromethane	0.54	U	1.0	0.54	ug/L			09/20/23 16:22	1
cis-1,2-Dichloroethene	**2.1**		1.0	0.25	ug/L			09/20/23 16:22	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			09/20/23 16:22	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			09/20/23 16:22	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			09/20/23 16:22	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			09/20/23 16:22	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			09/20/23 16:22	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			09/20/23 16:22	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			09/20/23 16:22	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			09/20/23 16:22	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			09/20/23 16:22	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			09/20/23 16:22	1
o-Xylene	0.26	U	1.0	0.26	ug/L			09/20/23 16:22	1
Styrene	0.27	U	1.0	0.27	ug/L			09/20/23 16:22	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			09/20/23 16:22	1
Toluene	0.25	U	1.0	0.25	ug/L			09/20/23 16:22	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			09/20/23 16:22	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			09/20/23 16:22	1
Trichloroethene	**4.4**		1.0	0.20	ug/L			09/20/23 16:22	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			09/20/23 16:22	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			09/20/23 16:22	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			09/20/23 16:22	1

Client Sample ID: LC34-IW0162-110.0-20230915

Lab Sample ID: 670-26913-1

Date Collected: 09/15/23 10:46

Matrix: Water

Date Received: 09/16/23 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		60 - 124		09/20/23 16:22	1
4-Bromofluorobenzene (Surr)	89		70 - 130		09/20/23 16:22	1
Dibromofluoromethane (Surr)	93		70 - 130		09/20/23 16:22	1
Toluene-d8 (Surr)	113		70 - 130		09/20/23 16:22	1

Client Sample ID: LC34-IW0044D2-110.0-20230915

Lab Sample ID: 670-26913-2

Date Collected: 09/15/23 11:30

Matrix: Water

Date Received: 09/16/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	42	U	200	42	ug/L			09/20/23 16:41	200
1,1,2,2-Tetrachloroethane	80	U	200	80	ug/L			09/20/23 16:41	200
1,1,2-Trichloro-1,2,2-trifluoroethane	46	U	200	46	ug/L			09/20/23 16:41	200
1,1,2-Trichloroethane	64	U	200	64	ug/L			09/20/23 16:41	200
1,1-Dichloroethane	66	U	200	66	ug/L			09/20/23 16:41	200
1,1-Dichloroethene	66	U	200	66	ug/L			09/20/23 16:41	200
1,2,4-Trichlorobenzene	110	U	1000	110	ug/L			09/20/23 16:41	200
1,2-Dibromo-3-Chloropropane	360	U	1000	360	ug/L			09/20/23 16:41	200
1,2-Dibromoethane (EDB)	66	U	200	66	ug/L			09/20/23 16:41	200
1,2-Dichlorobenzene	62	U	200	62	ug/L			09/20/23 16:41	200
1,2-Dichloroethane	50	U	200	50	ug/L			09/20/23 16:41	200
1,2-Dichloropropane	44	U	200	44	ug/L			09/20/23 16:41	200
1,3-Dichlorobenzene	62	U	200	62	ug/L			09/20/23 16:41	200
1,4-Dichlorobenzene	62	U	200	62	ug/L			09/20/23 16:41	200
2-Butanone (MEK)	1300	U	2000	1300	ug/L			09/20/23 16:41	200
2-Hexanone	640	U	2000	640	ug/L			09/20/23 16:41	200
4-Methyl-2-pentanone	540	U	2000	540	ug/L			09/20/23 16:41	200
Acetone	740	U	2000	740	ug/L			09/20/23 16:41	200
Benzene	54	U	200	54	ug/L			09/20/23 16:41	200
Bromodichloromethane	50	U	200	50	ug/L			09/20/23 16:41	200
Bromoform	120	U	200	120	ug/L			09/20/23 16:41	200
Bromomethane	740	U	1000	740	ug/L			09/20/23 16:41	200
Carbon disulfide	86	U	400	86	ug/L			09/20/23 16:41	200
Carbon tetrachloride	60	U	200	60	ug/L			09/20/23 16:41	200
Chlorobenzene	30	U	200	30	ug/L			09/20/23 16:41	200
Chloroethane	920	U	1000	920	ug/L			09/20/23 16:41	200
Chloroform	54	U	200	54	ug/L			09/20/23 16:41	200
Chloromethane	110	U	200	110	ug/L			09/20/23 16:41	200
cis-1,2-Dichloroethene	**2600**		200	50	ug/L			09/20/23 16:41	200
cis-1,3-Dichloropropene	52	U	200	52	ug/L			09/20/23 16:41	200
Cyclohexane	56	U	200	56	ug/L			09/20/23 16:41	200
Dibromochloromethane	78	U	200	78	ug/L			09/20/23 16:41	200
Dichlorodifluoromethane	72	U	200	72	ug/L			09/20/23 16:41	200
Ethylbenzene	40	U	200	40	ug/L			09/20/23 16:41	200
Isopropylbenzene	52	U	200	52	ug/L			09/20/23 16:41	200
m,p-Xylenes	98	U	200	98	ug/L			09/20/23 16:41	200
Methyl acetate	640	U	1000	640	ug/L			09/20/23 16:41	200
Methyl tert-butyl ether	160	U	1000	160	ug/L			09/20/23 16:41	200
Methylene Chloride	640	U	1000	640	ug/L			09/20/23 16:41	200

Client Sample ID: LC34-IW0044D2-110.0-20230915
Lab Sample ID: 670-26913-2

Date Collected: 09/15/23 11:30
Matrix: Water
Date Received: 09/16/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	52	U	200	52	ug/L			09/20/23 16:41	200
Styrene	54	U	200	54	ug/L			09/20/23 16:41	200
Tetrachloroethene	70	U	200	70	ug/L			09/20/23 16:41	200
Toluene	50	U	200	50	ug/L			09/20/23 16:41	200
trans-1,2-Dichloroethene	68	U	200	68	ug/L			09/20/23 16:41	200
trans-1,3-Dichloropropene	46	U	200	46	ug/L			09/20/23 16:41	200
Trichloroethene	**12000**		200	40	ug/L			09/20/23 16:41	200
Trichlorofluoromethane	66	U	200	66	ug/L			09/20/23 16:41	200
Vinyl chloride	80	U	200	80	ug/L			09/20/23 16:41	200
Xylenes, Total	46	U	200	46	ug/L			09/20/23 16:41	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*81*		*60 - 124*		*09/20/23 16:41*	*200*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*		*09/20/23 16:41*	*200*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*09/20/23 16:41*	*200*
Toluene-d8 (Surr)	*114*		*70 - 130*		*09/20/23 16:41*	*200*

Client Sample ID: LC34-IW00165-110.0-20230915
Lab Sample ID: 670-26913-3

Date Collected: 09/15/23 12:02
Matrix: Water
Date Received: 09/16/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			09/20/23 17:00	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			09/20/23 17:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			09/20/23 17:00	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			09/20/23 17:00	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			09/20/23 17:00	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			09/20/23 17:00	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			09/20/23 17:00	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			09/20/23 17:00	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			09/20/23 17:00	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/20/23 17:00	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			09/20/23 17:00	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			09/20/23 17:00	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/20/23 17:00	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/20/23 17:00	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			09/20/23 17:00	1
2-Hexanone	3.2	U	10	3.2	ug/L			09/20/23 17:00	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			09/20/23 17:00	1
Acetone	3.7	U	10	3.7	ug/L			09/20/23 17:00	1
Benzene	0.27	U	1.0	0.27	ug/L			09/20/23 17:00	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			09/20/23 17:00	1
Bromoform	0.59	U	1.0	0.59	ug/L			09/20/23 17:00	1
Bromomethane	3.7	U	5.0	3.7	ug/L			09/20/23 17:00	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			09/20/23 17:00	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			09/20/23 17:00	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			09/20/23 17:00	1
Chloroethane	4.6	U	5.0	4.6	ug/L			09/20/23 17:00	1
Chloroform	0.27	U	1.0	0.27	ug/L			09/20/23 17:00	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26913-1

Client Sample ID: LC34-IW00165-110.0-20230915
Date Collected: 09/15/23 12:02
Date Received: 09/16/23 08:00

Lab Sample ID: 670-26913-3
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	0.54	U	1.0	0.54	ug/L			09/20/23 17:00	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			09/20/23 17:00	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			09/20/23 17:00	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			09/20/23 17:00	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			09/20/23 17:00	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			09/20/23 17:00	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			09/20/23 17:00	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			09/20/23 17:00	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			09/20/23 17:00	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			09/20/23 17:00	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			09/20/23 17:00	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			09/20/23 17:00	1
o-Xylene	0.26	U	1.0	0.26	ug/L			09/20/23 17:00	1
Styrene	0.27	U	1.0	0.27	ug/L			09/20/23 17:00	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			09/20/23 17:00	1
Toluene	0.25	U	1.0	0.25	ug/L			09/20/23 17:00	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			09/20/23 17:00	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			09/20/23 17:00	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			09/20/23 17:00	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			09/20/23 17:00	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			09/20/23 17:00	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			09/20/23 17:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*60 - 124*		*09/20/23 17:00*	*1*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*		*09/20/23 17:00*	*1*
Dibromofluoromethane (Surr)	*94*		*70 - 130*		*09/20/23 17:00*	*1*
Toluene-d8 (Surr)	*116*		*70 - 130*		*09/20/23 17:00*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26913-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-124)	(70-130)	(70-130)	(70-130)
670-26913-1	LC34-IW0162-110.0-20230915	82	89	93	113
670-26913-2	LC34-IW0044D2-110.0-20230915	81	88	93	114
670-26913-3	LC34-IW00165-110.0-20230915	83	88	94	116
LCS 680-798769/4	Lab Control Sample	89	80	96	100
LCSD 680-798769/5	Lab Control Sample Dup	88	79	92	99
MB 680-798769/10	Method Blank	82	90	95	116

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 680-798769/10
Matrix: Water
Analysis Batch: 798769

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			09/20/23 15:37	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			09/20/23 15:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			09/20/23 15:37	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			09/20/23 15:37	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			09/20/23 15:37	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			09/20/23 15:37	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			09/20/23 15:37	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			09/20/23 15:37	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			09/20/23 15:37	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/20/23 15:37	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			09/20/23 15:37	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			09/20/23 15:37	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/20/23 15:37	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			09/20/23 15:37	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			09/20/23 15:37	1
2-Hexanone	3.2	U	10	3.2	ug/L			09/20/23 15:37	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			09/20/23 15:37	1
Acetone	3.7	U	10	3.7	ug/L			09/20/23 15:37	1
Benzene	0.27	U	1.0	0.27	ug/L			09/20/23 15:37	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			09/20/23 15:37	1
Bromoform	0.59	U	1.0	0.59	ug/L			09/20/23 15:37	1
Bromomethane	3.7	U	5.0	3.7	ug/L			09/20/23 15:37	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			09/20/23 15:37	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			09/20/23 15:37	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			09/20/23 15:37	1
Chloroethane	4.6	U	5.0	4.6	ug/L			09/20/23 15:37	1
Chloroform	0.27	U	1.0	0.27	ug/L			09/20/23 15:37	1
Chloromethane	0.54	U	1.0	0.54	ug/L			09/20/23 15:37	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			09/20/23 15:37	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			09/20/23 15:37	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			09/20/23 15:37	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			09/20/23 15:37	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			09/20/23 15:37	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			09/20/23 15:37	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			09/20/23 15:37	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			09/20/23 15:37	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			09/20/23 15:37	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			09/20/23 15:37	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			09/20/23 15:37	1
o-Xylene	0.26	U	1.0	0.26	ug/L			09/20/23 15:37	1
Styrene	0.27	U	1.0	0.27	ug/L			09/20/23 15:37	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			09/20/23 15:37	1
Toluene	0.25	U	1.0	0.25	ug/L			09/20/23 15:37	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			09/20/23 15:37	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			09/20/23 15:37	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			09/20/23 15:37	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			09/20/23 15:37	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			09/20/23 15:37	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-798769/10
Matrix: Water
Analysis Batch: 798769

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	0.23	U	1.0	0.23	ug/L			09/20/23 15:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*60 - 124*		*09/20/23 15:37*	*1*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*		*09/20/23 15:37*	*1*
Dibromofluoromethane (Surr)	*95*		*70 - 130*		*09/20/23 15:37*	*1*
Toluene-d8 (Surr)	*116*		*70 - 130*		*09/20/23 15:37*	*1*

Lab Sample ID: LCS 680-798769/4
Matrix: Water
Analysis Batch: 798769

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	51.6		ug/L		103	70 - 130
1,1,2,2-Tetrachloroethane	50.0	45.6		ug/L		91	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	61.3		ug/L		123	63 - 141
1,1,2-Trichloroethane	50.0	43.3		ug/L		87	70 - 130
1,1-Dichloroethane	50.0	48.2		ug/L		96	70 - 130
1,1-Dichloroethene	50.0	52.7		ug/L		105	70 - 130
1,2,4-Trichlorobenzene	50.0	44.7		ug/L		89	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	43.6		ug/L		87	70 - 130
1,2-Dibromoethane (EDB)	50.0	47.7		ug/L		95	70 - 130
1,2-Dichlorobenzene	50.0	50.3		ug/L		101	70 - 130
1,2-Dichloroethane	50.0	46.5		ug/L		93	70 - 130
1,2-Dichloropropane	50.0	48.1		ug/L		96	70 - 130
1,3-Dichlorobenzene	50.0	49.7		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	47.2		ug/L		94	70 - 130
2-Butanone (MEK)	250	272		ug/L		109	69 - 120
2-Hexanone	250	221		ug/L		89	70 - 130
4-Methyl-2-pentanone	250	218		ug/L		87	68 - 120
Acetone	250	249		ug/L		100	67 - 120
Benzene	50.0	51.5		ug/L		103	70 - 130
Bromodichloromethane	50.0	44.8		ug/L		90	70 - 130
Bromoform	50.0	45.2		ug/L		90	69 - 129
Bromomethane	50.0	70.3		ug/L		141	28 - 192
Carbon disulfide	50.0	54.2		ug/L		108	70 - 130
Carbon tetrachloride	50.0	46.8		ug/L		94	70 - 130
Chlorobenzene	50.0	51.3		ug/L		103	70 - 130
Chloroethane	50.0	61.4		ug/L		123	31 - 213
Chloroform	50.0	43.1		ug/L		86	70 - 130
Chloromethane	50.0	46.6		ug/L		93	59 - 127
cis-1,2-Dichloroethene	50.0	48.6		ug/L		97	70 - 130
cis-1,3-Dichloropropene	50.0	48.4		ug/L		97	70 - 130
Cyclohexane	50.0	55.6		ug/L		111	23 - 175
Dibromochloromethane	50.0	45.9		ug/L		92	70 - 130
Dichlorodifluoromethane	50.0	51.3		ug/L		103	70 - 130
Ethylbenzene	50.0	54.2		ug/L		108	70 - 130
Isopropylbenzene	50.0	55.7		ug/L		111	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-798769/4
Matrix: Water
Analysis Batch: 798769

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
m,p-Xylenes			50.0	53.6		ug/L		107	70 - 130		
Methyl acetate			100	82.8		ug/L		83	67 - 120		
Methyl tert-butyl ether			50.0	43.4		ug/L		87	70 - 130		
Methylene Chloride			50.0	49.9		ug/L		100	70 - 130		
o-Xylene			50.0	52.6		ug/L		105	70 - 130		
Styrene			50.0	53.3		ug/L		107	70 - 130		
Tetrachloroethene			50.0	54.5		ug/L		109	70 - 130		
Toluene			50.0	53.5		ug/L		107	70 - 130		
trans-1,2-Dichloroethene			50.0	48.5		ug/L		97	70 - 130		
trans-1,3-Dichloropropene			50.0	47.5		ug/L		95	70 - 130		
Trichloroethene			50.0	54.2		ug/L		108	70 - 130		
Trichlorofluoromethane			50.0	60.1		ug/L		120	63 - 142		
Vinyl chloride			50.0	53.0		ug/L		106	66 - 129		
Xylenes, Total			100	106		ug/L		106	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*60 - 124*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*
Dibromofluoromethane (Surr)	*96*		*70 - 130*
Toluene-d8 (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 680-798769/5
Matrix: Water
Analysis Batch: 798769

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			50.0	50.9		ug/L		102	70 - 130	1	30
1,1,2,2-Tetrachloroethane			50.0	46.2		ug/L		92	70 - 130	1	30
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	60.7		ug/L		121	63 - 141	1	30
1,1,2-Trichloroethane			50.0	43.6		ug/L		87	70 - 130	1	30
1,1-Dichloroethane			50.0	47.0		ug/L		94	70 - 130	3	30
1,1-Dichloroethene			50.0	50.9		ug/L		102	70 - 130	3	20
1,2,4-Trichlorobenzene			50.0	43.0		ug/L		86	70 - 130	4	30
1,2-Dibromo-3-Chloropropane			50.0	41.8		ug/L		84	70 - 130	4	30
1,2-Dibromoethane (EDB)			50.0	46.4		ug/L		93	70 - 130	3	30
1,2-Dichlorobenzene			50.0	49.7		ug/L		99	70 - 130	1	30
1,2-Dichloroethane			50.0	45.6		ug/L		91	70 - 130	2	50
1,2-Dichloropropane			50.0	46.8		ug/L		94	70 - 130	3	20
1,3-Dichlorobenzene			50.0	49.9		ug/L		100	70 - 130	0	30
1,4-Dichlorobenzene			50.0	47.6		ug/L		95	70 - 130	1	30
2-Butanone (MEK)			250	273		ug/L		109	69 - 120	1	30
2-Hexanone			250	225		ug/L		90	70 - 130	1	20
4-Methyl-2-pentanone			250	221		ug/L		88	68 - 120	2	30
Acetone			250	253		ug/L		101	67 - 120	1	30
Benzene			50.0	50.2		ug/L		100	70 - 130	3	30
Bromodichloromethane			50.0	43.6		ug/L		87	70 - 130	3	30
Bromoform			50.0	45.7		ug/L		91	69 - 129	1	30
Bromomethane			50.0	67.4		ug/L		135	28 - 192	4	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-798769/5
Matrix: Water
Analysis Batch: 798769

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon disulfide			50.0	52.7		ug/L		105	70 - 130	3	30
Carbon tetrachloride			50.0	45.5		ug/L		91	70 - 130	3	30
Chlorobenzene			50.0	51.2		ug/L		102	70 - 130	0	30
Chloroethane			50.0	58.0		ug/L		116	31 - 213	6	30
Chloroform			50.0	42.0		ug/L		84	70 - 130	3	30
Chloromethane			50.0	42.8		ug/L		86	59 - 127	9	30
cis-1,2-Dichloroethene			50.0	47.4		ug/L		95	70 - 130	3	30
cis-1,3-Dichloropropene			50.0	47.4		ug/L		95	70 - 130	2	20
Cyclohexane			50.0	54.9		ug/L		110	23 - 175	1	30
Dibromochloromethane			50.0	45.3		ug/L		91	70 - 130	1	30
Dichlorodifluoromethane			50.0	50.5		ug/L		101	70 - 130	2	40
Ethylbenzene			50.0	53.8		ug/L		108	70 - 130	1	20
Isopropylbenzene			50.0	55.6		ug/L		111	70 - 130	0	30
m,p-Xylenes			50.0	52.8		ug/L		106	70 - 130	1	30
Methyl acetate			100	82.7		ug/L		83	67 - 120	0	30
Methyl tert-butyl ether			50.0	43.4		ug/L		87	70 - 130	0	30
Methylene Chloride			50.0	49.0		ug/L		98	70 - 130	2	30
o-Xylene			50.0	52.6		ug/L		105	70 - 130	0	30
Styrene			50.0	53.4		ug/L		107	70 - 130	0	30
Tetrachloroethene			50.0	53.3		ug/L		107	70 - 130	2	30
Toluene			50.0	52.2		ug/L		104	70 - 130	3	30
trans-1,2-Dichloroethene			50.0	46.7		ug/L		93	70 - 130	4	30
trans-1,3-Dichloropropene			50.0	47.2		ug/L		94	70 - 130	1	30
Trichloroethene			50.0	53.1		ug/L		106	70 - 130	2	30
Trichlorofluoromethane			50.0	57.5		ug/L		115	63 - 142	4	30
Vinyl chloride			50.0	51.6		ug/L		103	66 - 129	3	30
Xylenes, Total			100	105		ug/L		105	70 - 130	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*60 - 124*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*
Dibromofluoromethane (Surr)	*92*		*70 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26913-1

GC/MS VOA

Analysis Batch: 798769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-26913-1	LC34-IW0162-110.0-20230915	Total/NA	Water	8260D	
670-26913-2	LC34-IW0044D2-110.0-20230915	Total/NA	Water	8260D	
670-26913-3	LC34-IW00165-110.0-20230915	Total/NA	Water	8260D	
MB 680-798769/10	Method Blank	Total/NA	Water	8260D	
LCS 680-798769/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-798769/5	Lab Control Sample Dup	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26913-1

Client Sample ID: LC34-IW0162-110.0-20230915

Lab Sample ID: 670-26913-1

Date Collected: 09/15/23 10:46
Matrix: Water
Date Received: 09/16/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	798769	MLL	EET SAV	09/20/23 16:22

Client Sample ID: LC34-IW0044D2-110.0-20230915

Lab Sample ID: 670-26913-2

Date Collected: 09/15/23 11:30
Matrix: Water
Date Received: 09/16/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	798769	MLL	EET SAV	09/20/23 16:41

Client Sample ID: LC34-IW00165-110.0-20230915

Lab Sample ID: 670-26913-3

Date Collected: 09/15/23 12:02
Matrix: Water
Date Received: 09/16/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	798769	MLL	EET SAV	09/20/23 17:00

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-26913-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-24
ANAB	Dept. of Defense ELAP	L2463	09-22-24
Arkansas DEQ	State	19-015-0	02-01-24
California	State	2939	06-30-24
Florida	NELAP	E87052	06-30-24
Georgia	State	E87052	06-30-24
Georgia (DW)	State	803	06-30-24
Guam	State	19-007R	04-17-24
Hawaii	State	<cert No.>	06-30-24
Illinois	NELAP	200022	11-30-23
Indiana	State	C-GA-02	06-30-24
Iowa	State	353	07-01-25
Kentucky (UST)	State	NA	06-30-24
Louisiana	NELAP	30690	06-30-24
Louisiana (All)	NELAP	30690	06-30-24
Louisiana (DW)	State	LA009	12-31-23
Maine	State	GA00006	09-25-24
Maryland	State	250	12-31-23
Massachusetts	State	M-GA006	06-30-24
Michigan	State	9925	06-30-24
Mississippi	State	<cert No.>	06-30-24
Nebraska	State	NE-OS-7-04	06-30-24
New Jersey	NELAP	GA769	06-30-24
New Mexico	State	GA00006	06-30-24
North Carolina (DW)	State	13701	07-31-24
North Carolina (WW/SW)	State	269	09-21-23
Pennsylvania	NELAP	68-00474	06-30-24
Puerto Rico	State	GA00006	01-01-24
South Carolina	State	98001	06-30-23 *
Tennessee	State	TN02961	06-30-24
Texas	NELAP	T1047004185	11-30-23
Texas	TCEQ Water Supply	T104704185	06-30-24
USDA	US Federal Programs	P330-18-00313	09-03-24
Virginia	NELAP	460161	06-14-24
Wyoming	State	8TMS-L	06-30-23 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-26913-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET SAV
5030B	Purge and Trap	SW846	EET SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-26913-1
Project/Site: NASA KSC LC34

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-26913-1	LC34-IW0162-110.0-20230915	Water	09/15/23 10:46	09/16/23 08:00
670-26913-2	LC34-IW0044D2-110.0-20230915	Water	09/15/23 11:30	09/16/23 08:00
670-26913-3	LC34-IW00165-110.0-20230915	Water	09/15/23 12:02	09/16/23 08:00

LC13

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 3725 | PAGE 1 OF 1

PROJECT NO: 112G08985	FACILITY: KSC	PROJECT MANAGER Mark Jonnet	PHONE NUMBER (412) 921-8622	LABORATORY NAME AND CONTACT: Eurofins, Kaitlin Dinicki
SAMPLERS (SIGNATURE) Natalie Fabbr. - Natalie Fabbr.		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER		CITY, STATE Orlando, FL

STANDARD TAT ☐
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☒ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): G; PRESERVATIVE USED: HCl/4°C; TYPE OF ANALYSIS: 8260D MOD NASA LC34 CUSTOM	COMMENTS
09/15	1046	LC34-IW0162-110.0-20230915		105	115	GW	G	3	X	
09/15	1130	LC34-IW0044D2-110.0-20230915		105	115	GW	G	3	X	
09/15	1202	LC34-IW0165-110.0-20230915		105	115	GW	G	3	X	



1. RELINQUISHED BY Natalie Fabbr.	DATE 09-15-23	TIME 3:25	1. RECEIVED BY	DATE 9/15/23	TIME 3:24 PM
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 1.3 10.8

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

596 FORM NO. TtNUS-001

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-26913-1

Login Number: 26913

List Source: Eurofins Orlando

List Number: 1

Creator: Clerisier, Meline

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-26913-1

Login Number: 26913
List Number: 2
Creator: Harley, Tynisha

List Source: Eurofins Savannah
List Creation: 09/19/23 12:16 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 10/6/2023 2:56:48 PM

JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-27575-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

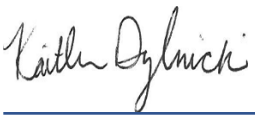
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-27575-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-27575-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-27575-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 9/28/2023 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.5°C and 1.2°C

GC/MS VOA
Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-Influent-20230926 (670-27575-4), LC34-RW1A-20230926 (670-27575-5), LC34-RW1B-20230926 (670-27575-6), LC34-RW2A-20230926 (670-27575-7), LC34-RW2B-20230926 (670-27575-8), LC34-RW3A-20230926 (670-27575-9), LC34-RW9A-20230926 (670-27575-10), LC34-RW19C-20230926 (670-27575-12), LC34-RW20C-20230926 (670-27575-13) and LC34-RW21D-20230926 (670-27575-14). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 680-800909 was outside the method criteria for the following analyte(s): Bromomethane, Chloroethane, Chloromethane, Dichlorodifluoromethane, Methyl acetate, Trichlorofluoromethane and Vinyl chloride. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The laboratory control sample (LCS) for analytical batch 680-800909 recovered outside control limits for the following analytes: Chloromethane and Vinyl chloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The laboratory control sample duplicate (LCSD) for analytical batch 680-800909 recovered outside control limits for the following analytes: Chloroethane. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 680-800909 recovered outside control limits for the following analytes: Chloroethane.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-800909.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-801117 recovered above the upper control limit for Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Job ID: 670-27575-1 (Continued)

Laboratory: Eurofins Orlando (Continued)

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-RW17C-20230926 (670-27575-11). Elevated reporting limits (RLs) are provided.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-801117.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27575-1

Client Sample ID: LC34-GAC-20230926 — Lab Sample ID: 670-27575-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.71	I	1.0	0.25	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-AS1-20230926 — Lab Sample ID: 670-27575-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.95	I	1.0	0.25	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-AS2-20230926 — Lab Sample ID: 670-27575-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	57		1.0	0.25	ug/L	1		8260D	Total/NA
Trichloroethene	75		1.0	0.20	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-Influent-20230926 — Lab Sample ID: 670-27575-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2800		100	25	ug/L	100		8260D	Total/NA
Trichloroethene	9600		100	20	ug/L	100		8260D	Total/NA
Vinyl chloride	290		100	40	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-RW1A-20230926 — Lab Sample ID: 670-27575-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	10000		200	50	ug/L	200		8260D	Total/NA
trans-1,2-Dichloroethene	190	I	200	68	ug/L	200		8260D	Total/NA
Trichloroethene	16000		200	40	ug/L	200		8260D	Total/NA
Vinyl chloride	1000		200	80	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-RW1B-20230926 — Lab Sample ID: 670-27575-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3100		100	25	ug/L	100		8260D	Total/NA
trans-1,2-Dichloroethene	51	I	100	34	ug/L	100		8260D	Total/NA
Trichloroethene	11000		100	20	ug/L	100		8260D	Total/NA
Vinyl chloride	220		100	40	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-RW2A-20230926 — Lab Sample ID: 670-27575-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2600		100	25	ug/L	100		8260D	Total/NA
trans-1,2-Dichloroethene	69	I	100	34	ug/L	100		8260D	Total/NA
Trichloroethene	7800		100	20	ug/L	100		8260D	Total/NA
Vinyl chloride	370		100	40	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-RW2B-20230926 — Lab Sample ID: 670-27575-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2100		200	50	ug/L	200		8260D	Total/NA
Trichloroethene	16000		200	40	ug/L	200		8260D	Total/NA
Vinyl chloride	430		200	80	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-RW3A-20230926 — Lab Sample ID: 670-27575-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1400		20	5.0	ug/L	20		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Orlando

Client Sample ID: LC34-RW3A-20230926 (Continued) — Lab Sample ID: 670-27575-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	33		20	6.8	ug/L	20		8260D	Total/NA
Trichloroethene	1700		20	4.0	ug/L	20		8260D	Total/NA
Vinyl chloride	170		25	10	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-RW9A-20230926 — Lab Sample ID: 670-27575-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1800		20	5.0	ug/L	20		8260D	Total/NA
trans-1,2-Dichloroethene	52		20	6.8	ug/L	20		8260D	Total/NA
Trichloroethene	16	I	20	4.0	ug/L	20		8260D	Total/NA
Vinyl chloride	1100		25	10	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-RW17C-20230926 — Lab Sample ID: 670-27575-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	36	I	100	23	ug/L	100		8260D	Total/NA
cis-1,2-Dichloroethene	7600		100	25	ug/L	100		8260D	Total/NA
trans-1,2-Dichloroethene	100		100	34	ug/L	100		8260D	Total/NA
Trichloroethene	14000		2000	400	ug/L	2000		8260D	Total/NA
Vinyl chloride	220		100	40	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-RW19C-20230926 — Lab Sample ID: 670-27575-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3500		1000	250	ug/L	1000		8260D	Total/NA
Trichloroethene	110000		1000	200	ug/L	1000		8260D	Total/NA

Client Sample ID: LC34-RW20C-20230926 — Lab Sample ID: 670-27575-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2800		500	130	ug/L	500		8260D	Total/NA
Trichloroethene	39000		500	100	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-RW21D-20230926 — Lab Sample ID: 670-27575-14

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2400		200	50	ug/L	200		8260D	Total/NA
Toluene	87	I	200	50	ug/L	200		8260D	Total/NA
Trichloroethene	15000		200	40	ug/L	200		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27575-1

Client Sample ID: LC34-GAC-20230926
Date Collected: 09/26/23 12:30
Date Received: 09/28/23 08:00

Lab Sample ID: 670-27575-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			10/04/23 13:42	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			10/04/23 13:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			10/04/23 13:42	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			10/04/23 13:42	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			10/04/23 13:42	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			10/04/23 13:42	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			10/04/23 13:42	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			10/04/23 13:42	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			10/04/23 13:42	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 13:42	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			10/04/23 13:42	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			10/04/23 13:42	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 13:42	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 13:42	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			10/04/23 13:42	1
2-Hexanone	3.2	U	10	3.2	ug/L			10/04/23 13:42	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			10/04/23 13:42	1
Acetone	3.7	U	10	3.7	ug/L			10/04/23 13:42	1
Benzene	0.27	U	1.0	0.27	ug/L			10/04/23 13:42	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			10/04/23 13:42	1
Bromoform	0.59	U	1.0	0.59	ug/L			10/04/23 13:42	1
Bromomethane	3.7	U	5.0	3.7	ug/L			10/04/23 13:42	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			10/04/23 13:42	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			10/04/23 13:42	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			10/04/23 13:42	1
Chloroethane	4.6	U J3	5.0	4.6	ug/L			10/04/23 13:42	1
Chloroform	0.27	U	1.0	0.27	ug/L			10/04/23 13:42	1
Chloromethane	0.54	U J3	1.0	0.54	ug/L			10/04/23 13:42	1
cis-1,2-Dichloroethene	**0.71**	**I**	1.0	0.25	ug/L			10/04/23 13:42	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			10/04/23 13:42	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			10/04/23 13:42	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			10/04/23 13:42	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			10/04/23 13:42	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			10/04/23 13:42	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			10/04/23 13:42	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			10/04/23 13:42	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			10/04/23 13:42	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			10/04/23 13:42	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			10/04/23 13:42	1
o-Xylene	0.26	U	1.0	0.26	ug/L			10/04/23 13:42	1
Styrene	0.27	U	1.0	0.27	ug/L			10/04/23 13:42	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			10/04/23 13:42	1
Toluene	0.25	U	1.0	0.25	ug/L			10/04/23 13:42	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			10/04/23 13:42	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			10/04/23 13:42	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			10/04/23 13:42	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			10/04/23 13:42	1
Vinyl chloride	0.40	U J3	1.0	0.40	ug/L			10/04/23 13:42	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			10/04/23 13:42	1

Client Sample ID: LC34-GAC-20230926

Lab Sample ID: 670-27575-1

Date Collected: 09/26/23 12:30

Matrix: Water

Date Received: 09/28/23 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		60 - 124		10/04/23 13:42	1
4-Bromofluorobenzene (Surr)	89		70 - 130		10/04/23 13:42	1
Dibromofluoromethane (Surr)	111		70 - 130		10/04/23 13:42	1
Toluene-d8 (Surr)	94		70 - 130		10/04/23 13:42	1

Client Sample ID: LC34-AS1-20230926

Lab Sample ID: 670-27575-2

Date Collected: 09/26/23 12:35

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			10/04/23 14:01	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			10/04/23 14:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			10/04/23 14:01	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			10/04/23 14:01	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			10/04/23 14:01	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			10/04/23 14:01	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			10/04/23 14:01	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			10/04/23 14:01	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			10/04/23 14:01	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 14:01	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			10/04/23 14:01	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			10/04/23 14:01	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 14:01	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 14:01	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			10/04/23 14:01	1
2-Hexanone	3.2	U	10	3.2	ug/L			10/04/23 14:01	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			10/04/23 14:01	1
Acetone	3.7	U	10	3.7	ug/L			10/04/23 14:01	1
Benzene	0.27	U	1.0	0.27	ug/L			10/04/23 14:01	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			10/04/23 14:01	1
Bromoform	0.59	U	1.0	0.59	ug/L			10/04/23 14:01	1
Bromomethane	3.7	U	5.0	3.7	ug/L			10/04/23 14:01	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			10/04/23 14:01	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			10/04/23 14:01	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			10/04/23 14:01	1
Chloroethane	4.6	U J3	5.0	4.6	ug/L			10/04/23 14:01	1
Chloroform	0.27	U	1.0	0.27	ug/L			10/04/23 14:01	1
Chloromethane	0.54	U J3	1.0	0.54	ug/L			10/04/23 14:01	1
cis-1,2-Dichloroethene	**0.95**	**I**	1.0	0.25	ug/L			10/04/23 14:01	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			10/04/23 14:01	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			10/04/23 14:01	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			10/04/23 14:01	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			10/04/23 14:01	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			10/04/23 14:01	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			10/04/23 14:01	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			10/04/23 14:01	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			10/04/23 14:01	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			10/04/23 14:01	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			10/04/23 14:01	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27575-1

Client Sample ID: LC34-AS1-20230926

Lab Sample ID: 670-27575-2

Date Collected: 09/26/23 12:35

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.26	U	1.0	0.26	ug/L			10/04/23 14:01	1
Styrene	0.27	U	1.0	0.27	ug/L			10/04/23 14:01	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			10/04/23 14:01	1
Toluene	0.25	U	1.0	0.25	ug/L			10/04/23 14:01	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			10/04/23 14:01	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			10/04/23 14:01	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			10/04/23 14:01	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			10/04/23 14:01	1
Vinyl chloride	0.40	U J3	1.0	0.40	ug/L			10/04/23 14:01	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			10/04/23 14:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*60 - 124*		*10/04/23 14:01*	*1*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*		*10/04/23 14:01*	*1*
Dibromofluoromethane (Surr)	*115*		*70 - 130*		*10/04/23 14:01*	*1*
Toluene-d8 (Surr)	*94*		*70 - 130*		*10/04/23 14:01*	*1*

Client Sample ID: LC34-AS2-20230926

Lab Sample ID: 670-27575-3

Date Collected: 09/26/23 12:40

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			10/04/23 14:20	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			10/04/23 14:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			10/04/23 14:20	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			10/04/23 14:20	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			10/04/23 14:20	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			10/04/23 14:20	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			10/04/23 14:20	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			10/04/23 14:20	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			10/04/23 14:20	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 14:20	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			10/04/23 14:20	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			10/04/23 14:20	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 14:20	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 14:20	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			10/04/23 14:20	1
2-Hexanone	3.2	U	10	3.2	ug/L			10/04/23 14:20	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			10/04/23 14:20	1
Acetone	3.7	U	10	3.7	ug/L			10/04/23 14:20	1
Benzene	0.27	U	1.0	0.27	ug/L			10/04/23 14:20	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			10/04/23 14:20	1
Bromoform	0.59	U	1.0	0.59	ug/L			10/04/23 14:20	1
Bromomethane	3.7	U	5.0	3.7	ug/L			10/04/23 14:20	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			10/04/23 14:20	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			10/04/23 14:20	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			10/04/23 14:20	1
Chloroethane	4.6	U J3	5.0	4.6	ug/L			10/04/23 14:20	1
Chloroform	0.27	U	1.0	0.27	ug/L			10/04/23 14:20	1

Client Sample ID: LC34-AS2-20230926

Lab Sample ID: 670-27575-3

Date Collected: 09/26/23 12:40

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	0.54	U J3	1.0	0.54	ug/L			10/04/23 14:20	1
cis-1,2-Dichloroethene	**57**		1.0	0.25	ug/L			10/04/23 14:20	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			10/04/23 14:20	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			10/04/23 14:20	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			10/04/23 14:20	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			10/04/23 14:20	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			10/04/23 14:20	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			10/04/23 14:20	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			10/04/23 14:20	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			10/04/23 14:20	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			10/04/23 14:20	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			10/04/23 14:20	1
o-Xylene	0.26	U	1.0	0.26	ug/L			10/04/23 14:20	1
Styrene	0.27	U	1.0	0.27	ug/L			10/04/23 14:20	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			10/04/23 14:20	1
Toluene	0.25	U	1.0	0.25	ug/L			10/04/23 14:20	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			10/04/23 14:20	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			10/04/23 14:20	1
Trichloroethene	**75**		1.0	0.20	ug/L			10/04/23 14:20	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			10/04/23 14:20	1
Vinyl chloride	0.40	U J3	1.0	0.40	ug/L			10/04/23 14:20	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			10/04/23 14:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 124*		*10/04/23 14:20*	*1*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*		*10/04/23 14:20*	*1*
Dibromofluoromethane (Surr)	*115*		*70 - 130*		*10/04/23 14:20*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*		*10/04/23 14:20*	*1*

Client Sample ID: LC34-Influent-20230926

Lab Sample ID: 670-27575-4

Date Collected: 09/26/23 12:45

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	21	U	100	21	ug/L			10/04/23 18:26	100
1,1,2,2-Tetrachloroethane	40	U	100	40	ug/L			10/04/23 18:26	100
1,1,2-Trichloro-1,2,2-trifluoroethane	23	U	100	23	ug/L			10/04/23 18:26	100
1,1,2-Trichloroethane	32	U	100	32	ug/L			10/04/23 18:26	100
1,1-Dichloroethane	33	U	100	33	ug/L			10/04/23 18:26	100
1,1-Dichloroethene	33	U	100	33	ug/L			10/04/23 18:26	100
1,2,4-Trichlorobenzene	53	U	500	53	ug/L			10/04/23 18:26	100
1,2-Dibromo-3-Chloropropane	180	U	500	180	ug/L			10/04/23 18:26	100
1,2-Dibromoethane (EDB)	33	U	100	33	ug/L			10/04/23 18:26	100
1,2-Dichlorobenzene	31	U	100	31	ug/L			10/04/23 18:26	100
1,2-Dichloroethane	25	U	100	25	ug/L			10/04/23 18:26	100
1,2-Dichloropropane	22	U	100	22	ug/L			10/04/23 18:26	100
1,3-Dichlorobenzene	31	U	100	31	ug/L			10/04/23 18:26	100
1,4-Dichlorobenzene	31	U	100	31	ug/L			10/04/23 18:26	100
2-Butanone (MEK)	640	U	1000	640	ug/L			10/04/23 18:26	100

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27575-1

Client Sample ID: LC34-Influent-20230926
Date Collected: 09/26/23 12:45
Date Received: 09/28/23 08:00

Lab Sample ID: 670-27575-4
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	320	U	1000	320	ug/L			10/04/23 18:26	100
4-Methyl-2-pentanone	270	U	1000	270	ug/L			10/04/23 18:26	100
Acetone	370	U	1000	370	ug/L			10/04/23 18:26	100
Benzene	27	U	100	27	ug/L			10/04/23 18:26	100
Bromodichloromethane	25	U	100	25	ug/L			10/04/23 18:26	100
Bromoform	59	U	100	59	ug/L			10/04/23 18:26	100
Bromomethane	370	U	500	370	ug/L			10/04/23 18:26	100
Carbon disulfide	43	U	200	43	ug/L			10/04/23 18:26	100
Carbon tetrachloride	30	U	100	30	ug/L			10/04/23 18:26	100
Chlorobenzene	15	U	100	15	ug/L			10/04/23 18:26	100
Chloroethane	460	U J3	500	460	ug/L			10/04/23 18:26	100
Chloroform	27	U	100	27	ug/L			10/04/23 18:26	100
Chloromethane	54	U J3	100	54	ug/L			10/04/23 18:26	100
cis-1,2-Dichloroethene	**2800**		100	25	ug/L			10/04/23 18:26	100
cis-1,3-Dichloropropene	26	U	100	26	ug/L			10/04/23 18:26	100
Cyclohexane	28	U	100	28	ug/L			10/04/23 18:26	100
Dibromochloromethane	39	U	100	39	ug/L			10/04/23 18:26	100
Dichlorodifluoromethane	36	U	100	36	ug/L			10/04/23 18:26	100
Ethylbenzene	20	U	100	20	ug/L			10/04/23 18:26	100
Isopropylbenzene	26	U	100	26	ug/L			10/04/23 18:26	100
m,p-Xylenes	49	U	100	49	ug/L			10/04/23 18:26	100
Methyl acetate	320	U	500	320	ug/L			10/04/23 18:26	100
Methyl tert-butyl ether	81	U	500	81	ug/L			10/04/23 18:26	100
Methylene Chloride	320	U	500	320	ug/L			10/04/23 18:26	100
o-Xylene	26	U	100	26	ug/L			10/04/23 18:26	100
Styrene	27	U	100	27	ug/L			10/04/23 18:26	100
Tetrachloroethene	35	U	100	35	ug/L			10/04/23 18:26	100
Toluene	25	U	100	25	ug/L			10/04/23 18:26	100
trans-1,2-Dichloroethene	34	U	100	34	ug/L			10/04/23 18:26	100
trans-1,3-Dichloropropene	23	U	100	23	ug/L			10/04/23 18:26	100
Trichloroethene	**9600**		100	20	ug/L			10/04/23 18:26	100
Trichlorofluoromethane	33	U	100	33	ug/L			10/04/23 18:26	100
Vinyl chloride	**290**		100	40	ug/L			10/05/23 17:39	100
Xylenes, Total	23	U	100	23	ug/L			10/04/23 18:26	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*60 - 124*		*10/04/23 18:26*	*100*
1,2-Dichloroethane-d4 (Surr)	*106*		*60 - 124*		*10/05/23 17:39*	*100*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*		*10/04/23 18:26*	*100*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*10/05/23 17:39*	*100*
Dibromofluoromethane (Surr)	*113*		*70 - 130*		*10/04/23 18:26*	*100*
Dibromofluoromethane (Surr)	*116*		*70 - 130*		*10/05/23 17:39*	*100*
Toluene-d8 (Surr)	*93*		*70 - 130*		*10/04/23 18:26*	*100*
Toluene-d8 (Surr)	*114*		*70 - 130*		*10/05/23 17:39*	*100*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27575-1

Client Sample ID: LC34-RW1A-20230926
Date Collected: 09/26/23 12:50
Date Received: 09/28/23 08:00

Lab Sample ID: 670-27575-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	42	U	200	42	ug/L			10/04/23 17:29	200
1,1,2,2-Tetrachloroethane	80	U	200	80	ug/L			10/04/23 17:29	200
1,1,2-Trichloro-1,2,2-trifluoroethane	46	U	200	46	ug/L			10/04/23 17:29	200
1,1,2-Trichloroethane	64	U	200	64	ug/L			10/04/23 17:29	200
1,1-Dichloroethane	66	U	200	66	ug/L			10/04/23 17:29	200
1,1-Dichloroethene	66	U	200	66	ug/L			10/04/23 17:29	200
1,2,4-Trichlorobenzene	110	U	1000	110	ug/L			10/04/23 17:29	200
1,2-Dibromo-3-Chloropropane	360	U	1000	360	ug/L			10/04/23 17:29	200
1,2-Dibromoethane (EDB)	66	U	200	66	ug/L			10/04/23 17:29	200
1,2-Dichlorobenzene	62	U	200	62	ug/L			10/04/23 17:29	200
1,2-Dichloroethane	50	U	200	50	ug/L			10/04/23 17:29	200
1,2-Dichloropropane	44	U	200	44	ug/L			10/04/23 17:29	200
1,3-Dichlorobenzene	62	U	200	62	ug/L			10/04/23 17:29	200
1,4-Dichlorobenzene	62	U	200	62	ug/L			10/04/23 17:29	200
2-Butanone (MEK)	1300	U	2000	1300	ug/L			10/04/23 17:29	200
2-Hexanone	640	U	2000	640	ug/L			10/04/23 17:29	200
4-Methyl-2-pentanone	540	U	2000	540	ug/L			10/04/23 17:29	200
Acetone	740	U	2000	740	ug/L			10/04/23 17:29	200
Benzene	54	U	200	54	ug/L			10/04/23 17:29	200
Bromodichloromethane	50	U	200	50	ug/L			10/04/23 17:29	200
Bromoform	120	U	200	120	ug/L			10/04/23 17:29	200
Bromomethane	740	U	1000	740	ug/L			10/04/23 17:29	200
Carbon disulfide	86	U	400	86	ug/L			10/04/23 17:29	200
Carbon tetrachloride	60	U	200	60	ug/L			10/04/23 17:29	200
Chlorobenzene	30	U	200	30	ug/L			10/04/23 17:29	200
Chloroethane	920	U J3	1000	920	ug/L			10/04/23 17:29	200
Chloroform	54	U	200	54	ug/L			10/04/23 17:29	200
Chloromethane	110	U J3	200	110	ug/L			10/04/23 17:29	200
cis-1,2-Dichloroethene	**10000**		200	50	ug/L			10/04/23 17:29	200
cis-1,3-Dichloropropene	52	U	200	52	ug/L			10/04/23 17:29	200
Cyclohexane	56	U	200	56	ug/L			10/04/23 17:29	200
Dibromochloromethane	78	U	200	78	ug/L			10/04/23 17:29	200
Dichlorodifluoromethane	72	U	200	72	ug/L			10/04/23 17:29	200
Ethylbenzene	40	U	200	40	ug/L			10/04/23 17:29	200
Isopropylbenzene	52	U	200	52	ug/L			10/04/23 17:29	200
m,p-Xylenes	98	U	200	98	ug/L			10/04/23 17:29	200
Methyl acetate	640	U	1000	640	ug/L			10/04/23 17:29	200
Methyl tert-butyl ether	160	U	1000	160	ug/L			10/04/23 17:29	200
Methylene Chloride	640	U	1000	640	ug/L			10/04/23 17:29	200
o-Xylene	52	U	200	52	ug/L			10/04/23 17:29	200
Styrene	54	U	200	54	ug/L			10/04/23 17:29	200
Tetrachloroethene	70	U	200	70	ug/L			10/04/23 17:29	200
Toluene	50	U	200	50	ug/L			10/04/23 17:29	200
trans-1,2-Dichloroethene	**190**	**I**	200	68	ug/L			10/04/23 17:29	200
trans-1,3-Dichloropropene	46	U	200	46	ug/L			10/04/23 17:29	200
Trichloroethene	**16000**		200	40	ug/L			10/04/23 17:29	200
Trichlorofluoromethane	66	U	200	66	ug/L			10/04/23 17:29	200
Vinyl chloride	**1000**		200	80	ug/L			10/05/23 17:59	200
Xylenes, Total	46	U	200	46	ug/L			10/04/23 17:29	200

Client Sample ID: LC34-RW1A-20230926

Lab Sample ID: 670-27575-5

Date Collected: 09/26/23 12:50

Matrix: Water

Date Received: 09/28/23 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		60 - 124		10/04/23 17:29	200
1,2-Dichloroethane-d4 (Surr)	105		60 - 124		10/05/23 17:59	200
4-Bromofluorobenzene (Surr)	88		70 - 130		10/04/23 17:29	200
4-Bromofluorobenzene (Surr)	98		70 - 130		10/05/23 17:59	200
Dibromofluoromethane (Surr)	114		70 - 130		10/04/23 17:29	200
Dibromofluoromethane (Surr)	115		70 - 130		10/05/23 17:59	200
Toluene-d8 (Surr)	94		70 - 130		10/04/23 17:29	200
Toluene-d8 (Surr)	116		70 - 130		10/05/23 17:59	200

Client Sample ID: LC34-RW1B-20230926

Lab Sample ID: 670-27575-6

Date Collected: 09/26/23 12:55

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	21	U	100	21	ug/L			10/04/23 18:07	100
1,1,2,2-Tetrachloroethane	40	U	100	40	ug/L			10/04/23 18:07	100
1,1,2-Trichloro-1,2,2-trifluoroethane	23	U	100	23	ug/L			10/04/23 18:07	100
1,1,2-Trichloroethane	32	U	100	32	ug/L			10/04/23 18:07	100
1,1-Dichloroethane	33	U	100	33	ug/L			10/04/23 18:07	100
1,1-Dichloroethene	33	U	100	33	ug/L			10/04/23 18:07	100
1,2,4-Trichlorobenzene	53	U	500	53	ug/L			10/04/23 18:07	100
1,2-Dibromo-3-Chloropropane	180	U	500	180	ug/L			10/04/23 18:07	100
1,2-Dibromoethane (EDB)	33	U	100	33	ug/L			10/04/23 18:07	100
1,2-Dichlorobenzene	31	U	100	31	ug/L			10/04/23 18:07	100
1,2-Dichloroethane	25	U	100	25	ug/L			10/04/23 18:07	100
1,2-Dichloropropane	22	U	100	22	ug/L			10/04/23 18:07	100
1,3-Dichlorobenzene	31	U	100	31	ug/L			10/04/23 18:07	100
1,4-Dichlorobenzene	31	U	100	31	ug/L			10/04/23 18:07	100
2-Butanone (MEK)	640	U	1000	640	ug/L			10/04/23 18:07	100
2-Hexanone	320	U	1000	320	ug/L			10/04/23 18:07	100
4-Methyl-2-pentanone	270	U	1000	270	ug/L			10/04/23 18:07	100
Acetone	370	U	1000	370	ug/L			10/04/23 18:07	100
Benzene	27	U	100	27	ug/L			10/04/23 18:07	100
Bromodichloromethane	25	U	100	25	ug/L			10/04/23 18:07	100
Bromoform	59	U	100	59	ug/L			10/04/23 18:07	100
Bromomethane	370	U	500	370	ug/L			10/04/23 18:07	100
Carbon disulfide	43	U	200	43	ug/L			10/04/23 18:07	100
Carbon tetrachloride	30	U	100	30	ug/L			10/04/23 18:07	100
Chlorobenzene	15	U	100	15	ug/L			10/04/23 18:07	100
Chloroethane	460	U J3	500	460	ug/L			10/04/23 18:07	100
Chloroform	27	U	100	27	ug/L			10/04/23 18:07	100
Chloromethane	54	U J3	100	54	ug/L			10/04/23 18:07	100
cis-1,2-Dichloroethene	**3100**		100	25	ug/L			10/04/23 18:07	100
cis-1,3-Dichloropropene	26	U	100	26	ug/L			10/04/23 18:07	100
Cyclohexane	28	U	100	28	ug/L			10/04/23 18:07	100
Dibromochloromethane	39	U	100	39	ug/L			10/04/23 18:07	100
Dichlorodifluoromethane	36	U	100	36	ug/L			10/04/23 18:07	100
Ethylbenzene	20	U	100	20	ug/L			10/04/23 18:07	100
Isopropylbenzene	26	U	100	26	ug/L			10/04/23 18:07	100

Client Sample ID: LC34-RW1B-20230926

Lab Sample ID: 670-27575-6

Date Collected: 09/26/23 12:55

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylenes	49	U	100	49	ug/L			10/04/23 18:07	100
Methyl acetate	320	U	500	320	ug/L			10/04/23 18:07	100
Methyl tert-butyl ether	81	U	500	81	ug/L			10/04/23 18:07	100
Methylene Chloride	320	U	500	320	ug/L			10/04/23 18:07	100
o-Xylene	26	U	100	26	ug/L			10/04/23 18:07	100
Styrene	27	U	100	27	ug/L			10/04/23 18:07	100
Tetrachloroethene	35	U	100	35	ug/L			10/04/23 18:07	100
Toluene	25	U	100	25	ug/L			10/04/23 18:07	100
trans-1,2-Dichloroethene	**51**	**I**	100	34	ug/L			10/04/23 18:07	100
trans-1,3-Dichloropropene	23	U	100	23	ug/L			10/04/23 18:07	100
Trichloroethene	**11000**		100	20	ug/L			10/04/23 18:07	100
Trichlorofluoromethane	33	U	100	33	ug/L			10/04/23 18:07	100
Vinyl chloride	**220**		100	40	ug/L			10/05/23 18:19	100
Xylenes, Total	23	U	100	23	ug/L			10/04/23 18:07	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*60 - 124*		*10/04/23 18:07*	*100*
1,2-Dichloroethane-d4 (Surr)	*107*		*60 - 124*		*10/05/23 18:19*	*100*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*		*10/04/23 18:07*	*100*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*10/05/23 18:19*	*100*
Dibromofluoromethane (Surr)	*113*		*70 - 130*		*10/04/23 18:07*	*100*
Dibromofluoromethane (Surr)	*119*		*70 - 130*		*10/05/23 18:19*	*100*
Toluene-d8 (Surr)	*93*		*70 - 130*		*10/04/23 18:07*	*100*
Toluene-d8 (Surr)	*118*		*70 - 130*		*10/05/23 18:19*	*100*

Client Sample ID: LC34-RW2A-20230926

Lab Sample ID: 670-27575-7

Date Collected: 09/26/23 13:00

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	21	U	100	21	ug/L			10/04/23 17:48	100
1,1,2,2-Tetrachloroethane	40	U	100	40	ug/L			10/04/23 17:48	100
1,1,2-Trichloro-1,2,2-trifluoroethane	23	U	100	23	ug/L			10/04/23 17:48	100
1,1,2-Trichloroethane	32	U	100	32	ug/L			10/04/23 17:48	100
1,1-Dichloroethane	33	U	100	33	ug/L			10/04/23 17:48	100
1,1-Dichloroethene	33	U	100	33	ug/L			10/04/23 17:48	100
1,2,4-Trichlorobenzene	53	U	500	53	ug/L			10/04/23 17:48	100
1,2-Dibromo-3-Chloropropane	180	U	500	180	ug/L			10/04/23 17:48	100
1,2-Dibromoethane (EDB)	33	U	100	33	ug/L			10/04/23 17:48	100
1,2-Dichlorobenzene	31	U	100	31	ug/L			10/04/23 17:48	100
1,2-Dichloroethane	25	U	100	25	ug/L			10/04/23 17:48	100
1,2-Dichloropropane	22	U	100	22	ug/L			10/04/23 17:48	100
1,3-Dichlorobenzene	31	U	100	31	ug/L			10/04/23 17:48	100
1,4-Dichlorobenzene	31	U	100	31	ug/L			10/04/23 17:48	100
2-Butanone (MEK)	640	U	1000	640	ug/L			10/04/23 17:48	100
2-Hexanone	320	U	1000	320	ug/L			10/04/23 17:48	100
4-Methyl-2-pentanone	270	U	1000	270	ug/L			10/04/23 17:48	100
Acetone	370	U	1000	370	ug/L			10/04/23 17:48	100
Benzene	27	U	100	27	ug/L			10/04/23 17:48	100

Client Sample ID: LC34-RW2A-20230926

Lab Sample ID: 670-27575-7

Date Collected: 09/26/23 13:00

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	25	U	100	25	ug/L			10/04/23 17:48	100
Bromoform	59	U	100	59	ug/L			10/04/23 17:48	100
Bromomethane	370	U	500	370	ug/L			10/04/23 17:48	100
Carbon disulfide	43	U	200	43	ug/L			10/04/23 17:48	100
Carbon tetrachloride	30	U	100	30	ug/L			10/04/23 17:48	100
Chlorobenzene	15	U	100	15	ug/L			10/04/23 17:48	100
Chloroethane	460	U J3	500	460	ug/L			10/04/23 17:48	100
Chloroform	27	U	100	27	ug/L			10/04/23 17:48	100
Chloromethane	54	U J3	100	54	ug/L			10/04/23 17:48	100
cis-1,2-Dichloroethene	**2600**		100	25	ug/L			10/04/23 17:48	100
cis-1,3-Dichloropropene	26	U	100	26	ug/L			10/04/23 17:48	100
Cyclohexane	28	U	100	28	ug/L			10/04/23 17:48	100
Dibromochloromethane	39	U	100	39	ug/L			10/04/23 17:48	100
Dichlorodifluoromethane	36	U	100	36	ug/L			10/04/23 17:48	100
Ethylbenzene	20	U	100	20	ug/L			10/04/23 17:48	100
Isopropylbenzene	26	U	100	26	ug/L			10/04/23 17:48	100
m,p-Xylenes	49	U	100	49	ug/L			10/04/23 17:48	100
Methyl acetate	320	U	500	320	ug/L			10/04/23 17:48	100
Methyl tert-butyl ether	81	U	500	81	ug/L			10/04/23 17:48	100
Methylene Chloride	320	U	500	320	ug/L			10/04/23 17:48	100
o-Xylene	26	U	100	26	ug/L			10/04/23 17:48	100
Styrene	27	U	100	27	ug/L			10/04/23 17:48	100
Tetrachloroethene	35	U	100	35	ug/L			10/04/23 17:48	100
Toluene	25	U	100	25	ug/L			10/04/23 17:48	100
trans-1,2-Dichloroethene	**69**	**I**	100	34	ug/L			10/04/23 17:48	100
trans-1,3-Dichloropropene	23	U	100	23	ug/L			10/04/23 17:48	100
Trichloroethene	**7800**		100	20	ug/L			10/04/23 17:48	100
Trichlorofluoromethane	33	U	100	33	ug/L			10/04/23 17:48	100
Vinyl chloride	**370**		100	40	ug/L			10/05/23 18:39	100
Xylenes, Total	23	U	100	23	ug/L			10/04/23 17:48	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*60 - 124*		*10/04/23 17:48*	*100*
1,2-Dichloroethane-d4 (Surr)	*106*		*60 - 124*		*10/05/23 18:39*	*100*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*		*10/04/23 17:48*	*100*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*10/05/23 18:39*	*100*
Dibromofluoromethane (Surr)	*114*		*70 - 130*		*10/04/23 17:48*	*100*
Dibromofluoromethane (Surr)	*116*		*70 - 130*		*10/05/23 18:39*	*100*
Toluene-d8 (Surr)	*93*		*70 - 130*		*10/04/23 17:48*	*100*
Toluene-d8 (Surr)	*118*		*70 - 130*		*10/05/23 18:39*	*100*

Client Sample ID: LC34-RW2B-20230926

Lab Sample ID: 670-27575-8

Date Collected: 09/26/23 13:05

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	42	U	200	42	ug/L			10/04/23 17:10	200
1,1,2,2-Tetrachloroethane	80	U	200	80	ug/L			10/04/23 17:10	200
1,1,2-Trichloro-1,2,2-trifluoroethane	46	U	200	46	ug/L			10/04/23 17:10	200

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27575-1

Client Sample ID: LC34-RW2B-20230926
Date Collected: 09/26/23 13:05
Date Received: 09/28/23 08:00

Lab Sample ID: 670-27575-8
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	64	U	200	64	ug/L			10/04/23 17:10	200
1,1-Dichloroethane	66	U	200	66	ug/L			10/04/23 17:10	200
1,1-Dichloroethene	66	U	200	66	ug/L			10/04/23 17:10	200
1,2,4-Trichlorobenzene	110	U	1000	110	ug/L			10/04/23 17:10	200
1,2-Dibromo-3-Chloropropane	360	U	1000	360	ug/L			10/04/23 17:10	200
1,2-Dibromoethane (EDB)	66	U	200	66	ug/L			10/04/23 17:10	200
1,2-Dichlorobenzene	62	U	200	62	ug/L			10/04/23 17:10	200
1,2-Dichloroethane	50	U	200	50	ug/L			10/04/23 17:10	200
1,2-Dichloropropane	44	U	200	44	ug/L			10/04/23 17:10	200
1,3-Dichlorobenzene	62	U	200	62	ug/L			10/04/23 17:10	200
1,4-Dichlorobenzene	62	U	200	62	ug/L			10/04/23 17:10	200
2-Butanone (MEK)	1300	U	2000	1300	ug/L			10/04/23 17:10	200
2-Hexanone	640	U	2000	640	ug/L			10/04/23 17:10	200
4-Methyl-2-pentanone	540	U	2000	540	ug/L			10/04/23 17:10	200
Acetone	740	U	2000	740	ug/L			10/04/23 17:10	200
Benzene	54	U	200	54	ug/L			10/04/23 17:10	200
Bromodichloromethane	50	U	200	50	ug/L			10/04/23 17:10	200
Bromoform	120	U	200	120	ug/L			10/04/23 17:10	200
Bromomethane	740	U	1000	740	ug/L			10/04/23 17:10	200
Carbon disulfide	86	U	400	86	ug/L			10/04/23 17:10	200
Carbon tetrachloride	60	U	200	60	ug/L			10/04/23 17:10	200
Chlorobenzene	30	U	200	30	ug/L			10/04/23 17:10	200
Chloroethane	920	U J3	1000	920	ug/L			10/04/23 17:10	200
Chloroform	54	U	200	54	ug/L			10/04/23 17:10	200
Chloromethane	110	U J3	200	110	ug/L			10/04/23 17:10	200
cis-1,2-Dichloroethene	**2100**		200	50	ug/L			10/04/23 17:10	200
cis-1,3-Dichloropropene	52	U	200	52	ug/L			10/04/23 17:10	200
Cyclohexane	56	U	200	56	ug/L			10/04/23 17:10	200
Dibromochloromethane	78	U	200	78	ug/L			10/04/23 17:10	200
Dichlorodifluoromethane	72	U	200	72	ug/L			10/04/23 17:10	200
Ethylbenzene	40	U	200	40	ug/L			10/04/23 17:10	200
Isopropylbenzene	52	U	200	52	ug/L			10/04/23 17:10	200
m,p-Xylenes	98	U	200	98	ug/L			10/04/23 17:10	200
Methyl acetate	640	U	1000	640	ug/L			10/04/23 17:10	200
Methyl tert-butyl ether	160	U	1000	160	ug/L			10/04/23 17:10	200
Methylene Chloride	640	U	1000	640	ug/L			10/04/23 17:10	200
o-Xylene	52	U	200	52	ug/L			10/04/23 17:10	200
Styrene	54	U	200	54	ug/L			10/04/23 17:10	200
Tetrachloroethene	70	U	200	70	ug/L			10/04/23 17:10	200
Toluene	50	U	200	50	ug/L			10/04/23 17:10	200
trans-1,2-Dichloroethene	68	U	200	68	ug/L			10/04/23 17:10	200
trans-1,3-Dichloropropene	46	U	200	46	ug/L			10/04/23 17:10	200
Trichloroethene	**16000**		200	40	ug/L			10/04/23 17:10	200
Trichlorofluoromethane	66	U	200	66	ug/L			10/04/23 17:10	200
Vinyl chloride	**430**		200	80	ug/L			10/05/23 18:59	200
Xylenes, Total	46	U	200	46	ug/L			10/04/23 17:10	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*60 - 124*		*10/04/23 17:10*	*200*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 124*		*10/05/23 18:59*	*200*

Client Sample ID: LC34-RW2B-20230926

Lab Sample ID: 670-27575-8

Date Collected: 09/26/23 13:05

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*		*10/04/23 17:10*	*200*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*10/05/23 18:59*	*200*
Dibromofluoromethane (Surr)	*115*		*70 - 130*		*10/04/23 17:10*	*200*
Dibromofluoromethane (Surr)	*117*		*70 - 130*		*10/05/23 18:59*	*200*
Toluene-d8 (Surr)	*93*		*70 - 130*		*10/04/23 17:10*	*200*
Toluene-d8 (Surr)	*117*		*70 - 130*		*10/05/23 18:59*	*200*

Client Sample ID: LC34-RW3A-20230926

Lab Sample ID: 670-27575-9

Date Collected: 09/26/23 13:10

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.2	U	20	4.2	ug/L			10/04/23 18:45	20
1,1,2,2-Tetrachloroethane	8.0	U	20	8.0	ug/L			10/04/23 18:45	20
1,1,2-Trichloro-1,2,2-trifluoroethane	4.6	U	20	4.6	ug/L			10/04/23 18:45	20
1,1,2-Trichloroethane	6.4	U	20	6.4	ug/L			10/04/23 18:45	20
1,1-Dichloroethane	6.6	U	20	6.6	ug/L			10/04/23 18:45	20
1,1-Dichloroethene	6.6	U	20	6.6	ug/L			10/04/23 18:45	20
1,2,4-Trichlorobenzene	11	U	100	11	ug/L			10/04/23 18:45	20
1,2-Dibromo-3-Chloropropane	36	U	100	36	ug/L			10/04/23 18:45	20
1,2-Dibromoethane (EDB)	6.6	U	20	6.6	ug/L			10/04/23 18:45	20
1,2-Dichlorobenzene	6.2	U	20	6.2	ug/L			10/04/23 18:45	20
1,2-Dichloroethane	5.0	U	20	5.0	ug/L			10/04/23 18:45	20
1,2-Dichloropropane	4.4	U	20	4.4	ug/L			10/04/23 18:45	20
1,3-Dichlorobenzene	6.2	U	20	6.2	ug/L			10/04/23 18:45	20
1,4-Dichlorobenzene	6.2	U	20	6.2	ug/L			10/04/23 18:45	20
2-Butanone (MEK)	130	U	200	130	ug/L			10/04/23 18:45	20
2-Hexanone	64	U	200	64	ug/L			10/04/23 18:45	20
4-Methyl-2-pentanone	54	U	200	54	ug/L			10/04/23 18:45	20
Acetone	74	U	200	74	ug/L			10/04/23 18:45	20
Benzene	5.4	U	20	5.4	ug/L			10/04/23 18:45	20
Bromodichloromethane	5.0	U	20	5.0	ug/L			10/04/23 18:45	20
Bromoform	12	U	20	12	ug/L			10/04/23 18:45	20
Bromomethane	74	U	100	74	ug/L			10/04/23 18:45	20
Carbon disulfide	8.6	U	40	8.6	ug/L			10/04/23 18:45	20
Carbon tetrachloride	6.0	U	20	6.0	ug/L			10/04/23 18:45	20
Chlorobenzene	3.0	U	20	3.0	ug/L			10/04/23 18:45	20
Chloroethane	92	U J3	100	92	ug/L			10/04/23 18:45	20
Chloroform	5.4	U	20	5.4	ug/L			10/04/23 18:45	20
Chloromethane	11	U J3	20	11	ug/L			10/04/23 18:45	20
cis-1,2-Dichloroethene	**1400**		20	5.0	ug/L			10/04/23 18:45	20
cis-1,3-Dichloropropene	5.2	U	20	5.2	ug/L			10/04/23 18:45	20
Cyclohexane	5.6	U	20	5.6	ug/L			10/04/23 18:45	20
Dibromochloromethane	7.8	U	20	7.8	ug/L			10/04/23 18:45	20
Dichlorodifluoromethane	7.2	U	20	7.2	ug/L			10/04/23 18:45	20
Ethylbenzene	4.0	U	20	4.0	ug/L			10/04/23 18:45	20
Isopropylbenzene	5.2	U	20	5.2	ug/L			10/04/23 18:45	20
m,p-Xylenes	9.8	U	20	9.8	ug/L			10/04/23 18:45	20

Client Sample ID: LC34-RW3A-20230926

Lab Sample ID: 670-27575-9

Date Collected: 09/26/23 13:10

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	64	U	100	64	ug/L			10/04/23 18:45	20
Methyl tert-butyl ether	16	U	100	16	ug/L			10/04/23 18:45	20
Methylene Chloride	64	U	100	64	ug/L			10/04/23 18:45	20
o-Xylene	5.2	U	20	5.2	ug/L			10/04/23 18:45	20
Styrene	5.4	U	20	5.4	ug/L			10/04/23 18:45	20
Tetrachloroethene	7.0	U	20	7.0	ug/L			10/04/23 18:45	20
Toluene	5.0	U	20	5.0	ug/L			10/04/23 18:45	20
trans-1,2-Dichloroethene	**33**		20	6.8	ug/L			10/04/23 18:45	20
trans-1,3-Dichloropropene	4.6	U	20	4.6	ug/L			10/04/23 18:45	20
Trichloroethene	**1700**		20	4.0	ug/L			10/04/23 18:45	20
Trichlorofluoromethane	6.6	U	20	6.6	ug/L			10/04/23 18:45	20
Vinyl chloride	**170**		25	10	ug/L			10/05/23 16:57	25
Xylenes, Total	4.6	U	20	4.6	ug/L			10/04/23 18:45	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*60 - 124*		*10/04/23 18:45*	*20*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 124*		*10/05/23 16:57*	*25*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*		*10/04/23 18:45*	*20*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*10/05/23 16:57*	*25*
Dibromofluoromethane (Surr)	*115*		*70 - 130*		*10/04/23 18:45*	*20*
Dibromofluoromethane (Surr)	*116*		*70 - 130*		*10/05/23 16:57*	*25*
Toluene-d8 (Surr)	*93*		*70 - 130*		*10/04/23 18:45*	*20*
Toluene-d8 (Surr)	*118*		*70 - 130*		*10/05/23 16:57*	*25*

Client Sample ID: LC34-RW9A-20230926

Lab Sample ID: 670-27575-10

Date Collected: 09/26/23 13:20

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.2	U	20	4.2	ug/L			10/04/23 19:04	20
1,1,2,2-Tetrachloroethane	8.0	U	20	8.0	ug/L			10/04/23 19:04	20
1,1,2-Trichloro-1,2,2-trifluoroethane	4.6	U	20	4.6	ug/L			10/04/23 19:04	20
1,1,2-Trichloroethane	6.4	U	20	6.4	ug/L			10/04/23 19:04	20
1,1-Dichloroethane	6.6	U	20	6.6	ug/L			10/04/23 19:04	20
1,1-Dichloroethene	6.6	U	20	6.6	ug/L			10/04/23 19:04	20
1,2,4-Trichlorobenzene	11	U	100	11	ug/L			10/04/23 19:04	20
1,2-Dibromo-3-Chloropropane	36	U	100	36	ug/L			10/04/23 19:04	20
1,2-Dibromoethane (EDB)	6.6	U	20	6.6	ug/L			10/04/23 19:04	20
1,2-Dichlorobenzene	6.2	U	20	6.2	ug/L			10/04/23 19:04	20
1,2-Dichloroethane	5.0	U	20	5.0	ug/L			10/04/23 19:04	20
1,2-Dichloropropane	4.4	U	20	4.4	ug/L			10/04/23 19:04	20
1,3-Dichlorobenzene	6.2	U	20	6.2	ug/L			10/04/23 19:04	20
1,4-Dichlorobenzene	6.2	U	20	6.2	ug/L			10/04/23 19:04	20
2-Butanone (MEK)	130	U	200	130	ug/L			10/04/23 19:04	20
2-Hexanone	64	U	200	64	ug/L			10/04/23 19:04	20
4-Methyl-2-pentanone	54	U	200	54	ug/L			10/04/23 19:04	20
Acetone	74	U	200	74	ug/L			10/04/23 19:04	20
Benzene	5.4	U	20	5.4	ug/L			10/04/23 19:04	20
Bromodichloromethane	5.0	U	20	5.0	ug/L			10/04/23 19:04	20

Client Sample ID: LC34-RW9A-20230926

Lab Sample ID: 670-27575-10

Date Collected: 09/26/23 13:20

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	12	U	20	12	ug/L			10/04/23 19:04	20
Bromomethane	74	U	100	74	ug/L			10/04/23 19:04	20
Carbon disulfide	8.6	U	40	8.6	ug/L			10/04/23 19:04	20
Carbon tetrachloride	6.0	U	20	6.0	ug/L			10/04/23 19:04	20
Chlorobenzene	3.0	U	20	3.0	ug/L			10/04/23 19:04	20
Chloroethane	92	U J3	100	92	ug/L			10/04/23 19:04	20
Chloroform	5.4	U	20	5.4	ug/L			10/04/23 19:04	20
Chloromethane	11	U J3	20	11	ug/L			10/04/23 19:04	20
cis-1,2-Dichloroethene	**1800**		20	5.0	ug/L			10/04/23 19:04	20
cis-1,3-Dichloropropene	5.2	U	20	5.2	ug/L			10/04/23 19:04	20
Cyclohexane	5.6	U	20	5.6	ug/L			10/04/23 19:04	20
Dibromochloromethane	7.8	U	20	7.8	ug/L			10/04/23 19:04	20
Dichlorodifluoromethane	7.2	U	20	7.2	ug/L			10/04/23 19:04	20
Ethylbenzene	4.0	U	20	4.0	ug/L			10/04/23 19:04	20
Isopropylbenzene	5.2	U	20	5.2	ug/L			10/04/23 19:04	20
m,p-Xylenes	9.8	U	20	9.8	ug/L			10/04/23 19:04	20
Methyl acetate	64	U	100	64	ug/L			10/04/23 19:04	20
Methyl tert-butyl ether	16	U	100	16	ug/L			10/04/23 19:04	20
Methylene Chloride	64	U	100	64	ug/L			10/04/23 19:04	20
o-Xylene	5.2	U	20	5.2	ug/L			10/04/23 19:04	20
Styrene	5.4	U	20	5.4	ug/L			10/04/23 19:04	20
Tetrachloroethene	7.0	U	20	7.0	ug/L			10/04/23 19:04	20
Toluene	5.0	U	20	5.0	ug/L			10/04/23 19:04	20
trans-1,2-Dichloroethene	**52**		20	6.8	ug/L			10/04/23 19:04	20
trans-1,3-Dichloropropene	4.6	U	20	4.6	ug/L			10/04/23 19:04	20
Trichloroethene	**16**	**I**	20	4.0	ug/L			10/04/23 19:04	20
Trichlorofluoromethane	6.6	U	20	6.6	ug/L			10/04/23 19:04	20
Vinyl chloride	**1100**		25	10	ug/L			10/05/23 17:19	25
Xylenes, Total	4.6	U	20	4.6	ug/L			10/04/23 19:04	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*60 - 124*		*10/04/23 19:04*	*20*
1,2-Dichloroethane-d4 (Surr)	*108*		*60 - 124*		*10/05/23 17:19*	*25*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*		*10/04/23 19:04*	*20*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*10/05/23 17:19*	*25*
Dibromofluoromethane (Surr)	*115*		*70 - 130*		*10/04/23 19:04*	*20*
Dibromofluoromethane (Surr)	*117*		*70 - 130*		*10/05/23 17:19*	*25*
Toluene-d8 (Surr)	*95*		*70 - 130*		*10/04/23 19:04*	*20*
Toluene-d8 (Surr)	*120*		*70 - 130*		*10/05/23 17:19*	*25*

Client Sample ID: LC34-RW17C-20230926

Lab Sample ID: 670-27575-11

Date Collected: 09/26/23 13:25

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	21	U	100	21	ug/L			10/05/23 19:19	100
1,1,2,2-Tetrachloroethane	40	U	100	40	ug/L			10/05/23 19:19	100
1,1,2-Trichloro-1,2,2-trifluoroethane	**36**	**I**	100	23	ug/L			10/05/23 19:19	100

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27575-1

Client Sample ID: LC34-RW17C-20230926
Date Collected: 09/26/23 13:25
Date Received: 09/28/23 08:00

Lab Sample ID: 670-27575-11
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	32	U	100	32	ug/L			10/05/23 19:19	100
1,1-Dichloroethane	33	U	100	33	ug/L			10/05/23 19:19	100
1,1-Dichloroethene	33	U	100	33	ug/L			10/05/23 19:19	100
1,2,4-Trichlorobenzene	53	U	500	53	ug/L			10/05/23 19:19	100
1,2-Dibromo-3-Chloropropane	180	U	500	180	ug/L			10/05/23 19:19	100
1,2-Dibromoethane (EDB)	33	U	100	33	ug/L			10/05/23 19:19	100
1,2-Dichlorobenzene	31	U	100	31	ug/L			10/05/23 19:19	100
1,2-Dichloroethane	25	U	100	25	ug/L			10/05/23 19:19	100
1,2-Dichloropropane	22	U	100	22	ug/L			10/05/23 19:19	100
1,3-Dichlorobenzene	31	U	100	31	ug/L			10/05/23 19:19	100
1,4-Dichlorobenzene	31	U	100	31	ug/L			10/05/23 19:19	100
2-Butanone (MEK)	640	U	1000	640	ug/L			10/05/23 19:19	100
2-Hexanone	320	U	1000	320	ug/L			10/05/23 19:19	100
4-Methyl-2-pentanone	270	U	1000	270	ug/L			10/05/23 19:19	100
Acetone	370	U	1000	370	ug/L			10/05/23 19:19	100
Benzene	27	U	100	27	ug/L			10/05/23 19:19	100
Bromodichloromethane	25	U	100	25	ug/L			10/05/23 19:19	100
Bromoform	59	U	100	59	ug/L			10/05/23 19:19	100
Bromomethane	370	U	500	370	ug/L			10/05/23 19:19	100
Carbon disulfide	43	U	200	43	ug/L			10/05/23 19:19	100
Carbon tetrachloride	30	U	100	30	ug/L			10/05/23 19:19	100
Chlorobenzene	15	U	100	15	ug/L			10/05/23 19:19	100
Chloroethane	460	U	500	460	ug/L			10/05/23 19:19	100
Chloroform	27	U	100	27	ug/L			10/05/23 19:19	100
Chloromethane	54	U	100	54	ug/L			10/05/23 19:19	100
cis-1,2-Dichloroethene	**7600**		100	25	ug/L			10/05/23 19:19	100
cis-1,3-Dichloropropene	26	U	100	26	ug/L			10/05/23 19:19	100
Cyclohexane	28	U	100	28	ug/L			10/05/23 19:19	100
Dibromochloromethane	39	U	100	39	ug/L			10/05/23 19:19	100
Dichlorodifluoromethane	36	U	100	36	ug/L			10/05/23 19:19	100
Ethylbenzene	20	U	100	20	ug/L			10/05/23 19:19	100
Isopropylbenzene	26	U	100	26	ug/L			10/05/23 19:19	100
m,p-Xylenes	49	U	100	49	ug/L			10/05/23 19:19	100
Methyl acetate	320	U	500	320	ug/L			10/05/23 19:19	100
Methyl tert-butyl ether	81	U	500	81	ug/L			10/05/23 19:19	100
Methylene Chloride	320	U	500	320	ug/L			10/05/23 19:19	100
o-Xylene	26	U	100	26	ug/L			10/05/23 19:19	100
Styrene	27	U	100	27	ug/L			10/05/23 19:19	100
Tetrachloroethene	35	U	100	35	ug/L			10/05/23 19:19	100
Toluene	25	U	100	25	ug/L			10/05/23 19:19	100
trans-1,2-Dichloroethene	**100**		100	34	ug/L			10/05/23 19:19	100
trans-1,3-Dichloropropene	23	U	100	23	ug/L			10/05/23 19:19	100
Trichloroethene	**14000**		2000	400	ug/L			10/04/23 15:55	2000
Trichlorofluoromethane	33	U	100	33	ug/L			10/05/23 19:19	100
Vinyl chloride	**220**		100	40	ug/L			10/05/23 19:19	100
Xylenes, Total	23	U	100	23	ug/L			10/05/23 19:19	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*60 - 124*		*10/04/23 15:55*	*2000*
1,2-Dichloroethane-d4 (Surr)	*98*		*60 - 124*		*10/05/23 19:19*	*100*

Client Sample ID: LC34-RW17C-20230926

Lab Sample ID: 670-27575-11

Date Collected: 09/26/23 13:25

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*		*10/04/23 15:55*	*2000*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*10/05/23 19:19*	*100*
Dibromofluoromethane (Surr)	*113*		*70 - 130*		*10/04/23 15:55*	*2000*
Dibromofluoromethane (Surr)	*106*		*70 - 130*		*10/05/23 19:19*	*100*
Toluene-d8 (Surr)	*94*		*70 - 130*		*10/04/23 15:55*	*2000*
Toluene-d8 (Surr)	*111*		*70 - 130*		*10/05/23 19:19*	*100*

Client Sample ID: LC34-RW19C-20230926

Lab Sample ID: 670-27575-12

Date Collected: 09/26/23 13:35

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	210	U	1000	210	ug/L			10/04/23 16:13	1000
1,1,2,2-Tetrachloroethane	400	U	1000	400	ug/L			10/04/23 16:13	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	230	U	1000	230	ug/L			10/04/23 16:13	1000
1,1,2-Trichloroethane	320	U	1000	320	ug/L			10/04/23 16:13	1000
1,1-Dichloroethane	330	U	1000	330	ug/L			10/04/23 16:13	1000
1,1-Dichloroethene	330	U	1000	330	ug/L			10/04/23 16:13	1000
1,2,4-Trichlorobenzene	530	U	5000	530	ug/L			10/04/23 16:13	1000
1,2-Dibromo-3-Chloropropane	1800	U	5000	1800	ug/L			10/04/23 16:13	1000
1,2-Dibromoethane (EDB)	330	U	1000	330	ug/L			10/04/23 16:13	1000
1,2-Dichlorobenzene	310	U	1000	310	ug/L			10/04/23 16:13	1000
1,2-Dichloroethane	250	U	1000	250	ug/L			10/04/23 16:13	1000
1,2-Dichloropropane	220	U	1000	220	ug/L			10/04/23 16:13	1000
1,3-Dichlorobenzene	310	U	1000	310	ug/L			10/04/23 16:13	1000
1,4-Dichlorobenzene	310	U	1000	310	ug/L			10/04/23 16:13	1000
2-Butanone (MEK)	6400	U	10000	6400	ug/L			10/04/23 16:13	1000
2-Hexanone	3200	U	10000	3200	ug/L			10/04/23 16:13	1000
4-Methyl-2-pentanone	2700	U	10000	2700	ug/L			10/04/23 16:13	1000
Acetone	3700	U	10000	3700	ug/L			10/04/23 16:13	1000
Benzene	270	U	1000	270	ug/L			10/04/23 16:13	1000
Bromodichloromethane	250	U	1000	250	ug/L			10/04/23 16:13	1000
Bromoform	590	U	1000	590	ug/L			10/04/23 16:13	1000
Bromomethane	3700	U	5000	3700	ug/L			10/04/23 16:13	1000
Carbon disulfide	430	U	2000	430	ug/L			10/04/23 16:13	1000
Carbon tetrachloride	300	U	1000	300	ug/L			10/04/23 16:13	1000
Chlorobenzene	150	U	1000	150	ug/L			10/04/23 16:13	1000
Chloroethane	4600	U J3	5000	4600	ug/L			10/04/23 16:13	1000
Chloroform	270	U	1000	270	ug/L			10/04/23 16:13	1000
Chloromethane	540	U J3	1000	540	ug/L			10/04/23 16:13	1000
cis-1,2-Dichloroethene	**3500**		1000	250	ug/L			10/04/23 16:13	1000
cis-1,3-Dichloropropene	260	U	1000	260	ug/L			10/04/23 16:13	1000
Cyclohexane	280	U	1000	280	ug/L			10/04/23 16:13	1000
Dibromochloromethane	390	U	1000	390	ug/L			10/04/23 16:13	1000
Dichlorodifluoromethane	360	U	1000	360	ug/L			10/04/23 16:13	1000
Ethylbenzene	200	U	1000	200	ug/L			10/04/23 16:13	1000
Isopropylbenzene	260	U	1000	260	ug/L			10/04/23 16:13	1000
m,p-Xylenes	490	U	1000	490	ug/L			10/04/23 16:13	1000

Client Sample ID: LC34-RW19C-20230926

Lab Sample ID: 670-27575-12

Date Collected: 09/26/23 13:35

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	3200	U	5000	3200	ug/L			10/04/23 16:13	1000
Methyl tert-butyl ether	810	U	5000	810	ug/L			10/04/23 16:13	1000
Methylene Chloride	3200	U	5000	3200	ug/L			10/04/23 16:13	1000
o-Xylene	260	U	1000	260	ug/L			10/04/23 16:13	1000
Styrene	270	U	1000	270	ug/L			10/04/23 16:13	1000
Tetrachloroethene	350	U	1000	350	ug/L			10/04/23 16:13	1000
Toluene	250	U	1000	250	ug/L			10/04/23 16:13	1000
trans-1,2-Dichloroethene	340	U	1000	340	ug/L			10/04/23 16:13	1000
trans-1,3-Dichloropropene	230	U	1000	230	ug/L			10/04/23 16:13	1000
Trichloroethene	**110000**		1000	200	ug/L			10/04/23 16:13	1000
Trichlorofluoromethane	330	U	1000	330	ug/L			10/04/23 16:13	1000
Vinyl chloride	400	U J3	1000	400	ug/L			10/04/23 16:13	1000
Xylenes, Total	230	U	1000	230	ug/L			10/04/23 16:13	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 124*		*10/04/23 16:13*	*1000*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*		*10/04/23 16:13*	*1000*
Dibromofluoromethane (Surr)	*114*		*70 - 130*		*10/04/23 16:13*	*1000*
Toluene-d8 (Surr)	*91*		*70 - 130*		*10/04/23 16:13*	*1000*

Client Sample ID: LC34-RW20C-20230926

Lab Sample ID: 670-27575-13

Date Collected: 09/26/23 13:40

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	110	U	500	110	ug/L			10/04/23 16:32	500
1,1,2,2-Tetrachloroethane	200	U	500	200	ug/L			10/04/23 16:32	500
1,1,2-Trichloro-1,2,2-trifluoroethane	120	U	500	120	ug/L			10/04/23 16:32	500
1,1,2-Trichloroethane	160	U	500	160	ug/L			10/04/23 16:32	500
1,1-Dichloroethane	170	U	500	170	ug/L			10/04/23 16:32	500
1,1-Dichloroethene	170	U	500	170	ug/L			10/04/23 16:32	500
1,2,4-Trichlorobenzene	270	U	2500	270	ug/L			10/04/23 16:32	500
1,2-Dibromo-3-Chloropropane	900	U	2500	900	ug/L			10/04/23 16:32	500
1,2-Dibromoethane (EDB)	170	U	500	170	ug/L			10/04/23 16:32	500
1,2-Dichlorobenzene	160	U	500	160	ug/L			10/04/23 16:32	500
1,2-Dichloroethane	130	U	500	130	ug/L			10/04/23 16:32	500
1,2-Dichloropropane	110	U	500	110	ug/L			10/04/23 16:32	500
1,3-Dichlorobenzene	160	U	500	160	ug/L			10/04/23 16:32	500
1,4-Dichlorobenzene	160	U	500	160	ug/L			10/04/23 16:32	500
2-Butanone (MEK)	3200	U	5000	3200	ug/L			10/04/23 16:32	500
2-Hexanone	1600	U	5000	1600	ug/L			10/04/23 16:32	500
4-Methyl-2-pentanone	1400	U	5000	1400	ug/L			10/04/23 16:32	500
Acetone	1900	U	5000	1900	ug/L			10/04/23 16:32	500
Benzene	140	U	500	140	ug/L			10/04/23 16:32	500
Bromodichloromethane	130	U	500	130	ug/L			10/04/23 16:32	500
Bromoform	300	U	500	300	ug/L			10/04/23 16:32	500
Bromomethane	1900	U	2500	1900	ug/L			10/04/23 16:32	500
Carbon disulfide	220	U	1000	220	ug/L			10/04/23 16:32	500
Carbon tetrachloride	150	U	500	150	ug/L			10/04/23 16:32	500

Client Sample ID: LC34-RW20C-20230926

Lab Sample ID: 670-27575-13

Date Collected: 09/26/23 13:40

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	75	U	500	75	ug/L			10/04/23 16:32	500
Chloroethane	2300	U J3	2500	2300	ug/L			10/04/23 16:32	500
Chloroform	140	U	500	140	ug/L			10/04/23 16:32	500
Chloromethane	270	U J3	500	270	ug/L			10/04/23 16:32	500
cis-1,2-Dichloroethene	**2800**		500	130	ug/L			10/04/23 16:32	500
cis-1,3-Dichloropropene	130	U	500	130	ug/L			10/04/23 16:32	500
Cyclohexane	140	U	500	140	ug/L			10/04/23 16:32	500
Dibromochloromethane	200	U	500	200	ug/L			10/04/23 16:32	500
Dichlorodifluoromethane	180	U	500	180	ug/L			10/04/23 16:32	500
Ethylbenzene	100	U	500	100	ug/L			10/04/23 16:32	500
Isopropylbenzene	130	U	500	130	ug/L			10/04/23 16:32	500
m,p-Xylenes	250	U	500	250	ug/L			10/04/23 16:32	500
Methyl acetate	1600	U	2500	1600	ug/L			10/04/23 16:32	500
Methyl tert-butyl ether	410	U	2500	410	ug/L			10/04/23 16:32	500
Methylene Chloride	1600	U	2500	1600	ug/L			10/04/23 16:32	500
o-Xylene	130	U	500	130	ug/L			10/04/23 16:32	500
Styrene	140	U	500	140	ug/L			10/04/23 16:32	500
Tetrachloroethene	180	U	500	180	ug/L			10/04/23 16:32	500
Toluene	130	U	500	130	ug/L			10/04/23 16:32	500
trans-1,2-Dichloroethene	170	U	500	170	ug/L			10/04/23 16:32	500
trans-1,3-Dichloropropene	120	U	500	120	ug/L			10/04/23 16:32	500
Trichloroethene	**39000**		500	100	ug/L			10/04/23 16:32	500
Trichlorofluoromethane	170	U	500	170	ug/L			10/04/23 16:32	500
Vinyl chloride	200	U J3	500	200	ug/L			10/04/23 16:32	500
Xylenes, Total	120	U	500	120	ug/L			10/04/23 16:32	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*60 - 124*		*10/04/23 16:32*	*500*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*		*10/04/23 16:32*	*500*
Dibromofluoromethane (Surr)	*116*		*70 - 130*		*10/04/23 16:32*	*500*
Toluene-d8 (Surr)	*93*		*70 - 130*		*10/04/23 16:32*	*500*

Client Sample ID: LC34-RW21D-20230926

Lab Sample ID: 670-27575-14

Date Collected: 09/26/23 13:45

Matrix: Water

Date Received: 09/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	42	U	200	42	ug/L			10/04/23 16:51	200
1,1,2,2-Tetrachloroethane	80	U	200	80	ug/L			10/04/23 16:51	200
1,1,2-Trichloro-1,2,2-trifluoroethane	46	U	200	46	ug/L			10/04/23 16:51	200
1,1,2-Trichloroethane	64	U	200	64	ug/L			10/04/23 16:51	200
1,1-Dichloroethane	66	U	200	66	ug/L			10/04/23 16:51	200
1,1-Dichloroethene	66	U	200	66	ug/L			10/04/23 16:51	200
1,2,4-Trichlorobenzene	110	U	1000	110	ug/L			10/04/23 16:51	200
1,2-Dibromo-3-Chloropropane	360	U	1000	360	ug/L			10/04/23 16:51	200
1,2-Dibromoethane (EDB)	66	U	200	66	ug/L			10/04/23 16:51	200
1,2-Dichlorobenzene	62	U	200	62	ug/L			10/04/23 16:51	200
1,2-Dichloroethane	50	U	200	50	ug/L			10/04/23 16:51	200
1,2-Dichloropropane	44	U	200	44	ug/L			10/04/23 16:51	200

Client Sample ID: LC34-RW21D-20230926
Date Collected: 09/26/23 13:45
Date Received: 09/28/23 08:00

Lab Sample ID: 670-27575-14
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	62	U	200	62	ug/L			10/04/23 16:51	200
1,4-Dichlorobenzene	62	U	200	62	ug/L			10/04/23 16:51	200
2-Butanone (MEK)	1300	U	2000	1300	ug/L			10/04/23 16:51	200
2-Hexanone	640	U	2000	640	ug/L			10/04/23 16:51	200
4-Methyl-2-pentanone	540	U	2000	540	ug/L			10/04/23 16:51	200
Acetone	740	U	2000	740	ug/L			10/04/23 16:51	200
Benzene	54	U	200	54	ug/L			10/04/23 16:51	200
Bromodichloromethane	50	U	200	50	ug/L			10/04/23 16:51	200
Bromoform	120	U	200	120	ug/L			10/04/23 16:51	200
Bromomethane	740	U	1000	740	ug/L			10/04/23 16:51	200
Carbon disulfide	86	U	400	86	ug/L			10/04/23 16:51	200
Carbon tetrachloride	60	U	200	60	ug/L			10/04/23 16:51	200
Chlorobenzene	30	U	200	30	ug/L			10/04/23 16:51	200
Chloroethane	920	U J3	1000	920	ug/L			10/04/23 16:51	200
Chloroform	54	U	200	54	ug/L			10/04/23 16:51	200
Chloromethane	110	U J3	200	110	ug/L			10/04/23 16:51	200
cis-1,2-Dichloroethene	**2400**		200	50	ug/L			10/04/23 16:51	200
cis-1,3-Dichloropropene	52	U	200	52	ug/L			10/04/23 16:51	200
Cyclohexane	56	U	200	56	ug/L			10/04/23 16:51	200
Dibromochloromethane	78	U	200	78	ug/L			10/04/23 16:51	200
Dichlorodifluoromethane	72	U	200	72	ug/L			10/04/23 16:51	200
Ethylbenzene	40	U	200	40	ug/L			10/04/23 16:51	200
Isopropylbenzene	52	U	200	52	ug/L			10/04/23 16:51	200
m,p-Xylenes	98	U	200	98	ug/L			10/04/23 16:51	200
Methyl acetate	640	U	1000	640	ug/L			10/04/23 16:51	200
Methyl tert-butyl ether	160	U	1000	160	ug/L			10/04/23 16:51	200
Methylene Chloride	640	U	1000	640	ug/L			10/04/23 16:51	200
o-Xylene	52	U	200	52	ug/L			10/04/23 16:51	200
Styrene	54	U	200	54	ug/L			10/04/23 16:51	200
Tetrachloroethene	70	U	200	70	ug/L			10/04/23 16:51	200
Toluene	**87**	**I**	200	50	ug/L			10/04/23 16:51	200
trans-1,2-Dichloroethene	68	U	200	68	ug/L			10/04/23 16:51	200
trans-1,3-Dichloropropene	46	U	200	46	ug/L			10/04/23 16:51	200
Trichloroethene	**15000**		200	40	ug/L			10/04/23 16:51	200
Trichlorofluoromethane	66	U	200	66	ug/L			10/04/23 16:51	200
Vinyl chloride	80	U J3	200	80	ug/L			10/04/23 16:51	200
Xylenes, Total	46	U	200	46	ug/L			10/04/23 16:51	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*60 - 124*		*10/04/23 16:51*	*200*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*		*10/04/23 16:51*	*200*
Dibromofluoromethane (Surr)	*115*		*70 - 130*		*10/04/23 16:51*	*200*
Toluene-d8 (Surr)	*92*		*70 - 130*		*10/04/23 16:51*	*200*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27575-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-124)	(70-130)	(70-130)	(70-130)
670-27575-1	LC34-GAC-20230926	102	89	111	94
670-27575-2	LC34-AS1-20230926	106	89	115	94
670-27575-3	LC34-AS2-20230926	105	91	115	95
670-27575-4	LC34-Influent-20230926	106	90	113	93
670-27575-4	LC34-Influent-20230926	106	96	116	114
670-27575-5	LC34-RW1A-20230926	106	88	114	94
670-27575-5	LC34-RW1A-20230926	105	98	115	116
670-27575-6	LC34-RW1B-20230926	107	88	113	93
670-27575-6	LC34-RW1B-20230926	107	97	119	118
670-27575-7	LC34-RW2A-20230926	106	89	114	93
670-27575-7	LC34-RW2A-20230926	106	99	116	118
670-27575-8	LC34-RW2B-20230926	107	90	115	93
670-27575-8	LC34-RW2B-20230926	105	98	117	117
670-27575-9	LC34-RW3A-20230926	107	90	115	93
670-27575-9	LC34-RW3A-20230926	105	99	116	118
670-27575-10	LC34-RW9A-20230926	109	88	115	95
670-27575-10	LC34-RW9A-20230926	108	100	117	120
670-27575-11	LC34-RW17C-20230926	103	89	113	94
670-27575-11	LC34-RW17C-20230926	98	98	106	111
670-27575-12	LC34-RW19C-20230926	105	91	114	91
670-27575-13	LC34-RW20C-20230926	107	89	116	93
670-27575-14	LC34-RW21D-20230926	108	88	115	92
LCS 680-800909/3	Lab Control Sample	101	90	104	94
LCS 680-801117/3	Lab Control Sample	101	107	103	116
LCSD 680-800909/4	Lab Control Sample Dup	102	92	100	97
LCSD 680-801117/4	Lab Control Sample Dup	101	106	103	114
MB 680-800909/7	Method Blank	105	90	113	93
MB 680-801117/7	Method Blank	108	97	123	119

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 680-800909/7
Matrix: Water
Analysis Batch: 800909

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			10/04/23 11:21	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			10/04/23 11:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			10/04/23 11:21	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			10/04/23 11:21	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			10/04/23 11:21	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			10/04/23 11:21	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			10/04/23 11:21	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			10/04/23 11:21	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			10/04/23 11:21	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 11:21	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			10/04/23 11:21	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			10/04/23 11:21	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 11:21	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 11:21	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			10/04/23 11:21	1
2-Hexanone	3.2	U	10	3.2	ug/L			10/04/23 11:21	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			10/04/23 11:21	1
Acetone	3.7	U	10	3.7	ug/L			10/04/23 11:21	1
Benzene	0.27	U	1.0	0.27	ug/L			10/04/23 11:21	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			10/04/23 11:21	1
Bromoform	0.59	U	1.0	0.59	ug/L			10/04/23 11:21	1
Bromomethane	3.7	U	5.0	3.7	ug/L			10/04/23 11:21	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			10/04/23 11:21	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			10/04/23 11:21	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			10/04/23 11:21	1
Chloroethane	4.6	U	5.0	4.6	ug/L			10/04/23 11:21	1
Chloroform	0.27	U	1.0	0.27	ug/L			10/04/23 11:21	1
Chloromethane	0.54	U	1.0	0.54	ug/L			10/04/23 11:21	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			10/04/23 11:21	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			10/04/23 11:21	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			10/04/23 11:21	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			10/04/23 11:21	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			10/04/23 11:21	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			10/04/23 11:21	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			10/04/23 11:21	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			10/04/23 11:21	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			10/04/23 11:21	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			10/04/23 11:21	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			10/04/23 11:21	1
o-Xylene	0.26	U	1.0	0.26	ug/L			10/04/23 11:21	1
Styrene	0.27	U	1.0	0.27	ug/L			10/04/23 11:21	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			10/04/23 11:21	1
Toluene	0.25	U	1.0	0.25	ug/L			10/04/23 11:21	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			10/04/23 11:21	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			10/04/23 11:21	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			10/04/23 11:21	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			10/04/23 11:21	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			10/04/23 11:21	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-800909/7
Matrix: Water
Analysis Batch: 800909

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	0.23	U	1.0	0.23	ug/L			10/04/23 11:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 124*		*10/04/23 11:21*	*1*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*		*10/04/23 11:21*	*1*
Dibromofluoromethane (Surr)	*113*		*70 - 130*		*10/04/23 11:21*	*1*
Toluene-d8 (Surr)	*93*		*70 - 130*		*10/04/23 11:21*	*1*

Lab Sample ID: LCS 680-800909/3
Matrix: Water
Analysis Batch: 800909

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	51.9		ug/L		104	70 - 130
1,1,2,2-Tetrachloroethane	50.0	48.2		ug/L		96	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	41.7		ug/L		83	63 - 141
1,1,2-Trichloroethane	50.0	45.9		ug/L		92	70 - 130
1,1-Dichloroethane	50.0	49.4		ug/L		99	70 - 130
1,1-Dichloroethene	50.0	53.0		ug/L		106	70 - 130
1,2,4-Trichlorobenzene	50.0	54.7		ug/L		109	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	46.8		ug/L		94	70 - 130
1,2-Dibromoethane (EDB)	50.0	46.7		ug/L		93	70 - 130
1,2-Dichlorobenzene	50.0	48.6		ug/L		97	70 - 130
1,2-Dichloroethane	50.0	47.3		ug/L		95	70 - 130
1,2-Dichloropropane	50.0	48.9		ug/L		98	70 - 130
1,3-Dichlorobenzene	50.0	47.6		ug/L		95	70 - 130
1,4-Dichlorobenzene	50.0	47.3		ug/L		95	70 - 130
2-Butanone (MEK)	250	253		ug/L		101	69 - 120
2-Hexanone	250	243		ug/L		97	70 - 130
4-Methyl-2-pentanone	250	240		ug/L		96	68 - 120
Acetone	250	278		ug/L		111	67 - 120
Benzene	50.0	46.7		ug/L		93	70 - 130
Bromodichloromethane	50.0	53.3		ug/L		107	70 - 130
Bromoform	50.0	43.3		ug/L		87	69 - 129
Bromomethane	50.0	67.0		ug/L		134	28 - 192
Carbon disulfide	50.0	49.5		ug/L		99	70 - 130
Carbon tetrachloride	50.0	53.3		ug/L		107	70 - 130
Chlorobenzene	50.0	47.7		ug/L		95	70 - 130
Chloroethane	50.0	70.9		ug/L		142	31 - 213
Chloroform	50.0	48.0		ug/L		96	70 - 130
Chloromethane	50.0	66.3	J3	ug/L		133	59 - 127
cis-1,2-Dichloroethene	50.0	49.7		ug/L		99	70 - 130
cis-1,3-Dichloropropene	50.0	48.8		ug/L		98	70 - 130
Cyclohexane	50.0	49.6		ug/L		99	23 - 175
Dibromochloromethane	50.0	47.9		ug/L		96	70 - 130
Dichlorodifluoromethane	50.0	56.8		ug/L		114	70 - 130
Ethylbenzene	50.0	47.9		ug/L		96	70 - 130
Isopropylbenzene	50.0	48.9		ug/L		98	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-800909/3
Matrix: Water
Analysis Batch: 800909

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	47.8		ug/L		96	70 - 130
Methyl acetate	100	82.7		ug/L		83	67 - 120
Methyl tert-butyl ether	50.0	42.9		ug/L		86	70 - 130
Methylene Chloride	50.0	51.0		ug/L		102	70 - 130
o-Xylene	50.0	47.6		ug/L		95	70 - 130
Styrene	50.0	50.1		ug/L		100	70 - 130
Tetrachloroethene	50.0	51.8		ug/L		104	70 - 130
Toluene	50.0	48.8		ug/L		98	70 - 130
trans-1,2-Dichloroethene	50.0	52.8		ug/L		106	70 - 130
trans-1,3-Dichloropropene	50.0	49.7		ug/L		99	70 - 130
Trichloroethene	50.0	46.1		ug/L		92	70 - 130
Trichlorofluoromethane	50.0	69.4		ug/L		139	63 - 142
Vinyl chloride	50.0	73.2	J3	ug/L		146	66 - 129
Xylenes, Total	100	95.4		ug/L		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*60 - 124*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
Dibromofluoromethane (Surr)	*104*		*70 - 130*
Toluene-d8 (Surr)	*94*		*70 - 130*

Lab Sample ID: LCSD 680-800909/4
Matrix: Water
Analysis Batch: 800909

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	51.7		ug/L		103	70 - 130	0	30
1,1,2,2-Tetrachloroethane	50.0	50.7		ug/L		101	70 - 130	5	30
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	40.0		ug/L		80	63 - 141	4	30
1,1,2-Trichloroethane	50.0	49.5		ug/L		99	70 - 130	8	30
1,1-Dichloroethane	50.0	47.8		ug/L		96	70 - 130	3	30
1,1-Dichloroethene	50.0	47.7		ug/L		95	70 - 130	10	20
1,2,4-Trichlorobenzene	50.0	55.7		ug/L		111	70 - 130	2	30
1,2-Dibromo-3-Chloropropane	50.0	48.8		ug/L		98	70 - 130	4	30
1,2-Dibromoethane (EDB)	50.0	48.9		ug/L		98	70 - 130	5	30
1,2-Dichlorobenzene	50.0	49.7		ug/L		99	70 - 130	2	30
1,2-Dichloroethane	50.0	48.4		ug/L		97	70 - 130	2	50
1,2-Dichloropropane	50.0	49.4		ug/L		99	70 - 130	1	20
1,3-Dichlorobenzene	50.0	48.1		ug/L		96	70 - 130	1	30
1,4-Dichlorobenzene	50.0	47.5		ug/L		95	70 - 130	1	30
2-Butanone (MEK)	250	253		ug/L		101	69 - 120	0	30
2-Hexanone	250	247		ug/L		99	70 - 130	2	20
4-Methyl-2-pentanone	250	249		ug/L		100	68 - 120	4	30
Acetone	250	244		ug/L		97	67 - 120	13	30
Benzene	50.0	47.6		ug/L		95	70 - 130	2	30
Bromodichloromethane	50.0	53.7		ug/L		107	70 - 130	1	30
Bromoform	50.0	48.2		ug/L		96	69 - 129	11	30
Bromomethane	50.0	89.9		ug/L		180	28 - 192	29	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-800909/4
Matrix: Water
Analysis Batch: 800909

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon disulfide	50.0	50.2		ug/L		100	70 - 130	1	30
Carbon tetrachloride	50.0	52.4		ug/L		105	70 - 130	2	30
Chlorobenzene	50.0	48.6		ug/L		97	70 - 130	2	30
Chloroethane	50.0	119	J3	ug/L		238	31 - 213	51	30
Chloroform	50.0	46.7		ug/L		93	70 - 130	3	30
Chloromethane	50.0	61.5		ug/L		123	59 - 127	8	30
cis-1,2-Dichloroethene	50.0	48.2		ug/L		96	70 - 130	3	30
cis-1,3-Dichloropropene	50.0	51.9		ug/L		104	70 - 130	6	20
Cyclohexane	50.0	48.4		ug/L		97	23 - 175	2	30
Dibromochloromethane	50.0	52.2		ug/L		104	70 - 130	9	30
Dichlorodifluoromethane	50.0	53.0		ug/L		106	70 - 130	7	40
Ethylbenzene	50.0	48.5		ug/L		97	70 - 130	1	20
Isopropylbenzene	50.0	49.3		ug/L		99	70 - 130	1	30
m,p-Xylenes	50.0	48.7		ug/L		97	70 - 130	2	30
Methyl acetate	100	94.2		ug/L		94	67 - 120	13	30
Methyl tert-butyl ether	50.0	45.4		ug/L		91	70 - 130	6	30
Methylene Chloride	50.0	50.0		ug/L		100	70 - 130	2	30
o-Xylene	50.0	48.4		ug/L		97	70 - 130	2	30
Styrene	50.0	50.3		ug/L		101	70 - 130	0	30
Tetrachloroethene	50.0	49.9		ug/L		100	70 - 130	4	30
Toluene	50.0	48.7		ug/L		97	70 - 130	0	30
trans-1,2-Dichloroethene	50.0	51.8		ug/L		104	70 - 130	2	30
trans-1,3-Dichloropropene	50.0	52.1		ug/L		104	70 - 130	5	30
Trichloroethene	50.0	48.7		ug/L		97	70 - 130	6	30
Trichlorofluoromethane	50.0	59.2		ug/L		118	63 - 142	16	30
Vinyl chloride	50.0	59.7		ug/L		119	66 - 129	20	30
Xylenes, Total	100	97.1		ug/L		97	70 - 130	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*60 - 124*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
Dibromofluoromethane (Surr)	*100*		*70 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*

Lab Sample ID: MB 680-801117/7
Matrix: Water
Analysis Batch: 801117

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			10/05/23 12:52	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			10/05/23 12:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			10/05/23 12:52	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			10/05/23 12:52	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			10/05/23 12:52	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			10/05/23 12:52	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			10/05/23 12:52	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			10/05/23 12:52	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			10/05/23 12:52	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-801117/7
Matrix: Water
Analysis Batch: 801117

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/05/23 12:52	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			10/05/23 12:52	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			10/05/23 12:52	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/05/23 12:52	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/05/23 12:52	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			10/05/23 12:52	1
2-Hexanone	3.2	U	10	3.2	ug/L			10/05/23 12:52	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			10/05/23 12:52	1
Acetone	3.7	U	10	3.7	ug/L			10/05/23 12:52	1
Benzene	0.27	U	1.0	0.27	ug/L			10/05/23 12:52	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			10/05/23 12:52	1
Bromoform	0.59	U	1.0	0.59	ug/L			10/05/23 12:52	1
Bromomethane	3.7	U	5.0	3.7	ug/L			10/05/23 12:52	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			10/05/23 12:52	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			10/05/23 12:52	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			10/05/23 12:52	1
Chloroethane	4.6	U	5.0	4.6	ug/L			10/05/23 12:52	1
Chloroform	0.27	U	1.0	0.27	ug/L			10/05/23 12:52	1
Chloromethane	0.54	U	1.0	0.54	ug/L			10/05/23 12:52	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			10/05/23 12:52	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			10/05/23 12:52	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			10/05/23 12:52	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			10/05/23 12:52	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			10/05/23 12:52	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			10/05/23 12:52	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			10/05/23 12:52	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			10/05/23 12:52	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			10/05/23 12:52	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			10/05/23 12:52	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			10/05/23 12:52	1
o-Xylene	0.26	U	1.0	0.26	ug/L			10/05/23 12:52	1
Styrene	0.27	U	1.0	0.27	ug/L			10/05/23 12:52	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			10/05/23 12:52	1
Toluene	0.25	U	1.0	0.25	ug/L			10/05/23 12:52	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			10/05/23 12:52	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			10/05/23 12:52	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			10/05/23 12:52	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			10/05/23 12:52	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			10/05/23 12:52	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			10/05/23 12:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*60 - 124*		*10/05/23 12:52*	*1*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*10/05/23 12:52*	*1*
Dibromofluoromethane (Surr)	*123*		*70 - 130*		*10/05/23 12:52*	*1*
Toluene-d8 (Surr)	*119*		*70 - 130*		*10/05/23 12:52*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-801117/3
Matrix: Water
Analysis Batch: 801117

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	48.9		ug/L		98	70 - 130
1,1,2,2-Tetrachloroethane	50.0	46.6		ug/L		93	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	57.7		ug/L		115	63 - 141
1,1,2-Trichloroethane	50.0	46.1		ug/L		92	70 - 130
1,1-Dichloroethane	50.0	49.7		ug/L		99	70 - 130
1,1-Dichloroethene	50.0	56.4		ug/L		113	70 - 130
1,2,4-Trichlorobenzene	50.0	51.8		ug/L		104	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	45.6		ug/L		91	70 - 130
1,2-Dibromoethane (EDB)	50.0	48.4		ug/L		97	70 - 130
1,2-Dichlorobenzene	50.0	51.3		ug/L		103	70 - 130
1,2-Dichloroethane	50.0	46.8		ug/L		94	70 - 130
1,2-Dichloropropane	50.0	49.3		ug/L		99	70 - 130
1,3-Dichlorobenzene	50.0	49.6		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	50.2		ug/L		100	70 - 130
2-Butanone (MEK)	250	241		ug/L		97	69 - 120
2-Hexanone	250	263		ug/L		105	70 - 130
4-Methyl-2-pentanone	250	227		ug/L		91	68 - 120
Acetone	250	220		ug/L		88	67 - 120
Benzene	50.0	48.4		ug/L		97	70 - 130
Bromodichloromethane	50.0	48.7		ug/L		97	70 - 130
Bromoform	50.0	47.7		ug/L		95	69 - 129
Bromomethane	50.0	44.3		ug/L		89	28 - 192
Carbon disulfide	50.0	51.1		ug/L		102	70 - 130
Carbon tetrachloride	50.0	49.8		ug/L		100	70 - 130
Chlorobenzene	50.0	50.4		ug/L		101	70 - 130
Chloroethane	50.0	45.3		ug/L		91	31 - 213
Chloroform	50.0	50.0		ug/L		100	70 - 130
Chloromethane	50.0	46.7		ug/L		93	59 - 127
cis-1,2-Dichloroethene	50.0	49.8		ug/L		100	70 - 130
cis-1,3-Dichloropropene	50.0	50.7		ug/L		101	70 - 130
Cyclohexane	50.0	49.1		ug/L		98	23 - 175
Dibromochloromethane	50.0	47.7		ug/L		95	70 - 130
Dichlorodifluoromethane	50.0	45.0		ug/L		90	70 - 130
Ethylbenzene	50.0	45.1		ug/L		90	70 - 130
Isopropylbenzene	50.0	45.9		ug/L		92	70 - 130
m,p-Xylenes	50.0	51.9		ug/L		104	70 - 130
Methyl acetate	100	84.7		ug/L		85	67 - 120
Methyl tert-butyl ether	50.0	52.1		ug/L		104	70 - 130
Methylene Chloride	50.0	47.9		ug/L		96	70 - 130
o-Xylene	50.0	45.3		ug/L		91	70 - 130
Styrene	50.0	55.4		ug/L		111	70 - 130
Tetrachloroethene	50.0	49.5		ug/L		99	70 - 130
Toluene	50.0	52.5		ug/L		105	70 - 130
trans-1,2-Dichloroethene	50.0	50.5		ug/L		101	70 - 130
trans-1,3-Dichloropropene	50.0	48.0		ug/L		96	70 - 130
Trichloroethene	50.0	52.8		ug/L		106	70 - 130
Trichlorofluoromethane	50.0	69.5		ug/L		139	63 - 142
Vinyl chloride	50.0	44.9		ug/L		90	66 - 129

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-801117/3
Matrix: Water
Analysis Batch: 801117

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Xylenes, Total			100	97.2		ug/L		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*60 - 124*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
Dibromofluoromethane (Surr)	*103*		*70 - 130*
Toluene-d8 (Surr)	*116*		*70 - 130*

Lab Sample ID: LCSD 680-801117/4
Matrix: Water
Analysis Batch: 801117

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			50.0	48.2		ug/L		96	70 - 130	1	30
1,1,2,2-Tetrachloroethane			50.0	45.4		ug/L		91	70 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	58.7		ug/L		117	63 - 141	2	30
1,1,2-Trichloroethane			50.0	45.0		ug/L		90	70 - 130	2	30
1,1-Dichloroethane			50.0	49.2		ug/L		98	70 - 130	1	30
1,1-Dichloroethene			50.0	57.0		ug/L		114	70 - 130	1	20
1,2,4-Trichlorobenzene			50.0	50.7		ug/L		101	70 - 130	2	30
1,2-Dibromo-3-Chloropropane			50.0	44.9		ug/L		90	70 - 130	2	30
1,2-Dibromoethane (EDB)			50.0	48.5		ug/L		97	70 - 130	0	30
1,2-Dichlorobenzene			50.0	50.5		ug/L		101	70 - 130	1	30
1,2-Dichloroethane			50.0	47.3		ug/L		95	70 - 130	1	50
1,2-Dichloropropane			50.0	49.4		ug/L		99	70 - 130	0	20
1,3-Dichlorobenzene			50.0	48.9		ug/L		98	70 - 130	1	30
1,4-Dichlorobenzene			50.0	49.0		ug/L		98	70 - 130	2	30
2-Butanone (MEK)			250	240		ug/L		96	69 - 120	1	30
2-Hexanone			250	265		ug/L		106	70 - 130	1	20
4-Methyl-2-pentanone			250	226		ug/L		90	68 - 120	1	30
Acetone			250	230		ug/L		92	67 - 120	5	30
Benzene			50.0	47.9		ug/L		96	70 - 130	1	30
Bromodichloromethane			50.0	48.3		ug/L		97	70 - 130	1	30
Bromoform			50.0	47.6		ug/L		95	69 - 129	0	30
Bromomethane			50.0	44.9		ug/L		90	28 - 192	1	30
Carbon disulfide			50.0	50.2		ug/L		100	70 - 130	2	30
Carbon tetrachloride			50.0	49.7		ug/L		99	70 - 130	0	30
Chlorobenzene			50.0	49.8		ug/L		100	70 - 130	1	30
Chloroethane			50.0	45.7		ug/L		91	31 - 213	1	30
Chloroform			50.0	48.8		ug/L		98	70 - 130	2	30
Chloromethane			50.0	47.1		ug/L		94	59 - 127	1	30
cis-1,2-Dichloroethene			50.0	49.2		ug/L		98	70 - 130	1	30
cis-1,3-Dichloropropene			50.0	50.3		ug/L		101	70 - 130	1	20
Cyclohexane			50.0	50.4		ug/L		101	23 - 175	3	30
Dibromochloromethane			50.0	46.6		ug/L		93	70 - 130	2	30
Dichlorodifluoromethane			50.0	45.7		ug/L		91	70 - 130	2	40
Ethylbenzene			50.0	45.3		ug/L		91	70 - 130	1	20
Isopropylbenzene			50.0	46.0		ug/L		92	70 - 130	0	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-801117/4
Matrix: Water
Analysis Batch: 801117

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m,p-Xylenes			50.0	51.5		ug/L		103	70 - 130	1	30
Methyl acetate			100	87.0		ug/L		87	67 - 120	3	30
Methyl tert-butyl ether			50.0	52.2		ug/L		104	70 - 130	0	30
Methylene Chloride			50.0	48.4		ug/L		97	70 - 130	1	30
o-Xylene			50.0	45.2		ug/L		90	70 - 130	0	30
Styrene			50.0	54.6		ug/L		109	70 - 130	2	30
Tetrachloroethene			50.0	49.2		ug/L		98	70 - 130	1	30
Toluene			50.0	51.8		ug/L		104	70 - 130	1	30
trans-1,2-Dichloroethene			50.0	50.0		ug/L		100	70 - 130	1	30
trans-1,3-Dichloropropene			50.0	48.4		ug/L		97	70 - 130	1	30
Trichloroethene			50.0	53.0		ug/L		106	70 - 130	0	30
Trichlorofluoromethane			50.0	69.9		ug/L		140	63 - 142	0	30
Vinyl chloride			50.0	44.7		ug/L		89	66 - 129	0	30
Xylenes, Total			100	96.7		ug/L		97	70 - 130	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*60 - 124*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
Dibromofluoromethane (Surr)	*103*		*70 - 130*
Toluene-d8 (Surr)	*114*		*70 - 130*

GC/MS VOA

Analysis Batch: 800909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-27575-1	LC34-GAC-20230926	Total/NA	Water	8260D	
670-27575-2	LC34-AS1-20230926	Total/NA	Water	8260D	
670-27575-3	LC34-AS2-20230926	Total/NA	Water	8260D	
670-27575-4	LC34-Influent-20230926	Total/NA	Water	8260D	
670-27575-5	LC34-RW1A-20230926	Total/NA	Water	8260D	
670-27575-6	LC34-RW1B-20230926	Total/NA	Water	8260D	
670-27575-7	LC34-RW2A-20230926	Total/NA	Water	8260D	
670-27575-8	LC34-RW2B-20230926	Total/NA	Water	8260D	
670-27575-9	LC34-RW3A-20230926	Total/NA	Water	8260D	
670-27575-10	LC34-RW9A-20230926	Total/NA	Water	8260D	
670-27575-11	LC34-RW17C-20230926	Total/NA	Water	8260D	
670-27575-12	LC34-RW19C-20230926	Total/NA	Water	8260D	
670-27575-13	LC34-RW20C-20230926	Total/NA	Water	8260D	
670-27575-14	LC34-RW21D-20230926	Total/NA	Water	8260D	
MB 680-800909/7	Method Blank	Total/NA	Water	8260D	
LCS 680-800909/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-800909/4	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 801117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-27575-4	LC34-Influent-20230926	Total/NA	Water	8260D	
670-27575-5	LC34-RW1A-20230926	Total/NA	Water	8260D	
670-27575-6	LC34-RW1B-20230926	Total/NA	Water	8260D	
670-27575-7	LC34-RW2A-20230926	Total/NA	Water	8260D	
670-27575-8	LC34-RW2B-20230926	Total/NA	Water	8260D	
670-27575-9	LC34-RW3A-20230926	Total/NA	Water	8260D	
670-27575-10	LC34-RW9A-20230926	Total/NA	Water	8260D	
670-27575-11	LC34-RW17C-20230926	Total/NA	Water	8260D	
MB 680-801117/7	Method Blank	Total/NA	Water	8260D	
LCS 680-801117/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-801117/4	Lab Control Sample Dup	Total/NA	Water	8260D	

Client Sample ID: LC34-GAC-20230926 — Lab Sample ID: 670-27575-1

Date Collected: 09/26/23 12:30 — **Matrix: Water**
Date Received: 09/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	800909	P1C	EET SAV	10/04/23 13:42

Client Sample ID: LC34-AS1-20230926 — Lab Sample ID: 670-27575-2

Date Collected: 09/26/23 12:35 — **Matrix: Water**
Date Received: 09/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	800909	P1C	EET SAV	10/04/23 14:01

Client Sample ID: LC34-AS2-20230926 — Lab Sample ID: 670-27575-3

Date Collected: 09/26/23 12:40 — **Matrix: Water**
Date Received: 09/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	800909	P1C	EET SAV	10/04/23 14:20

Client Sample ID: LC34-Influent-20230926 — Lab Sample ID: 670-27575-4

Date Collected: 09/26/23 12:45 — **Matrix: Water**
Date Received: 09/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		100	800909	P1C	EET SAV	10/04/23 18:26
Total/NA	Analysis	8260D		100	801117	MLL	EET SAV	10/05/23 17:39

Client Sample ID: LC34-RW1A-20230926 — Lab Sample ID: 670-27575-5

Date Collected: 09/26/23 12:50 — **Matrix: Water**
Date Received: 09/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	800909	P1C	EET SAV	10/04/23 17:29
Total/NA	Analysis	8260D		200	801117	MLL	EET SAV	10/05/23 17:59

Client Sample ID: LC34-RW1B-20230926 — Lab Sample ID: 670-27575-6

Date Collected: 09/26/23 12:55 — **Matrix: Water**
Date Received: 09/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		100	800909	P1C	EET SAV	10/04/23 18:07
Total/NA	Analysis	8260D		100	801117	MLL	EET SAV	10/05/23 18:19

Client Sample ID: LC34-RW2A-20230926 — Lab Sample ID: 670-27575-7

Date Collected: 09/26/23 13:00 — **Matrix: Water**
Date Received: 09/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		100	800909	P1C	EET SAV	10/04/23 17:48

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27575-1

Client Sample ID: LC34-RW2A-20230926
Lab Sample ID: 670-27575-7
Date Collected: 09/26/23 13:00
Matrix: Water
Date Received: 09/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		100	801117	MLL	EET SAV	10/05/23 18:39

Client Sample ID: LC34-RW2B-20230926
Lab Sample ID: 670-27575-8
Date Collected: 09/26/23 13:05
Matrix: Water
Date Received: 09/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	800909	P1C	EET SAV	10/04/23 17:10
Total/NA	Analysis	8260D		200	801117	MLL	EET SAV	10/05/23 18:59

Client Sample ID: LC34-RW3A-20230926
Lab Sample ID: 670-27575-9
Date Collected: 09/26/23 13:10
Matrix: Water
Date Received: 09/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		20	800909	P1C	EET SAV	10/04/23 18:45
Total/NA	Analysis	8260D		25	801117	MLL	EET SAV	10/05/23 16:57

Client Sample ID: LC34-RW9A-20230926
Lab Sample ID: 670-27575-10
Date Collected: 09/26/23 13:20
Matrix: Water
Date Received: 09/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		20	800909	P1C	EET SAV	10/04/23 19:04
Total/NA	Analysis	8260D		25	801117	MLL	EET SAV	10/05/23 17:19

Client Sample ID: LC34-RW17C-20230926
Lab Sample ID: 670-27575-11
Date Collected: 09/26/23 13:25
Matrix: Water
Date Received: 09/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2000	800909	P1C	EET SAV	10/04/23 15:55
Total/NA	Analysis	8260D		100	801117	MLL	EET SAV	10/05/23 19:19

Client Sample ID: LC34-RW19C-20230926
Lab Sample ID: 670-27575-12
Date Collected: 09/26/23 13:35
Matrix: Water
Date Received: 09/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1000	800909	P1C	EET SAV	10/04/23 16:13

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27575-1

Client Sample ID: LC34-RW20C-20230926

Lab Sample ID: 670-27575-13

Date Collected: 09/26/23 13:40

Matrix: Water

Date Received: 09/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		500	800909	P1C	EET SAV	10/04/23 16:32

Client Sample ID: LC34-RW21D-20230926

Lab Sample ID: 670-27575-14

Date Collected: 09/26/23 13:45

Matrix: Water

Date Received: 09/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	800909	P1C	EET SAV	10/04/23 16:51

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-27575-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-24
ANAB	Dept. of Defense ELAP	L2463	09-22-24
Arkansas DEQ	State	19-015-0	02-01-24
California	State	2939	06-30-24
Florida	NELAP	E87052	06-30-24
Georgia	State	E87052	06-30-24
Georgia (DW)	State	803	06-30-24
Guam	State	19-007R	04-17-24
Hawaii	State	<cert No.>	06-30-24
Illinois	NELAP	200022	11-30-23
Indiana	State	C-GA-02	06-30-24
Iowa	State	353	07-01-25
Kentucky (UST)	State	NA	06-30-24
Louisiana	NELAP	30690	06-30-24
Louisiana (All)	NELAP	30690	06-30-24
Louisiana (DW)	State	LA009	12-31-23
Maine	State	GA00006	09-25-24
Maryland	State	250	12-31-23
Massachusetts	State	M-GA006	06-30-24
Michigan	State	9925	06-30-24
Mississippi	State	<cert No.>	06-30-24
Nebraska	State	NE-OS-7-04	06-30-24
New Jersey	NELAP	GA769	06-30-24
New Mexico	State	GA00006	06-30-24
North Carolina (DW)	State	13701	07-31-24
North Carolina (WW/SW)	State	269	12-31-23
Pennsylvania	NELAP	68-00474	06-30-24
Puerto Rico	State	GA00006	01-01-24
South Carolina	State	98001	06-30-23 *
Tennessee	State	TN02961	06-30-24
Texas	NELAP	T1047004185	11-30-23
Texas	TCEQ Water Supply	T104704185	06-30-24
USDA	US Federal Programs	P330-18-00313	09-03-24
Virginia	NELAP	460161	06-14-24
Wyoming	State	8TMS-L	06-30-23 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27575-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET SAV
5030B	Purge and Trap	SW846	EET SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27575-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-27575-1	LC34-GAC-20230926	Water	09/26/23 12:30	09/28/23 08:00
670-27575-2	LC34-AS1-20230926	Water	09/26/23 12:35	09/28/23 08:00
670-27575-3	LC34-AS2-20230926	Water	09/26/23 12:40	09/28/23 08:00
670-27575-4	LC34-Influent-20230926	Water	09/26/23 12:45	09/28/23 08:00
670-27575-5	LC34-RW1A-20230926	Water	09/26/23 12:50	09/28/23 08:00
670-27575-6	LC34-RW1B-20230926	Water	09/26/23 12:55	09/28/23 08:00
670-27575-7	LC34-RW2A-20230926	Water	09/26/23 13:00	09/28/23 08:00
670-27575-8	LC34-RW2B-20230926	Water	09/26/23 13:05	09/28/23 08:00
670-27575-9	LC34-RW3A-20230926	Water	09/26/23 13:10	09/28/23 08:00
670-27575-10	LC34-RW9A-20230926	Water	09/26/23 13:20	09/28/23 08:00
670-27575-11	LC34-RW17C-20230926	Water	09/26/23 13:25	09/28/23 08:00
670-27575-12	LC34-RW19C-20230926	Water	09/26/23 13:35	09/28/23 08:00
670-27575-13	LC34-RW20C-20230926	Water	09/26/23 13:40	09/28/23 08:00
670-27575-14	LC34-RW21D-20230926	Water	09/26/23 13:45	09/28/23 08:00

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3777 | PAGE 1 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112608985	LC34	MARK JONNETT	412-921-8622	Kaitlin Dylnicki, Eurofins

SAMPLERS (SIGNATURE): [signature] - Aaron Kupper Tt

FIELD OPERATIONS LEADER: Daniel Forester

PHONE NUMBER: 304-780-1426

ADDRESS: 481 Newbury Port Ave,

~~CARRIER/WAYBILL NUMBER~~ Project #: 67001156

CITY, STATE: Altamonte Springs, Fl 32701

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G

PRESERVATIVE USED: HCl 400

TYPE OF ANALYSIS: 8260D-(MOD)NASA LC34 Custom

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	COMMENTS
09/26	1230	LC34-GAC-20230926	GAC	NA	NA	GW	G	3	
	1235	LC34-AS1-20230926	AS1						
	1240	LC34-AS2-20230926	AS2						
	1245	LC34-Influent-20230926	Influent						
	1250	LC34-RW1A-20230926	RW1A						
	1255	LC34-RW1B-20230926	RW1B						
	1300	LC34-RW2A-20230926	RW2A						
	1305	LC34-RW2B-20230926	RW2B						
	1310	LC34-RW3A-20230926	RW3A						
	~~1315~~	~~LC34-RW3B-20230926~~	~~RW3B~~						
	1320	LC34-RW9A-20230926	RW9A						
	1325	LC34-RW17C-20230926	RW17C						
	~~1330~~	~~LC34-RW18C-20230926~~	~~RW18C~~						

670-27575 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY [signature]	09/26/23	1730	1. RECEIVED BY [signature]	09/26/23	1730
2. RELINQUISHED BY [signature]			2. RECEIVED BY MC	9/28/23	8:00
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS: 1.7/1.2 1.0/0.5

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R

FORM NO. TtNUS-001

10/6/2023

596

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3796 | PAGE 2 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08985	LC34	MARK JONNETT	412-921-8622	Kaitlin Dylnicki, Eurofins

SAMPLERS (SIGNATURE)	FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
[signature] - Aaron Kupper Tt	Daniel Forestor		481 Newbury Port Ave.
	~~CARRIER/WAYBILL NUMBER~~ AA Project # 67001156		CITY, STATE: Altamonte Springs Fl 32701

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G

PRESERVATIVE USED: HCl 4°C

TYPE OF ANALYSIS: 8260D-(MOD)NDSA LC34 custom

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	8260D-(MOD)NDSA LC34 custom								COMMENTS
09/26	1335	LC34-RW19C-20230926	19C	NA	NA	GW	G	AA ~~4~~ 3									
↓	1340	LC34-RW20C-20230926	20C	↓	↓	↓	↓	↓									
↓	1345	LC34-RW21D-20230926	21D	↓	↓	↓	↓	↓									

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY [signature]	09/26/23	1730	1. RECEIVED BY [signature]	09/26/23	1730
2. RELINQUISHED BY [signature]			2. RECEIVED BY MC	9/28/23	8:00
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R

FORM NO. TtNUS-001

10/6/2023

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-15963.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 2
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-27575-1
Address: 5102 LaRoche Avenue, ,	Due Date Requested: 10/10/2023			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030B (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-GAC-20230926 (670-27575-1)	9/26/23	12:30 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-AS1-20230926 (670-27575-2)	9/26/23	12:35 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-AS2-20230926 (670-27575-3)	9/26/23	12:40 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-Influent-20230926 (670-27575-4)	9/26/23	12:45 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW1A-20230926 (670-27575-5)	9/26/23	12:50 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW1B-20230926 (670-27575-6)	9/26/23	12:55 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW2A-20230926 (670-27575-7)	9/26/23	13:00 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW2B-20230926 (670-27575-8)	9/26/23	13:05 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW3A-20230926 (670-27575-9)	9/26/23	13:10 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	9/28 1300		KR	9/30/23 0845	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 6.1/5.9

Ver: 06/08/2021

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-15963.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 2 of 2
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-27575-1
Address: 5102 LaRoche Avenue, ,	Due Date Requested: 10/10/2023			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030B (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-RW9A-20230926 (670-27575-10)	9/26/23	13:20 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW17-20230926 (670-27575-11)	9/26/23	13:25 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW19C-20230926 (670-27575-12)	9/26/23	13:35 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW20C-20230926 (670-27575-13)	9/26/23	13:40 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW21D-20230926 (670-27575-14)	9/26/23	13:45 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	9/28 1300			9/30/23 0845	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 6.1/5.9

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-27575-1

Login Number: 27575

List Source: Eurofins Orlando

List Number: 1

Creator: Clerisier, Meline

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-27575-1

Login Number: 27575
List Number: 2
Creator: Deal, Katelyn

List Source: Eurofins Savannah
List Creation: 09/30/23 02:30 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-27756-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

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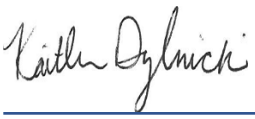

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Authorized for release by
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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
L	Off-scale high. Actual value is known to be greater than the value given.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-27756-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
Job: 670-27756-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 9/30/2023 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 680-800917 recovered above the upper control limit for 1,2,4-Trichlorobenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-800917 recovered outside acceptance criteria, low biased, for 2-Butanone (MEK). A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-800917.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-801024 recovered above the upper control limit for Bromomethane, Chloroethane and Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-801024 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane, Acetone, Chloromethane and Methyl acetate. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 680-801024 recovered outside control limits for the following analytes: Trichlorofluoromethane. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for analytical batch 680-801024 recovered outside control limits for the following analyte(s): 1,2-Dibromo-3-Chloropropane. 1,2-Dibromo-3-Chloropropane have been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The method blank for analytical batch 680-801024 contained 1,2,4-Trichlorobenzene above the method detection limit

Job ID: 670-27756-1 (Continued)

Laboratory: Eurofins Orlando (Continued)

(MDL). Associated samples were not re-analyzed because the method blank results were less than half of the reporting limit (RL) OR practical quantitation limit (PQL).

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-801024.

Method 8260D: The result for Trichloroethene was above the upper calibration range and is reported as an Estimated ("E") value in sample: LC34-IW0044D2-110.0-2023029 (670-27756-2) . There was insufficient volume for reanalysis so the data was reported and qualified accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27756-1

Client Sample ID: LC34-IW0165-110.0-20230929 — Lab Sample ID: 670-27756-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trichlorobenzene	0.76	I V	5.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0044D2-110.0-2023029 — Lab Sample ID: 670-27756-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	15		1.0	0.33	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	21		1.0	0.34	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene - DL	20000		500	130	ug/L	500		8260D	Total/NA
Trichloroethene - DL	190000	L	500	100	ug/L	500		8260D	Total/NA
Vinyl chloride - DL	1400		500	200	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-IW0162-110.0-20230929 — Lab Sample ID: 670-27756-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.6		1.0	0.25	ug/L	1		8260D	Total/NA
Trichloroethene	3.0		1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride	3.5		1.0	0.40	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27756-1

Client Sample ID: LC34-IW0165-110.0-20230929
Date Collected: 09/29/23 10:32
Date Received: 09/30/23 08:00

Lab Sample ID: 670-27756-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			10/04/23 18:10	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			10/04/23 18:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			10/04/23 18:10	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			10/04/23 18:10	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			10/04/23 18:10	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			10/04/23 18:10	1
1,2,4-Trichlorobenzene	**0.76**	**I V**	5.0	0.53	ug/L			10/04/23 18:10	1
1,2-Dibromo-3-Chloropropane	1.8	U J3	5.0	1.8	ug/L			10/04/23 18:10	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			10/04/23 18:10	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 18:10	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			10/04/23 18:10	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			10/04/23 18:10	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 18:10	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 18:10	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			10/04/23 18:10	1
2-Hexanone	3.2	U	10	3.2	ug/L			10/04/23 18:10	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			10/04/23 18:10	1
Acetone	3.7	U	10	3.7	ug/L			10/04/23 18:10	1
Benzene	0.27	U	1.0	0.27	ug/L			10/04/23 18:10	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			10/04/23 18:10	1
Bromoform	0.59	U	1.0	0.59	ug/L			10/04/23 18:10	1
Bromomethane	3.7	U	5.0	3.7	ug/L			10/04/23 18:10	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			10/04/23 18:10	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			10/04/23 18:10	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			10/04/23 18:10	1
Chloroethane	4.6	U	5.0	4.6	ug/L			10/04/23 18:10	1
Chloroform	0.27	U	1.0	0.27	ug/L			10/04/23 18:10	1
Chloromethane	0.54	U	1.0	0.54	ug/L			10/04/23 18:10	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			10/04/23 18:10	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			10/04/23 18:10	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			10/04/23 18:10	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			10/04/23 18:10	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			10/04/23 18:10	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			10/04/23 18:10	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			10/04/23 18:10	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			10/04/23 18:10	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			10/04/23 18:10	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			10/04/23 18:10	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			10/04/23 18:10	1
o-Xylene	0.26	U	1.0	0.26	ug/L			10/04/23 18:10	1
Styrene	0.27	U	1.0	0.27	ug/L			10/04/23 18:10	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			10/04/23 18:10	1
Toluene	0.25	U	1.0	0.25	ug/L			10/04/23 18:10	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			10/04/23 18:10	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			10/04/23 18:10	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			10/04/23 18:10	1
Trichlorofluoromethane	0.33	U J3	1.0	0.33	ug/L			10/04/23 18:10	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			10/04/23 18:10	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			10/04/23 18:10	1

Client Sample ID: LC34-IW0165-110.0-20230929
Lab Sample ID: 670-27756-1

Date Collected: 09/29/23 10:32
Matrix: Water
Date Received: 09/30/23 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*60 - 124*		*10/04/23 18:10*	*1*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*		*10/04/23 18:10*	*1*
Dibromofluoromethane (Surr)	*109*		*70 - 130*		*10/04/23 18:10*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*10/04/23 18:10*	*1*

Client Sample ID: LC34-IW0044D2-110.0-2023029
Lab Sample ID: 670-27756-2

Date Collected: 09/29/23 11:21
Matrix: Water
Date Received: 09/30/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			10/04/23 14:30	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			10/04/23 14:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			10/04/23 14:30	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			10/04/23 14:30	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			10/04/23 14:30	1
1,1-Dichloroethene	**15**		1.0	0.33	ug/L			10/04/23 14:30	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			10/04/23 14:30	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			10/04/23 14:30	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			10/04/23 14:30	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 14:30	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			10/04/23 14:30	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			10/04/23 14:30	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 14:30	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 14:30	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			10/04/23 14:30	1
2-Hexanone	3.2	U	10	3.2	ug/L			10/04/23 14:30	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			10/04/23 14:30	1
Acetone	3.7	U	10	3.7	ug/L			10/04/23 14:30	1
Benzene	0.27	U	1.0	0.27	ug/L			10/04/23 14:30	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			10/04/23 14:30	1
Bromoform	0.59	U	1.0	0.59	ug/L			10/04/23 14:30	1
Bromomethane	3.7	U	5.0	3.7	ug/L			10/04/23 14:30	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			10/04/23 14:30	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			10/04/23 14:30	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			10/04/23 14:30	1
Chloroethane	4.6	U	5.0	4.6	ug/L			10/04/23 14:30	1
Chloroform	0.27	U	1.0	0.27	ug/L			10/04/23 14:30	1
Chloromethane	0.54	U	1.0	0.54	ug/L			10/04/23 14:30	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			10/04/23 14:30	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			10/04/23 14:30	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			10/04/23 14:30	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			10/04/23 14:30	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			10/04/23 14:30	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			10/04/23 14:30	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			10/04/23 14:30	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			10/04/23 14:30	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			10/04/23 14:30	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			10/04/23 14:30	1
o-Xylene	0.26	U	1.0	0.26	ug/L			10/04/23 14:30	1

Client Sample ID: LC34-IW0044D2-110.0-2023029

Lab Sample ID: 670-27756-2

Date Collected: 09/29/23 11:21

Matrix: Water

Date Received: 09/30/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.27	U	1.0	0.27	ug/L			10/04/23 14:30	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			10/04/23 14:30	1
Toluene	0.25	U	1.0	0.25	ug/L			10/04/23 14:30	1
trans-1,2-Dichloroethene	**21**		1.0	0.34	ug/L			10/04/23 14:30	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			10/04/23 14:30	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			10/04/23 14:30	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			10/04/23 14:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*78*		*60 - 124*		*10/04/23 14:30*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*10/04/23 14:30*	*1*
Dibromofluoromethane (Surr)	*99*		*70 - 130*		*10/04/23 14:30*	*1*
Toluene-d8 (Surr)	*92*		*70 - 130*		*10/04/23 14:30*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**20000**		500	130	ug/L			10/04/23 18:57	500
Trichloroethene	**190000**	**L**	500	100	ug/L			10/04/23 18:57	500
Vinyl chloride	**1400**		500	200	ug/L			10/04/23 18:57	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*60 - 124*		*10/04/23 18:57*	*500*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*		*10/04/23 18:57*	*500*
Dibromofluoromethane (Surr)	*109*		*70 - 130*		*10/04/23 18:57*	*500*
Toluene-d8 (Surr)	*101*		*70 - 130*		*10/04/23 18:57*	*500*

Client Sample ID: LC34-IW0162-110.0-20230929

Lab Sample ID: 670-27756-3

Date Collected: 09/29/23 11:56

Matrix: Water

Date Received: 09/30/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			10/04/23 14:49	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			10/04/23 14:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			10/04/23 14:49	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			10/04/23 14:49	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			10/04/23 14:49	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			10/04/23 14:49	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			10/04/23 14:49	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			10/04/23 14:49	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			10/04/23 14:49	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 14:49	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			10/04/23 14:49	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			10/04/23 14:49	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 14:49	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 14:49	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			10/04/23 14:49	1
2-Hexanone	3.2	U	10	3.2	ug/L			10/04/23 14:49	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			10/04/23 14:49	1
Acetone	3.7	U	10	3.7	ug/L			10/04/23 14:49	1
Benzene	0.27	U	1.0	0.27	ug/L			10/04/23 14:49	1

Client Sample ID: LC34-IW0162-110.0-20230929
Date Collected: 09/29/23 11:56
Date Received: 09/30/23 08:00

Lab Sample ID: 670-27756-3
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			10/04/23 14:49	1
Bromoform	0.59	U	1.0	0.59	ug/L			10/04/23 14:49	1
Bromomethane	3.7	U	5.0	3.7	ug/L			10/04/23 14:49	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			10/04/23 14:49	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			10/04/23 14:49	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			10/04/23 14:49	1
Chloroethane	4.6	U	5.0	4.6	ug/L			10/04/23 14:49	1
Chloroform	0.27	U	1.0	0.27	ug/L			10/04/23 14:49	1
Chloromethane	0.54	U	1.0	0.54	ug/L			10/04/23 14:49	1
cis-1,2-Dichloroethene	**1.6**		1.0	0.25	ug/L			10/04/23 18:33	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			10/04/23 14:49	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			10/04/23 14:49	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			10/04/23 14:49	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			10/04/23 14:49	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			10/04/23 14:49	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			10/04/23 14:49	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			10/04/23 14:49	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			10/04/23 14:49	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			10/04/23 14:49	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			10/04/23 14:49	1
o-Xylene	0.26	U	1.0	0.26	ug/L			10/04/23 14:49	1
Styrene	0.27	U	1.0	0.27	ug/L			10/04/23 14:49	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			10/04/23 14:49	1
Toluene	0.25	U	1.0	0.25	ug/L			10/04/23 14:49	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			10/04/23 14:49	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			10/04/23 14:49	1
Trichloroethene	**3.0**		1.0	0.20	ug/L			10/04/23 18:33	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			10/04/23 14:49	1
Vinyl chloride	**3.5**		1.0	0.40	ug/L			10/04/23 18:33	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			10/04/23 14:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*60 - 124*		*10/04/23 14:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*60 - 124*		*10/04/23 18:33*	*1*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*10/04/23 14:49*	*1*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*		*10/04/23 18:33*	*1*
Dibromofluoromethane (Surr)	*94*		*70 - 130*		*10/04/23 14:49*	*1*
Dibromofluoromethane (Surr)	*109*		*70 - 130*		*10/04/23 18:33*	*1*
Toluene-d8 (Surr)	*104*		*70 - 130*		*10/04/23 14:49*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*10/04/23 18:33*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27756-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-124)	(70-130)	(70-130)	(70-130)
670-27756-1	LC34-IW0165-110.0-20230929	103	78	109	101
670-27756-2	LC34-IW0044D2-110.0-20230292	78	99	99	92
670-27756-2 - DL	LC34-IW0044D2-110.0-20230292	103	82	109	101
670-27756-3	LC34-IW0162-110.0-20230929	82	97	94	104
670-27756-3	LC34-IW0162-110.0-20230929	104	81	109	101
LCS 680-800917/4	Lab Control Sample	97	89	103	98
LCS 680-801024/4	Lab Control Sample	113	85	115	100
LCSD 680-800917/5	Lab Control Sample Dup	97	106	102	100
LCSD 680-801024/5	Lab Control Sample Dup	115	89	116	99
MB 680-800917/8	Method Blank	81	99	92	108
MB 680-801024/8	Method Blank	106	79	109	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 680-800917/8
Matrix: Water
Analysis Batch: 800917

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			10/04/23 12:55	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			10/04/23 12:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			10/04/23 12:55	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			10/04/23 12:55	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			10/04/23 12:55	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			10/04/23 12:55	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			10/04/23 12:55	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			10/04/23 12:55	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			10/04/23 12:55	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 12:55	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			10/04/23 12:55	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			10/04/23 12:55	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 12:55	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 12:55	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			10/04/23 12:55	1
2-Hexanone	3.2	U	10	3.2	ug/L			10/04/23 12:55	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			10/04/23 12:55	1
Acetone	3.7	U	10	3.7	ug/L			10/04/23 12:55	1
Benzene	0.27	U	1.0	0.27	ug/L			10/04/23 12:55	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			10/04/23 12:55	1
Bromoform	0.59	U	1.0	0.59	ug/L			10/04/23 12:55	1
Bromomethane	3.7	U	5.0	3.7	ug/L			10/04/23 12:55	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			10/04/23 12:55	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			10/04/23 12:55	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			10/04/23 12:55	1
Chloroethane	4.6	U	5.0	4.6	ug/L			10/04/23 12:55	1
Chloroform	0.27	U	1.0	0.27	ug/L			10/04/23 12:55	1
Chloromethane	0.54	U	1.0	0.54	ug/L			10/04/23 12:55	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			10/04/23 12:55	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			10/04/23 12:55	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			10/04/23 12:55	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			10/04/23 12:55	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			10/04/23 12:55	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			10/04/23 12:55	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			10/04/23 12:55	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			10/04/23 12:55	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			10/04/23 12:55	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			10/04/23 12:55	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			10/04/23 12:55	1
o-Xylene	0.26	U	1.0	0.26	ug/L			10/04/23 12:55	1
Styrene	0.27	U	1.0	0.27	ug/L			10/04/23 12:55	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			10/04/23 12:55	1
Toluene	0.25	U	1.0	0.25	ug/L			10/04/23 12:55	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			10/04/23 12:55	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			10/04/23 12:55	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			10/04/23 12:55	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			10/04/23 12:55	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			10/04/23 12:55	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-800917/8
Matrix: Water
Analysis Batch: 800917

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	0.23	U	1.0	0.23	ug/L			10/04/23 12:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*81*		*60 - 124*		*10/04/23 12:55*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*10/04/23 12:55*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*10/04/23 12:55*	*1*
Toluene-d8 (Surr)	*108*		*70 - 130*		*10/04/23 12:55*	*1*

Lab Sample ID: LCS 680-800917/4
Matrix: Water
Analysis Batch: 800917

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	54.5		ug/L		109	70 - 130
1,1,2,2-Tetrachloroethane	50.0	47.4		ug/L		95	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	57.2		ug/L		114	63 - 141
1,1,2-Trichloroethane	50.0	46.9		ug/L		94	70 - 130
1,1-Dichloroethane	50.0	50.1		ug/L		100	70 - 130
1,1-Dichloroethene	50.0	50.2		ug/L		100	70 - 130
1,2,4-Trichlorobenzene	50.0	59.6		ug/L		119	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	50.3		ug/L		101	70 - 130
1,2-Dibromoethane (EDB)	50.0	46.7		ug/L		93	70 - 130
1,2-Dichlorobenzene	50.0	49.5		ug/L		99	70 - 130
1,2-Dichloroethane	50.0	49.8		ug/L		100	70 - 130
1,2-Dichloropropane	50.0	49.3		ug/L		99	70 - 130
1,3-Dichlorobenzene	50.0	49.0		ug/L		98	70 - 130
1,4-Dichlorobenzene	50.0	48.4		ug/L		97	70 - 130
2-Butanone (MEK)	250	193		ug/L		77	69 - 120
2-Hexanone	250	215		ug/L		86	70 - 130
4-Methyl-2-pentanone	250	225		ug/L		90	68 - 120
Acetone	250	208		ug/L		83	67 - 120
Benzene	50.0	51.0		ug/L		102	70 - 130
Bromodichloromethane	50.0	47.6		ug/L		95	70 - 130
Bromoform	50.0	43.4		ug/L		87	69 - 129
Bromomethane	50.0	53.0		ug/L		106	28 - 192
Carbon disulfide	50.0	52.9		ug/L		106	70 - 130
Carbon tetrachloride	50.0	48.6		ug/L		97	70 - 130
Chlorobenzene	50.0	51.3		ug/L		103	70 - 130
Chloroethane	50.0	59.3		ug/L		119	31 - 213
Chloroform	50.0	49.8		ug/L		100	70 - 130
Chloromethane	50.0	47.5		ug/L		95	59 - 127
cis-1,2-Dichloroethene	50.0	51.2		ug/L		102	70 - 130
cis-1,3-Dichloropropene	50.0	47.1		ug/L		94	70 - 130
Cyclohexane	50.0	53.1		ug/L		106	23 - 175
Dibromochloromethane	50.0	45.5		ug/L		91	70 - 130
Dichlorodifluoromethane	50.0	50.0		ug/L		100	70 - 130
Ethylbenzene	50.0	51.8		ug/L		104	70 - 130
Isopropylbenzene	50.0	52.4		ug/L		105	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-800917/4
Matrix: Water
Analysis Batch: 800917

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	52.0		ug/L		104	70 - 130
Methyl acetate	100	88.2		ug/L		88	67 - 120
Methyl tert-butyl ether	50.0	46.7		ug/L		93	70 - 130
Methylene Chloride	50.0	52.5		ug/L		105	70 - 130
o-Xylene	50.0	51.7		ug/L		103	70 - 130
Styrene	50.0	52.6		ug/L		105	70 - 130
Tetrachloroethene	50.0	50.8		ug/L		102	70 - 130
Toluene	50.0	51.2		ug/L		102	70 - 130
trans-1,2-Dichloroethene	50.0	52.0		ug/L		104	70 - 130
trans-1,3-Dichloropropene	50.0	47.0		ug/L		94	70 - 130
Trichloroethene	50.0	52.5		ug/L		105	70 - 130
Trichlorofluoromethane	50.0	50.9		ug/L		102	63 - 142
Vinyl chloride	50.0	48.4		ug/L		97	66 - 129
Xylenes, Total	100	104		ug/L		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 124*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
Dibromofluoromethane (Surr)	*103*		*70 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 680-800917/5
Matrix: Water
Analysis Batch: 800917

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	54.0		ug/L		108	70 - 130	1	30
1,1,2,2-Tetrachloroethane	50.0	49.0		ug/L		98	70 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	53.1		ug/L		106	63 - 141	7	30
1,1,2-Trichloroethane	50.0	47.0		ug/L		94	70 - 130	0	30
1,1-Dichloroethane	50.0	50.1		ug/L		100	70 - 130	0	30
1,1-Dichloroethene	50.0	50.8		ug/L		102	70 - 130	1	20
1,2,4-Trichlorobenzene	50.0	49.7		ug/L		99	70 - 130	18	30
1,2-Dibromo-3-Chloropropane	50.0	47.0		ug/L		94	70 - 130	7	30
1,2-Dibromoethane (EDB)	50.0	47.8		ug/L		96	70 - 130	2	30
1,2-Dichlorobenzene	50.0	49.6		ug/L		99	70 - 130	0	30
1,2-Dichloroethane	50.0	50.3		ug/L		101	70 - 130	1	50
1,2-Dichloropropane	50.0	49.8		ug/L		100	70 - 130	1	20
1,3-Dichlorobenzene	50.0	50.2		ug/L		100	70 - 130	2	30
1,4-Dichlorobenzene	50.0	48.4		ug/L		97	70 - 130	0	30
2-Butanone (MEK)	250	200		ug/L		80	69 - 120	4	30
2-Hexanone	250	229		ug/L		92	70 - 130	6	20
4-Methyl-2-pentanone	250	234		ug/L		94	68 - 120	4	30
Acetone	250	215		ug/L		86	67 - 120	4	30
Benzene	50.0	51.0		ug/L		102	70 - 130	0	30
Bromodichloromethane	50.0	46.5		ug/L		93	70 - 130	2	30
Bromoform	50.0	40.3		ug/L		81	69 - 129	7	30
Bromomethane	50.0	53.0		ug/L		106	28 - 192	0	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-800917/5
Matrix: Water
Analysis Batch: 800917

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon disulfide			50.0	53.9		ug/L		108	70 - 130	2	30
Carbon tetrachloride			50.0	47.7		ug/L		95	70 - 130	2	30
Chlorobenzene			50.0	51.6		ug/L		103	70 - 130	1	30
Chloroethane			50.0	57.4		ug/L		115	31 - 213	3	30
Chloroform			50.0	49.3		ug/L		99	70 - 130	1	30
Chloromethane			50.0	47.3		ug/L		95	59 - 127	0	30
cis-1,2-Dichloroethene			50.0	50.5		ug/L		101	70 - 130	2	30
cis-1,3-Dichloropropene			50.0	47.0		ug/L		94	70 - 130	0	20
Cyclohexane			50.0	50.3		ug/L		101	23 - 175	5	30
Dibromochloromethane			50.0	45.5		ug/L		91	70 - 130	0	30
Dichlorodifluoromethane			50.0	48.5		ug/L		97	70 - 130	3	40
Ethylbenzene			50.0	52.6		ug/L		105	70 - 130	2	20
Isopropylbenzene			50.0	48.5		ug/L		97	70 - 130	8	30
m,p-Xylenes			50.0	53.1		ug/L		106	70 - 130	2	30
Methyl acetate			100	91.2		ug/L		91	67 - 120	3	30
Methyl tert-butyl ether			50.0	48.2		ug/L		96	70 - 130	3	30
Methylene Chloride			50.0	53.0		ug/L		106	70 - 130	1	30
o-Xylene			50.0	52.5		ug/L		105	70 - 130	1	30
Styrene			50.0	53.6		ug/L		107	70 - 130	2	30
Tetrachloroethene			50.0	51.3		ug/L		103	70 - 130	1	30
Toluene			50.0	52.6		ug/L		105	70 - 130	3	30
trans-1,2-Dichloroethene			50.0	50.7		ug/L		101	70 - 130	3	30
trans-1,3-Dichloropropene			50.0	46.9		ug/L		94	70 - 130	0	30
Trichloroethene			50.0	52.3		ug/L		105	70 - 130	0	30
Trichlorofluoromethane			50.0	51.2		ug/L		102	63 - 142	1	30
Vinyl chloride			50.0	48.6		ug/L		97	66 - 129	0	30
Xylenes, Total			100	106		ug/L		106	70 - 130	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 124*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
Dibromofluoromethane (Surr)	*102*		*70 - 130*
Toluene-d8 (Surr)	*100*		*70 - 130*

Lab Sample ID: MB 680-801024/8
Matrix: Water
Analysis Batch: 801024

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			10/04/23 17:40	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			10/04/23 17:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			10/04/23 17:40	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			10/04/23 17:40	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			10/04/23 17:40	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			10/04/23 17:40	1
1,2,4-Trichlorobenzene	0.776	I	5.0	0.53	ug/L			10/04/23 17:40	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			10/04/23 17:40	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			10/04/23 17:40	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-801024/8
Matrix: Water
Analysis Batch: 801024

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 17:40	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			10/04/23 17:40	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			10/04/23 17:40	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 17:40	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/04/23 17:40	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			10/04/23 17:40	1
2-Hexanone	3.2	U	10	3.2	ug/L			10/04/23 17:40	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			10/04/23 17:40	1
Acetone	3.7	U	10	3.7	ug/L			10/04/23 17:40	1
Benzene	0.27	U	1.0	0.27	ug/L			10/04/23 17:40	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			10/04/23 17:40	1
Bromoform	0.59	U	1.0	0.59	ug/L			10/04/23 17:40	1
Bromomethane	3.7	U	5.0	3.7	ug/L			10/04/23 17:40	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			10/04/23 17:40	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			10/04/23 17:40	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			10/04/23 17:40	1
Chloroethane	4.6	U	5.0	4.6	ug/L			10/04/23 17:40	1
Chloroform	0.27	U	1.0	0.27	ug/L			10/04/23 17:40	1
Chloromethane	0.54	U	1.0	0.54	ug/L			10/04/23 17:40	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			10/04/23 17:40	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			10/04/23 17:40	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			10/04/23 17:40	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			10/04/23 17:40	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			10/04/23 17:40	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			10/04/23 17:40	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			10/04/23 17:40	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			10/04/23 17:40	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			10/04/23 17:40	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			10/04/23 17:40	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			10/04/23 17:40	1
o-Xylene	0.26	U	1.0	0.26	ug/L			10/04/23 17:40	1
Styrene	0.27	U	1.0	0.27	ug/L			10/04/23 17:40	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			10/04/23 17:40	1
Toluene	0.25	U	1.0	0.25	ug/L			10/04/23 17:40	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			10/04/23 17:40	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			10/04/23 17:40	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			10/04/23 17:40	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			10/04/23 17:40	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			10/04/23 17:40	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			10/04/23 17:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*60 - 124*		*10/04/23 17:40*	*1*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*		*10/04/23 17:40*	*1*
Dibromofluoromethane (Surr)	*109*		*70 - 130*		*10/04/23 17:40*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*10/04/23 17:40*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-801024/4
Matrix: Water
Analysis Batch: 801024

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	50.5		ug/L		101	70 - 130
1,1,2,2-Tetrachloroethane	50.0	43.8		ug/L		88	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	50.3		ug/L		101	63 - 141
1,1,2-Trichloroethane	50.0	48.0		ug/L		96	70 - 130
1,1-Dichloroethane	50.0	46.5		ug/L		93	70 - 130
1,1-Dichloroethene	50.0	46.6		ug/L		93	70 - 130
1,2,4-Trichlorobenzene	50.0	40.0		ug/L		80	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	29.0	J3	ug/L		58	70 - 130
1,2-Dibromoethane (EDB)	50.0	51.7		ug/L		103	70 - 130
1,2-Dichlorobenzene	50.0	45.7		ug/L		91	70 - 130
1,2-Dichloroethane	50.0	52.5		ug/L		105	70 - 130
1,2-Dichloropropane	50.0	45.9		ug/L		92	70 - 130
1,3-Dichlorobenzene	50.0	46.8		ug/L		94	70 - 130
1,4-Dichlorobenzene	50.0	47.2		ug/L		94	70 - 130
2-Butanone (MEK)	250	212		ug/L		85	69 - 120
2-Hexanone	250	208		ug/L		83	70 - 130
4-Methyl-2-pentanone	250	218		ug/L		87	68 - 120
Acetone	250	199		ug/L		80	67 - 120
Benzene	50.0	46.5		ug/L		93	70 - 130
Bromodichloromethane	50.0	51.3		ug/L		103	70 - 130
Bromoform	50.0	54.0		ug/L		108	69 - 129
Bromomethane	50.0	93.3		ug/L		187	28 - 192
Carbon disulfide	50.0	45.8		ug/L		92	70 - 130
Carbon tetrachloride	50.0	54.2		ug/L		108	70 - 130
Chlorobenzene	50.0	50.9		ug/L		102	70 - 130
Chloroethane	50.0	105		ug/L		209	31 - 213
Chloroform	50.0	52.2		ug/L		104	70 - 130
Chloromethane	50.0	37.6		ug/L		75	59 - 127
cis-1,2-Dichloroethene	50.0	48.6		ug/L		97	70 - 130
cis-1,3-Dichloropropene	50.0	47.3		ug/L		95	70 - 130
Cyclohexane	50.0	43.7		ug/L		87	23 - 175
Dibromochloromethane	50.0	54.1		ug/L		108	70 - 130
Dichlorodifluoromethane	50.0	47.7		ug/L		95	70 - 130
Ethylbenzene	50.0	50.5		ug/L		101	70 - 130
Isopropylbenzene	50.0	51.9		ug/L		104	70 - 130
m,p-Xylenes	50.0	49.4		ug/L		99	70 - 130
Methyl acetate	100	71.2		ug/L		71	67 - 120
Methyl tert-butyl ether	50.0	48.5		ug/L		97	70 - 130
Methylene Chloride	50.0	53.1		ug/L		106	70 - 130
o-Xylene	50.0	49.9		ug/L		100	70 - 130
Styrene	50.0	51.0		ug/L		102	70 - 130
Tetrachloroethene	50.0	52.9		ug/L		106	70 - 130
Toluene	50.0	47.8		ug/L		96	70 - 130
trans-1,2-Dichloroethene	50.0	49.1		ug/L		98	70 - 130
trans-1,3-Dichloropropene	50.0	49.9		ug/L		100	70 - 130
Trichloroethene	50.0	50.7		ug/L		101	70 - 130
Trichlorofluoromethane	50.0	98.0	J3	ug/L		196	63 - 142
Vinyl chloride	50.0	41.2		ug/L		82	66 - 129

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-801024/4
Matrix: Water
Analysis Batch: 801024

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Xylenes, Total			100	99.3		ug/L		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*113*		*60 - 124*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*
Dibromofluoromethane (Surr)	*115*		*70 - 130*
Toluene-d8 (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 680-801024/5
Matrix: Water
Analysis Batch: 801024

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			50.0	50.8		ug/L		102	70 - 130	1	30
1,1,2,2-Tetrachloroethane			50.0	46.7		ug/L		93	70 - 130	6	30
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	50.7		ug/L		101	63 - 141	1	30
1,1,2-Trichloroethane			50.0	48.9		ug/L		98	70 - 130	2	30
1,1-Dichloroethane			50.0	46.3		ug/L		93	70 - 130	0	30
1,1-Dichloroethene			50.0	46.0		ug/L		92	70 - 130	1	20
1,2,4-Trichlorobenzene			50.0	42.3		ug/L		85	70 - 130	6	30
1,2-Dibromo-3-Chloropropane			50.0	34.7	J3	ug/L		69	70 - 130	18	30
1,2-Dibromoethane (EDB)			50.0	53.2		ug/L		106	70 - 130	3	30
1,2-Dichlorobenzene			50.0	46.7		ug/L		93	70 - 130	2	30
1,2-Dichloroethane			50.0	54.5		ug/L		109	70 - 130	4	50
1,2-Dichloropropane			50.0	45.9		ug/L		92	70 - 130	0	20
1,3-Dichlorobenzene			50.0	48.1		ug/L		96	70 - 130	3	30
1,4-Dichlorobenzene			50.0	48.3		ug/L		97	70 - 130	2	30
2-Butanone (MEK)			250	230		ug/L		92	69 - 120	8	30
2-Hexanone			250	227		ug/L		91	70 - 130	9	20
4-Methyl-2-pentanone			250	243		ug/L		97	68 - 120	11	30
Acetone			250	213		ug/L		85	67 - 120	7	30
Benzene			50.0	47.2		ug/L		94	70 - 130	1	30
Bromodichloromethane			50.0	51.7		ug/L		103	70 - 130	1	30
Bromoform			50.0	57.2		ug/L		114	69 - 129	6	30
Bromomethane			50.0	93.5		ug/L		187	28 - 192	0	30
Carbon disulfide			50.0	45.4		ug/L		91	70 - 130	1	30
Carbon tetrachloride			50.0	54.8		ug/L		110	70 - 130	1	30
Chlorobenzene			50.0	51.2		ug/L		102	70 - 130	0	30
Chloroethane			50.0	96.9		ug/L		194	31 - 213	8	30
Chloroform			50.0	52.6		ug/L		105	70 - 130	1	30
Chloromethane			50.0	33.9		ug/L		68	59 - 127	10	30
cis-1,2-Dichloroethene			50.0	48.6		ug/L		97	70 - 130	0	30
cis-1,3-Dichloropropene			50.0	47.4		ug/L		95	70 - 130	0	20
Cyclohexane			50.0	43.7		ug/L		87	23 - 175	0	30
Dibromochloromethane			50.0	56.3		ug/L		113	70 - 130	4	30
Dichlorodifluoromethane			50.0	46.5		ug/L		93	70 - 130	3	40
Ethylbenzene			50.0	50.2		ug/L		100	70 - 130	1	20
Isopropylbenzene			50.0	50.9		ug/L		102	70 - 130	2	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-801024/5
Matrix: Water
Analysis Batch: 801024

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m,p-Xylenes			50.0	49.2		ug/L		98	70 - 130	0	30
Methyl acetate			100	79.6		ug/L		80	67 - 120	11	30
Methyl tert-butyl ether			50.0	50.6		ug/L		101	70 - 130	4	30
Methylene Chloride			50.0	52.6		ug/L		105	70 - 130	1	30
o-Xylene			50.0	49.8		ug/L		100	70 - 130	0	30
Styrene			50.0	51.2		ug/L		102	70 - 130	1	30
Tetrachloroethene			50.0	52.8		ug/L		106	70 - 130	0	30
Toluene			50.0	47.5		ug/L		95	70 - 130	1	30
trans-1,2-Dichloroethene			50.0	48.4		ug/L		97	70 - 130	1	30
trans-1,3-Dichloropropene			50.0	50.9		ug/L		102	70 - 130	2	30
Trichloroethene			50.0	50.6		ug/L		101	70 - 130	0	30
Trichlorofluoromethane			50.0	99.2	J3	ug/L		198	63 - 142	1	30
Vinyl chloride			50.0	40.2		ug/L		80	66 - 129	2	30
Xylenes, Total			100	99.0		ug/L		99	70 - 130	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*115*		*60 - 124*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
Dibromofluoromethane (Surr)	*116*		*70 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27756-1

GC/MS VOA

Analysis Batch: 800917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-27756-2	LC34-IW0044D2-110.0-2023029	Total/NA	Water	8260D	
670-27756-3	LC34-IW0162-110.0-20230929	Total/NA	Water	8260D	
MB 680-800917/8	Method Blank	Total/NA	Water	8260D	
LCS 680-800917/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-800917/5	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 801024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-27756-1	LC34-IW0165-110.0-20230929	Total/NA	Water	8260D	
670-27756-2 - DL	LC34-IW0044D2-110.0-2023029	Total/NA	Water	8260D	
670-27756-3	LC34-IW0162-110.0-20230929	Total/NA	Water	8260D	
MB 680-801024/8	Method Blank	Total/NA	Water	8260D	
LCS 680-801024/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-801024/5	Lab Control Sample Dup	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27756-1

Client Sample ID: LC34-IW0165-110.0-20230929

Lab Sample ID: 670-27756-1

Date Collected: 09/29/23 10:32
Matrix: Water
Date Received: 09/30/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	801024	Y1S	EET SAV	10/04/23 18:10

Client Sample ID: LC34-IW0044D2-110.0-2023029

Lab Sample ID: 670-27756-2

Date Collected: 09/29/23 11:21
Matrix: Water
Date Received: 09/30/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	801024	Y1S	EET SAV	10/04/23 18:57
Total/NA	Analysis	8260D		1	800917	RPG	EET SAV	10/04/23 14:30

Client Sample ID: LC34-IW0162-110.0-20230929

Lab Sample ID: 670-27756-3

Date Collected: 09/29/23 11:56
Matrix: Water
Date Received: 09/30/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	801024	Y1S	EET SAV	10/04/23 18:33
Total/NA	Analysis	8260D		1	800917	RPG	EET SAV	10/04/23 14:49

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-27756-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-24
ANAB	Dept. of Defense ELAP	L2463	09-22-24
Arkansas DEQ	State	19-015-0	02-01-24
California	State	2939	06-30-24
Florida	NELAP	E87052	06-30-24
Georgia	State	E87052	06-30-24
Georgia (DW)	State	803	06-30-24
Guam	State	19-007R	04-17-24
Hawaii	State	<cert No.>	06-30-24
Illinois	NELAP	200022	11-30-23
Indiana	State	C-GA-02	06-30-24
Iowa	State	353	07-01-25
Kentucky (UST)	State	NA	06-30-24
Louisiana	NELAP	30690	06-30-24
Louisiana (All)	NELAP	30690	06-30-24
Louisiana (DW)	State	LA009	12-31-23
Maine	State	GA00006	09-25-24
Maryland	State	250	12-31-23
Massachusetts	State	M-GA006	06-30-24
Michigan	State	9925	06-30-24
Mississippi	State	<cert No.>	06-30-24
Nebraska	State	NE-OS-7-04	06-30-24
New Jersey	NELAP	GA769	06-30-24
New Mexico	State	GA00006	06-30-24
North Carolina (DW)	State	13701	07-31-24
North Carolina (WW/SW)	State	269	12-31-23
Pennsylvania	NELAP	68-00474	06-30-24
Puerto Rico	State	GA00006	01-01-24
South Carolina	State	98001	06-30-23 *
Tennessee	State	TN02961	06-30-24
Texas	NELAP	T1047004185	11-30-23
Texas	TCEQ Water Supply	T104704185	06-30-24
USDA	US Federal Programs	P330-18-00313	09-03-24
Virginia	NELAP	460161	06-14-24
Wyoming	State	8TMS-L	06-30-23 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27756-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET SAV
5030B	Purge and Trap	SW846	EET SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-27756-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-27756-1	LC34-IW0165-110.0-20230929	Water	09/29/23 10:32	09/30/23 08:00
670-27756-2	LC34-IW0044D2-110.0-2023029	Water	09/29/23 11:21	09/30/23 08:00
670-27756-3	LC34-IW0162-110.0-20230929	Water	09/29/23 11:56	09/30/23 08:00

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3658 | PAGE 1 OF 1

PROJECT NO: 112G08985	FACILITY: LC34	PROJECT MANAGER Mark Jonnet	PHONE NUMBER 412-921-8022	LABORATORY NAME AND CONTACT: Eurofins - Kaitlin Dylnicki
SAMPLERS (SIGNATURE) Natalie Valle - ~~Natalie Valle~~		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER 321-591-7580	ADDRESS ~~481 Newport~~ ~~Orlando~~ 481 Newburyport Ave
		CARRIER/WAYBILL NUMBER		CITY, STATE Orlando, FL

STANDARD TAT ~~☒~~ NO
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr ☒ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: 8260D (MOD) NASA LC34 custom	COMMENTS
									G	HCl		
09/29	1032	LC34-1W0165-110.0-20230929		105	115	GW	G	3			X	
09/29	1121	LC34-1W0044D2-110.0-20230929		105	115	GW	G	3			X	
09/29	1156	LC34-1W0162-110.0-20230929		105	115	GW	G	3			X	

670-27756 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY Natalie Valle	09/29/2023	1230	1. RECEIVED BY	09/29/23	1230
2. RELINQUISHED BY	09/29/23	1430	2. RECEIVED BY MC	9/30/23	8:00
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 1.5/1.0

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

596 FORM NO. TtNUS-001 4/02B

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-16102.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-27756-1
Address: 5102 LaRoche Avenue, ,	Due Date Requested: 10/5/2023			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030B (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-IW0165-110.0-20230929 (670-27756-1)	9/29/23	10:32 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-IW0044D2-110.0-2023029 (670-27756-2)	9/29/23	11:21 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-IW0162-110.0-20230929 (670-27756-3)	9/29/23	11:56 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		10/2 1200			10/3/23 1029	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.6/5.4

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-27756-1

Login Number: 27756

List Number: 1

Creator: Clerisier, Meline

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-27756-1

Login Number: 27756
List Number: 2
Creator: Harley, Tynisha

List Source: Eurofins Savannah
List Creation: 10/03/23 12:32 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 10/19/2023 3:08:02 PM

JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-28659-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

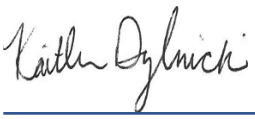
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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10/19/2023 3:08:02 PM

Authorized for release by
Kaitlin Dylnicki, Project Manager
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(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-28659-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-28659-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-28659-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 10/14/2023 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.5°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) analyzed in batch 680-803294 was outside the method criteria for the following analyte(s): 2-Butanone (MEK) and Trichlorofluoromethane. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 680-803294 recovered outside control limits for the following analytes: Trichlorofluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW044D2-110.0-20231013 (670-28659-4). Elevated reporting limits (RLs) are provided.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-803294.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-28659-1

Client Sample ID: LC34-IW0165-110.0-20231013 — Lab Sample ID: 670-28659-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	1.0	I	2.0	0.43	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0162-110.0-20231013 — Lab Sample ID: 670-28659-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	0.88	I	2.0	0.43	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	2.6		1.0	0.25	ug/L	1		8260D	Total/NA
Trichloroethene	3.4		1.0	0.20	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0161-110.0-20231013 — Lab Sample ID: 670-28659-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	18		2.0	0.43	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW044D2-110.0-20231013 — Lab Sample ID: 670-28659-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2900		100	25	ug/L	100		8260D	Total/NA
Trichloroethene	16000		100	20	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-IW0001D2-110.0-20231013 — Lab Sample ID: 670-28659-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	0.92	I	2.0	0.43	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-28659-1

Client Sample ID: LC34-IW0165-110.0-20231013
Date Collected: 10/13/23 08:45
Date Received: 10/14/23 08:00

Lab Sample ID: 670-28659-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			10/18/23 18:01	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			10/18/23 18:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			10/18/23 18:01	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			10/18/23 18:01	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			10/18/23 18:01	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			10/18/23 18:01	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			10/18/23 18:01	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			10/18/23 18:01	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			10/18/23 18:01	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/18/23 18:01	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			10/18/23 18:01	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			10/18/23 18:01	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/18/23 18:01	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/18/23 18:01	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			10/18/23 18:01	1
2-Hexanone	3.2	U	10	3.2	ug/L			10/18/23 18:01	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			10/18/23 18:01	1
Acetone	3.7	U	10	3.7	ug/L			10/18/23 18:01	1
Benzene	0.27	U	1.0	0.27	ug/L			10/18/23 18:01	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			10/18/23 18:01	1
Bromoform	0.59	U	1.0	0.59	ug/L			10/18/23 18:01	1
Bromomethane	3.7	U	5.0	3.7	ug/L			10/18/23 18:01	1
Carbon disulfide	**1.0**	**I**	2.0	0.43	ug/L			10/18/23 18:01	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			10/18/23 18:01	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			10/18/23 18:01	1
Chloroethane	4.6	U	5.0	4.6	ug/L			10/18/23 18:01	1
Chloroform	0.27	U	1.0	0.27	ug/L			10/18/23 18:01	1
Chloromethane	0.54	U	1.0	0.54	ug/L			10/18/23 18:01	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			10/18/23 18:01	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			10/18/23 18:01	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			10/18/23 18:01	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			10/18/23 18:01	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			10/18/23 18:01	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			10/18/23 18:01	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			10/18/23 18:01	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			10/18/23 18:01	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			10/18/23 18:01	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			10/18/23 18:01	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			10/18/23 18:01	1
o-Xylene	0.26	U	1.0	0.26	ug/L			10/18/23 18:01	1
Styrene	0.27	U	1.0	0.27	ug/L			10/18/23 18:01	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			10/18/23 18:01	1
Toluene	0.25	U	1.0	0.25	ug/L			10/18/23 18:01	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			10/18/23 18:01	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			10/18/23 18:01	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			10/18/23 18:01	1
Trichlorofluoromethane	0.33	U J3	1.0	0.33	ug/L			10/18/23 18:01	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			10/18/23 18:01	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			10/18/23 18:01	1

Client Sample ID: LC34-IW0165-110.0-20231013 — **Lab Sample ID: 670-28659-1**
Date Collected: 10/13/23 08:45 — **Matrix: Water**
Date Received: 10/14/23 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		60 - 124		10/18/23 18:01	1
4-Bromofluorobenzene (Surr)	102		70 - 130		10/18/23 18:01	1
Dibromofluoromethane (Surr)	100		70 - 130		10/18/23 18:01	1
Toluene-d8 (Surr)	101		70 - 130		10/18/23 18:01	1

Client Sample ID: LC34-IW0162-110.0-20231013 — **Lab Sample ID: 670-28659-2**
Date Collected: 10/13/23 09:10 — **Matrix: Water**
Date Received: 10/14/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			10/18/23 18:20	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			10/18/23 18:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			10/18/23 18:20	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			10/18/23 18:20	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			10/18/23 18:20	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			10/18/23 18:20	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			10/18/23 18:20	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			10/18/23 18:20	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			10/18/23 18:20	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/18/23 18:20	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			10/18/23 18:20	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			10/18/23 18:20	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/18/23 18:20	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/18/23 18:20	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			10/18/23 18:20	1
2-Hexanone	3.2	U	10	3.2	ug/L			10/18/23 18:20	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			10/18/23 18:20	1
Acetone	3.7	U	10	3.7	ug/L			10/18/23 18:20	1
Benzene	0.27	U	1.0	0.27	ug/L			10/18/23 18:20	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			10/18/23 18:20	1
Bromoform	0.59	U	1.0	0.59	ug/L			10/18/23 18:20	1
Bromomethane	3.7	U	5.0	3.7	ug/L			10/18/23 18:20	1
Carbon disulfide	**0.88**	**I**	2.0	0.43	ug/L			10/18/23 18:20	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			10/18/23 18:20	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			10/18/23 18:20	1
Chloroethane	4.6	U	5.0	4.6	ug/L			10/18/23 18:20	1
Chloroform	0.27	U	1.0	0.27	ug/L			10/18/23 18:20	1
Chloromethane	0.54	U	1.0	0.54	ug/L			10/18/23 18:20	1
cis-1,2-Dichloroethene	**2.6**		1.0	0.25	ug/L			10/18/23 18:20	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			10/18/23 18:20	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			10/18/23 18:20	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			10/18/23 18:20	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			10/18/23 18:20	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			10/18/23 18:20	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			10/18/23 18:20	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			10/18/23 18:20	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			10/18/23 18:20	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			10/18/23 18:20	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			10/18/23 18:20	1

Client Sample ID: LC34-IW0162-110.0-20231013

Lab Sample ID: 670-28659-2

Date Collected: 10/13/23 09:10

Matrix: Water

Date Received: 10/14/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.26	U	1.0	0.26	ug/L			10/18/23 18:20	1
Styrene	0.27	U	1.0	0.27	ug/L			10/18/23 18:20	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			10/18/23 18:20	1
Toluene	0.25	U	1.0	0.25	ug/L			10/18/23 18:20	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			10/18/23 18:20	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			10/18/23 18:20	1
Trichloroethene	**3.4**		1.0	0.20	ug/L			10/18/23 18:20	1
Trichlorofluoromethane	0.33	U J3	1.0	0.33	ug/L			10/18/23 18:20	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			10/18/23 18:20	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			10/18/23 18:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*60 - 124*		*10/18/23 18:20*	*1*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*10/18/23 18:20*	*1*
Dibromofluoromethane (Surr)	*100*		*70 - 130*		*10/18/23 18:20*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*10/18/23 18:20*	*1*

Client Sample ID: LC34-IW0161-110.0-20231013

Lab Sample ID: 670-28659-3

Date Collected: 10/13/23 09:50

Matrix: Water

Date Received: 10/14/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			10/18/23 18:38	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			10/18/23 18:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			10/18/23 18:38	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			10/18/23 18:38	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			10/18/23 18:38	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			10/18/23 18:38	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			10/18/23 18:38	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			10/18/23 18:38	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			10/18/23 18:38	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/18/23 18:38	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			10/18/23 18:38	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			10/18/23 18:38	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/18/23 18:38	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/18/23 18:38	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			10/18/23 18:38	1
2-Hexanone	3.2	U	10	3.2	ug/L			10/18/23 18:38	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			10/18/23 18:38	1
Acetone	3.7	U	10	3.7	ug/L			10/18/23 18:38	1
Benzene	0.27	U	1.0	0.27	ug/L			10/18/23 18:38	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			10/18/23 18:38	1
Bromoform	0.59	U	1.0	0.59	ug/L			10/18/23 18:38	1
Bromomethane	3.7	U	5.0	3.7	ug/L			10/18/23 18:38	1
Carbon disulfide	**18**		2.0	0.43	ug/L			10/18/23 18:38	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			10/18/23 18:38	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			10/18/23 18:38	1
Chloroethane	4.6	U	5.0	4.6	ug/L			10/18/23 18:38	1
Chloroform	0.27	U	1.0	0.27	ug/L			10/18/23 18:38	1

Client Sample ID: LC34-IW0161-110.0-20231013
Lab Sample ID: 670-28659-3

Date Collected: 10/13/23 09:50
Matrix: Water
Date Received: 10/14/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	0.54	U	1.0	0.54	ug/L			10/18/23 18:38	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			10/18/23 18:38	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			10/18/23 18:38	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			10/18/23 18:38	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			10/18/23 18:38	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			10/18/23 18:38	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			10/18/23 18:38	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			10/18/23 18:38	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			10/18/23 18:38	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			10/18/23 18:38	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			10/18/23 18:38	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			10/18/23 18:38	1
o-Xylene	0.26	U	1.0	0.26	ug/L			10/18/23 18:38	1
Styrene	0.27	U	1.0	0.27	ug/L			10/18/23 18:38	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			10/18/23 18:38	1
Toluene	0.25	U	1.0	0.25	ug/L			10/18/23 18:38	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			10/18/23 18:38	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			10/18/23 18:38	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			10/18/23 18:38	1
Trichlorofluoromethane	0.33	U J3	1.0	0.33	ug/L			10/18/23 18:38	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			10/18/23 18:38	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			10/18/23 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*60 - 124*		*10/18/23 18:38*	*1*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*		*10/18/23 18:38*	*1*
Dibromofluoromethane (Surr)	*101*		*70 - 130*		*10/18/23 18:38*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*		*10/18/23 18:38*	*1*

Client Sample ID: LC34-IW044D2-110.0-20231013
Lab Sample ID: 670-28659-4

Date Collected: 10/13/23 10:22
Matrix: Water
Date Received: 10/14/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	21	U	100	21	ug/L			10/18/23 19:16	100
1,1,2,2-Tetrachloroethane	40	U	100	40	ug/L			10/18/23 19:16	100
1,1,2-Trichloro-1,2,2-trifluoroethane	23	U	100	23	ug/L			10/18/23 19:16	100
1,1,2-Trichloroethane	32	U	100	32	ug/L			10/18/23 19:16	100
1,1-Dichloroethane	33	U	100	33	ug/L			10/18/23 19:16	100
1,1-Dichloroethene	33	U	100	33	ug/L			10/18/23 19:16	100
1,2,4-Trichlorobenzene	53	U	500	53	ug/L			10/18/23 19:16	100
1,2-Dibromo-3-Chloropropane	180	U	500	180	ug/L			10/18/23 19:16	100
1,2-Dibromoethane (EDB)	33	U	100	33	ug/L			10/18/23 19:16	100
1,2-Dichlorobenzene	31	U	100	31	ug/L			10/18/23 19:16	100
1,2-Dichloroethane	25	U	100	25	ug/L			10/18/23 19:16	100
1,2-Dichloropropane	22	U	100	22	ug/L			10/18/23 19:16	100
1,3-Dichlorobenzene	31	U	100	31	ug/L			10/18/23 19:16	100
1,4-Dichlorobenzene	31	U	100	31	ug/L			10/18/23 19:16	100
2-Butanone (MEK)	640	U	1000	640	ug/L			10/18/23 19:16	100

Client Sample ID: LC34-IW044D2-110.0-20231013

Lab Sample ID: 670-28659-4

Date Collected: 10/13/23 10:22

Matrix: Water

Date Received: 10/14/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	320	U	1000	320	ug/L			10/18/23 19:16	100
4-Methyl-2-pentanone	270	U	1000	270	ug/L			10/18/23 19:16	100
Acetone	370	U	1000	370	ug/L			10/18/23 19:16	100
Benzene	27	U	100	27	ug/L			10/18/23 19:16	100
Bromodichloromethane	25	U	100	25	ug/L			10/18/23 19:16	100
Bromoform	59	U	100	59	ug/L			10/18/23 19:16	100
Bromomethane	370	U	500	370	ug/L			10/18/23 19:16	100
Carbon disulfide	43	U	200	43	ug/L			10/18/23 19:16	100
Carbon tetrachloride	30	U	100	30	ug/L			10/18/23 19:16	100
Chlorobenzene	15	U	100	15	ug/L			10/18/23 19:16	100
Chloroethane	460	U	500	460	ug/L			10/18/23 19:16	100
Chloroform	27	U	100	27	ug/L			10/18/23 19:16	100
Chloromethane	54	U	100	54	ug/L			10/18/23 19:16	100
cis-1,2-Dichloroethene	**2900**		100	25	ug/L			10/18/23 19:16	100
cis-1,3-Dichloropropene	26	U	100	26	ug/L			10/18/23 19:16	100
Cyclohexane	28	U	100	28	ug/L			10/18/23 19:16	100
Dibromochloromethane	39	U	100	39	ug/L			10/18/23 19:16	100
Dichlorodifluoromethane	36	U	100	36	ug/L			10/18/23 19:16	100
Ethylbenzene	20	U	100	20	ug/L			10/18/23 19:16	100
Isopropylbenzene	26	U	100	26	ug/L			10/18/23 19:16	100
m,p-Xylenes	49	U	100	49	ug/L			10/18/23 19:16	100
Methyl acetate	320	U	500	320	ug/L			10/18/23 19:16	100
Methyl tert-butyl ether	81	U	500	81	ug/L			10/18/23 19:16	100
Methylene Chloride	320	U	500	320	ug/L			10/18/23 19:16	100
o-Xylene	26	U	100	26	ug/L			10/18/23 19:16	100
Styrene	27	U	100	27	ug/L			10/18/23 19:16	100
Tetrachloroethene	35	U	100	35	ug/L			10/18/23 19:16	100
Toluene	25	U	100	25	ug/L			10/18/23 19:16	100
trans-1,2-Dichloroethene	34	U	100	34	ug/L			10/18/23 19:16	100
trans-1,3-Dichloropropene	23	U	100	23	ug/L			10/18/23 19:16	100
Trichloroethene	**16000**		100	20	ug/L			10/18/23 19:16	100
Trichlorofluoromethane	33	U J3	100	33	ug/L			10/18/23 19:16	100
Vinyl chloride	40	U	100	40	ug/L			10/18/23 19:16	100
Xylenes, Total	23	U	100	23	ug/L			10/18/23 19:16	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 124*		*10/18/23 19:16*	*100*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*10/18/23 19:16*	*100*
Dibromofluoromethane (Surr)	*100*		*70 - 130*		*10/18/23 19:16*	*100*
Toluene-d8 (Surr)	*97*		*70 - 130*		*10/18/23 19:16*	*100*

Client Sample ID: LC34-IW0001D2-110.0-20231013

Lab Sample ID: 670-28659-5

Date Collected: 10/13/23 11:05

Matrix: Water

Date Received: 10/14/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			10/18/23 18:57	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			10/18/23 18:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			10/18/23 18:57	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-28659-1

Client Sample ID: LC34-IW0001D2-110.0-20231013
Date Collected: 10/13/23 11:05
Date Received: 10/14/23 08:00

Lab Sample ID: 670-28659-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			10/18/23 18:57	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			10/18/23 18:57	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			10/18/23 18:57	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			10/18/23 18:57	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			10/18/23 18:57	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			10/18/23 18:57	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/18/23 18:57	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			10/18/23 18:57	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			10/18/23 18:57	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/18/23 18:57	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/18/23 18:57	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			10/18/23 18:57	1
2-Hexanone	3.2	U	10	3.2	ug/L			10/18/23 18:57	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			10/18/23 18:57	1
Acetone	3.7	U	10	3.7	ug/L			10/18/23 18:57	1
Benzene	0.27	U	1.0	0.27	ug/L			10/18/23 18:57	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			10/18/23 18:57	1
Bromoform	0.59	U	1.0	0.59	ug/L			10/18/23 18:57	1
Bromomethane	3.7	U	5.0	3.7	ug/L			10/18/23 18:57	1
Carbon disulfide	**0.92**	**I**	2.0	0.43	ug/L			10/18/23 18:57	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			10/18/23 18:57	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			10/18/23 18:57	1
Chloroethane	4.6	U	5.0	4.6	ug/L			10/18/23 18:57	1
Chloroform	0.27	U	1.0	0.27	ug/L			10/18/23 18:57	1
Chloromethane	0.54	U	1.0	0.54	ug/L			10/18/23 18:57	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			10/18/23 18:57	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			10/18/23 18:57	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			10/18/23 18:57	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			10/18/23 18:57	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			10/18/23 18:57	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			10/18/23 18:57	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			10/18/23 18:57	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			10/18/23 18:57	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			10/18/23 18:57	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			10/18/23 18:57	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			10/18/23 18:57	1
o-Xylene	0.26	U	1.0	0.26	ug/L			10/18/23 18:57	1
Styrene	0.27	U	1.0	0.27	ug/L			10/18/23 18:57	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			10/18/23 18:57	1
Toluene	0.25	U	1.0	0.25	ug/L			10/18/23 18:57	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			10/18/23 18:57	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			10/18/23 18:57	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			10/18/23 18:57	1
Trichlorofluoromethane	0.33	U J3	1.0	0.33	ug/L			10/18/23 18:57	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			10/18/23 18:57	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			10/18/23 18:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*60 - 124*		*10/18/23 18:57*	*1*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*10/18/23 18:57*	*1*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-28659-1

Client Sample ID: LC34-IW0001D2-110.0-20231013
Date Collected: 10/13/23 11:05
Date Received: 10/14/23 08:00

Lab Sample ID: 670-28659-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*100*		*70 - 130*		*10/18/23 18:57*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*10/18/23 18:57*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-28659-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-124)	(70-130)	(70-130)	(70-130)
670-28659-1	LC34-IW0165-110.0-20231013	97	102	100	101
670-28659-2	LC34-IW0162-110.0-20231013	96	102	100	101
670-28659-3	LC34-IW0161-110.0-20231013	96	106	101	103
670-28659-4	LC34-IW044D2-110.0-20231013	97	99	100	97
670-28659-5	LC34-IW0001D2-110.0-20231013	97	102	100	101
LCS 680-803294/4	Lab Control Sample	104	99	98	95
LCSD 680-803294/5	Lab Control Sample Dup	95	99	96	93
MB 680-803294/8	Method Blank	96	103	100	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 680-803294/8
Matrix: Water
Analysis Batch: 803294

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			10/18/23 15:36	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			10/18/23 15:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			10/18/23 15:36	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			10/18/23 15:36	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			10/18/23 15:36	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			10/18/23 15:36	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			10/18/23 15:36	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			10/18/23 15:36	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			10/18/23 15:36	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/18/23 15:36	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			10/18/23 15:36	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			10/18/23 15:36	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/18/23 15:36	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			10/18/23 15:36	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			10/18/23 15:36	1
2-Hexanone	3.2	U	10	3.2	ug/L			10/18/23 15:36	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			10/18/23 15:36	1
Acetone	3.7	U	10	3.7	ug/L			10/18/23 15:36	1
Benzene	0.27	U	1.0	0.27	ug/L			10/18/23 15:36	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			10/18/23 15:36	1
Bromoform	0.59	U	1.0	0.59	ug/L			10/18/23 15:36	1
Bromomethane	3.7	U	5.0	3.7	ug/L			10/18/23 15:36	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			10/18/23 15:36	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			10/18/23 15:36	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			10/18/23 15:36	1
Chloroethane	4.6	U	5.0	4.6	ug/L			10/18/23 15:36	1
Chloroform	0.27	U	1.0	0.27	ug/L			10/18/23 15:36	1
Chloromethane	0.54	U	1.0	0.54	ug/L			10/18/23 15:36	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			10/18/23 15:36	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			10/18/23 15:36	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			10/18/23 15:36	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			10/18/23 15:36	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			10/18/23 15:36	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			10/18/23 15:36	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			10/18/23 15:36	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			10/18/23 15:36	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			10/18/23 15:36	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			10/18/23 15:36	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			10/18/23 15:36	1
o-Xylene	0.26	U	1.0	0.26	ug/L			10/18/23 15:36	1
Styrene	0.27	U	1.0	0.27	ug/L			10/18/23 15:36	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			10/18/23 15:36	1
Toluene	0.25	U	1.0	0.25	ug/L			10/18/23 15:36	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			10/18/23 15:36	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			10/18/23 15:36	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			10/18/23 15:36	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			10/18/23 15:36	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			10/18/23 15:36	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-803294/8
Matrix: Water
Analysis Batch: 803294

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	0.23	U	1.0	0.23	ug/L			10/18/23 15:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*60 - 124*		*10/18/23 15:36*	*1*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*10/18/23 15:36*	*1*
Dibromofluoromethane (Surr)	*100*		*70 - 130*		*10/18/23 15:36*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*10/18/23 15:36*	*1*

Lab Sample ID: LCS 680-803294/4
Matrix: Water
Analysis Batch: 803294

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	50.5		ug/L		101	70 - 130
1,1,2,2-Tetrachloroethane	50.0	48.0		ug/L		96	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	53.1		ug/L		106	63 - 141
1,1,2-Trichloroethane	50.0	49.9		ug/L		100	70 - 130
1,1-Dichloroethane	50.0	49.6		ug/L		99	70 - 130
1,1-Dichloroethene	50.0	53.3		ug/L		107	70 - 130
1,2,4-Trichlorobenzene	50.0	44.3		ug/L		89	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	40.6		ug/L		81	70 - 130
1,2-Dibromoethane (EDB)	50.0	50.9		ug/L		102	70 - 130
1,2-Dichlorobenzene	50.0	47.1		ug/L		94	70 - 130
1,2-Dichloroethane	50.0	48.4		ug/L		97	70 - 130
1,2-Dichloropropane	50.0	48.2		ug/L		96	70 - 130
1,3-Dichlorobenzene	50.0	47.5		ug/L		95	70 - 130
1,4-Dichlorobenzene	50.0	48.8		ug/L		98	70 - 130
2-Butanone (MEK)	250	199		ug/L		80	69 - 120
2-Hexanone	250	251		ug/L		100	70 - 130
4-Methyl-2-pentanone	250	222		ug/L		89	68 - 120
Acetone	250	218		ug/L		87	67 - 120
Benzene	50.0	48.9		ug/L		98	70 - 130
Bromodichloromethane	50.0	49.6		ug/L		99	70 - 130
Bromoform	50.0	41.9		ug/L		84	69 - 129
Bromomethane	50.0	56.7		ug/L		113	28 - 192
Carbon disulfide	50.0	52.9		ug/L		106	70 - 130
Carbon tetrachloride	50.0	48.9		ug/L		98	70 - 130
Chlorobenzene	50.0	49.1		ug/L		98	70 - 130
Chloroethane	50.0	50.3		ug/L		101	31 - 213
Chloroform	50.0	48.9		ug/L		98	70 - 130
Chloromethane	50.0	42.4		ug/L		85	59 - 127
cis-1,2-Dichloroethene	50.0	49.4		ug/L		99	70 - 130
cis-1,3-Dichloropropene	50.0	49.8		ug/L		100	70 - 130
Cyclohexane	50.0	50.9		ug/L		102	23 - 175
Dibromochloromethane	50.0	43.9		ug/L		88	70 - 130
Dichlorodifluoromethane	50.0	44.8		ug/L		90	70 - 130
Ethylbenzene	50.0	49.5		ug/L		99	70 - 130
Isopropylbenzene	50.0	49.7		ug/L		99	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-803294/4
Matrix: Water
Analysis Batch: 803294

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	51.3		ug/L		103	70 - 130
Methyl acetate	100	96.5		ug/L		97	67 - 120
Methyl tert-butyl ether	50.0	44.8		ug/L		90	70 - 130
Methylene Chloride	50.0	48.8		ug/L		98	70 - 130
o-Xylene	50.0	50.3		ug/L		101	70 - 130
Styrene	50.0	49.6		ug/L		99	70 - 130
Tetrachloroethene	50.0	49.8		ug/L		100	70 - 130
Toluene	50.0	48.9		ug/L		98	70 - 130
trans-1,2-Dichloroethene	50.0	51.0		ug/L		102	70 - 130
trans-1,3-Dichloropropene	50.0	45.7		ug/L		91	70 - 130
Trichloroethene	50.0	49.1		ug/L		98	70 - 130
Trichlorofluoromethane	50.0	80.6	J3	ug/L		161	63 - 142
Vinyl chloride	50.0	46.6		ug/L		93	66 - 129
Xylenes, Total	100	102		ug/L		102	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*60 - 124*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
Dibromofluoromethane (Surr)	*98*		*70 - 130*
Toluene-d8 (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 680-803294/5
Matrix: Water
Analysis Batch: 803294

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	48.9		ug/L		98	70 - 130	3	30
1,1,2,2-Tetrachloroethane	50.0	47.3		ug/L		95	70 - 130	1	30
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	51.3		ug/L		103	63 - 141	4	30
1,1,2-Trichloroethane	50.0	48.8		ug/L		98	70 - 130	2	30
1,1-Dichloroethane	50.0	48.8		ug/L		98	70 - 130	2	30
1,1-Dichloroethene	50.0	51.4		ug/L		103	70 - 130	4	20
1,2,4-Trichlorobenzene	50.0	46.0		ug/L		92	70 - 130	4	30
1,2-Dibromo-3-Chloropropane	50.0	41.2		ug/L		82	70 - 130	1	30
1,2-Dibromoethane (EDB)	50.0	50.5		ug/L		101	70 - 130	1	30
1,2-Dichlorobenzene	50.0	48.2		ug/L		96	70 - 130	2	30
1,2-Dichloroethane	50.0	47.8		ug/L		96	70 - 130	1	50
1,2-Dichloropropane	50.0	47.4		ug/L		95	70 - 130	2	20
1,3-Dichlorobenzene	50.0	48.6		ug/L		97	70 - 130	2	30
1,4-Dichlorobenzene	50.0	48.7		ug/L		97	70 - 130	0	30
2-Butanone (MEK)	250	199		ug/L		80	69 - 120	0	30
2-Hexanone	250	250		ug/L		100	70 - 130	0	20
4-Methyl-2-pentanone	250	219		ug/L		88	68 - 120	1	30
Acetone	250	214		ug/L		86	67 - 120	2	30
Benzene	50.0	48.1		ug/L		96	70 - 130	2	30
Bromodichloromethane	50.0	48.4		ug/L		97	70 - 130	2	30
Bromoform	50.0	41.8		ug/L		84	69 - 129	0	30
Bromomethane	50.0	55.8		ug/L		112	28 - 192	2	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-803294/5
Matrix: Water
Analysis Batch: 803294

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon disulfide			50.0	52.0		ug/L		104	70 - 130	2	30
Carbon tetrachloride			50.0	47.8		ug/L		96	70 - 130	2	30
Chlorobenzene			50.0	49.1		ug/L		98	70 - 130	0	30
Chloroethane			50.0	50.1		ug/L		100	31 - 213	1	30
Chloroform			50.0	48.5		ug/L		97	70 - 130	1	30
Chloromethane			50.0	42.0		ug/L		84	59 - 127	1	30
cis-1,2-Dichloroethene			50.0	48.2		ug/L		96	70 - 130	3	30
cis-1,3-Dichloropropene			50.0	48.6		ug/L		97	70 - 130	2	20
Cyclohexane			50.0	49.6		ug/L		99	23 - 175	3	30
Dibromochloromethane			50.0	44.1		ug/L		88	70 - 130	0	30
Dichlorodifluoromethane			50.0	43.6		ug/L		87	70 - 130	3	40
Ethylbenzene			50.0	48.6		ug/L		97	70 - 130	2	20
Isopropylbenzene			50.0	48.9		ug/L		98	70 - 130	2	30
m,p-Xylenes			50.0	50.5		ug/L		101	70 - 130	2	30
Methyl acetate			100	98.1		ug/L		98	67 - 120	2	30
Methyl tert-butyl ether			50.0	44.4		ug/L		89	70 - 130	1	30
Methylene Chloride			50.0	47.6		ug/L		95	70 - 130	3	30
o-Xylene			50.0	49.4		ug/L		99	70 - 130	2	30
Styrene			50.0	49.5		ug/L		99	70 - 130	0	30
Tetrachloroethene			50.0	48.4		ug/L		97	70 - 130	3	30
Toluene			50.0	47.8		ug/L		96	70 - 130	2	30
trans-1,2-Dichloroethene			50.0	49.4		ug/L		99	70 - 130	3	30
trans-1,3-Dichloropropene			50.0	45.3		ug/L		91	70 - 130	1	30
Trichloroethene			50.0	49.0		ug/L		98	70 - 130	0	30
Trichlorofluoromethane			50.0	79.8	J3	ug/L		160	63 - 142	1	30
Vinyl chloride			50.0	46.0		ug/L		92	66 - 129	1	30
Xylenes, Total			100	99.9		ug/L		100	70 - 130	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*60 - 124*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
Dibromofluoromethane (Surr)	*96*		*70 - 130*
Toluene-d8 (Surr)	*93*		*70 - 130*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-28659-1

GC/MS VOA

Analysis Batch: 803294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-28659-1	LC34-IW0165-110.0-20231013	Total/NA	Water	8260D	
670-28659-2	LC34-IW0162-110.0-20231013	Total/NA	Water	8260D	
670-28659-3	LC34-IW0161-110.0-20231013	Total/NA	Water	8260D	
670-28659-4	LC34-IW044D2-110.0-20231013	Total/NA	Water	8260D	
670-28659-5	LC34-IW0001D2-110.0-20231013	Total/NA	Water	8260D	
MB 680-803294/8	Method Blank	Total/NA	Water	8260D	
LCS 680-803294/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-803294/5	Lab Control Sample Dup	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-28659-1

Client Sample ID: LC34-IW0165-110.0-20231013
Lab Sample ID: 670-28659-1
Date Collected: 10/13/23 08:45
Matrix: Water
Date Received: 10/14/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	803294	P1C	EET SAV	10/18/23 18:01

Client Sample ID: LC34-IW0162-110.0-20231013
Lab Sample ID: 670-28659-2
Date Collected: 10/13/23 09:10
Matrix: Water
Date Received: 10/14/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	803294	P1C	EET SAV	10/18/23 18:20

Client Sample ID: LC34-IW0161-110.0-20231013
Lab Sample ID: 670-28659-3
Date Collected: 10/13/23 09:50
Matrix: Water
Date Received: 10/14/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	803294	P1C	EET SAV	10/18/23 18:38

Client Sample ID: LC34-IW044D2-110.0-20231013
Lab Sample ID: 670-28659-4
Date Collected: 10/13/23 10:22
Matrix: Water
Date Received: 10/14/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		100	803294	P1C	EET SAV	10/18/23 19:16

Client Sample ID: LC34-IW0001D2-110.0-20231013
Lab Sample ID: 670-28659-5
Date Collected: 10/13/23 11:05
Matrix: Water
Date Received: 10/14/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	803294	P1C	EET SAV	10/18/23 18:57

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-28659-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-24
ANAB	Dept. of Defense ELAP	L2463	09-22-24
Arkansas DEQ	State	19-015-0	02-01-24
California	State	2939	06-30-24
Florida	NELAP	E87052	06-30-24
Georgia	State	E87052	06-30-24
Georgia (DW)	State	803	06-30-24
Guam	State	19-007R	04-17-24
Hawaii	State	<cert No.>	06-30-24
Illinois	NELAP	200022	11-30-23
Indiana	State	C-GA-02	06-30-24
Iowa	State	353	07-01-25
Kentucky (UST)	State	NA	06-30-24
Louisiana	NELAP	30690	06-30-24
Louisiana (All)	NELAP	30690	06-30-24
Louisiana (DW)	State	LA009	12-31-23
Maine	State	GA00006	09-25-24
Maryland	State	250	12-31-23
Massachusetts	State	M-GA006	06-30-24
Michigan	State	9925	06-30-24
Mississippi	State	<cert No.>	06-30-24
Nebraska	State	NE-OS-7-04	06-30-24
New Jersey	NELAP	GA769	06-30-24
New Mexico	State	GA00006	06-30-24
North Carolina (DW)	State	13701	07-31-24
North Carolina (WW/SW)	State	269	12-31-23
Pennsylvania	NELAP	68-00474	06-30-24
Puerto Rico	State	GA00006	01-01-24
South Carolina	State	98001	06-30-23 *
Tennessee	State	TN02961	06-30-24
Texas	NELAP	T1047004185	11-30-23
Texas	TCEQ Water Supply	T104704185	06-30-24
USDA	US Federal Programs	P330-18-00313	09-03-24
Virginia	NELAP	460161	06-14-24
Wyoming	State	8TMS-L	06-30-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-28659-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET SAV
5030B	Purge and Trap	SW846	EET SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-28659-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-28659-1	LC34-IW0165-110.0-20231013	Water	10/13/23 08:45	10/14/23 08:00
670-28659-2	LC34-IW0162-110.0-20231013	Water	10/13/23 09:10	10/14/23 08:00
670-28659-3	LC34-IW0161-110.0-20231013	Water	10/13/23 09:50	10/14/23 08:00
670-28659-4	LC34-IW044D2-110.0-20231013	Water	10/13/23 10:22	10/14/23 08:00
670-28659-5	LC34-IW0001D2-110.0-20231013	Water	10/13/23 11:05	10/14/23 08:00

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 3659 | PAGE 1 OF 1

PROJECT NO: 112608985	FACILITY: KSC LC34	PROJECT MANAGER Mark Jonnet	PHONE NUMBER 412-921-8622	LABORATORY NAME AND CONTACT: Eurofins Kaitlin Dykiewicz
SAMPLERS (SIGNATURE) Cory O'Brien		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER 321-591-7580	ADDRESS 481 Newburyport Ave
		CARRIER/WAYBILL NUMBER —		CITY, STATE Altamonte Springs, FL

STANDARD TAT ☐ RUSH TAT: ☐ 24 hr. ☐ 48 hr. ☒ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): G	PRESERVATIVE USED: HCL	TYPE OF ANALYSIS: 8260 (400) Mask LC34 Custom List	COMMENTS
10/13	0845	LC34-IW0165-110.0-20231013	IW0165	-	-	GW	G	3			X	
10/13	0910	LC34-IW0162-110.0-20231013	IW0162	-	-	GW	G	3			X	
10/13	0950	LC34-IW0161-110.0-20231013	IW0161	-	-	GW	G	3			X	
10/13	1022	LC34-IW044D2-110.0-20231013	IW044D2	-	-	GW	G	3			X	
10/13	1105	LC34-IW0001D2-110.0-20231013	IW0001D2	-	-	GW	G	3			X	

670-28659 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY Cory O'Brien	10/13/2023	1135	1. RECEIVED BY	10/13/23	1135
2. RELINQUISHED BY	10/13/23	1420	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY MC	10/14/23	8:00

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 4/02R

1.0 10.5 FORM NO. TtNUS-001 5%

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki Kaitlin	Carrier Tracking No(s):	COC No: 670-17051 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP Florida		Job #: 670-28659-1
Address: 5102 LaRoche Avenue,	Due Date Requested: 10/19/2023			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030B (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-IW0165-110.0-20231013 (670-28659-1)	10/13/23	08:45 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-IW0162-110.0-20231013 (670-28659-2)	10/13/23	09:10 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-IW0161-110.0-20231013 (670-28659-3)	10/13/23	09:50 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-IW044D2-110.0-20231013 (670-28659-4)	10/13/23	10:22 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-IW0001D2-110.0-20231013 (670-28659-5)	10/13/23	11:05 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I II III IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		10/16 1420		TH	10-17-23	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 9:21	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 0 6.0 - 0.9

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-28659-1

Login Number: 28659

List Source: Eurofins Orlando

List Number: 1

Creator: Clerisier, Meline

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-28659-1

Login Number: 28659
List Number: 2
Creator: Harley, Tynisha

List Source: Eurofins Savannah
List Creation: 10/17/23 01:38 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 11/10/2023 5:26:29 PM

JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-29409-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

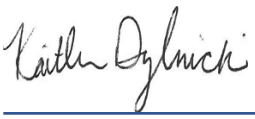
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-29409-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-29409-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-29409-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 10/27/2023 11:46 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.5°C

GC/MS VOA
Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-RW17C-20231025 (670-29409-3), LC34-RW18C-20231025 (670-29409-4), LC34-RW19C-20231025 (670-29409-5), LC34-RW20C-20231025 (670-29409-6) and LC34-GAC-20231025 (670-29409-8). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-806515 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane, 4-Methyl-2-pentanone, Bromomethane and Trichlorofluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-806515.

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 680-806619 was outside the method criteria for the following analyte(s): 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-Chloropropane, 2-Butanone (MEK), Bromoform, Chloroethane and Trichlorofluoromethane. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for analytical batch 680-806619 recovered outside control limits for the following analyte(s): 2-Butanone (MEK) and Chloroethane. 2-Butanone (MEK) and Chloroethane have been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-806619.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29409-1

Client Sample ID: LC34-AS1-20231025 — Lab Sample ID: 670-29409-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.92	I	1.0	0.25	ug/L	1		8260D	Total/NA
Trichloroethene	0.91	I	1.0	0.20	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-AS2-20231025 — Lab Sample ID: 670-29409-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	75		1.0	0.25	ug/L	1		8260D	Total/NA
Trichloroethene	170		1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride	0.44	I	1.0	0.40	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-RW17C-20231025 — Lab Sample ID: 670-29409-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	49	I	50	12	ug/L	50		8260D	Total/NA
1,1-Dichloroethene	35	I	50	17	ug/L	50		8260D	Total/NA
cis-1,2-Dichloroethene	5500		50	13	ug/L	50		8260D	Total/NA
trans-1,2-Dichloroethene	73		50	17	ug/L	50		8260D	Total/NA
Vinyl chloride	170		50	20	ug/L	50		8260D	Total/NA
Trichloroethene - DL	160000		1000	200	ug/L	1000		8260D	Total/NA

Client Sample ID: LC34-RW18C-20231025 — Lab Sample ID: 670-29409-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	60	I	200	46	ug/L	200		8260D	Total/NA
cis-1,2-Dichloroethene	2600		200	50	ug/L	200		8260D	Total/NA
Trichloroethene - DL	41000		500	100	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-RW19C-20231025 — Lab Sample ID: 670-29409-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	190	I	250	58	ug/L	250		8260D	Total/NA
cis-1,2-Dichloroethene	2300		250	63	ug/L	250		8260D	Total/NA
Trichloroethene - DL	260000		2500	500	ug/L	2500		8260D	Total/NA

Client Sample ID: LC34-RW20C-20231025 — Lab Sample ID: 670-29409-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	24	I	50	12	ug/L	50		8260D	Total/NA
cis-1,2-Dichloroethene	390		50	13	ug/L	50		8260D	Total/NA
Trichloroethene	4000		50	10	ug/L	50		8260D	Total/NA
Vinyl chloride	26	I	50	20	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-RW21D-20231025 — Lab Sample ID: 670-29409-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.35	I	1.0	0.25	ug/L	1		8260D	Total/NA
Trichloroethene	0.32	I	1.0	0.20	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-GAC-20231025 — Lab Sample ID: 670-29409-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1600		50	13	ug/L	50		8260D	Total/NA
Trichloroethene	9300		50	10	ug/L	50		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29409-1

Client Sample ID: LC34-AS1-20231025
Date Collected: 10/25/23 11:20
Date Received: 10/27/23 11:46

Lab Sample ID: 670-29409-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			11/05/23 17:02	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			11/05/23 17:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			11/05/23 17:02	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			11/05/23 17:02	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			11/05/23 17:02	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			11/05/23 17:02	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			11/05/23 17:02	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			11/05/23 17:02	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			11/05/23 17:02	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/05/23 17:02	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			11/05/23 17:02	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			11/05/23 17:02	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/05/23 17:02	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/05/23 17:02	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			11/05/23 17:02	1
2-Hexanone	3.2	U	10	3.2	ug/L			11/05/23 17:02	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			11/05/23 17:02	1
Acetone	3.7	U	10	3.7	ug/L			11/05/23 17:02	1
Benzene	0.27	U	1.0	0.27	ug/L			11/05/23 17:02	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			11/05/23 17:02	1
Bromoform	0.59	U	1.0	0.59	ug/L			11/05/23 17:02	1
Bromomethane	3.7	U	5.0	3.7	ug/L			11/05/23 17:02	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			11/05/23 17:02	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			11/05/23 17:02	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			11/05/23 17:02	1
Chloroethane	4.6	U	5.0	4.6	ug/L			11/05/23 17:02	1
Chloroform	0.27	U	1.0	0.27	ug/L			11/05/23 17:02	1
Chloromethane	0.54	U	1.0	0.54	ug/L			11/05/23 17:02	1
cis-1,2-Dichloroethene	**0.92**	**I**	1.0	0.25	ug/L			11/05/23 17:02	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			11/05/23 17:02	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			11/05/23 17:02	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			11/05/23 17:02	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			11/05/23 17:02	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			11/05/23 17:02	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			11/05/23 17:02	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			11/05/23 17:02	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			11/05/23 17:02	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			11/05/23 17:02	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			11/05/23 17:02	1
o-Xylene	0.26	U	1.0	0.26	ug/L			11/05/23 17:02	1
Styrene	0.27	U	1.0	0.27	ug/L			11/05/23 17:02	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			11/05/23 17:02	1
Toluene	0.25	U	1.0	0.25	ug/L			11/05/23 17:02	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			11/05/23 17:02	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			11/05/23 17:02	1
Trichloroethene	**0.91**	**I**	1.0	0.20	ug/L			11/05/23 17:02	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			11/05/23 17:02	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			11/05/23 17:02	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			11/05/23 17:02	1

Client Sample ID: LC34-AS1-20231025

Lab Sample ID: 670-29409-1

Date Collected: 10/25/23 11:20

Matrix: Water

Date Received: 10/27/23 11:46

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*60 - 124*		*11/05/23 17:02*	*1*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*11/05/23 17:02*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*11/05/23 17:02*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*11/05/23 17:02*	*1*

Client Sample ID: LC34-AS2-20231025

Lab Sample ID: 670-29409-2

Date Collected: 10/25/23 11:25

Matrix: Water

Date Received: 10/27/23 11:46

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			11/05/23 16:39	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			11/05/23 16:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			11/05/23 16:39	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			11/05/23 16:39	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			11/05/23 16:39	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			11/05/23 16:39	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			11/05/23 16:39	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			11/05/23 16:39	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			11/05/23 16:39	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/05/23 16:39	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			11/05/23 16:39	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			11/05/23 16:39	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/05/23 16:39	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/05/23 16:39	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			11/05/23 16:39	1
2-Hexanone	3.2	U	10	3.2	ug/L			11/05/23 16:39	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			11/05/23 16:39	1
Acetone	3.7	U	10	3.7	ug/L			11/05/23 16:39	1
Benzene	0.27	U	1.0	0.27	ug/L			11/05/23 16:39	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			11/05/23 16:39	1
Bromoform	0.59	U	1.0	0.59	ug/L			11/05/23 16:39	1
Bromomethane	3.7	U	5.0	3.7	ug/L			11/05/23 16:39	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			11/05/23 16:39	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			11/05/23 16:39	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			11/05/23 16:39	1
Chloroethane	4.6	U	5.0	4.6	ug/L			11/05/23 16:39	1
Chloroform	0.27	U	1.0	0.27	ug/L			11/05/23 16:39	1
Chloromethane	0.54	U	1.0	0.54	ug/L			11/05/23 16:39	1
cis-1,2-Dichloroethene	**75**		1.0	0.25	ug/L			11/05/23 16:39	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			11/05/23 16:39	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			11/05/23 16:39	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			11/05/23 16:39	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			11/05/23 16:39	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			11/05/23 16:39	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			11/05/23 16:39	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			11/05/23 16:39	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			11/05/23 16:39	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			11/05/23 16:39	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			11/05/23 16:39	1

Client Sample ID: LC34-AS2-20231025

Lab Sample ID: 670-29409-2

Date Collected: 10/25/23 11:25

Matrix: Water

Date Received: 10/27/23 11:46

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.26	U	1.0	0.26	ug/L			11/05/23 16:39	1
Styrene	0.27	U	1.0	0.27	ug/L			11/05/23 16:39	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			11/05/23 16:39	1
Toluene	0.25	U	1.0	0.25	ug/L			11/05/23 16:39	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			11/05/23 16:39	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			11/05/23 16:39	1
Trichloroethene	**170**		1.0	0.20	ug/L			11/05/23 16:39	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			11/05/23 16:39	1
Vinyl chloride	**0.44**	**I**	1.0	0.40	ug/L			11/05/23 16:39	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			11/05/23 16:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*60 - 124*		*11/05/23 16:39*	*1*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*		*11/05/23 16:39*	*1*
Dibromofluoromethane (Surr)	*91*		*70 - 130*		*11/05/23 16:39*	*1*
Toluene-d8 (Surr)	*97*		*70 - 130*		*11/05/23 16:39*	*1*

Client Sample ID: LC34-RW17C-20231025

Lab Sample ID: 670-29409-3

Date Collected: 10/25/23 11:30

Matrix: Water

Date Received: 10/27/23 11:46

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	11	U	50	11	ug/L			11/05/23 18:34	50
1,1,2,2-Tetrachloroethane	20	U	50	20	ug/L			11/05/23 18:34	50
1,1,2-Trichloro-1,2,2-trifluoroethane	**49**	**I**	50	12	ug/L			11/05/23 18:34	50
1,1,2-Trichloroethane	16	U	50	16	ug/L			11/05/23 18:34	50
1,1-Dichloroethane	17	U	50	17	ug/L			11/05/23 18:34	50
1,1-Dichloroethene	**35**	**I**	50	17	ug/L			11/05/23 18:34	50
1,2,4-Trichlorobenzene	27	U	250	27	ug/L			11/05/23 18:34	50
1,2-Dibromo-3-Chloropropane	90	U	250	90	ug/L			11/05/23 18:34	50
1,2-Dibromoethane (EDB)	17	U	50	17	ug/L			11/05/23 18:34	50
1,2-Dichlorobenzene	16	U	50	16	ug/L			11/05/23 18:34	50
1,2-Dichloroethane	13	U	50	13	ug/L			11/05/23 18:34	50
1,2-Dichloropropane	11	U	50	11	ug/L			11/05/23 18:34	50
1,3-Dichlorobenzene	16	U	50	16	ug/L			11/05/23 18:34	50
1,4-Dichlorobenzene	16	U	50	16	ug/L			11/05/23 18:34	50
2-Butanone (MEK)	320	U	500	320	ug/L			11/05/23 18:34	50
2-Hexanone	160	U	500	160	ug/L			11/05/23 18:34	50
4-Methyl-2-pentanone	140	U	500	140	ug/L			11/05/23 18:34	50
Acetone	190	U	500	190	ug/L			11/05/23 18:34	50
Benzene	14	U	50	14	ug/L			11/05/23 18:34	50
Bromodichloromethane	13	U	50	13	ug/L			11/05/23 18:34	50
Bromoform	30	U	50	30	ug/L			11/05/23 18:34	50
Bromomethane	190	U	250	190	ug/L			11/05/23 18:34	50
Carbon disulfide	22	U	100	22	ug/L			11/05/23 18:34	50
Carbon tetrachloride	15	U	50	15	ug/L			11/05/23 18:34	50
Chlorobenzene	7.5	U	50	7.5	ug/L			11/05/23 18:34	50
Chloroethane	230	U	250	230	ug/L			11/05/23 18:34	50

Client Sample ID: LC34-RW17C-20231025

Lab Sample ID: 670-29409-3

Date Collected: 10/25/23 11:30

Matrix: Water

Date Received: 10/27/23 11:46

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	14	U	50	14	ug/L			11/05/23 18:34	50
Chloromethane	27	U	50	27	ug/L			11/05/23 18:34	50
cis-1,2-Dichloroethene	**5500**		50	13	ug/L			11/05/23 18:34	50
cis-1,3-Dichloropropene	13	U	50	13	ug/L			11/05/23 18:34	50
Cyclohexane	14	U	50	14	ug/L			11/05/23 18:34	50
Dibromochloromethane	20	U	50	20	ug/L			11/05/23 18:34	50
Dichlorodifluoromethane	18	U	50	18	ug/L			11/05/23 18:34	50
Ethylbenzene	10	U	50	10	ug/L			11/05/23 18:34	50
Isopropylbenzene	13	U	50	13	ug/L			11/05/23 18:34	50
m,p-Xylenes	25	U	50	25	ug/L			11/05/23 18:34	50
Methyl acetate	160	U	250	160	ug/L			11/05/23 18:34	50
Methyl tert-butyl ether	41	U	250	41	ug/L			11/05/23 18:34	50
Methylene Chloride	160	U	250	160	ug/L			11/05/23 18:34	50
o-Xylene	13	U	50	13	ug/L			11/05/23 18:34	50
Styrene	14	U	50	14	ug/L			11/05/23 18:34	50
Tetrachloroethene	18	U	50	18	ug/L			11/05/23 18:34	50
Toluene	13	U	50	13	ug/L			11/05/23 18:34	50
trans-1,2-Dichloroethene	**73**		50	17	ug/L			11/05/23 18:34	50
trans-1,3-Dichloropropene	12	U	50	12	ug/L			11/05/23 18:34	50
Trichlorofluoromethane	17	U	50	17	ug/L			11/05/23 18:34	50
Vinyl chloride	**170**		50	20	ug/L			11/05/23 18:34	50
Xylenes, Total	12	U	50	12	ug/L			11/05/23 18:34	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*60 - 124*		*11/05/23 18:34*	*50*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*11/05/23 18:34*	*50*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*11/05/23 18:34*	*50*
Toluene-d8 (Surr)	*100*		*70 - 130*		*11/05/23 18:34*	*50*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**160000**		1000	200	ug/L			11/06/23 21:02	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*60 - 124*		*11/06/23 21:02*	*1000*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*		*11/06/23 21:02*	*1000*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*11/06/23 21:02*	*1000*
Toluene-d8 (Surr)	*107*		*70 - 130*		*11/06/23 21:02*	*1000*

Client Sample ID: LC34-RW18C-20231025

Lab Sample ID: 670-29409-4

Date Collected: 10/25/23 11:35

Matrix: Water

Date Received: 10/27/23 11:46

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	42	U	200	42	ug/L			11/05/23 19:43	200
1,1,2,2-Tetrachloroethane	80	U	200	80	ug/L			11/05/23 19:43	200
1,1,2-Trichloro-1,2,2-trifluoroethane	**60**	**I**	200	46	ug/L			11/05/23 19:43	200
1,1,2-Trichloroethane	64	U	200	64	ug/L			11/05/23 19:43	200
1,1-Dichloroethane	66	U	200	66	ug/L			11/05/23 19:43	200

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29409-1

Client Sample ID: LC34-RW18C-20231025
Date Collected: 10/25/23 11:35
Date Received: 10/27/23 11:46

Lab Sample ID: 670-29409-4
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	66	U	200	66	ug/L			11/05/23 19:43	200
1,2,4-Trichlorobenzene	110	U	1000	110	ug/L			11/05/23 19:43	200
1,2-Dibromo-3-Chloropropane	360	U	1000	360	ug/L			11/05/23 19:43	200
1,2-Dibromoethane (EDB)	66	U	200	66	ug/L			11/05/23 19:43	200
1,2-Dichlorobenzene	62	U	200	62	ug/L			11/05/23 19:43	200
1,2-Dichloroethane	50	U	200	50	ug/L			11/05/23 19:43	200
1,2-Dichloropropane	44	U	200	44	ug/L			11/05/23 19:43	200
1,3-Dichlorobenzene	62	U	200	62	ug/L			11/05/23 19:43	200
1,4-Dichlorobenzene	62	U	200	62	ug/L			11/05/23 19:43	200
2-Butanone (MEK)	1300	U	2000	1300	ug/L			11/05/23 19:43	200
2-Hexanone	640	U	2000	640	ug/L			11/05/23 19:43	200
4-Methyl-2-pentanone	540	U	2000	540	ug/L			11/05/23 19:43	200
Acetone	740	U	2000	740	ug/L			11/05/23 19:43	200
Benzene	54	U	200	54	ug/L			11/05/23 19:43	200
Bromodichloromethane	50	U	200	50	ug/L			11/05/23 19:43	200
Bromoform	120	U	200	120	ug/L			11/05/23 19:43	200
Bromomethane	740	U	1000	740	ug/L			11/05/23 19:43	200
Carbon disulfide	86	U	400	86	ug/L			11/05/23 19:43	200
Carbon tetrachloride	60	U	200	60	ug/L			11/05/23 19:43	200
Chlorobenzene	30	U	200	30	ug/L			11/05/23 19:43	200
Chloroethane	920	U	1000	920	ug/L			11/05/23 19:43	200
Chloroform	54	U	200	54	ug/L			11/05/23 19:43	200
Chloromethane	110	U	200	110	ug/L			11/05/23 19:43	200
cis-1,2-Dichloroethene	**2600**		200	50	ug/L			11/05/23 19:43	200
cis-1,3-Dichloropropene	52	U	200	52	ug/L			11/05/23 19:43	200
Cyclohexane	56	U	200	56	ug/L			11/05/23 19:43	200
Dibromochloromethane	78	U	200	78	ug/L			11/05/23 19:43	200
Dichlorodifluoromethane	72	U	200	72	ug/L			11/05/23 19:43	200
Ethylbenzene	40	U	200	40	ug/L			11/05/23 19:43	200
Isopropylbenzene	52	U	200	52	ug/L			11/05/23 19:43	200
m,p-Xylenes	98	U	200	98	ug/L			11/05/23 19:43	200
Methyl acetate	640	U	1000	640	ug/L			11/05/23 19:43	200
Methyl tert-butyl ether	160	U	1000	160	ug/L			11/05/23 19:43	200
Methylene Chloride	640	U	1000	640	ug/L			11/05/23 19:43	200
o-Xylene	52	U	200	52	ug/L			11/05/23 19:43	200
Styrene	54	U	200	54	ug/L			11/05/23 19:43	200
Tetrachloroethene	70	U	200	70	ug/L			11/05/23 19:43	200
Toluene	50	U	200	50	ug/L			11/05/23 19:43	200
trans-1,2-Dichloroethene	68	U	200	68	ug/L			11/05/23 19:43	200
trans-1,3-Dichloropropene	46	U	200	46	ug/L			11/05/23 19:43	200
Trichlorofluoromethane	66	U	200	66	ug/L			11/05/23 19:43	200
Vinyl chloride	80	U	200	80	ug/L			11/05/23 19:43	200
Xylenes, Total	46	U	200	46	ug/L			11/05/23 19:43	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*60 - 124*		*11/05/23 19:43*	*200*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*		*11/05/23 19:43*	*200*
Dibromofluoromethane (Surr)	*101*		*70 - 130*		*11/05/23 19:43*	*200*
Toluene-d8 (Surr)	*101*		*70 - 130*		*11/05/23 19:43*	*200*

Client Sample ID: LC34-RW18C-20231025 — **Lab Sample ID: 670-29409-4**
Date Collected: 10/25/23 11:35 — **Matrix: Water**
Date Received: 10/27/23 11:46

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**41000**		500	100	ug/L			11/06/23 20:24	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*60 - 124*		*11/06/23 20:24*	*500*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*		*11/06/23 20:24*	*500*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*11/06/23 20:24*	*500*
Toluene-d8 (Surr)	*108*		*70 - 130*		*11/06/23 20:24*	*500*

Client Sample ID: LC34-RW19C-20231025 — **Lab Sample ID: 670-29409-5**
Date Collected: 10/25/23 11:40 — **Matrix: Water**
Date Received: 10/27/23 11:46

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	53	U	250	53	ug/L			11/05/23 20:07	250
1,1,2,2-Tetrachloroethane	100	U	250	100	ug/L			11/05/23 20:07	250
1,1,2-Trichloro-1,2,2-trifluoroethane	**190**	**I**	250	58	ug/L			11/05/23 20:07	250
1,1,2-Trichloroethane	80	U	250	80	ug/L			11/05/23 20:07	250
1,1-Dichloroethane	83	U	250	83	ug/L			11/05/23 20:07	250
1,1-Dichloroethene	83	U	250	83	ug/L			11/05/23 20:07	250
1,2,4-Trichlorobenzene	130	U	1300	130	ug/L			11/05/23 20:07	250
1,2-Dibromo-3-Chloropropane	450	U	1300	450	ug/L			11/05/23 20:07	250
1,2-Dibromoethane (EDB)	83	U	250	83	ug/L			11/05/23 20:07	250
1,2-Dichlorobenzene	78	U	250	78	ug/L			11/05/23 20:07	250
1,2-Dichloroethane	63	U	250	63	ug/L			11/05/23 20:07	250
1,2-Dichloropropane	55	U	250	55	ug/L			11/05/23 20:07	250
1,3-Dichlorobenzene	78	U	250	78	ug/L			11/05/23 20:07	250
1,4-Dichlorobenzene	78	U	250	78	ug/L			11/05/23 20:07	250
2-Butanone (MEK)	1600	U	2500	1600	ug/L			11/05/23 20:07	250
2-Hexanone	800	U	2500	800	ug/L			11/05/23 20:07	250
4-Methyl-2-pentanone	680	U	2500	680	ug/L			11/05/23 20:07	250
Acetone	930	U	2500	930	ug/L			11/05/23 20:07	250
Benzene	68	U	250	68	ug/L			11/05/23 20:07	250
Bromodichloromethane	63	U	250	63	ug/L			11/05/23 20:07	250
Bromoform	150	U	250	150	ug/L			11/05/23 20:07	250
Bromomethane	930	U	1300	930	ug/L			11/05/23 20:07	250
Carbon disulfide	110	U	500	110	ug/L			11/05/23 20:07	250
Carbon tetrachloride	75	U	250	75	ug/L			11/05/23 20:07	250
Chlorobenzene	38	U	250	38	ug/L			11/05/23 20:07	250
Chloroethane	1200	U	1300	1200	ug/L			11/05/23 20:07	250
Chloroform	68	U	250	68	ug/L			11/05/23 20:07	250
Chloromethane	140	U	250	140	ug/L			11/05/23 20:07	250
cis-1,2-Dichloroethene	**2300**		250	63	ug/L			11/05/23 20:07	250
cis-1,3-Dichloropropene	65	U	250	65	ug/L			11/05/23 20:07	250
Cyclohexane	70	U	250	70	ug/L			11/05/23 20:07	250
Dibromochloromethane	98	U	250	98	ug/L			11/05/23 20:07	250
Dichlorodifluoromethane	90	U	250	90	ug/L			11/05/23 20:07	250
Ethylbenzene	50	U	250	50	ug/L			11/05/23 20:07	250
Isopropylbenzene	65	U	250	65	ug/L			11/05/23 20:07	250

Client Sample ID: LC34-RW19C-20231025

Lab Sample ID: 670-29409-5

Date Collected: 10/25/23 11:40

Matrix: Water

Date Received: 10/27/23 11:46

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylenes	120	U	250	120	ug/L			11/05/23 20:07	250
Methyl acetate	800	U	1300	800	ug/L			11/05/23 20:07	250
Methyl tert-butyl ether	200	U	1300	200	ug/L			11/05/23 20:07	250
Methylene Chloride	800	U	1300	800	ug/L			11/05/23 20:07	250
o-Xylene	65	U	250	65	ug/L			11/05/23 20:07	250
Styrene	68	U	250	68	ug/L			11/05/23 20:07	250
Tetrachloroethene	88	U	250	88	ug/L			11/05/23 20:07	250
Toluene	63	U	250	63	ug/L			11/05/23 20:07	250
trans-1,2-Dichloroethene	85	U	250	85	ug/L			11/05/23 20:07	250
trans-1,3-Dichloropropene	58	U	250	58	ug/L			11/05/23 20:07	250
Trichlorofluoromethane	83	U	250	83	ug/L			11/05/23 20:07	250
Vinyl chloride	100	U	250	100	ug/L			11/05/23 20:07	250
Xylenes, Total	58	U	250	58	ug/L			11/05/23 20:07	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*60 - 124*		*11/05/23 20:07*	*250*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*11/05/23 20:07*	*250*
Dibromofluoromethane (Surr)	*93*		*70 - 130*		*11/05/23 20:07*	*250*
Toluene-d8 (Surr)	*101*		*70 - 130*		*11/05/23 20:07*	*250*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**260000**		2500	500	ug/L			11/06/23 21:21	2500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*60 - 124*		*11/06/23 21:21*	*2500*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*		*11/06/23 21:21*	*2500*
Dibromofluoromethane (Surr)	*106*		*70 - 130*		*11/06/23 21:21*	*2500*
Toluene-d8 (Surr)	*108*		*70 - 130*		*11/06/23 21:21*	*2500*

Client Sample ID: LC34-RW20C-20231025

Lab Sample ID: 670-29409-6

Date Collected: 10/25/23 11:45

Matrix: Water

Date Received: 10/27/23 11:46

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	11	U	50	11	ug/L			11/05/23 18:11	50
1,1,2,2-Tetrachloroethane	20	U	50	20	ug/L			11/05/23 18:11	50
1,1,2-Trichloro-1,2,2-trifluoroethane	**24**	**I**	50	12	ug/L			11/05/23 18:11	50
1,1,2-Trichloroethane	16	U	50	16	ug/L			11/05/23 18:11	50
1,1-Dichloroethane	17	U	50	17	ug/L			11/05/23 18:11	50
1,1-Dichloroethene	17	U	50	17	ug/L			11/05/23 18:11	50
1,2,4-Trichlorobenzene	27	U	250	27	ug/L			11/05/23 18:11	50
1,2-Dibromo-3-Chloropropane	90	U	250	90	ug/L			11/05/23 18:11	50
1,2-Dibromoethane (EDB)	17	U	50	17	ug/L			11/05/23 18:11	50
1,2-Dichlorobenzene	16	U	50	16	ug/L			11/05/23 18:11	50
1,2-Dichloroethane	13	U	50	13	ug/L			11/05/23 18:11	50
1,2-Dichloropropane	11	U	50	11	ug/L			11/05/23 18:11	50
1,3-Dichlorobenzene	16	U	50	16	ug/L			11/05/23 18:11	50
1,4-Dichlorobenzene	16	U	50	16	ug/L			11/05/23 18:11	50

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29409-1

Client Sample ID: LC34-RW20C-20231025

Lab Sample ID: 670-29409-6

Date Collected: 10/25/23 11:45

Matrix: Water

Date Received: 10/27/23 11:46

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	320	U	500	320	ug/L			11/05/23 18:11	50
2-Hexanone	160	U	500	160	ug/L			11/05/23 18:11	50
4-Methyl-2-pentanone	140	U	500	140	ug/L			11/05/23 18:11	50
Acetone	190	U	500	190	ug/L			11/05/23 18:11	50
Benzene	14	U	50	14	ug/L			11/05/23 18:11	50
Bromodichloromethane	13	U	50	13	ug/L			11/05/23 18:11	50
Bromoform	30	U	50	30	ug/L			11/05/23 18:11	50
Bromomethane	190	U	250	190	ug/L			11/05/23 18:11	50
Carbon disulfide	22	U	100	22	ug/L			11/05/23 18:11	50
Carbon tetrachloride	15	U	50	15	ug/L			11/05/23 18:11	50
Chlorobenzene	7.5	U	50	7.5	ug/L			11/05/23 18:11	50
Chloroethane	230	U	250	230	ug/L			11/05/23 18:11	50
Chloroform	14	U	50	14	ug/L			11/05/23 18:11	50
Chloromethane	27	U	50	27	ug/L			11/05/23 18:11	50
cis-1,2-Dichloroethene	**390**		50	13	ug/L			11/05/23 18:11	50
cis-1,3-Dichloropropene	13	U	50	13	ug/L			11/05/23 18:11	50
Cyclohexane	14	U	50	14	ug/L			11/05/23 18:11	50
Dibromochloromethane	20	U	50	20	ug/L			11/05/23 18:11	50
Dichlorodifluoromethane	18	U	50	18	ug/L			11/05/23 18:11	50
Ethylbenzene	10	U	50	10	ug/L			11/05/23 18:11	50
Isopropylbenzene	13	U	50	13	ug/L			11/05/23 18:11	50
m,p-Xylenes	25	U	50	25	ug/L			11/05/23 18:11	50
Methyl acetate	160	U	250	160	ug/L			11/05/23 18:11	50
Methyl tert-butyl ether	41	U	250	41	ug/L			11/05/23 18:11	50
Methylene Chloride	160	U	250	160	ug/L			11/05/23 18:11	50
o-Xylene	13	U	50	13	ug/L			11/05/23 18:11	50
Styrene	14	U	50	14	ug/L			11/05/23 18:11	50
Tetrachloroethene	18	U	50	18	ug/L			11/05/23 18:11	50
Toluene	13	U	50	13	ug/L			11/05/23 18:11	50
trans-1,2-Dichloroethene	17	U	50	17	ug/L			11/05/23 18:11	50
trans-1,3-Dichloropropene	12	U	50	12	ug/L			11/05/23 18:11	50
Trichloroethene	**4000**		50	10	ug/L			11/05/23 18:11	50
Trichlorofluoromethane	17	U	50	17	ug/L			11/05/23 18:11	50
Vinyl chloride	**26**	**I**	50	20	ug/L			11/05/23 18:11	50
Xylenes, Total	12	U	50	12	ug/L			11/05/23 18:11	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*60 - 124*		*11/05/23 18:11*	*50*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*11/05/23 18:11*	*50*
Dibromofluoromethane (Surr)	*100*		*70 - 130*		*11/05/23 18:11*	*50*
Toluene-d8 (Surr)	*102*		*70 - 130*		*11/05/23 18:11*	*50*

Client Sample ID: LC34-RW21D-20231025

Lab Sample ID: 670-29409-7

Date Collected: 10/25/23 11:50

Matrix: Water

Date Received: 10/27/23 11:46

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			11/06/23 15:46	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			11/06/23 15:46	1

Client Sample ID: LC34-RW21D-20231025
Date Collected: 10/25/23 11:50
Date Received: 10/27/23 11:46

Tetra Tech note: Wrong sample ID, this is sample LC34-GAC-20231025

Lab Sample ID: 670-29409-7
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			11/06/23 15:46	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			11/06/23 15:46	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			11/06/23 15:46	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			11/06/23 15:46	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			11/06/23 15:46	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			11/06/23 15:46	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			11/06/23 15:46	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/06/23 15:46	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			11/06/23 15:46	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			11/06/23 15:46	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/06/23 15:46	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/06/23 15:46	1
2-Butanone (MEK)	6.4	U J3	10	6.4	ug/L			11/06/23 15:46	1
2-Hexanone	3.2	U	10	3.2	ug/L			11/06/23 15:46	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			11/06/23 15:46	1
Acetone	3.7	U	10	3.7	ug/L			11/06/23 15:46	1
Benzene	0.27	U	1.0	0.27	ug/L			11/06/23 15:46	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			11/06/23 15:46	1
Bromoform	0.59	U	1.0	0.59	ug/L			11/06/23 15:46	1
Bromomethane	3.7	U	5.0	3.7	ug/L			11/06/23 15:46	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			11/06/23 15:46	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			11/06/23 15:46	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			11/06/23 15:46	1
Chloroethane	4.6	U J3	5.0	4.6	ug/L			11/06/23 15:46	1
Chloroform	0.27	U	1.0	0.27	ug/L			11/06/23 15:46	1
Chloromethane	0.54	U	1.0	0.54	ug/L			11/06/23 15:46	1
cis-1,2-Dichloroethene	**0.35**	**I**	1.0	0.25	ug/L			11/06/23 15:46	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			11/06/23 15:46	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			11/06/23 15:46	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			11/06/23 15:46	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			11/06/23 15:46	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			11/06/23 15:46	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			11/06/23 15:46	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			11/06/23 15:46	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			11/06/23 15:46	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			11/06/23 15:46	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			11/06/23 15:46	1
o-Xylene	0.26	U	1.0	0.26	ug/L			11/06/23 15:46	1
Styrene	0.27	U	1.0	0.27	ug/L			11/06/23 15:46	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			11/06/23 15:46	1
Toluene	0.25	U	1.0	0.25	ug/L			11/06/23 15:46	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			11/06/23 15:46	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			11/06/23 15:46	1
Trichloroethene	**0.32**	**I**	1.0	0.20	ug/L			11/06/23 15:46	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			11/06/23 15:46	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			11/06/23 15:46	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			11/06/23 15:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*60 - 124*		*11/06/23 15:46*	*1*

Client Sample ID: LC34-RW21D-20231025

Lab Sample ID: 670-29409-7

Date Collected: 10/25/23 11:50
Matrix: Water
Date Received: 10/27/23 11:46

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*		*11/06/23 15:46*	*1*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*11/06/23 15:46*	*1*
Toluene-d8 (Surr)	*109*		*70 - 130*		*11/06/23 15:46*	*1*

Client Sample ID: LC34-GAC-20231025

Lab Sample ID: 670-29409-8

Date Collected: 10/25/23 11:55
Matrix: Water
Date Received: 10/27/23 11:46

Tetra Tech note: Wrong sample ID, this is sample LC34-RW21D-20231025

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	11	U	50	11	ug/L			11/05/23 17:48	50
1,1,2,2-Tetrachloroethane	20	U	50	20	ug/L			11/05/23 17:48	50
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U	50	12	ug/L			11/05/23 17:48	50
1,1,2-Trichloroethane	16	U	50	16	ug/L			11/05/23 17:48	50
1,1-Dichloroethane	17	U	50	17	ug/L			11/05/23 17:48	50
1,1-Dichloroethene	17	U	50	17	ug/L			11/05/23 17:48	50
1,2,4-Trichlorobenzene	27	U	250	27	ug/L			11/05/23 17:48	50
1,2-Dibromo-3-Chloropropane	90	U	250	90	ug/L			11/05/23 17:48	50
1,2-Dibromoethane (EDB)	17	U	50	17	ug/L			11/05/23 17:48	50
1,2-Dichlorobenzene	16	U	50	16	ug/L			11/05/23 17:48	50
1,2-Dichloroethane	13	U	50	13	ug/L			11/05/23 17:48	50
1,2-Dichloropropane	11	U	50	11	ug/L			11/05/23 17:48	50
1,3-Dichlorobenzene	16	U	50	16	ug/L			11/05/23 17:48	50
1,4-Dichlorobenzene	16	U	50	16	ug/L			11/05/23 17:48	50
2-Butanone (MEK)	320	U	500	320	ug/L			11/05/23 17:48	50
2-Hexanone	160	U	500	160	ug/L			11/05/23 17:48	50
4-Methyl-2-pentanone	140	U	500	140	ug/L			11/05/23 17:48	50
Acetone	190	U	500	190	ug/L			11/05/23 17:48	50
Benzene	14	U	50	14	ug/L			11/05/23 17:48	50
Bromodichloromethane	13	U	50	13	ug/L			11/05/23 17:48	50
Bromoform	30	U	50	30	ug/L			11/05/23 17:48	50
Bromomethane	190	U	250	190	ug/L			11/05/23 17:48	50
Carbon disulfide	22	U	100	22	ug/L			11/05/23 17:48	50
Carbon tetrachloride	15	U	50	15	ug/L			11/05/23 17:48	50
Chlorobenzene	7.5	U	50	7.5	ug/L			11/05/23 17:48	50
Chloroethane	230	U	250	230	ug/L			11/05/23 17:48	50
Chloroform	14	U	50	14	ug/L			11/05/23 17:48	50
Chloromethane	27	U	50	27	ug/L			11/05/23 17:48	50
cis-1,2-Dichloroethene	**1600**		50	13	ug/L			11/05/23 17:48	50
cis-1,3-Dichloropropene	13	U	50	13	ug/L			11/05/23 17:48	50
Cyclohexane	14	U	50	14	ug/L			11/05/23 17:48	50
Dibromochloromethane	20	U	50	20	ug/L			11/05/23 17:48	50
Dichlorodifluoromethane	18	U	50	18	ug/L			11/05/23 17:48	50
Ethylbenzene	10	U	50	10	ug/L			11/05/23 17:48	50
Isopropylbenzene	13	U	50	13	ug/L			11/05/23 17:48	50
m,p-Xylenes	25	U	50	25	ug/L			11/05/23 17:48	50
Methyl acetate	160	U	250	160	ug/L			11/05/23 17:48	50
Methyl tert-butyl ether	41	U	250	41	ug/L			11/05/23 17:48	50
Methylene Chloride	160	U	250	160	ug/L			11/05/23 17:48	50

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29409-1

Client Sample ID: LC34-GAC-20231025
Date Collected: 10/25/23 11:55
Date Received: 10/27/23 11:46

Lab Sample ID: 670-29409-8
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	13	U	50	13	ug/L			11/05/23 17:48	50
Styrene	14	U	50	14	ug/L			11/05/23 17:48	50
Tetrachloroethene	18	U	50	18	ug/L			11/05/23 17:48	50
Toluene	13	U	50	13	ug/L			11/05/23 17:48	50
trans-1,2-Dichloroethene	17	U	50	17	ug/L			11/05/23 17:48	50
trans-1,3-Dichloropropene	12	U	50	12	ug/L			11/05/23 17:48	50
Trichloroethene	**9300**		50	10	ug/L			11/05/23 17:48	50
Trichlorofluoromethane	17	U	50	17	ug/L			11/05/23 17:48	50
Vinyl chloride	20	U	50	20	ug/L			11/05/23 17:48	50
Xylenes, Total	12	U	50	12	ug/L			11/05/23 17:48	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*60 - 124*		*11/05/23 17:48*	*50*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*11/05/23 17:48*	*50*
Dibromofluoromethane (Surr)	*90*		*70 - 130*		*11/05/23 17:48*	*50*
Toluene-d8 (Surr)	*101*		*70 - 130*		*11/05/23 17:48*	*50*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29409-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-124)	(70-130)	(70-130)	(70-130)
670-29409-1	LC34-AS1-20231025	89	100	92	102
670-29409-2	LC34-AS2-20231025	89	106	91	97
670-29409-3	LC34-RW17C-20231025	88	96	93	100
670-29409-3 - DL	LC34-RW17C-20231025	85	108	105	107
670-29409-4	LC34-RW18C-20231025	92	88	101	101
670-29409-4 - DL	LC34-RW18C-20231025	84	108	105	108
670-29409-5	LC34-RW19C-20231025	90	100	93	101
670-29409-5 - DL	LC34-RW19C-20231025	83	108	106	108
670-29409-6	LC34-RW20C-20231025	99	100	100	102
670-29409-7	LC34-RW21D-20231025	84	109	105	109
670-29409-8	LC34-GAC-20231025	90	101	90	101
LCS 680-806515/4	Lab Control Sample	98	113	99	96
LCS 680-806619/4	Lab Control Sample	85	120	94	104
LCSD 680-806515/5	Lab Control Sample Dup	98	126	94	91
LCSD 680-806619/5	Lab Control Sample Dup	84	118	95	104
MB 680-806515/9	Method Blank	91	100	92	109
MB 680-806619/9	Method Blank	82	110	102	108

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 680-806515/9
Matrix: Water
Analysis Batch: 806515

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			11/05/23 14:51	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			11/05/23 14:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			11/05/23 14:51	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			11/05/23 14:51	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			11/05/23 14:51	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			11/05/23 14:51	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			11/05/23 14:51	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			11/05/23 14:51	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			11/05/23 14:51	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/05/23 14:51	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			11/05/23 14:51	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			11/05/23 14:51	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/05/23 14:51	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/05/23 14:51	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			11/05/23 14:51	1
2-Hexanone	3.2	U	10	3.2	ug/L			11/05/23 14:51	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			11/05/23 14:51	1
Acetone	3.7	U	10	3.7	ug/L			11/05/23 14:51	1
Benzene	0.27	U	1.0	0.27	ug/L			11/05/23 14:51	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			11/05/23 14:51	1
Bromoform	0.59	U	1.0	0.59	ug/L			11/05/23 14:51	1
Bromomethane	3.7	U	5.0	3.7	ug/L			11/05/23 14:51	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			11/05/23 14:51	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			11/05/23 14:51	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			11/05/23 14:51	1
Chloroethane	4.6	U	5.0	4.6	ug/L			11/05/23 14:51	1
Chloroform	0.27	U	1.0	0.27	ug/L			11/05/23 14:51	1
Chloromethane	0.54	U	1.0	0.54	ug/L			11/05/23 14:51	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			11/05/23 14:51	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			11/05/23 14:51	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			11/05/23 14:51	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			11/05/23 14:51	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			11/05/23 14:51	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			11/05/23 14:51	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			11/05/23 14:51	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			11/05/23 14:51	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			11/05/23 14:51	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			11/05/23 14:51	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			11/05/23 14:51	1
o-Xylene	0.26	U	1.0	0.26	ug/L			11/05/23 14:51	1
Styrene	0.27	U	1.0	0.27	ug/L			11/05/23 14:51	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			11/05/23 14:51	1
Toluene	0.25	U	1.0	0.25	ug/L			11/05/23 14:51	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			11/05/23 14:51	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			11/05/23 14:51	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			11/05/23 14:51	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			11/05/23 14:51	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			11/05/23 14:51	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-806515/9
Matrix: Water
Analysis Batch: 806515

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	0.23	U	1.0	0.23	ug/L			11/05/23 14:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*60 - 124*		*11/05/23 14:51*	*1*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*11/05/23 14:51*	*1*
Dibromofluoromethane (Surr)	*92*		*70 - 130*		*11/05/23 14:51*	*1*
Toluene-d8 (Surr)	*109*		*70 - 130*		*11/05/23 14:51*	*1*

Lab Sample ID: LCS 680-806515/4
Matrix: Water
Analysis Batch: 806515

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	48.4		ug/L		97	70 - 130
1,1,2,2-Tetrachloroethane	50.0	61.0		ug/L		122	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	45.2		ug/L		90	63 - 141
1,1,2-Trichloroethane	50.0	50.4		ug/L		101	70 - 130
1,1-Dichloroethane	50.0	46.8		ug/L		94	70 - 130
1,1-Dichloroethene	50.0	49.2		ug/L		98	70 - 130
1,2,4-Trichlorobenzene	50.0	54.8		ug/L		110	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	47.7		ug/L		95	70 - 130
1,2-Dibromoethane (EDB)	50.0	49.3		ug/L		99	70 - 130
1,2-Dichlorobenzene	50.0	53.7		ug/L		107	70 - 130
1,2-Dichloroethane	50.0	50.4		ug/L		101	70 - 130
1,2-Dichloropropane	50.0	48.7		ug/L		97	70 - 130
1,3-Dichlorobenzene	50.0	55.8		ug/L		112	70 - 130
1,4-Dichlorobenzene	50.0	54.8		ug/L		110	70 - 130
2-Butanone (MEK)	250	260		ug/L		104	69 - 120
2-Hexanone	250	270		ug/L		108	70 - 130
4-Methyl-2-pentanone	250	253		ug/L		101	68 - 120
Acetone	250	270		ug/L		108	67 - 120
Benzene	50.0	49.6		ug/L		99	70 - 130
Bromodichloromethane	50.0	47.0		ug/L		94	70 - 130
Bromoform	50.0	53.7		ug/L		107	69 - 129
Bromomethane	50.0	33.7		ug/L		67	28 - 192
Carbon disulfide	50.0	52.2		ug/L		104	70 - 130
Carbon tetrachloride	50.0	50.4		ug/L		101	70 - 130
Chlorobenzene	50.0	52.8		ug/L		106	70 - 130
Chloroethane	50.0	58.4		ug/L		117	31 - 213
Chloroform	50.0	52.4		ug/L		105	70 - 130
Chloromethane	50.0	46.3		ug/L		93	59 - 127
cis-1,2-Dichloroethene	50.0	50.0		ug/L		100	70 - 130
cis-1,3-Dichloropropene	50.0	48.0		ug/L		96	70 - 130
Cyclohexane	50.0	52.1		ug/L		104	23 - 175
Dibromochloromethane	50.0	45.8		ug/L		92	70 - 130
Dichlorodifluoromethane	50.0	42.7		ug/L		85	70 - 130
Ethylbenzene	50.0	52.7		ug/L		105	70 - 130
Isopropylbenzene	50.0	53.2		ug/L		106	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-806515/4
Matrix: Water
Analysis Batch: 806515

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	52.9		ug/L		106	70 - 130
Methyl acetate	100	105		ug/L		105	67 - 120
Methyl tert-butyl ether	50.0	50.9		ug/L		102	70 - 130
Methylene Chloride	50.0	48.4		ug/L		97	70 - 130
o-Xylene	50.0	54.0		ug/L		108	70 - 130
Styrene	50.0	54.4		ug/L		109	70 - 130
Tetrachloroethene	50.0	50.0		ug/L		100	70 - 130
Toluene	50.0	48.0		ug/L		96	70 - 130
trans-1,2-Dichloroethene	50.0	50.6		ug/L		101	70 - 130
trans-1,3-Dichloropropene	50.0	45.7		ug/L		91	70 - 130
Trichloroethene	50.0	47.1		ug/L		94	70 - 130
Trichlorofluoromethane	50.0	35.8		ug/L		72	63 - 142
Vinyl chloride	50.0	41.5		ug/L		83	66 - 129
Xylenes, Total	100	107		ug/L		107	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*60 - 124*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
Dibromofluoromethane (Surr)	*99*		*70 - 130*
Toluene-d8 (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 680-806515/5
Matrix: Water
Analysis Batch: 806515

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	44.7		ug/L		89	70 - 130	8	30
1,1,2,2-Tetrachloroethane	50.0	61.9		ug/L		124	70 - 130	1	30
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	43.9		ug/L		88	63 - 141	3	30
1,1,2-Trichloroethane	50.0	50.2		ug/L		100	70 - 130	0	30
1,1-Dichloroethane	50.0	49.3		ug/L		99	70 - 130	5	30
1,1-Dichloroethene	50.0	48.1		ug/L		96	70 - 130	2	20
1,2,4-Trichlorobenzene	50.0	56.1		ug/L		112	70 - 130	2	30
1,2-Dibromo-3-Chloropropane	50.0	46.2		ug/L		92	70 - 130	3	30
1,2-Dibromoethane (EDB)	50.0	55.7		ug/L		111	70 - 130	12	30
1,2-Dichlorobenzene	50.0	54.3		ug/L		109	70 - 130	1	30
1,2-Dichloroethane	50.0	50.9		ug/L		102	70 - 130	1	50
1,2-Dichloropropane	50.0	48.6		ug/L		97	70 - 130	0	20
1,3-Dichlorobenzene	50.0	55.3		ug/L		111	70 - 130	1	30
1,4-Dichlorobenzene	50.0	54.8		ug/L		110	70 - 130	0	30
2-Butanone (MEK)	250	245		ug/L		98	69 - 120	6	30
2-Hexanone	250	262		ug/L		105	70 - 130	3	20
4-Methyl-2-pentanone	250	243		ug/L		97	68 - 120	4	30
Acetone	250	256		ug/L		102	67 - 120	5	30
Benzene	50.0	48.8		ug/L		98	70 - 130	2	30
Bromodichloromethane	50.0	49.1		ug/L		98	70 - 130	4	30
Bromoform	50.0	55.9		ug/L		112	69 - 129	4	30
Bromomethane	50.0	35.8		ug/L		72	28 - 192	6	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-806515/5
Matrix: Water
Analysis Batch: 806515

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon disulfide			50.0	51.6		ug/L		103	70 - 130	1	30
Carbon tetrachloride			50.0	46.5		ug/L		93	70 - 130	8	30
Chlorobenzene			50.0	52.8		ug/L		106	70 - 130	0	30
Chloroethane			50.0	55.0		ug/L		110	31 - 213	6	30
Chloroform			50.0	48.9		ug/L		98	70 - 130	7	30
Chloromethane			50.0	45.4		ug/L		91	59 - 127	2	30
cis-1,2-Dichloroethene			50.0	50.4		ug/L		101	70 - 130	1	30
cis-1,3-Dichloropropene			50.0	48.0		ug/L		96	70 - 130	0	20
Cyclohexane			50.0	47.9		ug/L		96	23 - 175	8	30
Dibromochloromethane			50.0	48.3		ug/L		97	70 - 130	6	30
Dichlorodifluoromethane			50.0	41.3		ug/L		83	70 - 130	3	40
Ethylbenzene			50.0	53.1		ug/L		106	70 - 130	1	20
Isopropylbenzene			50.0	55.1		ug/L		110	70 - 130	3	30
m,p-Xylenes			50.0	53.5		ug/L		107	70 - 130	1	30
Methyl acetate			100	99.0		ug/L		99	67 - 120	6	30
Methyl tert-butyl ether			50.0	51.3		ug/L		103	70 - 130	1	30
Methylene Chloride			50.0	47.6		ug/L		95	70 - 130	2	30
o-Xylene			50.0	54.8		ug/L		110	70 - 130	1	30
Styrene			50.0	55.4		ug/L		111	70 - 130	2	30
Tetrachloroethene			50.0	49.0		ug/L		98	70 - 130	2	30
Toluene			50.0	48.5		ug/L		97	70 - 130	1	30
trans-1,2-Dichloroethene			50.0	51.4		ug/L		103	70 - 130	2	30
trans-1,3-Dichloropropene			50.0	46.8		ug/L		94	70 - 130	2	30
Trichloroethene			50.0	46.4		ug/L		93	70 - 130	1	30
Trichlorofluoromethane			50.0	34.8		ug/L		70	63 - 142	3	30
Vinyl chloride			50.0	40.8		ug/L		82	66 - 129	2	30
Xylenes, Total			100	108		ug/L		108	70 - 130	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*60 - 124*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*
Dibromofluoromethane (Surr)	*94*		*70 - 130*
Toluene-d8 (Surr)	*91*		*70 - 130*

Lab Sample ID: MB 680-806619/9
Matrix: Water
Analysis Batch: 806619

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			11/06/23 14:24	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			11/06/23 14:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			11/06/23 14:24	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			11/06/23 14:24	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			11/06/23 14:24	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			11/06/23 14:24	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			11/06/23 14:24	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			11/06/23 14:24	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			11/06/23 14:24	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-806619/9
Matrix: Water
Analysis Batch: 806619

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/06/23 14:24	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			11/06/23 14:24	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			11/06/23 14:24	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/06/23 14:24	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/06/23 14:24	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			11/06/23 14:24	1
2-Hexanone	3.2	U	10	3.2	ug/L			11/06/23 14:24	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			11/06/23 14:24	1
Acetone	3.7	U	10	3.7	ug/L			11/06/23 14:24	1
Benzene	0.27	U	1.0	0.27	ug/L			11/06/23 14:24	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			11/06/23 14:24	1
Bromoform	0.59	U	1.0	0.59	ug/L			11/06/23 14:24	1
Bromomethane	3.7	U	5.0	3.7	ug/L			11/06/23 14:24	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			11/06/23 14:24	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			11/06/23 14:24	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			11/06/23 14:24	1
Chloroethane	4.6	U	5.0	4.6	ug/L			11/06/23 14:24	1
Chloroform	0.27	U	1.0	0.27	ug/L			11/06/23 14:24	1
Chloromethane	0.54	U	1.0	0.54	ug/L			11/06/23 14:24	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			11/06/23 14:24	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			11/06/23 14:24	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			11/06/23 14:24	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			11/06/23 14:24	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			11/06/23 14:24	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			11/06/23 14:24	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			11/06/23 14:24	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			11/06/23 14:24	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			11/06/23 14:24	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			11/06/23 14:24	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			11/06/23 14:24	1
o-Xylene	0.26	U	1.0	0.26	ug/L			11/06/23 14:24	1
Styrene	0.27	U	1.0	0.27	ug/L			11/06/23 14:24	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			11/06/23 14:24	1
Toluene	0.25	U	1.0	0.25	ug/L			11/06/23 14:24	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			11/06/23 14:24	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			11/06/23 14:24	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			11/06/23 14:24	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			11/06/23 14:24	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			11/06/23 14:24	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			11/06/23 14:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*60 - 124*		*11/06/23 14:24*	*1*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*		*11/06/23 14:24*	*1*
Dibromofluoromethane (Surr)	*102*		*70 - 130*		*11/06/23 14:24*	*1*
Toluene-d8 (Surr)	*108*		*70 - 130*		*11/06/23 14:24*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-806619/4
Matrix: Water
Analysis Batch: 806619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	47.8		ug/L		96	70 - 130
1,1,2,2-Tetrachloroethane	50.0	46.3		ug/L		93	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	41.4		ug/L		83	63 - 141
1,1,2-Trichloroethane	50.0	54.1		ug/L		108	70 - 130
1,1-Dichloroethane	50.0	52.2		ug/L		104	70 - 130
1,1-Dichloroethene	50.0	50.2		ug/L		100	70 - 130
1,2,4-Trichlorobenzene	50.0	41.7		ug/L		83	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	36.4		ug/L		73	70 - 130
1,2-Dibromoethane (EDB)	50.0	50.3		ug/L		101	70 - 130
1,2-Dichlorobenzene	50.0	51.7		ug/L		103	70 - 130
1,2-Dichloroethane	50.0	44.7		ug/L		89	70 - 130
1,2-Dichloropropane	50.0	54.3		ug/L		109	70 - 130
1,3-Dichlorobenzene	50.0	55.2		ug/L		110	70 - 130
1,4-Dichlorobenzene	50.0	52.6		ug/L		105	70 - 130
2-Butanone (MEK)	250	165	J3	ug/L		66	69 - 120
2-Hexanone	250	209		ug/L		83	70 - 130
4-Methyl-2-pentanone	250	253		ug/L		101	68 - 120
Acetone	250	204		ug/L		82	67 - 120
Benzene	50.0	53.2		ug/L		106	70 - 130
Bromodichloromethane	50.0	51.7		ug/L		103	70 - 130
Bromoform	50.0	39.2		ug/L		78	69 - 129
Bromomethane	50.0	64.2		ug/L		128	28 - 192
Carbon disulfide	50.0	52.0		ug/L		104	70 - 130
Carbon tetrachloride	50.0	46.8		ug/L		94	70 - 130
Chlorobenzene	50.0	52.6		ug/L		105	70 - 130
Chloroethane	50.0	179	J3	ug/L		357	31 - 213
Chloroform	50.0	46.0		ug/L		92	70 - 130
Chloromethane	50.0	46.4		ug/L		93	59 - 127
cis-1,2-Dichloroethene	50.0	51.1		ug/L		102	70 - 130
cis-1,3-Dichloropropene	50.0	49.4		ug/L		99	70 - 130
Cyclohexane	50.0	52.2		ug/L		104	23 - 175
Dibromochloromethane	50.0	51.5		ug/L		103	70 - 130
Dichlorodifluoromethane	50.0	48.0		ug/L		96	70 - 130
Ethylbenzene	50.0	57.0		ug/L		114	70 - 130
Isopropylbenzene	50.0	49.7		ug/L		99	70 - 130
m,p-Xylenes	50.0	59.8		ug/L		120	70 - 130
Methyl acetate	100	80.3		ug/L		80	67 - 120
Methyl tert-butyl ether	50.0	41.6		ug/L		83	70 - 130
Methylene Chloride	50.0	54.0		ug/L		108	70 - 130
o-Xylene	50.0	50.1		ug/L		100	70 - 130
Styrene	50.0	48.2		ug/L		96	70 - 130
Tetrachloroethene	50.0	52.1		ug/L		104	70 - 130
Toluene	50.0	57.3		ug/L		115	70 - 130
trans-1,2-Dichloroethene	50.0	52.0		ug/L		104	70 - 130
trans-1,3-Dichloropropene	50.0	46.0		ug/L		92	70 - 130
Trichloroethene	50.0	49.7		ug/L		99	70 - 130
Trichlorofluoromethane	50.0	39.4		ug/L		79	63 - 142
Vinyl chloride	50.0	51.6		ug/L		103	66 - 129

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-806619/4
Matrix: Water
Analysis Batch: 806619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Xylenes, Total			100	110		ug/L		110	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*85*		*60 - 124*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
Dibromofluoromethane (Surr)	*94*		*70 - 130*
Toluene-d8 (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 680-806619/5
Matrix: Water
Analysis Batch: 806619

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			50.0	46.9		ug/L		94	70 - 130	2	30
1,1,2,2-Tetrachloroethane			50.0	47.5		ug/L		95	70 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	41.7		ug/L		83	63 - 141	1	30
1,1,2-Trichloroethane			50.0	54.8		ug/L		110	70 - 130	1	30
1,1-Dichloroethane			50.0	50.3		ug/L		101	70 - 130	4	30
1,1-Dichloroethene			50.0	49.3		ug/L		99	70 - 130	2	20
1,2,4-Trichlorobenzene			50.0	45.5		ug/L		91	70 - 130	9	30
1,2-Dibromo-3-Chloropropane			50.0	39.1		ug/L		78	70 - 130	7	30
1,2-Dibromoethane (EDB)			50.0	51.6		ug/L		103	70 - 130	3	30
1,2-Dichlorobenzene			50.0	53.2		ug/L		106	70 - 130	3	30
1,2-Dichloroethane			50.0	45.0		ug/L		90	70 - 130	1	50
1,2-Dichloropropane			50.0	54.0		ug/L		108	70 - 130	1	20
1,3-Dichlorobenzene			50.0	56.1		ug/L		112	70 - 130	2	30
1,4-Dichlorobenzene			50.0	52.8		ug/L		106	70 - 130	0	30
2-Butanone (MEK)			250	171	J3	ug/L		68	69 - 120	4	30
2-Hexanone			250	202		ug/L		81	70 - 130	3	20
4-Methyl-2-pentanone			250	255		ug/L		102	68 - 120	1	30
Acetone			250	195		ug/L		78	67 - 120	5	30
Benzene			50.0	52.3		ug/L		105	70 - 130	2	30
Bromodichloromethane			50.0	51.3		ug/L		103	70 - 130	1	30
Bromoform			50.0	41.5		ug/L		83	69 - 129	6	30
Bromomethane			50.0	61.7		ug/L		123	28 - 192	4	30
Carbon disulfide			50.0	50.3		ug/L		101	70 - 130	3	30
Carbon tetrachloride			50.0	47.2		ug/L		94	70 - 130	1	30
Chlorobenzene			50.0	53.4		ug/L		107	70 - 130	2	30
Chloroethane			50.0	172	J3	ug/L		344	31 - 213	4	30
Chloroform			50.0	45.5		ug/L		91	70 - 130	1	30
Chloromethane			50.0	45.1		ug/L		90	59 - 127	3	30
cis-1,2-Dichloroethene			50.0	49.8		ug/L		100	70 - 130	2	30
cis-1,3-Dichloropropene			50.0	49.0		ug/L		98	70 - 130	1	20
Cyclohexane			50.0	51.1		ug/L		102	23 - 175	2	30
Dibromochloromethane			50.0	53.2		ug/L		106	70 - 130	3	30
Dichlorodifluoromethane			50.0	47.0		ug/L		94	70 - 130	2	40
Ethylbenzene			50.0	56.8		ug/L		114	70 - 130	0	20
Isopropylbenzene			50.0	50.2		ug/L		100	70 - 130	1	30

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29409-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-806619/5
Matrix: Water
Analysis Batch: 806619

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m,p-Xylenes			50.0	59.3		ug/L		119	70 - 130	1	30
Methyl acetate			100	82.7		ug/L		83	67 - 120	3	30
Methyl tert-butyl ether			50.0	42.7		ug/L		85	70 - 130	3	30
Methylene Chloride			50.0	53.0		ug/L		106	70 - 130	2	30
o-Xylene			50.0	50.1		ug/L		100	70 - 130	0	30
Styrene			50.0	49.0		ug/L		98	70 - 130	2	30
Tetrachloroethene			50.0	53.2		ug/L		106	70 - 130	2	30
Toluene			50.0	57.0		ug/L		114	70 - 130	1	30
trans-1,2-Dichloroethene			50.0	51.0		ug/L		102	70 - 130	2	30
trans-1,3-Dichloropropene			50.0	46.4		ug/L		93	70 - 130	1	30
Trichloroethene			50.0	50.1		ug/L		100	70 - 130	1	30
Trichlorofluoromethane			50.0	38.6		ug/L		77	63 - 142	2	30
Vinyl chloride			50.0	49.2		ug/L		98	66 - 129	5	30
Xylenes, Total			100	109		ug/L		109	70 - 130	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*84*		*60 - 124*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
Dibromofluoromethane (Surr)	*95*		*70 - 130*
Toluene-d8 (Surr)	*104*		*70 - 130*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29409-1

GC/MS VOA

Analysis Batch: 806515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-29409-1	LC34-AS1-20231025	Total/NA	Water	8260D	
670-29409-2	LC34-AS2-20231025	Total/NA	Water	8260D	
670-29409-3	LC34-RW17C-20231025	Total/NA	Water	8260D	
670-29409-4	LC34-RW18C-20231025	Total/NA	Water	8260D	
670-29409-5	LC34-RW19C-20231025	Total/NA	Water	8260D	
670-29409-6	LC34-RW20C-20231025	Total/NA	Water	8260D	
670-29409-8	LC34-GAC-20231025	Total/NA	Water	8260D	
MB 680-806515/9	Method Blank	Total/NA	Water	8260D	
LCS 680-806515/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-806515/5	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 806619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-29409-3 - DL	LC34-RW17C-20231025	Total/NA	Water	8260D	
670-29409-4 - DL	LC34-RW18C-20231025	Total/NA	Water	8260D	
670-29409-5 - DL	LC34-RW19C-20231025	Total/NA	Water	8260D	
670-29409-7	LC34-RW21D-20231025	Total/NA	Water	8260D	
MB 680-806619/9	Method Blank	Total/NA	Water	8260D	
LCS 680-806619/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-806619/5	Lab Control Sample Dup	Total/NA	Water	8260D	

Client Sample ID: LC34-AS1-20231025
Lab Sample ID: 670-29409-1

Date Collected: 10/25/23 11:20
Matrix: Water
Date Received: 10/27/23 11:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	806515	Y1S	EET SAV	11/05/23 17:02

Client Sample ID: LC34-AS2-20231025
Lab Sample ID: 670-29409-2

Date Collected: 10/25/23 11:25
Matrix: Water
Date Received: 10/27/23 11:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	806515	Y1S	EET SAV	11/05/23 16:39

Client Sample ID: LC34-RW17C-20231025
Lab Sample ID: 670-29409-3

Date Collected: 10/25/23 11:30
Matrix: Water
Date Received: 10/27/23 11:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		50	806515	Y1S	EET SAV	11/05/23 18:34
Total/NA	Analysis	8260D	DL	1000	806619	P1C	EET SAV	11/06/23 21:02

Client Sample ID: LC34-RW18C-20231025
Lab Sample ID: 670-29409-4

Date Collected: 10/25/23 11:35
Matrix: Water
Date Received: 10/27/23 11:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		200	806515	Y1S	EET SAV	11/05/23 19:43
Total/NA	Analysis	8260D	DL	500	806619	P1C	EET SAV	11/06/23 20:24

Client Sample ID: LC34-RW19C-20231025
Lab Sample ID: 670-29409-5

Date Collected: 10/25/23 11:40
Matrix: Water
Date Received: 10/27/23 11:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		250	806515	Y1S	EET SAV	11/05/23 20:07
Total/NA	Analysis	8260D	DL	2500	806619	P1C	EET SAV	11/06/23 21:21

Client Sample ID: LC34-RW20C-20231025
Lab Sample ID: 670-29409-6

Date Collected: 10/25/23 11:45
Matrix: Water
Date Received: 10/27/23 11:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		50	806515	Y1S	EET SAV	11/05/23 18:11

Client Sample ID: LC34-RW21D-20231025
Lab Sample ID: 670-29409-7

Date Collected: 10/25/23 11:50
Matrix: Water
Date Received: 10/27/23 11:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	806619	P1C	EET SAV	11/06/23 15:46

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-29409-1
Project/Site: NASA KSC LC34

Client Sample ID: LC34-GAC-20231025
Lab Sample ID: 670-29409-8
Date Collected: 10/25/23 11:55
Matrix: Water
Date Received: 10/27/23 11:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		50	806515	Y1S	EET SAV	11/05/23 17:48

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-29409-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Savannah

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E87052	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29409-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET SAV
5030B	Purge and Trap	SW846	EET SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29409-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-29409-1	LC34-AS1-20231025	Water	10/25/23 11:20	10/27/23 11:46
670-29409-2	LC34-AS2-20231025	Water	10/25/23 11:25	10/27/23 11:46
670-29409-3	LC34-RW17C-20231025	Water	10/25/23 11:30	10/27/23 11:46
670-29409-4	LC34-RW18C-20231025	Water	10/25/23 11:35	10/27/23 11:46
670-29409-5	LC34-RW19C-20231025	Water	10/25/23 11:40	10/27/23 11:46
670-29409-6	LC34-RW20C-20231025	Water	10/25/23 11:45	10/27/23 11:46
670-29409-7	LC34-RW21D-20231025	Water	10/25/23 11:50	10/27/23 11:46
670-29409-8	LC34-GAC-20231025	Water	10/25/23 11:55	10/27/23 11:46

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3809 | PAGE 1 OF 1

PROJECT NO: 112G08985	FACILITY: LC34	PROJECT MANAGER: Mark Jonnet	PHONE NUMBER: 412-921-8622	LABORATORY NAME AND CONTACT: Eurofins, Kaitlin Dylnicki
SAMPLERS (SIGNATURE): [signature] - Aaron Kupper TT		FIELD OPERATIONS LEADER: Dan Forester	PHONE NUMBER: 304-780-1426	ADDRESS: ~~481 Altamonte Springs Fl~~ 481 Newbury Port AVE.
		CARRIER/WAYBILL NUMBER: NA		CITY, STATE: Altamonte Springs Fl

STANDARD TAT ☑
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G

PRESERVATIVE USED: ACl/4°C

TYPE OF ANALYSIS: 8260D (MUD) NASA LC34 Custom List

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	8260D (MUD) NASA LC34 Custom List								COMMENTS
10/25	1120	LC34-AS1-20231025	AS1	NA	NA	GW	G	3	✓								
	1125	LC34-AS2-20231025	AS2						✓								
	1130	LC34-RW17C-20231025	RW17C						✓								
	1135	LC34-RW18C-20231025	RW18C						✓								
	1140	LC34-RW19C-20231025	RW19C						✓								
	1145	LC34-RW20C-20231025	RW20C						✓								
	1150	LC34-RW21D-20231025	RW21D						✓								
	1155	LC34-GAC-20231025	GAC						✓								

670-29409 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY [signature]	10-25-23	1650	1. RECEIVED BY [signature]	10/25/23	1650
2. RELINQUISHED BY [signature]	10/26/23	1400	2. RECEIVED BY MC	10/27/23	8:00
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS: 0.7/0.5

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R

596

FORM NO. TtNUS-001 11/10/2023

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki Kaitlin	Carrier Tracking No(s):	COC No: 670-17791 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP Florida		Job #: 670-29409-1
Address: 5102 LaRoche Avenue,	Due Date Requested: 11/8/2023			Preservation Codes:
City: Savannah	TAT Requested (days):			A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030B (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note
			Preservation Code:						
LC34-AS1-20231025 (670-29409-1)	10/25/23	11:20 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-AS2-20231025 (670-29409-2)	10/25/23	11:25 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW17C-20231025 (670-29409-3)	10/25/23	11:30 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW18C-20231025 (670-29409-4)	10/25/23	11:35 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW19C-20231025 (670-29409-5)	10/25/23	11:40 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW20C-20231025 (670-29409-6)	10/25/23	11:45 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-RW21D-20231025 (670-29409-7)	10/25/23	11:50 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP
LC34-GAC-20231025 (670-29409-8)	10/25/23	11:55 Eastern		Water			X	3	use caution site high in TCE. unp incase of HDSP

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I II, III, IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10/27 1600			10-28-23	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 9:38	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 2.1 - 2.4

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-17791.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 3 of 3
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP Florida		Job #: 670-29412-1
Address: 5102 LaRoche Avenue,	Due Date Requested: 11/8/2023			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34 DPT	Project #: 67001156			
Site:	SSOW#:			

Preservation Codes:

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	Di Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Y	Trizma
		Z	other (specify)

Other:

Analysis Requested

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030B (MOD) NASA LC34 Custom	8260D/5030B_UP (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
LC34-DPT1018-008.0-20231026 (670-29412-19)	9/26/23	10:45 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. UNP
LC34-DPT1018-013.0-20231026 (670-29412-20)	9/26/23	11:00 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. UNP
LC34-DPT1018- 018.0-20231026 (670-29412-21)	9/26/23	11 15 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. UNP
LC34-DPT1018-025.0-20231026 (670-29412-22)	9/26/23	11:30 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. UNP
LC34-DPT1018-034.0-20231026 (670-29412-23)	9/26/23	11:45 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. UNP
LC34-DPT1018-038.0-20231026 (670-29412-24)	9/26/23	12:10 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. UNP
LC34-DPT0984-043.0-20231026 (670-29412-25)	9/26/23	13:05 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. UNP
LC34-DPT0984-038.0-20231026 (670-29412-26)	9/26/23	13:20 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. UNP

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: DS	Date/Time: 10/27 1600	Company	Received by: TH	Date/Time: 10-28-23	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 4:58	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 2-1-24

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-29409-1

Login Number: 29409

List Number: 1

Creator: Clerisier, Meline

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-29409-1

Login Number: 29409
List Number: 2
Creator: Harley, Tynisha

List Source: Eurofins Savannah
List Creation: 10/28/23 01:21 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-29508-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

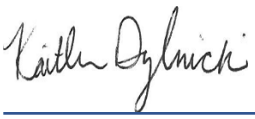
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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11/3/2023 2:07:20 PM

Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29508-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-29508-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-29508-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 10/28/2023 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.3°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-61173 recovered outside acceptance criteria, low biased, for 2-Butanone (MEK) and Carbon disulfide. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-61173 recovered above the upper control limit for Chloroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) for analytical batch 670-61173 recovered outside control limits for the following analytes: Chloroethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 670-61173 were outside control limits. Sample matrix is suspected as the cause of this failure; therefore, the data have been reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0044D2-110.0-20231027 (670-29508-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29508-1

Client Sample ID: LC34-IW0044D2-110.0-20231027 — Lab Sample ID: 670-29508-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1700		100	53	ug/L	100		8260D	Total/NA
Trichloroethene - DL	4000		100	89	ug/L	100		8260D	Total/NA
Vinyl chloride - DL	220		100	71	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-IW00162-110.0-20231027 — Lab Sample ID: 670-29508-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.6		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	2.5		1.0	0.89	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29508-1

Client Sample ID: LC34-IW0044D2-110.0-20231027
Date Collected: 10/27/23 09:30
Date Received: 10/28/23 08:00

Lab Sample ID: 670-29508-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			11/01/23 18:14	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			11/01/23 18:14	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			11/01/23 18:14	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			11/01/23 18:14	100
1,1-Dichloroethane	62	U	100	62	ug/L			11/01/23 18:14	100
1,1-Dichloroethene	94	U	100	94	ug/L			11/01/23 18:14	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			11/01/23 18:14	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			11/01/23 18:14	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			11/01/23 18:14	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			11/01/23 18:14	100
1,2-Dichloroethane	63	U	100	63	ug/L			11/01/23 18:14	100
1,2-Dichloropropane	80	U	100	80	ug/L			11/01/23 18:14	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			11/01/23 18:14	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			11/01/23 18:14	100
2-Butanone (MEK)	450	U	1000	450	ug/L			11/01/23 18:14	100
2-Hexanone	250	U	2000	250	ug/L			11/01/23 18:14	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			11/01/23 18:14	100
Acetone	2500	U	5000	2500	ug/L			11/01/23 18:14	100
Benzene	71	U	100	71	ug/L			11/01/23 18:14	100
Bromodichloromethane	52	U	100	52	ug/L			11/01/23 18:14	100
Bromoform	75	U	100	75	ug/L			11/01/23 18:14	100
Bromomethane	95	U	200	95	ug/L			11/01/23 18:14	100
Carbon disulfide	250	U	500	250	ug/L			11/01/23 18:14	100
Carbon tetrachloride	94	U	100	94	ug/L			11/01/23 18:14	100
Chlorobenzene	72	U	100	72	ug/L			11/01/23 18:14	100
Chloroethane	98	U	200	98	ug/L			11/01/23 18:14	100
Chloroform	80	U	500	80	ug/L			11/01/23 18:14	100
Chloromethane	82	U	200	82	ug/L			11/01/23 18:14	100
cis-1,2-Dichloroethene	**1700**		100	53	ug/L			11/01/23 18:14	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			11/01/23 18:14	100
Cyclohexane	93	U	500	93	ug/L			11/01/23 18:14	100
Dibromochloromethane	50	U	100	50	ug/L			11/01/23 18:14	100
Dichlorodifluoromethane	74	U	100	74	ug/L			11/01/23 18:14	100
Ethylbenzene	69	U	100	69	ug/L			11/01/23 18:14	100
Isopropylbenzene	67	U	200	67	ug/L			11/01/23 18:14	100
m,p-Xylenes	130	U	200	130	ug/L			11/01/23 18:14	100
Methyl acetate	95	U	1000	95	ug/L			11/01/23 18:14	100
Methyl tert-butyl ether	60	U	200	60	ug/L			11/01/23 18:14	100
Methylene Chloride	500	U	1000	500	ug/L			11/01/23 18:14	100
o-Xylene	53	U	100	53	ug/L			11/01/23 18:14	100
Styrene	61	U	100	61	ug/L			11/01/23 18:14	100
Tetrachloroethene	76	U	100	76	ug/L			11/01/23 18:14	100
Toluene	72	U	100	72	ug/L			11/01/23 18:14	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			11/01/23 18:14	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			11/01/23 18:14	100
Trichloroethene	**4000**		100	89	ug/L			11/01/23 18:14	100
Trichlorofluoromethane	94	U	100	94	ug/L			11/01/23 18:14	100
Vinyl chloride	**220**		100	71	ug/L			11/01/23 18:14	100
Xylenes, Total	130	U	200	130	ug/L			11/01/23 18:14	100

Client Sample ID: LC34-IW0044D2-110.0-20231027

Lab Sample ID: 670-29508-1

Date Collected: 10/27/23 09:30

Matrix: Water

Date Received: 10/28/23 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*41 - 142*		*11/01/23 18:14*	*100*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*11/01/23 18:14*	*100*
Toluene-d8 (Surr)	*96*		*40 - 146*		*11/01/23 18:14*	*100*

Client Sample ID: LC34-IW00162-110.0-20231027

Lab Sample ID: 670-29508-2

Date Collected: 10/27/23 10:00

Matrix: Water

Date Received: 10/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			11/01/23 13:12	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			11/01/23 13:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			11/01/23 13:12	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			11/01/23 13:12	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			11/01/23 13:12	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			11/01/23 13:12	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			11/01/23 13:12	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			11/01/23 13:12	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			11/01/23 13:12	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			11/01/23 13:12	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			11/01/23 13:12	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			11/01/23 13:12	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			11/01/23 13:12	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			11/01/23 13:12	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			11/01/23 13:12	1
2-Hexanone	2.5	U	20	2.5	ug/L			11/01/23 13:12	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			11/01/23 13:12	1
Acetone	25	U	50	25	ug/L			11/01/23 13:12	1
Benzene	0.71	U	1.0	0.71	ug/L			11/01/23 13:12	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			11/01/23 13:12	1
Bromoform	0.75	U	1.0	0.75	ug/L			11/01/23 13:12	1
Bromomethane	0.95	U	2.0	0.95	ug/L			11/01/23 13:12	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			11/01/23 13:12	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			11/01/23 13:12	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			11/01/23 13:12	1
Chloroethane	0.98	U	2.0	0.98	ug/L			11/01/23 13:12	1
Chloroform	0.80	U	5.0	0.80	ug/L			11/01/23 13:12	1
Chloromethane	0.82	U	2.0	0.82	ug/L			11/01/23 13:12	1
cis-1,2-Dichloroethene	**1.6**		1.0	0.53	ug/L			11/01/23 13:12	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			11/01/23 13:12	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			11/01/23 13:12	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			11/01/23 13:12	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			11/01/23 13:12	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			11/01/23 13:12	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			11/01/23 13:12	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			11/01/23 13:12	1
Methyl acetate	0.95	U	10	0.95	ug/L			11/01/23 13:12	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			11/01/23 13:12	1
Methylene Chloride	5.0	U	10	5.0	ug/L			11/01/23 13:12	1
o-Xylene	0.53	U	1.0	0.53	ug/L			11/01/23 13:12	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29508-1

Client Sample ID: LC34-IW00162-110.0-20231027
Date Collected: 10/27/23 10:00
Date Received: 10/28/23 08:00

Lab Sample ID: 670-29508-2
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			11/01/23 13:12	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			11/01/23 13:12	1
Toluene	0.72	U	1.0	0.72	ug/L			11/01/23 13:12	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			11/01/23 13:12	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			11/01/23 13:12	1
Trichloroethene	**2.5**		1.0	0.89	ug/L			11/01/23 13:12	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			11/01/23 13:12	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			11/01/23 13:12	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			11/01/23 13:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*41 - 142*		*11/01/23 13:12*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*11/01/23 13:12*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*11/01/23 13:12*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29508-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-29508-1 - DL	LC34-IW0044D2-110.0-2023102	87	99	96
670-29508-2	LC34-IW00162-110.0-20231027	88	100	100
680-242159-D-26 MS	Matrix Spike	85	99	100
680-242159-D-26 MSD	Matrix Spike Duplicate	87	99	102
LCS 670-61173/4	Lab Control Sample	87	98	100
MB 670-61173/7	Method Blank	87	100	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29508-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-61173/7
Matrix: Water
Analysis Batch: 61173

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			11/01/23 11:29	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			11/01/23 11:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			11/01/23 11:29	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			11/01/23 11:29	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			11/01/23 11:29	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			11/01/23 11:29	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			11/01/23 11:29	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			11/01/23 11:29	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			11/01/23 11:29	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			11/01/23 11:29	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			11/01/23 11:29	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			11/01/23 11:29	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			11/01/23 11:29	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			11/01/23 11:29	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			11/01/23 11:29	1
2-Hexanone	2.5	U	20	2.5	ug/L			11/01/23 11:29	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			11/01/23 11:29	1
Acetone	25	U	50	25	ug/L			11/01/23 11:29	1
Benzene	0.71	U	1.0	0.71	ug/L			11/01/23 11:29	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			11/01/23 11:29	1
Bromoform	0.75	U	1.0	0.75	ug/L			11/01/23 11:29	1
Bromomethane	0.95	U	2.0	0.95	ug/L			11/01/23 11:29	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			11/01/23 11:29	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			11/01/23 11:29	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			11/01/23 11:29	1
Chloroethane	0.98	U	2.0	0.98	ug/L			11/01/23 11:29	1
Chloroform	0.80	U	5.0	0.80	ug/L			11/01/23 11:29	1
Chloromethane	0.82	U	2.0	0.82	ug/L			11/01/23 11:29	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			11/01/23 11:29	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			11/01/23 11:29	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			11/01/23 11:29	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			11/01/23 11:29	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			11/01/23 11:29	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			11/01/23 11:29	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			11/01/23 11:29	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			11/01/23 11:29	1
Methyl acetate	0.95	U	10	0.95	ug/L			11/01/23 11:29	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			11/01/23 11:29	1
Methylene Chloride	5.0	U	10	5.0	ug/L			11/01/23 11:29	1
o-Xylene	0.53	U	1.0	0.53	ug/L			11/01/23 11:29	1
Styrene	0.61	U	1.0	0.61	ug/L			11/01/23 11:29	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			11/01/23 11:29	1
Toluene	0.72	U	1.0	0.72	ug/L			11/01/23 11:29	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			11/01/23 11:29	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			11/01/23 11:29	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			11/01/23 11:29	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			11/01/23 11:29	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			11/01/23 11:29	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-61173/7
Matrix: Water
Analysis Batch: 61173

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			11/01/23 11:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*41 - 142*		*11/01/23 11:29*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*11/01/23 11:29*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*11/01/23 11:29*	*1*

Lab Sample ID: LCS 670-61173/4
Matrix: Water
Analysis Batch: 61173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.9		ug/L		105	57 - 148
1,1,2,2-Tetrachloroethane	20.0	16.0		ug/L		80	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	23.4		ug/L		117	47 - 173
1,1,2-Trichloroethane	20.0	20.2		ug/L		101	57 - 141
1,1-Dichloroethane	20.0	19.2		ug/L		96	57 - 142
1,1-Dichloroethene	20.0	19.7		ug/L		99	47 - 139
1,2,4-Trichlorobenzene	20.0	19.6		ug/L		98	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	15.4		ug/L		77	48 - 150
1,2-Dibromoethane (EDB)	20.0	19.4		ug/L		97	57 - 140
1,2-Dichlorobenzene	20.0	18.4		ug/L		92	63 - 131
1,2-Dichloroethane	20.0	19.6		ug/L		98	50 - 156
1,2-Dichloropropane	20.0	19.7		ug/L		99	61 - 133
1,3-Dichlorobenzene	20.0	18.1		ug/L		91	66 - 129
1,4-Dichlorobenzene	20.0	17.9		ug/L		89	65 - 133
2-Butanone (MEK)	200	163		ug/L		81	10 - 180
2-Hexanone	200	185		ug/L		92	12 - 180
4-Methyl-2-pentanone	200	189		ug/L		95	19 - 180
Acetone	200	154		ug/L		77	10 - 180
Benzene	20.0	19.7		ug/L		98	56 - 136
Bromodichloromethane	20.0	20.5		ug/L		103	58 - 135
Bromoform	20.0	18.7		ug/L		94	46 - 148
Bromomethane	20.0	19.2		ug/L		96	10 - 173
Carbon disulfide	20.0	17.6		ug/L		88	43 - 153
Carbon tetrachloride	20.0	20.0		ug/L		100	54 - 156
Chlorobenzene	20.0	19.4		ug/L		97	51 - 139
Chloroethane	20.0	45.1	J3	ug/L		225	27 - 180
Chloroform	20.0	20.7		ug/L		103	58 - 139
Chloromethane	20.0	15.2		ug/L		76	33 - 154
cis-1,2-Dichloroethene	20.0	19.2		ug/L		96	56 - 128
cis-1,3-Dichloropropene	20.0	18.4		ug/L		92	64 - 128
Cyclohexane	20.0	19.8		ug/L		99	14 - 151
Dibromochloromethane	20.0	20.7		ug/L		104	50 - 140
Dichlorodifluoromethane	20.0	7.43		ug/L		37	10 - 180
Ethylbenzene	20.0	19.5		ug/L		97	63 - 133
Isopropylbenzene	20.0	17.6		ug/L		88	60 - 132
m,p-Xylenes	20.0	18.2		ug/L		91	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-61173/4
Matrix: Water
Analysis Batch: 61173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	36.4		ug/L		91	70 - 130
Methyl tert-butyl ether	20.0	17.9		ug/L		89	51 - 145
Methylene Chloride	20.0	19.0		ug/L		95	43 - 142
o-Xylene	20.0	18.3		ug/L		92	61 - 129
Styrene	20.0	18.3		ug/L		92	59 - 136
Tetrachloroethene	20.0	20.0		ug/L		100	60 - 147
Toluene	20.0	19.3		ug/L		97	64 - 131
trans-1,2-Dichloroethene	20.0	20.3		ug/L		102	54 - 134
trans-1,3-Dichloropropene	20.0	20.2		ug/L		101	65 - 149
Trichloroethene	20.0	20.0		ug/L		100	62 - 135
Trichlorofluoromethane	20.0	18.6		ug/L		93	56 - 155
Vinyl chloride	20.0	15.8		ug/L		79	20 - 167
Xylenes, Total	40.0	36.5		ug/L		91	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*87*		*41 - 142*
Dibromofluoromethane (Surr)	*98*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 680-242159-D-26 MS
Matrix: Water
Analysis Batch: 61173

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	160	U	4000	4300		ug/L		108	57 - 148
1,1,2,2-Tetrachloroethane	110	U	4000	3320		ug/L		83	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	4000	4930		ug/L		123	50 - 150
1,1,2-Trichloroethane	150	U	4000	3940		ug/L		98	57 - 141
1,1-Dichloroethane	120	U	4000	4040		ug/L		101	57 - 142
1,1-Dichloroethene	190	U	4000	4230		ug/L		106	49 - 139
1,2,4-Trichlorobenzene	140	U	4000	3930		ug/L		98	52 - 159
1,2-Dibromo-3-Chloropropane	190	U	4000	3310		ug/L		83	48 - 150
1,2-Dibromoethane (EDB)	160	U	4000	3820		ug/L		95	50 - 150
1,2-Dichlorobenzene	150	U	4000	3700		ug/L		92	63 - 131
1,2-Dichloroethane	130	U	4000	3930		ug/L		98	50 - 156
1,2-Dichloropropane	160	U	4000	4040		ug/L		101	61 - 133
1,3-Dichlorobenzene	150	U	4000	3710		ug/L		93	66 - 129
1,4-Dichlorobenzene	150	U	4000	3770		ug/L		94	65 - 133
2-Butanone (MEK)	900	U	40000	30800		ug/L		77	10 - 180
2-Hexanone	500	U	40000	35000		ug/L		87	12 - 180
4-Methyl-2-pentanone	1000	U	40000	36800		ug/L		92	19 - 180
Acetone	5000	U	40000	27900		ug/L		70	10 - 180
Benzene	390		4000	4510		ug/L		103	56 - 136
Bromodichloromethane	100	U	4000	4050		ug/L		101	58 - 135
Bromoform	150	U	4000	3820		ug/L		95	46 - 148
Bromomethane	190	U	4000	3740		ug/L		94	10 - 173
Carbon disulfide	500	U	4000	3660		ug/L		91	43 - 153
Carbon tetrachloride	190	U	4000	4300		ug/L		107	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 680-242159-D-26 MS
Matrix: Water
Analysis Batch: 61173

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	140	U	4000	3930		ug/L		98	51 - 139
Chloroethane	200	U J3	4000	10200	J3	ug/L		256	27 - 180
Chloroform	160	U	4000	4050		ug/L		101	59 - 139
Chloromethane	160	U	4000	2730		ug/L		68	33 - 154
cis-1,2-Dichloroethene	110	U	4000	3910		ug/L		98	56 - 128
cis-1,3-Dichloropropene	120	U	4000	3620		ug/L		91	64 - 128
Cyclohexane	190	U	4000	4360		ug/L		109	14 - 141
Dibromochloromethane	100	U	4000	4100		ug/L		103	50 - 150
Dichlorodifluoromethane	150	U	4000	1070		ug/L		27	10 - 180
Ethylbenzene	1000		4000	5120		ug/L		102	63 - 133
Isopropylbenzene	130	U	4000	3730		ug/L		93	60 - 132
m,p-Xylenes	2700		4000	6400		ug/L		92	64 - 133
Methyl acetate	190	U	8000	7410		ug/L		93	50 - 150
Methyl tert-butyl ether	120	U	4000	3480		ug/L		87	50 - 150
Methylene Chloride	1000	U	4000	3830		ug/L		96	43 - 142
o-Xylene	1500		4000	5190		ug/L		92	61 - 129
Styrene	120	U	4000	3730		ug/L		93	59 - 136
Tetrachloroethene	150	U	4000	4200		ug/L		105	60 - 147
Toluene	3000		4000	7150		ug/L		103	64 - 131
trans-1,2-Dichloroethene	150	U	4000	4250		ug/L		106	54 - 134
trans-1,3-Dichloropropene	150	U	4000	3900		ug/L		98	65 - 149
Trichloroethene	180	U	4000	4220		ug/L		106	62 - 135
Trichlorofluoromethane	190	U	4000	3710		ug/L		93	56 - 155
Vinyl chloride	140	U	4000	2950		ug/L		74	20 - 167
Xylenes, Total	4200		8000	11600		ug/L		92	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*85*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 680-242159-D-26 MSD
Matrix: Water
Analysis Batch: 61173

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	160	U	4000	4210		ug/L		105	57 - 148	2	25
1,1,2,2-Tetrachloroethane	110	U	4000	3200		ug/L		80	60 - 139	4	17
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	4000	4770		ug/L		119	50 - 150	3	30
1,1,2-Trichloroethane	150	U	4000	3880		ug/L		97	57 - 141	1	16
1,1-Dichloroethane	120	U	4000	3990		ug/L		100	57 - 142	1	24
1,1-Dichloroethene	190	U	4000	4220		ug/L		106	49 - 139	0	16
1,2,4-Trichlorobenzene	140	U	4000	3930		ug/L		98	52 - 159	0	24
1,2-Dibromo-3-Chloropropane	190	U	4000	2970		ug/L		74	48 - 150	11	21
1,2-Dibromoethane (EDB)	160	U	4000	3710		ug/L		93	50 - 150	3	16
1,2-Dichlorobenzene	150	U	4000	3760		ug/L		94	63 - 131	2	25
1,2-Dichloroethane	130	U	4000	3850		ug/L		96	50 - 156	2	18
1,2-Dichloropropane	160	U	4000	3970		ug/L		99	61 - 133	2	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 680-242159-D-26 MSD
Matrix: Water
Analysis Batch: 61173

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	150	U	4000	3750		ug/L		94	66 - 129	1	23
1,4-Dichlorobenzene	150	U	4000	3790		ug/L		95	65 - 133	1	23
2-Butanone (MEK)	900	U	40000	27700		ug/L		69	10 - 180	11	29
2-Hexanone	500	U	40000	31300		ug/L		78	12 - 180	11	28
4-Methyl-2-pentanone	1000	U	40000	33500		ug/L		84	19 - 180	9	24
Acetone	5000	U	40000	24500		ug/L		61	10 - 180	13	19
Benzene	390		4000	4480		ug/L		102	56 - 136	1	14
Bromodichloromethane	100	U	4000	4000		ug/L		100	58 - 135	1	19
Bromoform	150	U	4000	3700		ug/L		93	46 - 148	3	18
Bromomethane	190	U	4000	4070		ug/L		102	10 - 173	8	29
Carbon disulfide	500	U	4000	3560		ug/L		89	43 - 153	3	26
Carbon tetrachloride	190	U	4000	4250		ug/L		106	54 - 156	1	27
Chlorobenzene	140	U	4000	3980		ug/L		99	51 - 139	1	13
Chloroethane	200	U J3	4000	9610	J3	ug/L		240	27 - 180	6	22
Chloroform	160	U	4000	4000		ug/L		100	59 - 139	1	17
Chloromethane	160	U	4000	2950		ug/L		74	33 - 154	8	31
cis-1,2-Dichloroethene	110	U	4000	3870		ug/L		97	56 - 128	1	17
cis-1,3-Dichloropropene	120	U	4000	3610		ug/L		90	64 - 128	0	20
Cyclohexane	190	U	4000	4210		ug/L		105	14 - 141	3	30
Dibromochloromethane	100	U	4000	4060		ug/L		102	50 - 150	1	18
Dichlorodifluoromethane	150	U	4000	1100		ug/L		28	10 - 180	3	26
Ethylbenzene	1000		4000	5020		ug/L		100	63 - 133	2	18
Isopropylbenzene	130	U	4000	3750		ug/L		94	60 - 132	0	23
m,p-Xylenes	2700		4000	6420		ug/L		92	64 - 133	0	18
Methyl acetate	190	U	8000	6500		ug/L		81	50 - 150	13	30
Methyl tert-butyl ether	120	U	4000	3340		ug/L		83	50 - 150	4	22
Methylene Chloride	1000	U	4000	3850		ug/L		96	43 - 142	1	23
o-Xylene	1500		4000	5200		ug/L		92	61 - 129	0	16
Styrene	120	U	4000	3700		ug/L		92	59 - 136	1	32
Tetrachloroethene	150	U	4000	4180		ug/L		104	60 - 147	1	21
Toluene	3000		4000	7090		ug/L		101	64 - 131	1	16
trans-1,2-Dichloroethene	150	U	4000	4080		ug/L		102	54 - 134	4	20
trans-1,3-Dichloropropene	150	U	4000	3860		ug/L		96	65 - 149	1	17
Trichloroethene	180	U	4000	4230		ug/L		106	62 - 135	0	20
Trichlorofluoromethane	190	U	4000	3720		ug/L		93	56 - 155	0	22
Vinyl chloride	140	U	4000	2940		ug/L		74	20 - 167	0	24
Xylenes, Total	4200		8000	11600		ug/L		93	50 - 150	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*87*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29508-1

GC/MS VOA

Analysis Batch: 61173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-29508-1 - DL	LC34-IW0044D2-110.0-20231027	Total/NA	Water	8260D	
670-29508-2	LC34-IW00162-110.0-20231027	Total/NA	Water	8260D	
MB 670-61173/7	Method Blank	Total/NA	Water	8260D	
LCS 670-61173/4	Lab Control Sample	Total/NA	Water	8260D	
680-242159-D-26 MS	Matrix Spike	Total/NA	Water	8260D	
680-242159-D-26 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29508-1

Client Sample ID: LC34-IW0044D2-110.0-20231027

Lab Sample ID: 670-29508-1

Date Collected: 10/27/23 09:30

Matrix: Water

Date Received: 10/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	61173	KG	EET ORL	11/01/23 18:14

Client Sample ID: LC34-IW00162-110.0-20231027

Lab Sample ID: 670-29508-2

Date Collected: 10/27/23 10:00

Matrix: Water

Date Received: 10/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	61173	KG	EET ORL	11/01/23 13:12

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29508-1

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29508-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-29508-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-29508-1	LC34-IW0044D2-110.0-20231027	Water	10/27/23 09:30	10/28/23 08:00
670-29508-2	LC34-IW00162-110.0-20231027	Water	10/27/23 10:00	10/28/23 08:00

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information	Sampler: Cory O'Brien	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-7477-3213.8
Client Contact: Chuck Sorden	Phone: 321 591 7550	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 8 of 10
Company: Tetra Tech, Inc.	PWSID:			Job #:

Address: 1353 N Courtenay Pkwy, Suite S	Due Date Requested:
City: Merritt Island	TAT Requested (days): 3
State, Zip: FL, 32953	Compliance Project: Δ Yes Δ No
Phone: 412-921-8622(Tel)	PO #: 1179322
Email: Chuck.Sorden@tetratech.com	WO #: 112G08985
Project Name: NASA KSC LC34	Project #: 67001156
Site: LC34	SSOW#:

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D - (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
LC34-IW0044D2-110.0-20231027	10/27/23	0930	G	W	N	N	X		
LC34-IW0162-110.0-20231027	10/27/23	1000	G	W	N	N	X		

670-29508 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10/27/23 1015	Tetra Tech		10/27/23 1015	Tetra Tech
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10/27/23 1400	Tetra Tech		10/27 1700	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.5 / 1.3

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-29508-1

Login Number: 29508
List Number: 1
Creator: Clerisier, Meline

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
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JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-30234-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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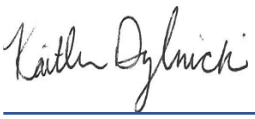
The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Definitions/Glossary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30234-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-30234-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-30234-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 11/10/2023 4:06 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.4°C

GC/MS VOA
Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 680-808314 recovered outside control limits for the following analytes: 1,2-Dichloropropane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 680-808297 recovered outside control limits for the following analytes: Chloromethane, Dichlorodifluoromethane and Vinyl chloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 680-808297 was outside the method criteria for the following analyte(s): 2-Butanone (MEK), Acetone, Bromomethane, Chloromethane, Dichlorodifluoromethane, Methyl acetate and Vinyl chloride. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for analytical batch 680-808297 recovered outside control limits for the following analyte(s): Carbon disulfide. Carbon disulfide has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.The results has been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30234-1

Client Sample ID: LC34-IW0044D2-110.0-20231110 — Lab Sample ID: 670-30234-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	9.3	I	20	3.0	ug/L	20		8260D	Total/NA
cis-1,2-Dichloroethene	1000		20	5.0	ug/L	20		8260D	Total/NA
trans-1,2-Dichloroethene	16	I	20	6.8	ug/L	20		8260D	Total/NA
Trichloroethene	1600		20	4.0	ug/L	20		8260D	Total/NA

Client Sample ID: LC34-IW0162-110.0-20231110 — Lab Sample ID: 670-30234-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.1		1.0	0.25	ug/L	1		8260D	Total/NA
Trichloroethene	2.0		1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride	1.5		1.0	0.40	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30234-1

Client Sample ID: LC34-IW0044D2-110.0-20231110

Lab Sample ID: 670-30234-1

Date Collected: 11/10/23 09:24

Matrix: Water

Date Received: 11/10/23 16:06

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.2	U	20	4.2	ug/L			11/15/23 16:00	20
1,1,2,2-Tetrachloroethane	8.0	U	20	8.0	ug/L			11/15/23 16:00	20
1,1,2-Trichloro-1,2,2-trifluoroethane	4.6	U	20	4.6	ug/L			11/15/23 16:00	20
1,1,2-Trichloroethane	6.4	U	20	6.4	ug/L			11/15/23 16:00	20
1,1-Dichloroethane	6.6	U	20	6.6	ug/L			11/15/23 16:00	20
1,1-Dichloroethene	6.6	U	20	6.6	ug/L			11/15/23 16:00	20
1,2,4-Trichlorobenzene	11	U	100	11	ug/L			11/15/23 16:00	20
1,2-Dibromo-3-Chloropropane	36	U	100	36	ug/L			11/15/23 16:00	20
1,2-Dibromoethane (EDB)	6.6	U	20	6.6	ug/L			11/15/23 16:00	20
1,2-Dichlorobenzene	6.2	U	20	6.2	ug/L			11/15/23 16:00	20
1,2-Dichloroethane	5.0	U	20	5.0	ug/L			11/15/23 16:00	20
1,2-Dichloropropane	4.4	U	20	4.4	ug/L			11/15/23 16:00	20
1,3-Dichlorobenzene	6.2	U	20	6.2	ug/L			11/15/23 16:00	20
1,4-Dichlorobenzene	6.2	U	20	6.2	ug/L			11/15/23 16:00	20
2-Butanone (MEK)	130	U	200	130	ug/L			11/15/23 16:00	20
2-Hexanone	64	U	200	64	ug/L			11/15/23 16:00	20
4-Methyl-2-pentanone	54	U	200	54	ug/L			11/15/23 16:00	20
Acetone	74	U	200	74	ug/L			11/15/23 16:00	20
Benzene	5.4	U	20	5.4	ug/L			11/15/23 16:00	20
Bromodichloromethane	5.0	U	20	5.0	ug/L			11/15/23 16:00	20
Bromoform	12	U	20	12	ug/L			11/15/23 16:00	20
Bromomethane	74	U	100	74	ug/L			11/15/23 16:00	20
Carbon disulfide	8.6	U J3	40	8.6	ug/L			11/15/23 16:00	20
Carbon tetrachloride	6.0	U	20	6.0	ug/L			11/15/23 16:00	20
Chlorobenzene	**9.3**	**I**	20	3.0	ug/L			11/15/23 16:00	20
Chloroethane	92	U	100	92	ug/L			11/15/23 16:00	20
Chloroform	5.4	U	20	5.4	ug/L			11/15/23 16:00	20
Chloromethane	11	U J3	20	11	ug/L			11/15/23 16:00	20
cis-1,2-Dichloroethene	**1000**		20	5.0	ug/L			11/15/23 16:00	20
cis-1,3-Dichloropropene	5.2	U	20	5.2	ug/L			11/15/23 16:00	20
Cyclohexane	5.6	U	20	5.6	ug/L			11/15/23 16:00	20
Dibromochloromethane	7.8	U	20	7.8	ug/L			11/15/23 16:00	20
Dichlorodifluoromethane	7.2	U J3	20	7.2	ug/L			11/15/23 16:00	20
Ethylbenzene	4.0	U	20	4.0	ug/L			11/15/23 16:00	20
Isopropylbenzene	5.2	U	20	5.2	ug/L			11/15/23 16:00	20
m,p-Xylenes	9.8	U	20	9.8	ug/L			11/15/23 16:00	20
Methyl acetate	64	U	100	64	ug/L			11/15/23 16:00	20
Methyl tert-butyl ether	16	U	100	16	ug/L			11/15/23 16:00	20
Methylene Chloride	64	U	100	64	ug/L			11/15/23 16:00	20
o-Xylene	5.2	U	20	5.2	ug/L			11/15/23 16:00	20
Styrene	5.4	U	20	5.4	ug/L			11/15/23 16:00	20
Tetrachloroethene	7.0	U	20	7.0	ug/L			11/15/23 16:00	20
Toluene	5.0	U	20	5.0	ug/L			11/15/23 16:00	20
trans-1,2-Dichloroethene	**16**	**I**	20	6.8	ug/L			11/15/23 16:00	20
trans-1,3-Dichloropropene	4.6	U	20	4.6	ug/L			11/15/23 16:00	20
Trichloroethene	**1600**		20	4.0	ug/L			11/15/23 16:00	20
Trichlorofluoromethane	6.6	U	20	6.6	ug/L			11/15/23 16:00	20
Vinyl chloride	8.0	U J3	20	8.0	ug/L			11/15/23 16:00	20
Xylenes, Total	4.6	U	20	4.6	ug/L			11/15/23 16:00	20

Client Sample ID: LC34-IW0044D2-110.0-20231110

Lab Sample ID: 670-30234-1

Date Collected: 11/10/23 09:24

Matrix: Water

Date Received: 11/10/23 16:06

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	75		60 - 124		11/15/23 16:00	20
4-Bromofluorobenzene (Surr)	90		70 - 130		11/15/23 16:00	20
Dibromofluoromethane (Surr)	100		70 - 130		11/15/23 16:00	20
Toluene-d8 (Surr)	109		70 - 130		11/15/23 16:00	20

Client Sample ID: LC34-IW0162-110.0-20231110

Lab Sample ID: 670-30234-2

Date Collected: 11/10/23 09:48

Matrix: Water

Date Received: 11/10/23 16:06

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			11/15/23 15:36	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			11/15/23 15:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			11/15/23 15:36	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			11/15/23 15:36	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			11/15/23 15:36	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			11/15/23 15:36	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			11/15/23 15:36	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			11/15/23 15:36	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			11/15/23 15:36	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/15/23 15:36	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			11/15/23 15:36	1
1,2-Dichloropropane	0.22	U J3	1.0	0.22	ug/L			11/15/23 15:36	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/15/23 15:36	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/15/23 15:36	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			11/15/23 15:36	1
2-Hexanone	3.2	U	10	3.2	ug/L			11/15/23 15:36	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			11/15/23 15:36	1
Acetone	3.7	U	10	3.7	ug/L			11/15/23 15:36	1
Benzene	0.27	U	1.0	0.27	ug/L			11/15/23 15:36	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			11/15/23 15:36	1
Bromoform	0.59	U	1.0	0.59	ug/L			11/15/23 15:36	1
Bromomethane	3.7	U	5.0	3.7	ug/L			11/15/23 15:36	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			11/15/23 15:36	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			11/15/23 15:36	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			11/15/23 15:36	1
Chloroethane	4.6	U	5.0	4.6	ug/L			11/15/23 15:36	1
Chloroform	0.27	U	1.0	0.27	ug/L			11/15/23 15:36	1
Chloromethane	0.54	U	1.0	0.54	ug/L			11/15/23 15:36	1
cis-1,2-Dichloroethene	**1.1**		1.0	0.25	ug/L			11/15/23 15:36	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			11/15/23 15:36	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			11/15/23 15:36	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			11/15/23 15:36	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			11/15/23 15:36	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			11/15/23 15:36	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			11/15/23 15:36	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			11/15/23 15:36	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			11/15/23 15:36	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			11/15/23 15:36	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			11/15/23 15:36	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30234-1

Client Sample ID: LC34-IW0162-110.0-20231110
Date Collected: 11/10/23 09:48
Date Received: 11/10/23 16:06

Lab Sample ID: 670-30234-2
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.26	U	1.0	0.26	ug/L			11/15/23 15:36	1
Styrene	0.27	U	1.0	0.27	ug/L			11/15/23 15:36	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			11/15/23 15:36	1
Toluene	0.25	U	1.0	0.25	ug/L			11/15/23 15:36	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			11/15/23 15:36	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			11/15/23 15:36	1
Trichloroethene	**2.0**		1.0	0.20	ug/L			11/15/23 15:36	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			11/15/23 15:36	1
Vinyl chloride	**1.5**		1.0	0.40	ug/L			11/15/23 15:36	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			11/15/23 15:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*60 - 124*		*11/15/23 15:36*	*1*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*		*11/15/23 15:36*	*1*
Dibromofluoromethane (Surr)	*87*		*70 - 130*		*11/15/23 15:36*	*1*
Toluene-d8 (Surr)	*110*		*70 - 130*		*11/15/23 15:36*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30234-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-124)	(70-130)	(70-130)	(70-130)
670-30234-1	LC34-IW0044D2-110.0-2023111	75	90	100	109
670-30234-2	LC34-IW0162-110.0-20231110	84	109	87	110
LCS 680-808297/7	Lab Control Sample	105	85	111	106
LCS 680-808314/6	Lab Control Sample	92	99	97	107
LCSD 680-808297/8	Lab Control Sample Dup	108	86	119	111
LCSD 680-808314/7	Lab Control Sample Dup	91	98	94	113
MB 680-808297/10	Method Blank	74	90	102	114
MB 680-808314/14	Method Blank	83	109	86	92

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 680-808297/10
Matrix: Water
Analysis Batch: 808297

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			11/15/23 12:11	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			11/15/23 12:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			11/15/23 12:11	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			11/15/23 12:11	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			11/15/23 12:11	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			11/15/23 12:11	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			11/15/23 12:11	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			11/15/23 12:11	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			11/15/23 12:11	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/15/23 12:11	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			11/15/23 12:11	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			11/15/23 12:11	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/15/23 12:11	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/15/23 12:11	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			11/15/23 12:11	1
2-Hexanone	3.2	U	10	3.2	ug/L			11/15/23 12:11	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			11/15/23 12:11	1
Acetone	3.7	U	10	3.7	ug/L			11/15/23 12:11	1
Benzene	0.27	U	1.0	0.27	ug/L			11/15/23 12:11	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			11/15/23 12:11	1
Bromoform	0.59	U	1.0	0.59	ug/L			11/15/23 12:11	1
Bromomethane	3.7	U	5.0	3.7	ug/L			11/15/23 12:11	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			11/15/23 12:11	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			11/15/23 12:11	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			11/15/23 12:11	1
Chloroethane	4.6	U	5.0	4.6	ug/L			11/15/23 12:11	1
Chloroform	0.27	U	1.0	0.27	ug/L			11/15/23 12:11	1
Chloromethane	0.54	U	1.0	0.54	ug/L			11/15/23 12:11	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			11/15/23 12:11	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			11/15/23 12:11	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			11/15/23 12:11	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			11/15/23 12:11	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			11/15/23 12:11	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			11/15/23 12:11	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			11/15/23 12:11	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			11/15/23 12:11	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			11/15/23 12:11	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			11/15/23 12:11	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			11/15/23 12:11	1
o-Xylene	0.26	U	1.0	0.26	ug/L			11/15/23 12:11	1
Styrene	0.27	U	1.0	0.27	ug/L			11/15/23 12:11	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			11/15/23 12:11	1
Toluene	0.25	U	1.0	0.25	ug/L			11/15/23 12:11	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			11/15/23 12:11	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			11/15/23 12:11	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			11/15/23 12:11	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			11/15/23 12:11	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			11/15/23 12:11	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-808297/10
Matrix: Water
Analysis Batch: 808297

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	0.23	U	1.0	0.23	ug/L			11/15/23 12:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*74*		*60 - 124*		*11/15/23 12:11*	*1*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*		*11/15/23 12:11*	*1*
Dibromofluoromethane (Surr)	*102*		*70 - 130*		*11/15/23 12:11*	*1*
Toluene-d8 (Surr)	*114*		*70 - 130*		*11/15/23 12:11*	*1*

Lab Sample ID: LCS 680-808297/7
Matrix: Water
Analysis Batch: 808297

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	48.6		ug/L		97	70 - 130
1,1,2,2-Tetrachloroethane	50.0	49.6		ug/L		99	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	41.0		ug/L		82	63 - 141
1,1,2-Trichloroethane	50.0	54.0		ug/L		108	70 - 130
1,1-Dichloroethane	50.0	44.5		ug/L		89	70 - 130
1,1-Dichloroethene	50.0	37.2		ug/L		74	70 - 130
1,2,4-Trichlorobenzene	50.0	58.2		ug/L		116	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	47.0		ug/L		94	70 - 130
1,2-Dibromoethane (EDB)	50.0	60.5		ug/L		121	70 - 130
1,2-Dichlorobenzene	50.0	47.5		ug/L		95	70 - 130
1,2-Dichloroethane	50.0	52.3		ug/L		105	70 - 130
1,2-Dichloropropane	50.0	47.1		ug/L		94	70 - 130
1,3-Dichlorobenzene	50.0	46.8		ug/L		94	70 - 130
1,4-Dichlorobenzene	50.0	46.4		ug/L		93	70 - 130
2-Butanone (MEK)	250	207		ug/L		83	69 - 120
2-Hexanone	250	215		ug/L		86	70 - 130
4-Methyl-2-pentanone	250	225		ug/L		90	68 - 120
Acetone	250	187		ug/L		75	67 - 120
Benzene	50.0	49.1		ug/L		98	70 - 130
Bromodichloromethane	50.0	57.0		ug/L		114	70 - 130
Bromoform	50.0	51.7		ug/L		103	69 - 129
Bromomethane	50.0	62.9		ug/L		126	28 - 192
Carbon disulfide	50.0	38.5		ug/L		77	70 - 130
Carbon tetrachloride	50.0	46.3		ug/L		93	70 - 130
Chlorobenzene	50.0	47.0		ug/L		94	70 - 130
Chloroethane	50.0	51.5		ug/L		103	31 - 213
Chloroform	50.0	50.7		ug/L		101	70 - 130
Chloromethane	50.0	70.7	J3	ug/L		141	59 - 127
cis-1,2-Dichloroethene	50.0	54.9		ug/L		110	70 - 130
cis-1,3-Dichloropropene	50.0	49.3		ug/L		99	70 - 130
Cyclohexane	50.0	44.7		ug/L		89	23 - 175
Dibromochloromethane	50.0	59.3		ug/L		119	70 - 130
Dichlorodifluoromethane	50.0	93.3	J3	ug/L		187	70 - 130
Ethylbenzene	50.0	46.4		ug/L		93	70 - 130
Isopropylbenzene	50.0	47.8		ug/L		96	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-808297/7
Matrix: Water
Analysis Batch: 808297

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	46.8		ug/L		94	70 - 130
Methyl acetate	100	81.0		ug/L		81	67 - 120
Methyl tert-butyl ether	50.0	54.5		ug/L		109	70 - 130
Methylene Chloride	50.0	46.2		ug/L		92	70 - 130
o-Xylene	50.0	47.7		ug/L		95	70 - 130
Styrene	50.0	48.8		ug/L		98	70 - 130
Tetrachloroethene	50.0	58.0		ug/L		116	70 - 130
Toluene	50.0	49.6		ug/L		99	70 - 130
trans-1,2-Dichloroethene	50.0	47.5		ug/L		95	70 - 130
trans-1,3-Dichloropropene	50.0	50.1		ug/L		100	70 - 130
Trichloroethene	50.0	56.8		ug/L		114	70 - 130
Trichlorofluoromethane	50.0	50.3		ug/L		101	63 - 142
Vinyl chloride	50.0	65.7	J3	ug/L		131	66 - 129
Xylenes, Total	100	94.5		ug/L		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 124*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*
Dibromofluoromethane (Surr)	*111*		*70 - 130*
Toluene-d8 (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 680-808297/8
Matrix: Water
Analysis Batch: 808297

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	48.4		ug/L		97	70 - 130	0	30
1,1,2,2-Tetrachloroethane	50.0	49.7		ug/L		99	70 - 130	0	30
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	43.0		ug/L		86	63 - 141	5	30
1,1,2-Trichloroethane	50.0	55.6		ug/L		111	70 - 130	3	30
1,1-Dichloroethane	50.0	47.4		ug/L		95	70 - 130	6	30
1,1-Dichloroethene	50.0	39.8		ug/L		80	70 - 130	7	20
1,2,4-Trichlorobenzene	50.0	55.5		ug/L		111	70 - 130	5	30
1,2-Dibromo-3-Chloropropane	50.0	48.2		ug/L		96	70 - 130	3	30
1,2-Dibromoethane (EDB)	50.0	60.8		ug/L		122	70 - 130	1	30
1,2-Dichlorobenzene	50.0	49.3		ug/L		99	70 - 130	4	30
1,2-Dichloroethane	50.0	53.7		ug/L		107	70 - 130	3	50
1,2-Dichloropropane	50.0	46.4		ug/L		93	70 - 130	1	20
1,3-Dichlorobenzene	50.0	47.2		ug/L		94	70 - 130	1	30
1,4-Dichlorobenzene	50.0	46.5		ug/L		93	70 - 130	0	30
2-Butanone (MEK)	250	214		ug/L		86	69 - 120	3	30
2-Hexanone	250	233		ug/L		93	70 - 130	8	20
4-Methyl-2-pentanone	250	235		ug/L		94	68 - 120	4	30
Acetone	250	206		ug/L		82	67 - 120	10	30
Benzene	50.0	49.7		ug/L		99	70 - 130	1	30
Bromodichloromethane	50.0	57.7		ug/L		115	70 - 130	1	30
Bromoform	50.0	50.7		ug/L		101	69 - 129	2	30
Bromomethane	50.0	68.2		ug/L		136	28 - 192	8	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-808297/8
Matrix: Water
Analysis Batch: 808297

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon disulfide			50.0	33.7	J3	ug/L		67	70 - 130	13	30
Carbon tetrachloride			50.0	48.0		ug/L		96	70 - 130	4	30
Chlorobenzene			50.0	48.4		ug/L		97	70 - 130	3	30
Chloroethane			50.0	56.5		ug/L		113	31 - 213	9	30
Chloroform			50.0	53.3		ug/L		107	70 - 130	5	30
Chloromethane			50.0	108	J3	ug/L		216	59 - 127	42	30
cis-1,2-Dichloroethene			50.0	58.9		ug/L		118	70 - 130	7	30
cis-1,3-Dichloropropene			50.0	49.3		ug/L		99	70 - 130	0	20
Cyclohexane			50.0	46.5		ug/L		93	23 - 175	4	30
Dibromochloromethane			50.0	59.9		ug/L		120	70 - 130	1	30
Dichlorodifluoromethane			50.0	95.6	J3	ug/L		191	70 - 130	2	40
Ethylbenzene			50.0	46.1		ug/L		92	70 - 130	1	20
Isopropylbenzene			50.0	48.7		ug/L		97	70 - 130	2	30
m,p-Xylenes			50.0	47.9		ug/L		96	70 - 130	2	30
Methyl acetate			100	86.1		ug/L		86	67 - 120	6	30
Methyl tert-butyl ether			50.0	54.2		ug/L		108	70 - 130	0	30
Methylene Chloride			50.0	49.2		ug/L		98	70 - 130	6	30
o-Xylene			50.0	49.3		ug/L		99	70 - 130	3	30
Styrene			50.0	50.0		ug/L		100	70 - 130	2	30
Tetrachloroethene			50.0	59.4		ug/L		119	70 - 130	2	30
Toluene			50.0	51.6		ug/L		103	70 - 130	4	30
trans-1,2-Dichloroethene			50.0	49.7		ug/L		99	70 - 130	4	30
trans-1,3-Dichloropropene			50.0	48.8		ug/L		98	70 - 130	3	30
Trichloroethene			50.0	55.6		ug/L		111	70 - 130	2	30
Trichlorofluoromethane			50.0	57.8		ug/L		116	63 - 142	14	30
Vinyl chloride			50.0	71.8	J3	ug/L		144	66 - 129	9	30
Xylenes, Total			100	97.2		ug/L		97	70 - 130	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*60 - 124*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*
Dibromofluoromethane (Surr)	*119*		*70 - 130*
Toluene-d8 (Surr)	*111*		*70 - 130*

Lab Sample ID: MB 680-808314/14
Matrix: Water
Analysis Batch: 808314

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			11/15/23 14:08	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			11/15/23 14:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			11/15/23 14:08	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			11/15/23 14:08	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			11/15/23 14:08	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			11/15/23 14:08	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			11/15/23 14:08	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			11/15/23 14:08	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			11/15/23 14:08	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-808314/14
Matrix: Water
Analysis Batch: 808314

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/15/23 14:08	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			11/15/23 14:08	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			11/15/23 14:08	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/15/23 14:08	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			11/15/23 14:08	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			11/15/23 14:08	1
2-Hexanone	3.2	U	10	3.2	ug/L			11/15/23 14:08	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			11/15/23 14:08	1
Acetone	3.7	U	10	3.7	ug/L			11/15/23 14:08	1
Benzene	0.27	U	1.0	0.27	ug/L			11/15/23 14:08	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			11/15/23 14:08	1
Bromoform	0.59	U	1.0	0.59	ug/L			11/15/23 14:08	1
Bromomethane	3.7	U	5.0	3.7	ug/L			11/15/23 14:08	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			11/15/23 14:08	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			11/15/23 14:08	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			11/15/23 14:08	1
Chloroethane	4.6	U	5.0	4.6	ug/L			11/15/23 14:08	1
Chloroform	0.27	U	1.0	0.27	ug/L			11/15/23 14:08	1
Chloromethane	0.54	U	1.0	0.54	ug/L			11/15/23 14:08	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			11/15/23 14:08	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			11/15/23 14:08	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			11/15/23 14:08	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			11/15/23 14:08	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			11/15/23 14:08	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			11/15/23 14:08	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			11/15/23 14:08	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			11/15/23 14:08	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			11/15/23 14:08	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			11/15/23 14:08	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			11/15/23 14:08	1
o-Xylene	0.26	U	1.0	0.26	ug/L			11/15/23 14:08	1
Styrene	0.27	U	1.0	0.27	ug/L			11/15/23 14:08	1
Tetrachloroethene	0.35	U	1.0	0.35	ug/L			11/15/23 14:08	1
Toluene	0.25	U	1.0	0.25	ug/L			11/15/23 14:08	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			11/15/23 14:08	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			11/15/23 14:08	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			11/15/23 14:08	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			11/15/23 14:08	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			11/15/23 14:08	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			11/15/23 14:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*60 - 124*		*11/15/23 14:08*	*1*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*		*11/15/23 14:08*	*1*
Dibromofluoromethane (Surr)	*86*		*70 - 130*		*11/15/23 14:08*	*1*
Toluene-d8 (Surr)	*92*		*70 - 130*		*11/15/23 14:08*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-808314/6
Matrix: Water
Analysis Batch: 808314

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	45.5		ug/L		91	70 - 130
1,1,2,2-Tetrachloroethane	50.0	47.3		ug/L		95	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	48.0		ug/L		96	63 - 141
1,1,2-Trichloroethane	50.0	55.5		ug/L		111	70 - 130
1,1-Dichloroethane	50.0	44.3		ug/L		89	70 - 130
1,1-Dichloroethene	50.0	48.3		ug/L		97	70 - 130
1,2,4-Trichlorobenzene	50.0	52.7		ug/L		105	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	50.7		ug/L		101	70 - 130
1,2-Dibromoethane (EDB)	50.0	54.4		ug/L		109	70 - 130
1,2-Dichlorobenzene	50.0	48.0		ug/L		96	70 - 130
1,2-Dichloroethane	50.0	47.2		ug/L		94	70 - 130
1,2-Dichloropropane	50.0	46.8		ug/L		94	70 - 130
1,3-Dichlorobenzene	50.0	48.2		ug/L		96	70 - 130
1,4-Dichlorobenzene	50.0	49.2		ug/L		98	70 - 130
2-Butanone (MEK)	250	208		ug/L		83	69 - 120
2-Hexanone	250	264		ug/L		106	70 - 130
4-Methyl-2-pentanone	250	265		ug/L		106	68 - 120
Acetone	250	223		ug/L		89	67 - 120
Benzene	50.0	45.7		ug/L		91	70 - 130
Bromodichloromethane	50.0	48.2		ug/L		96	70 - 130
Bromoform	50.0	54.0		ug/L		108	69 - 129
Bromomethane	50.0	57.5		ug/L		115	28 - 192
Carbon disulfide	50.0	44.6		ug/L		89	70 - 130
Carbon tetrachloride	50.0	47.2		ug/L		94	70 - 130
Chlorobenzene	50.0	50.1		ug/L		100	70 - 130
Chloroethane	50.0	54.8		ug/L		110	31 - 213
Chloroform	50.0	44.3		ug/L		89	70 - 130
Chloromethane	50.0	43.7		ug/L		87	59 - 127
cis-1,2-Dichloroethene	50.0	45.8		ug/L		92	70 - 130
cis-1,3-Dichloropropene	50.0	54.5		ug/L		109	70 - 130
Cyclohexane	50.0	43.2		ug/L		86	23 - 175
Dibromochloromethane	50.0	54.5		ug/L		109	70 - 130
Dichlorodifluoromethane	50.0	49.1		ug/L		98	70 - 130
Ethylbenzene	50.0	48.4		ug/L		97	70 - 130
Isopropylbenzene	50.0	50.4		ug/L		101	70 - 130
m,p-Xylenes	50.0	49.3		ug/L		99	70 - 130
Methyl acetate	100	85.1		ug/L		85	67 - 120
Methyl tert-butyl ether	50.0	43.0		ug/L		86	70 - 130
Methylene Chloride	50.0	44.1		ug/L		88	70 - 130
o-Xylene	50.0	50.4		ug/L		101	70 - 130
Styrene	50.0	49.1		ug/L		98	70 - 130
Tetrachloroethene	50.0	52.3		ug/L		105	70 - 130
Toluene	50.0	50.7		ug/L		101	70 - 130
trans-1,2-Dichloroethene	50.0	46.1		ug/L		92	70 - 130
trans-1,3-Dichloropropene	50.0	54.8		ug/L		110	70 - 130
Trichloroethene	50.0	48.7		ug/L		97	70 - 130
Trichlorofluoromethane	50.0	41.9		ug/L		84	63 - 142
Vinyl chloride	50.0	46.2		ug/L		92	66 - 129

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-808314/6
Matrix: Water
Analysis Batch: 808314

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Xylenes, Total			100	99.7		ug/L		100	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*60 - 124*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
Dibromofluoromethane (Surr)	*97*		*70 - 130*
Toluene-d8 (Surr)	*107*		*70 - 130*

Lab Sample ID: LCSD 680-808314/7
Matrix: Water
Analysis Batch: 808314

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			50.0	44.8		ug/L		90	70 - 130	1	30
1,1,2,2-Tetrachloroethane			50.0	45.8		ug/L		92	70 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	46.0		ug/L		92	63 - 141	4	30
1,1,2-Trichloroethane			50.0	56.4		ug/L		113	70 - 130	1	30
1,1-Dichloroethane			50.0	42.5		ug/L		85	70 - 130	4	30
1,1-Dichloroethene			50.0	45.2		ug/L		90	70 - 130	7	20
1,2,4-Trichlorobenzene			50.0	52.6		ug/L		105	70 - 130	0	30
1,2-Dibromo-3-Chloropropane			50.0	53.4		ug/L		107	70 - 130	5	30
1,2-Dibromoethane (EDB)			50.0	56.3		ug/L		113	70 - 130	3	30
1,2-Dichlorobenzene			50.0	48.2		ug/L		96	70 - 130	0	30
1,2-Dichloroethane			50.0	46.4		ug/L		93	70 - 130	2	50
1,2-Dichloropropane			50.0	58.7	J3	ug/L		117	70 - 130	23	20
1,3-Dichlorobenzene			50.0	48.1		ug/L		96	70 - 130	0	30
1,4-Dichlorobenzene			50.0	49.2		ug/L		98	70 - 130	0	30
2-Butanone (MEK)			250	230		ug/L		92	69 - 120	10	30
2-Hexanone			250	284		ug/L		114	70 - 130	7	20
4-Methyl-2-pentanone			250	300		ug/L		120	68 - 120	12	30
Acetone			250	224		ug/L		89	67 - 120	0	30
Benzene			50.0	45.5		ug/L		91	70 - 130	1	30
Bromodichloromethane			50.0	55.7		ug/L		111	70 - 130	14	30
Bromoform			50.0	50.6		ug/L		101	69 - 129	7	30
Bromomethane			50.0	54.8		ug/L		110	28 - 192	5	30
Carbon disulfide			50.0	43.1		ug/L		86	70 - 130	4	30
Carbon tetrachloride			50.0	46.8		ug/L		94	70 - 130	1	30
Chlorobenzene			50.0	49.4		ug/L		99	70 - 130	1	30
Chloroethane			50.0	52.0		ug/L		104	31 - 213	5	30
Chloroform			50.0	43.0		ug/L		86	70 - 130	3	30
Chloromethane			50.0	57.3		ug/L		115	59 - 127	27	30
cis-1,2-Dichloroethene			50.0	43.9		ug/L		88	70 - 130	4	30
cis-1,3-Dichloropropene			50.0	56.9		ug/L		114	70 - 130	4	20
Cyclohexane			50.0	42.6		ug/L		85	23 - 175	1	30
Dibromochloromethane			50.0	55.3		ug/L		111	70 - 130	2	30
Dichlorodifluoromethane			50.0	46.2		ug/L		92	70 - 130	6	40
Ethylbenzene			50.0	47.0		ug/L		94	70 - 130	3	20
Isopropylbenzene			50.0	46.0		ug/L		92	70 - 130	9	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-808314/7
Matrix: Water
Analysis Batch: 808314

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m,p-Xylenes			50.0	45.0		ug/L		90	70 - 130	9	30
Methyl acetate			100	87.3		ug/L		87	67 - 120	3	30
Methyl tert-butyl ether			50.0	45.4		ug/L		91	70 - 130	5	30
Methylene Chloride			50.0	42.7		ug/L		85	70 - 130	3	30
o-Xylene			50.0	46.1		ug/L		92	70 - 130	9	30
Styrene			50.0	44.9		ug/L		90	70 - 130	9	30
Tetrachloroethene			50.0	51.6		ug/L		103	70 - 130	1	30
Toluene			50.0	51.8		ug/L		104	70 - 130	2	30
trans-1,2-Dichloroethene			50.0	44.5		ug/L		89	70 - 130	3	30
trans-1,3-Dichloropropene			50.0	53.5		ug/L		107	70 - 130	3	30
Trichloroethene			50.0	50.8		ug/L		102	70 - 130	4	30
Trichlorofluoromethane			50.0	40.3		ug/L		81	63 - 142	4	30
Vinyl chloride			50.0	44.3		ug/L		89	66 - 129	4	30
Xylenes, Total			100	91.1		ug/L		91	70 - 130	9	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*60 - 124*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
Dibromofluoromethane (Surr)	*94*		*70 - 130*
Toluene-d8 (Surr)	*113*		*70 - 130*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30234-1

GC/MS VOA

Analysis Batch: 808297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-30234-1	LC34-IW0044D2-110.0-20231110	Total/NA	Water	8260D	
MB 680-808297/10	Method Blank	Total/NA	Water	8260D	
LCS 680-808297/7	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-808297/8	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 808314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-30234-2	LC34-IW0162-110.0-20231110	Total/NA	Water	8260D	
MB 680-808314/14	Method Blank	Total/NA	Water	8260D	
LCS 680-808314/6	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-808314/7	Lab Control Sample Dup	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30234-1

Client Sample ID: LC34-IW0044D2-110.0-20231110

Lab Sample ID: 670-30234-1

Date Collected: 11/10/23 09:24
Matrix: Water
Date Received: 11/10/23 16:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		20	808297	RPG	EET SAV	11/15/23 16:00

Client Sample ID: LC34-IW0162-110.0-20231110

Lab Sample ID: 670-30234-2

Date Collected: 11/10/23 09:48
Matrix: Water
Date Received: 11/10/23 16:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	808314	RPG	EET SAV	11/15/23 15:36

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30234-1

Laboratory: Eurofins Savannah

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E87052	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30234-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET SAV
5030B	Purge and Trap	SW846	EET SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30234-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-30234-1	LC34-IW0044D2-110.0-20231110	Water	11/10/23 09:24	11/10/23 16:06
670-30234-2	LC34-IW0162-110.0-20231110	Water	11/10/23 09:48	11/10/23 16:06

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information	Sampler: Cory O'Brien	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-7477-3213.10
Client Contact: Chuck Sorden	Phone: 832-846-2213	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin:	Page: Page 10 of 10 ~~1 of 1~~
Company: Tetra Tech, Inc.	PWSID:			Job #:

Address: 1353 N Courtenay Pkwy, Suite S	Due Date Requested:	Analysis Requested	Preservation Codes:
City: Merritt Island	TAT Requested (days): 3		A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
State, Zip: FL, 32953	Compliance Project: Δ Yes Δ No		
Phone: 412-921-8622(Tel)	PO #: [redacted]		Other:
Email: Chuck.Sorden@tetratech.com	WO #: 112G08985		
Project Name: NASA KSC LC34	Project #: 67001156		
Site:	SSOW#:		

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D - (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
LC34-IWO 144102-110.0-20231110	11/10/23	0924	G	W			X		
LC34-IWO 162-110.0-20231110	11/10/23	0944	G	W			X		
~~LC34-IWO~~ Co 11/9/23									

670-30234 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if sam… …ained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Cory O'Brien	11/10/23 1225	TT	Sarah Damphousse	11/10/23 1225	TT
Relinquished by: Sarah Damphousse	Date/Time: 11/10/23 1606	Company TT	Received by: MC	Date/Time: 11/10/23 1606	Company Eurofins
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.6 / 1.4

Ver: 06/08/2021

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-18787.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-30234-1
Address: 5102 LaRoche Avenue, ,	Due Date Requested: 11/14/2023			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030B (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LC34-IW0044D2-110.0-20231110 (670-30234-1)	11/10/23	09:24 Eastern		Water			X	2	use caution site high in TCE. unp incase of HDSP
LC34-IW0162-110.0-20231110 (670-30234-2)	11/10/23	09:48 Eastern		Water			X	2	use caution site high in TCE. unp incase of HDSP

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	11/14 1200			11/15/23 1007	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		3.2/3.5

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-30234-1

Login Number: 30234
List Number: 1
Creator: Bittle, David W

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-30234-1

Login Number: 30234
List Number: 2
Creator: Johnson, Corey M

List Source: Eurofins Savannah
List Creation: 11/15/23 12:29 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-30864-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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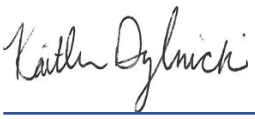

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Authorized for release by
Kaitlin Dylnicki, Project Manager
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Definitions/Glossary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30864-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
L	Off-scale high. Actual value is known to be greater than the value given.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-30864-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-30864-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 11/28/2023 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.5°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-65407 recovered outside acceptance criteria, low biased, for Bromomethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-65407 recovered above the upper control limit for 4-Methyl-2-pentanone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-65407/3).

Method 8260D: The following sample was reported with elevated reporting limits for all analytes: (CCVIS 670-65407/3). The sample was analyzed at a dilution based on screening results.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-65460 recovered above the upper control limit for Chloroethane, Dichlorodifluoromethane and Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-65460/3).

Method 8260D: The laboratory control sample (LCS) for analytical batch 670-65460 recovered outside control limits for the following analytes: Dichlorodifluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The matrix spike (MS) recoveries for analytical batch 670-65460 were outside control limits. Associated client samples were non-detect for this analyte; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-65460 recovered outside acceptance criteria, low biased, for 2-Hexanone. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-IW004402-110.0-20231127 (670-30864-2) and (670-30865-C-5). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-65634 recovered outside acceptance criteria, low

Job ID: 670-30864-1 (Continued)

Laboratory: Eurofins Orlando (Continued)

biased, for Bromomethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-65634 recovered above the upper control limit for Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-65634/3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30864-1

Client Sample ID: LC34-IW0162-110.0-20231127 — Lab Sample ID: 670-30864-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.0		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	1.8		1.0	0.89	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW004402-110.0-20231127 — Lab Sample ID: 670-30864-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	330		5.0	2.7	ug/L	5		8260D	Total/NA
trans-1,2-Dichloroethene - DL	5.5		5.0	3.7	ug/L	5		8260D	Total/NA
Trichloroethene - DL	750		10	8.9	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	220		5.0	3.6	ug/L	5		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30864-1

Client Sample ID: LC34-IW0162-110.0-20231127
Date Collected: 11/27/23 09:55
Date Received: 11/28/23 08:00

Lab Sample ID: 670-30864-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			11/30/23 19:58	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			11/30/23 19:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			11/30/23 19:58	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			11/30/23 19:58	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			11/30/23 19:58	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			11/30/23 19:58	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			11/30/23 19:58	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			11/30/23 19:58	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			11/30/23 19:58	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			11/30/23 19:58	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			11/30/23 19:58	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			11/30/23 19:58	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			11/30/23 19:58	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			11/30/23 19:58	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			11/30/23 19:58	1
2-Hexanone	2.5	U	20	2.5	ug/L			11/30/23 19:58	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			11/30/23 19:58	1
Acetone	25	U	50	25	ug/L			11/30/23 19:58	1
Benzene	0.71	U	1.0	0.71	ug/L			11/30/23 19:58	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			11/30/23 19:58	1
Bromoform	0.75	U	1.0	0.75	ug/L			11/30/23 19:58	1
Bromomethane	0.95	U	2.0	0.95	ug/L			11/30/23 19:58	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			11/30/23 19:58	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			11/30/23 19:58	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			11/30/23 19:58	1
Chloroethane	0.98	U	2.0	0.98	ug/L			11/30/23 19:58	1
Chloroform	0.80	U	5.0	0.80	ug/L			11/30/23 19:58	1
Chloromethane	0.82	U	2.0	0.82	ug/L			11/30/23 19:58	1
cis-1,2-Dichloroethene	**1.0**		1.0	0.53	ug/L			11/30/23 19:58	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			11/30/23 19:58	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			11/30/23 19:58	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			11/30/23 19:58	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			11/30/23 19:58	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			11/30/23 19:58	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			11/30/23 19:58	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			11/30/23 19:58	1
Methyl acetate	0.95	U	10	0.95	ug/L			11/30/23 19:58	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			11/30/23 19:58	1
Methylene Chloride	5.0	U	10	5.0	ug/L			11/30/23 19:58	1
o-Xylene	0.53	U	1.0	0.53	ug/L			11/30/23 19:58	1
Styrene	0.61	U	1.0	0.61	ug/L			11/30/23 19:58	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			11/30/23 19:58	1
Toluene	0.72	U	1.0	0.72	ug/L			11/30/23 19:58	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			11/30/23 19:58	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			11/30/23 19:58	1
Trichloroethene	**1.8**		1.0	0.89	ug/L			11/30/23 19:58	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			11/30/23 19:58	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			11/30/23 19:58	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			11/30/23 19:58	1

Client Sample ID: LC34-IW0162-110.0-20231127

Lab Sample ID: 670-30864-1

Date Collected: 11/27/23 09:55

Matrix: Water

Date Received: 11/28/23 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*11/30/23 19:58*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*11/30/23 19:58*	*1*
Toluene-d8 (Surr)	*102*		*40 - 146*		*11/30/23 19:58*	*1*

Client Sample ID: LC34-IW004402-110.0-20231127

Lab Sample ID: 670-30864-2

Date Collected: 11/27/23 10:23

Matrix: Water

Date Received: 11/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			11/30/23 20:19	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			11/30/23 20:19	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			11/30/23 20:19	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			11/30/23 20:19	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			11/30/23 20:19	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			11/30/23 20:19	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			11/30/23 20:19	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			11/30/23 20:19	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			11/30/23 20:19	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			11/30/23 20:19	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			11/30/23 20:19	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			11/30/23 20:19	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			11/30/23 20:19	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			11/30/23 20:19	5
2-Butanone (MEK)	23	U	50	23	ug/L			11/30/23 20:19	5
2-Hexanone	13	U	100	13	ug/L			11/30/23 20:19	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			11/30/23 20:19	5
Acetone	130	U	250	130	ug/L			11/30/23 20:19	5
Benzene	3.6	U	5.0	3.6	ug/L			11/30/23 20:19	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			11/30/23 20:19	5
Bromoform	3.8	U	5.0	3.8	ug/L			11/30/23 20:19	5
Bromomethane	4.8	U	10	4.8	ug/L			11/30/23 20:19	5
Carbon disulfide	13	U	25	13	ug/L			11/30/23 20:19	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			11/30/23 20:19	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			11/30/23 20:19	5
Chloroethane	4.9	U	10	4.9	ug/L			11/30/23 20:19	5
Chloroform	4.0	U	25	4.0	ug/L			11/30/23 20:19	5
Chloromethane	4.1	U	10	4.1	ug/L			11/30/23 20:19	5
cis-1,2-Dichloroethene	**330**		5.0	2.7	ug/L			11/30/23 20:19	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			11/30/23 20:19	5
Cyclohexane	4.7	U	25	4.7	ug/L			11/30/23 20:19	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			11/30/23 20:19	5
Dichlorodifluoromethane	3.7	U J3	5.0	3.7	ug/L			11/30/23 20:19	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			11/30/23 20:19	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			11/30/23 20:19	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			11/30/23 20:19	5
Methyl acetate	4.8	U	50	4.8	ug/L			11/30/23 20:19	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			11/30/23 20:19	5
Methylene Chloride	25	U	50	25	ug/L			11/30/23 20:19	5
o-Xylene	2.7	U	5.0	2.7	ug/L			11/30/23 20:19	5

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30864-1

Client Sample ID: LC34-IW004402-110.0-20231127
Date Collected: 11/27/23 10:23
Date Received: 11/28/23 08:00

Lab Sample ID: 670-30864-2
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	3.1	U	5.0	3.1	ug/L			11/30/23 20:19	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			11/30/23 20:19	5
Toluene	3.6	U	5.0	3.6	ug/L			11/30/23 20:19	5
trans-1,2-Dichloroethene	**5.5**		5.0	3.7	ug/L			11/30/23 20:19	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			11/30/23 20:19	5
Trichloroethene	**750**		10	8.9	ug/L			12/01/23 13:54	10
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			11/30/23 20:19	5
Vinyl chloride	**220**		5.0	3.6	ug/L			11/30/23 20:19	5
Xylenes, Total	6.5	U	10	6.5	ug/L			11/30/23 20:19	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*11/30/23 20:19*	*5*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*12/01/23 13:54*	*10*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*11/30/23 20:19*	*5*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*12/01/23 13:54*	*10*
Toluene-d8 (Surr)	*102*		*40 - 146*		*11/30/23 20:19*	*5*
Toluene-d8 (Surr)	*101*		*40 - 146*		*12/01/23 13:54*	*10*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30864-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-30864-1	LC34-IW0162-110.0-20231127	96	108	102
670-30864-2 - DL	LC34-IW004402-110.0-20231127	99	109	102
670-30864-2 - DL	LC34-IW004402-110.0-20231127	96	102	101
670-30865-C-5 MS	Matrix Spike	93	102	100
670-30865-C-5 MSD	Matrix Spike Duplicate	95	99	100
670-30949-C-1 DU	Duplicate	96	108	100
670-30949-C-2 MS	Matrix Spike	93	102	97
LCS 670-65460/4	Lab Control Sample	97	100	98
LCS 670-65634/4	Lab Control Sample	95	101	100
MB 670-65460/7	Method Blank	95	106	100
MB 670-65634/7	Method Blank	96	101	100

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-65460/7
Matrix: Water
Analysis Batch: 65460

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			11/30/23 14:27	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			11/30/23 14:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			11/30/23 14:27	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			11/30/23 14:27	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			11/30/23 14:27	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			11/30/23 14:27	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			11/30/23 14:27	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			11/30/23 14:27	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			11/30/23 14:27	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			11/30/23 14:27	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			11/30/23 14:27	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			11/30/23 14:27	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			11/30/23 14:27	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			11/30/23 14:27	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			11/30/23 14:27	1
2-Hexanone	2.5	U	20	2.5	ug/L			11/30/23 14:27	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			11/30/23 14:27	1
Acetone	25	U	50	25	ug/L			11/30/23 14:27	1
Benzene	0.71	U	1.0	0.71	ug/L			11/30/23 14:27	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			11/30/23 14:27	1
Bromoform	0.75	U	1.0	0.75	ug/L			11/30/23 14:27	1
Bromomethane	0.95	U	2.0	0.95	ug/L			11/30/23 14:27	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			11/30/23 14:27	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			11/30/23 14:27	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			11/30/23 14:27	1
Chloroethane	0.98	U	2.0	0.98	ug/L			11/30/23 14:27	1
Chloroform	0.80	U	5.0	0.80	ug/L			11/30/23 14:27	1
Chloromethane	0.82	U	2.0	0.82	ug/L			11/30/23 14:27	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			11/30/23 14:27	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			11/30/23 14:27	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			11/30/23 14:27	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			11/30/23 14:27	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			11/30/23 14:27	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			11/30/23 14:27	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			11/30/23 14:27	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			11/30/23 14:27	1
Methyl acetate	0.95	U	10	0.95	ug/L			11/30/23 14:27	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			11/30/23 14:27	1
Methylene Chloride	5.0	U	10	5.0	ug/L			11/30/23 14:27	1
o-Xylene	0.53	U	1.0	0.53	ug/L			11/30/23 14:27	1
Styrene	0.61	U	1.0	0.61	ug/L			11/30/23 14:27	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			11/30/23 14:27	1
Toluene	0.72	U	1.0	0.72	ug/L			11/30/23 14:27	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			11/30/23 14:27	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			11/30/23 14:27	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			11/30/23 14:27	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			11/30/23 14:27	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			11/30/23 14:27	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-65460/7
Matrix: Water
Analysis Batch: 65460

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			11/30/23 14:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*11/30/23 14:27*	*1*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*11/30/23 14:27*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*11/30/23 14:27*	*1*

Lab Sample ID: LCS 670-65460/4
Matrix: Water
Analysis Batch: 65460

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	19.7		ug/L		99	57 - 148
1,1,2,2-Tetrachloroethane	20.0	22.4		ug/L		112	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	21.0		ug/L		105	47 - 173
1,1,2-Trichloroethane	20.0	19.2		ug/L		96	57 - 141
1,1-Dichloroethane	20.0	19.5		ug/L		98	57 - 142
1,1-Dichloroethene	20.0	19.5		ug/L		98	47 - 139
1,2,4-Trichlorobenzene	20.0	19.4		ug/L		97	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	16.5		ug/L		83	48 - 150
1,2-Dibromoethane (EDB)	20.0	18.1		ug/L		91	57 - 140
1,2-Dichlorobenzene	20.0	20.1		ug/L		100	63 - 131
1,2-Dichloroethane	20.0	20.6		ug/L		103	50 - 156
1,2-Dichloropropane	20.0	18.1		ug/L		91	61 - 133
1,3-Dichlorobenzene	20.0	19.7		ug/L		99	66 - 129
1,4-Dichlorobenzene	20.0	20.6		ug/L		103	65 - 133
2-Butanone (MEK)	200	160		ug/L		80	10 - 180
2-Hexanone	200	155		ug/L		77	12 - 180
4-Methyl-2-pentanone	200	160		ug/L		80	19 - 180
Acetone	200	172		ug/L		86	10 - 180
Benzene	20.0	19.1		ug/L		96	56 - 136
Bromodichloromethane	20.0	19.0		ug/L		95	58 - 135
Bromoform	20.0	19.2		ug/L		96	46 - 148
Bromomethane	20.0	27.8		ug/L		139	10 - 173
Carbon disulfide	20.0	19.3		ug/L		97	43 - 153
Carbon tetrachloride	20.0	19.3		ug/L		97	54 - 156
Chlorobenzene	20.0	19.3		ug/L		97	51 - 139
Chloroethane	20.0	30.4		ug/L		152	27 - 180
Chloroform	20.0	20.3		ug/L		101	58 - 139
Chloromethane	20.0	22.5		ug/L		113	33 - 154
cis-1,2-Dichloroethene	20.0	19.3		ug/L		97	56 - 128
cis-1,3-Dichloropropene	20.0	17.1		ug/L		85	64 - 128
Cyclohexane	20.0	17.4		ug/L		87	14 - 151
Dibromochloromethane	20.0	18.4		ug/L		92	50 - 140
Dichlorodifluoromethane	20.0	54.0	L J3	ug/L		270	10 - 180
Ethylbenzene	20.0	18.8		ug/L		94	63 - 133
Isopropylbenzene	20.0	19.9		ug/L		100	60 - 132
m,p-Xylenes	20.0	18.3		ug/L		92	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-65460/4
Matrix: Water
Analysis Batch: 65460

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	33.7		ug/L		84	70 - 130
Methyl tert-butyl ether	20.0	17.4		ug/L		87	51 - 145
Methylene Chloride	20.0	19.2		ug/L		96	43 - 142
o-Xylene	20.0	17.5		ug/L		88	61 - 129
Styrene	20.0	17.3		ug/L		87	59 - 136
Tetrachloroethene	20.0	18.7		ug/L		94	60 - 147
Toluene	20.0	18.4		ug/L		92	64 - 131
trans-1,2-Dichloroethene	20.0	19.6		ug/L		98	54 - 134
trans-1,3-Dichloropropene	20.0	18.2		ug/L		91	65 - 149
Trichloroethene	20.0	18.7		ug/L		93	62 - 135
Trichlorofluoromethane	20.0	29.2		ug/L		146	56 - 155
Vinyl chloride	20.0	28.8		ug/L		144	20 - 167
Xylenes, Total	40.0	35.8		ug/L		90	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: 670-30949-C-2 MS
Matrix: Water
Analysis Batch: 65460

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	22.2		ug/L		111	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	23.6		ug/L		118	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	23.0		ug/L		115	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	20.8		ug/L		104	57 - 141
1,1-Dichloroethane	0.62	U	20.0	20.7		ug/L		103	57 - 142
1,1-Dichloroethene	0.94	U	20.0	21.9		ug/L		109	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	19.2		ug/L		96	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	18.4		ug/L		92	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	19.1		ug/L		96	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	20.5		ug/L		103	63 - 131
1,2-Dichloroethane	0.63	U	20.0	21.7		ug/L		109	50 - 156
1,2-Dichloropropane	0.80	U	20.0	18.8		ug/L		94	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	20.5		ug/L		102	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	20.5		ug/L		102	65 - 133
2-Butanone (MEK)	4.5	U	200	174		ug/L		87	10 - 180
2-Hexanone	2.5	U	200	175		ug/L		88	12 - 180
4-Methyl-2-pentanone	5.0	U	200	178		ug/L		89	19 - 180
Acetone	25	U	200	180		ug/L		90	10 - 180
Benzene	0.71	U	20.0	20.5		ug/L		102	56 - 136
Bromodichloromethane	0.52	U	20.0	20.0		ug/L		100	58 - 135
Bromoform	0.75	U	20.0	19.2		ug/L		96	46 - 148
Bromomethane	0.95	U	20.0	29.7		ug/L		148	10 - 173
Carbon disulfide	2.5	U	20.0	21.6		ug/L		108	43 - 153
Carbon tetrachloride	0.94	U	20.0	21.4		ug/L		107	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-30949-C-2 MS
Matrix: Water
Analysis Batch: 65460

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	20.6		ug/L		103	51 - 139
Chloroethane	0.98	U	20.0	32.8		ug/L		164	27 - 180
Chloroform	0.80	U	20.0	22.1		ug/L		111	59 - 139
Chloromethane	0.82	U	20.0	22.9		ug/L		115	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	20.6		ug/L		103	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	17.7		ug/L		89	64 - 128
Cyclohexane	0.93	U	20.0	19.7		ug/L		98	14 - 141
Dibromochloromethane	0.50	U	20.0	19.7		ug/L		98	50 - 150
Dichlorodifluoromethane	0.74	U J3	20.0	57.0	L J3	ug/L		285	10 - 180
Ethylbenzene	0.69	U	20.0	19.8		ug/L		99	63 - 133
Isopropylbenzene	0.67	U	20.0	20.9		ug/L		104	60 - 132
m,p-Xylenes	1.3	U	20.0	20.3		ug/L		101	64 - 133
Methyl acetate	0.95	U	40.0	36.3		ug/L		91	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	18.2		ug/L		91	50 - 150
Methylene Chloride	5.0	U	20.0	20.9		ug/L		104	43 - 142
o-Xylene	0.53	U	20.0	19.2		ug/L		96	61 - 129
Styrene	0.61	U	20.0	18.5		ug/L		92	59 - 136
Tetrachloroethene	0.76	U	20.0	21.3		ug/L		106	60 - 147
Toluene	0.72	U	20.0	19.9		ug/L		99	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	21.2		ug/L		106	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	19.3		ug/L		96	65 - 149
Trichloroethene	0.89	U	20.0	19.8		ug/L		99	62 - 135
Trichlorofluoromethane	0.94	U	20.0	31.0		ug/L		155	56 - 155
Vinyl chloride	0.71	U	20.0	29.2		ug/L		146	20 - 167
Xylenes, Total	1.3	U	40.0	39.5		ug/L		99	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Lab Sample ID: 670-30949-C-1 DU
Matrix: Water
Analysis Batch: 65460

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	0.80	U	ug/L		NC	30
1,1,2,2-Tetrachloroethane	0.54	U	0.54	U	ug/L		NC	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	0.73	U	ug/L		NC	30
1,1,2-Trichloroethane	0.76	U	0.76	U	ug/L		NC	30
1,1-Dichloroethane	0.62	U	0.62	U	ug/L		NC	30
1,1-Dichloroethene	0.94	U	0.94	U	ug/L		NC	30
1,2,4-Trichlorobenzene	0.70	U	0.70	U	ug/L		NC	30
1,2-Dibromo-3-Chloropropane	0.96	U	0.96	U	ug/L		NC	30
1,2-Dibromoethane (EDB)	0.78	U	0.78	U	ug/L		NC	30
1,2-Dichlorobenzene	0.73	U	0.73	U	ug/L		NC	30
1,2-Dichloroethane	0.63	U	0.63	U	ug/L		NC	30
1,2-Dichloropropane	0.80	U	0.80	U	ug/L		NC	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-30949-C-1 DU
Matrix: Water
Analysis Batch: 65460

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U		0.77	U	ug/L				NC	30
1,4-Dichlorobenzene	0.76	U		0.76	U	ug/L				NC	30
2-Butanone (MEK)	4.5	U		4.5	U	ug/L				NC	30
2-Hexanone	2.5	U		2.5	U	ug/L				NC	30
4-Methyl-2-pentanone	5.0	U		5.0	U	ug/L				NC	30
Acetone	25	U		25	U	ug/L				NC	30
Benzene	0.71	U		0.71	U	ug/L				NC	30
Bromodichloromethane	0.52	U		0.52	U	ug/L				NC	30
Bromoform	0.75	U		0.75	U	ug/L				NC	30
Bromomethane	0.95	U		0.95	U	ug/L				NC	30
Carbon disulfide	2.5	U		2.5	U	ug/L				NC	30
Carbon tetrachloride	0.94	U		0.94	U	ug/L				NC	30
Chlorobenzene	0.72	U		0.72	U	ug/L				NC	30
Chloroethane	0.98	U		0.98	U	ug/L				NC	30
Chloroform	0.80	U		0.80	U	ug/L				NC	30
Chloromethane	0.82	U		0.82	U	ug/L				NC	30
cis-1,2-Dichloroethene	0.53	U		0.53	U	ug/L				NC	30
cis-1,3-Dichloropropene	0.59	U		0.59	U	ug/L				NC	30
Cyclohexane	0.93	U		0.93	U	ug/L				NC	30
Dibromochloromethane	0.50	U		0.50	U	ug/L				NC	30
Dichlorodifluoromethane	0.74	U J3		0.74	U J3	ug/L				NC	30
Ethylbenzene	0.69	U		0.69	U	ug/L				NC	30
Isopropylbenzene	0.67	U		0.67	U	ug/L				NC	30
m,p-Xylenes	1.3	U		1.3	U	ug/L				NC	30
Methyl acetate	0.95	U		0.95	U	ug/L				NC	30
Methyl tert-butyl ether	0.60	U		0.60	U	ug/L				NC	30
Methylene Chloride	5.0	U		5.0	U	ug/L				NC	30
o-Xylene	0.53	U		0.53	U	ug/L				NC	30
Styrene	0.61	U		0.61	U	ug/L				NC	30
Tetrachloroethene	0.76	U		0.76	U	ug/L				NC	30
Toluene	0.72	U		0.72	U	ug/L				NC	30
trans-1,2-Dichloroethene	0.73	U		0.73	U	ug/L				NC	20
trans-1,3-Dichloropropene	0.73	U		0.73	U	ug/L				NC	30
Trichloroethene	0.89	U		0.89	U	ug/L				NC	30
Trichlorofluoromethane	0.94	U		0.94	U	ug/L				NC	30
Vinyl chloride	0.71	U		0.71	U	ug/L				NC	30
Xylenes, Total	1.3	U		1.3	U	ug/L				NC	30

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*
Dibromofluoromethane (Surr)	*108*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-65634/7
Matrix: Water
Analysis Batch: 65634

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/01/23 10:17	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/01/23 10:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/01/23 10:17	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/01/23 10:17	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/01/23 10:17	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/01/23 10:17	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/01/23 10:17	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/01/23 10:17	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/01/23 10:17	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/01/23 10:17	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/01/23 10:17	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/01/23 10:17	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/01/23 10:17	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/01/23 10:17	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/01/23 10:17	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/01/23 10:17	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/01/23 10:17	1
Acetone	25	U	50	25	ug/L			12/01/23 10:17	1
Benzene	0.71	U	1.0	0.71	ug/L			12/01/23 10:17	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/01/23 10:17	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/01/23 10:17	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/01/23 10:17	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/01/23 10:17	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/01/23 10:17	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/01/23 10:17	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/01/23 10:17	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/01/23 10:17	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/01/23 10:17	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/01/23 10:17	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/01/23 10:17	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/01/23 10:17	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/01/23 10:17	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/01/23 10:17	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/01/23 10:17	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/01/23 10:17	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/01/23 10:17	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/01/23 10:17	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/01/23 10:17	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/01/23 10:17	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/01/23 10:17	1
Styrene	0.61	U	1.0	0.61	ug/L			12/01/23 10:17	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/01/23 10:17	1
Toluene	0.72	U	1.0	0.72	ug/L			12/01/23 10:17	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/01/23 10:17	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/01/23 10:17	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/01/23 10:17	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/01/23 10:17	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/01/23 10:17	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-65634/7
Matrix: Water
Analysis Batch: 65634

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/01/23 10:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*12/01/23 10:17*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*12/01/23 10:17*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/01/23 10:17*	*1*

Lab Sample ID: LCS 670-65634/4
Matrix: Water
Analysis Batch: 65634

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	15.8		ug/L		79	57 - 148
1,1,2,2-Tetrachloroethane	20.0	17.2		ug/L		86	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	16.1		ug/L		80	47 - 173
1,1,2-Trichloroethane	20.0	17.2		ug/L		86	57 - 141
1,1-Dichloroethane	20.0	16.9		ug/L		85	57 - 142
1,1-Dichloroethene	20.0	16.5		ug/L		83	47 - 139
1,2,4-Trichlorobenzene	20.0	15.6		ug/L		78	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	13.6		ug/L		68	48 - 150
1,2-Dibromoethane (EDB)	20.0	16.0		ug/L		80	57 - 140
1,2-Dichlorobenzene	20.0	16.8		ug/L		84	63 - 131
1,2-Dichloroethane	20.0	15.4		ug/L		77	50 - 156
1,2-Dichloropropane	20.0	17.6		ug/L		88	61 - 133
1,3-Dichlorobenzene	20.0	16.7		ug/L		83	66 - 129
1,4-Dichlorobenzene	20.0	17.1		ug/L		86	65 - 133
2-Butanone (MEK)	200	142		ug/L		71	10 - 180
2-Hexanone	200	142		ug/L		71	12 - 180
4-Methyl-2-pentanone	200	144		ug/L		72	19 - 180
Acetone	200	155		ug/L		77	10 - 180
Benzene	20.0	17.0		ug/L		85	56 - 136
Bromodichloromethane	20.0	16.5		ug/L		83	58 - 135
Bromoform	20.0	15.4		ug/L		77	46 - 148
Bromomethane	20.0	13.1		ug/L		66	10 - 173
Carbon disulfide	20.0	16.7		ug/L		84	43 - 153
Carbon tetrachloride	20.0	16.2		ug/L		81	54 - 156
Chlorobenzene	20.0	17.1		ug/L		86	51 - 139
Chloroethane	20.0	19.6		ug/L		98	27 - 180
Chloroform	20.0	17.7		ug/L		89	58 - 139
Chloromethane	20.0	17.5		ug/L		88	33 - 154
cis-1,2-Dichloroethene	20.0	16.8		ug/L		84	56 - 128
cis-1,3-Dichloropropene	20.0	15.7		ug/L		79	64 - 128
Cyclohexane	20.0	16.0		ug/L		80	14 - 151
Dibromochloromethane	20.0	16.2		ug/L		81	50 - 140
Dichlorodifluoromethane	20.0	26.3		ug/L		131	10 - 180
Ethylbenzene	20.0	16.8		ug/L		84	63 - 133
Isopropylbenzene	20.0	16.4		ug/L		82	60 - 132
m,p-Xylenes	20.0	15.8		ug/L		79	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-65634/4
Matrix: Water
Analysis Batch: 65634

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	33.4		ug/L		83	70 - 130
Methyl tert-butyl ether	20.0	15.1		ug/L		75	51 - 145
Methylene Chloride	20.0	17.8		ug/L		89	43 - 142
o-Xylene	20.0	15.7		ug/L		79	61 - 129
Styrene	20.0	15.9		ug/L		80	59 - 136
Tetrachloroethene	20.0	16.7		ug/L		83	60 - 147
Toluene	20.0	16.0		ug/L		80	64 - 131
trans-1,2-Dichloroethene	20.0	17.1		ug/L		86	54 - 134
trans-1,3-Dichloropropene	20.0	16.4		ug/L		82	65 - 149
Trichloroethene	20.0	17.3		ug/L		86	62 - 135
Trichlorofluoromethane	20.0	20.2		ug/L		101	56 - 155
Vinyl chloride	20.0	22.2		ug/L		111	20 - 167
Xylenes, Total	40.0	31.5		ug/L		79	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-30865-C-5 MS
Matrix: Water
Analysis Batch: 65634

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	200	U	5000	3980		ug/L		80	57 - 148
1,1,2,2-Tetrachloroethane	140	U	5000	4200		ug/L		84	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	180	U	5000	4130		ug/L		83	50 - 150
1,1,2-Trichloroethane	190	U	5000	3940		ug/L		79	57 - 141
1,1-Dichloroethane	160	U	5000	4070		ug/L		81	57 - 142
1,1-Dichloroethene	240	U	5000	4230		ug/L		85	49 - 139
1,2,4-Trichlorobenzene	180	U	5000	3630		ug/L		73	52 - 159
1,2-Dibromo-3-Chloropropane	240	U	5000	3340		ug/L		67	48 - 150
1,2-Dibromoethane (EDB)	200	U	5000	3680		ug/L		74	50 - 150
1,2-Dichlorobenzene	180	U	5000	3880		ug/L		78	63 - 131
1,2-Dichloroethane	160	U	5000	3630		ug/L		73	50 - 156
1,2-Dichloropropane	200	U	5000	4080		ug/L		82	61 - 133
1,3-Dichlorobenzene	190	U	5000	3930		ug/L		79	66 - 129
1,4-Dichlorobenzene	190	U	5000	3900		ug/L		78	65 - 133
2-Butanone (MEK)	1100	U	50000	34700		ug/L		69	10 - 180
2-Hexanone	630	U	50000	34100		ug/L		68	12 - 180
4-Methyl-2-pentanone	1300	U	50000	35200		ug/L		70	19 - 180
Acetone	6300	U	50000	33100		ug/L		66	10 - 180
Benzene	180	U	5000	4060		ug/L		81	56 - 136
Bromodichloromethane	130	U	5000	3870		ug/L		77	58 - 135
Bromoform	190	U	5000	3560		ug/L		71	46 - 148
Bromomethane	240	U	5000	3500		ug/L		70	10 - 173
Carbon disulfide	630	U	5000	4110		ug/L		82	43 - 153
Carbon tetrachloride	240	U	5000	3940		ug/L		79	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-30865-C-5 MS
Matrix: Water
Analysis Batch: 65634

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	180	U	5000	4040		ug/L		81	51 - 139
Chloroethane	250	U	5000	5040		ug/L		101	27 - 180
Chloroform	200	U	5000	4120		ug/L		82	59 - 139
Chloromethane	210	U	5000	4490		ug/L		90	33 - 154
cis-1,2-Dichloroethene	4900		5000	8770		ug/L		77	56 - 128
cis-1,3-Dichloropropene	150	U	5000	3520		ug/L		70	64 - 128
Cyclohexane	230	U	5000	4030		ug/L		81	14 - 141
Dibromochloromethane	130	U	5000	3740		ug/L		75	50 - 150
Dichlorodifluoromethane	190	U	5000	7050		ug/L		141	10 - 180
Ethylbenzene	170	U	5000	3970		ug/L		79	63 - 133
Isopropylbenzene	170	U	5000	3990		ug/L		80	60 - 132
m,p-Xylenes	330	U	5000	3740		ug/L		75	64 - 133
Methyl acetate	240	U	10000	7510		ug/L		75	50 - 150
Methyl tert-butyl ether	150	U	5000	3600		ug/L		72	50 - 150
Methylene Chloride	1300	U	5000	4130		ug/L		83	43 - 142
o-Xylene	130	U	5000	3650		ug/L		73	61 - 129
Styrene	150	U	5000	3690		ug/L		74	59 - 136
Tetrachloroethene	190	U	5000	4090		ug/L		82	60 - 147
Toluene	180	U	5000	3950		ug/L		79	64 - 131
trans-1,2-Dichloroethene	180	U	5000	4160		ug/L		83	54 - 134
trans-1,3-Dichloropropene	180	U	5000	3780		ug/L		76	65 - 149
Trichloroethene	12000		5000	15700		ug/L		76	62 - 135
Trichlorofluoromethane	240	U	5000	5430		ug/L		109	56 - 155
Vinyl chloride	180	U	5000	5850		ug/L		117	20 - 167
Xylenes, Total	330	U	10000	7390		ug/L		74	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-30865-C-5 MSD
Matrix: Water
Analysis Batch: 65634

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	200	U	5000	3820		ug/L		76	57 - 148	4	25
1,1,2,2-Tetrachloroethane	140	U	5000	4260		ug/L		85	60 - 139	1	17
1,1,2-Trichloro-1,2,2-trifluoroethane	180	U	5000	4140		ug/L		83	50 - 150	0	30
1,1,2-Trichloroethane	190	U	5000	3930		ug/L		79	57 - 141	0	16
1,1-Dichloroethane	160	U	5000	3930		ug/L		79	57 - 142	3	24
1,1-Dichloroethene	240	U	5000	4170		ug/L		83	49 - 139	1	16
1,2,4-Trichlorobenzene	180	U	5000	3730		ug/L		75	52 - 159	3	24
1,2-Dibromo-3-Chloropropane	240	U	5000	3520		ug/L		70	48 - 150	5	21
1,2-Dibromoethane (EDB)	200	U	5000	3730		ug/L		75	50 - 150	1	16
1,2-Dichlorobenzene	180	U	5000	3910		ug/L		78	63 - 131	1	25
1,2-Dichloroethane	160	U	5000	3650		ug/L		73	50 - 156	1	18
1,2-Dichloropropane	200	U	5000	3960		ug/L		79	61 - 133	3	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-30865-C-5 MSD
Matrix: Water
Analysis Batch: 65634

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	190	U	5000	3940		ug/L		79	66 - 129	0	23
1,4-Dichlorobenzene	190	U	5000	3990		ug/L		80	65 - 133	2	23
2-Butanone (MEK)	1100	U	50000	33900		ug/L		68	10 - 180	2	29
2-Hexanone	630	U	50000	34000		ug/L		68	12 - 180	0	28
4-Methyl-2-pentanone	1300	U	50000	34900		ug/L		70	19 - 180	1	24
Acetone	6300	U	50000	31500		ug/L		63	10 - 180	5	19
Benzene	180	U	5000	3970		ug/L		79	56 - 136	2	14
Bromodichloromethane	130	U	5000	3850		ug/L		77	58 - 135	1	19
Bromoform	190	U	5000	3670		ug/L		73	46 - 148	3	18
Bromomethane	240	U	5000	3780		ug/L		76	10 - 173	8	29
Carbon disulfide	630	U	5000	4020		ug/L		80	43 - 153	2	26
Carbon tetrachloride	240	U	5000	3840		ug/L		77	54 - 156	3	27
Chlorobenzene	180	U	5000	3980		ug/L		80	51 - 139	2	13
Chloroethane	250	U	5000	5110		ug/L		102	27 - 180	1	22
Chloroform	200	U	5000	4050		ug/L		81	59 - 139	2	17
Chloromethane	210	U	5000	4330		ug/L		87	33 - 154	4	31
cis-1,2-Dichloroethene	4900		5000	8680		ug/L		75	56 - 128	1	17
cis-1,3-Dichloropropene	150	U	5000	3580		ug/L		72	64 - 128	2	20
Cyclohexane	230	U	5000	3990		ug/L		80	14 - 141	1	30
Dibromochloromethane	130	U	5000	3760		ug/L		75	50 - 150	0	18
Dichlorodifluoromethane	190	U	5000	6850		ug/L		137	10 - 180	3	26
Ethylbenzene	170	U	5000	3950		ug/L		79	63 - 133	0	18
Isopropylbenzene	170	U	5000	3980		ug/L		80	60 - 132	0	23
m,p-Xylenes	330	U	5000	3720		ug/L		74	64 - 133	0	18
Methyl acetate	240	U	10000	7510		ug/L		75	50 - 150	0	30
Methyl tert-butyl ether	150	U	5000	3540		ug/L		71	50 - 150	2	22
Methylene Chloride	1300	U	5000	4100		ug/L		82	43 - 142	1	23
o-Xylene	130	U	5000	3650		ug/L		73	61 - 129	0	16
Styrene	150	U	5000	3670		ug/L		73	59 - 136	1	32
Tetrachloroethene	190	U	5000	4000		ug/L		80	60 - 147	2	21
Toluene	180	U	5000	3860		ug/L		77	64 - 131	2	16
trans-1,2-Dichloroethene	180	U	5000	3980		ug/L		80	54 - 134	4	20
trans-1,3-Dichloropropene	180	U	5000	3720		ug/L		74	65 - 149	1	17
Trichloroethene	12000		5000	15300		ug/L		68	62 - 135	2	20
Trichlorofluoromethane	240	U	5000	5320		ug/L		106	56 - 155	2	22
Vinyl chloride	180	U	5000	5690		ug/L		114	20 - 167	3	24
Xylenes, Total	330	U	10000	7370		ug/L		74	50 - 150	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30864-1

GC/MS VOA

Analysis Batch: 65460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-30864-1	LC34-IW0162-110.0-20231127	Total/NA	Water	8260D	
670-30864-2 - DL	LC34-IW004402-110.0-20231127	Total/NA	Water	8260D	
MB 670-65460/7	Method Blank	Total/NA	Water	8260D	
LCS 670-65460/4	Lab Control Sample	Total/NA	Water	8260D	
670-30949-C-2 MS	Matrix Spike	Total/NA	Water	8260D	
670-30949-C-1 DU	Duplicate	Total/NA	Water	8260D	

Analysis Batch: 65634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-30864-2 - DL	LC34-IW004402-110.0-20231127	Total/NA	Water	8260D	
MB 670-65634/7	Method Blank	Total/NA	Water	8260D	
LCS 670-65634/4	Lab Control Sample	Total/NA	Water	8260D	
670-30865-C-5 MS	Matrix Spike	Total/NA	Water	8260D	
670-30865-C-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-30864-1
Project/Site: NASA KSC LC34

Client Sample ID: LC34-IW0162-110.0-20231127
Lab Sample ID: 670-30864-1
Date Collected: 11/27/23 09:55
Matrix: Water
Date Received: 11/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65460	P1K	EET ORL	11/30/23 19:58

Client Sample ID: LC34-IW004402-110.0-20231127
Lab Sample ID: 670-30864-2
Date Collected: 11/27/23 10:23
Matrix: Water
Date Received: 11/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	65634	KG	EET ORL	12/01/23 13:54
Total/NA	Analysis	8260D	DL	5	65460	P1K	EET ORL	11/30/23 20:19

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30864-1

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30864-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30864-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-30864-1	LC34-IW0162-110.0-20231127	Water	11/27/23 09:55	11/28/23 08:00
670-30864-2	LC34-IW004402-110.0-20231127	Water	11/27/23 10:23	11/28/23 08:00

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3828 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08985	KSC-LC34	Mark Sonner	(412) 921-8622	Eurofins — Kaitlin Dylnicki

SAMPLERS (SIGNATURE)	FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
[signature] - Chuck Sorden [signature] - Natalie Volk	Chuck Sorden	(321) 591-7580	481 Newburyport Ave.
	CARRIER/WAYBILL NUMBER		CITY, STATE: Altamonte Springs, FL

STANDARD TAT ☒ NAV
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☒ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G

PRESERVATIVE USED: HCl/4°C

TYPE OF ANALYSIS: 8260-(MOD) NASA LC34 Custom List

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	8260-(MOD) NASA LC34 Custom List								COMMENTS
11/27	0955	LC34-IW0162-110.0-20231127	162	105	115	GW	G	3	X								
11/27	1023	LC34-IW0044D2-110.0-20231127	44D2	105	115	GW	G	3	X								

670-30864 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY [signature]	11/27/2023	1415	1. RECEIVED BY [signature]	11-28-23	0800
2. RELINQUISHED BY			2. RECEIVED BY		
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS: 0.7 / 0.5

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R

FORM NO. TtN 12/1/2023

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-30864-1

Login Number: 30864
List Number: 1
Creator: Lavardera, Angelina

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 12/13/2023 12:12:06 PM

JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-30865-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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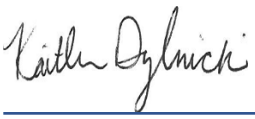
The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-30865-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
L	Off-scale high. Actual value is known to be greater than the value given.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-30865-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-30865-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 11/28/2023 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.5°C

GC/MS VOA
Method 8260D: The laboratory control sample (LCS) for analytical batch 670-65404 recovered outside control limits for the following analytes: Methyl acetate. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-65404 recovered above the upper control limit for Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-65404/3).

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-65404 recovered outside acceptance criteria, low biased, for Bromomethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-AS2-20231127 (670-30865-3), LC34-RW17C-20231127 (670-30865-4), LC34-RW18C-20231127 (670-30865-5), LC34-RW19C-20231127 (670-30865-6), LC34-RW20C-20231127 (670-30865-7) and LC34-RW21D-20231127 (670-30865-8). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-65460 recovered above the upper control limit for Chloroethane, Dichlorodifluoromethane and Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-65460/3).

Method 8260D: The laboratory control sample (LCS) for analytical batch 670-65460 recovered outside control limits for the following analytes: Dichlorodifluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The matrix spike (MS) recoveries for analytical batch 670-65460 were outside control limits. Associated client samples were non-detect for this analyte; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-65460 recovered outside acceptance criteria, low biased, for 2-Hexanone. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated

Job ID: 670-30865-1 (Continued)

Laboratory: Eurofins Orlando (Continued)

samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-RW17C-20231127 (670-30865-4), LC34-RW18C-20231127 (670-30865-5), LC34-RW20C-20231127 (670-30865-7) and LC34-RW21D-20231127 (670-30865-8). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-65626 recovered above the upper control limit for Chloroethane, Chloromethane and Methylene Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-65626/4).

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-RW19C-20231127 (670-30865-6). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-65634 recovered above the upper control limit for Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-65634/3).

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-65634 recovered outside acceptance criteria, low biased, for Bromomethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30865-1

Client Sample ID: LC34-GAC-20231127 — Lab Sample ID: 670-30865-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.85	I	1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-AS1-20231127 — Lab Sample ID: 670-30865-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.60	I	1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	1.1		1.0	0.89	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-AS2-20231127 — Lab Sample ID: 670-30865-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	66		5.0	2.7	ug/L	5		8260D	Total/NA
Trichloroethene - DL	170		5.0	4.5	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-RW17C-20231127 — Lab Sample ID: 670-30865-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	4700		2000	1100	ug/L	2000		8260D	Total/NA
Trichloroethene - DL	140000		2000	1800	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-RW18C-20231127 — Lab Sample ID: 670-30865-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	4900		250	130	ug/L	250		8260D	Total/NA
Trichloroethene - DL	12000		250	220	ug/L	250		8260D	Total/NA

Client Sample ID: LC34-RW19C-20231127 — Lab Sample ID: 670-30865-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	4500	I	5000	2700	ug/L	5000		8260D	Total/NA
Trichloroethene - DL	280000		5000	4500	ug/L	5000		8260D	Total/NA

Client Sample ID: LC34-RW20C-20231127 — Lab Sample ID: 670-30865-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	700		200	110	ug/L	200		8260D	Total/NA
Trichloroethene - DL	13000		200	180	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-RW21D-20231127 — Lab Sample ID: 670-30865-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	3900		200	110	ug/L	200		8260D	Total/NA
Trichloroethene - DL	8200		200	180	ug/L	200		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30865-1

Client Sample ID: LC34-GAC-20231127
Date Collected: 11/27/23 10:55
Date Received: 11/28/23 08:00

Lab Sample ID: 670-30865-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			11/30/23 15:40	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			11/30/23 15:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			11/30/23 15:40	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			11/30/23 15:40	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			11/30/23 15:40	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			11/30/23 15:40	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			11/30/23 15:40	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			11/30/23 15:40	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			11/30/23 15:40	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			11/30/23 15:40	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			11/30/23 15:40	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			11/30/23 15:40	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			11/30/23 15:40	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			11/30/23 15:40	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			11/30/23 15:40	1
2-Hexanone	2.5	U	20	2.5	ug/L			11/30/23 15:40	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			11/30/23 15:40	1
Acetone	25	U	50	25	ug/L			11/30/23 15:40	1
Benzene	0.71	U	1.0	0.71	ug/L			11/30/23 15:40	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			11/30/23 15:40	1
Bromoform	0.75	U	1.0	0.75	ug/L			11/30/23 15:40	1
Bromomethane	0.95	U	2.0	0.95	ug/L			11/30/23 15:40	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			11/30/23 15:40	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			11/30/23 15:40	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			11/30/23 15:40	1
Chloroethane	0.98	U	2.0	0.98	ug/L			11/30/23 15:40	1
Chloroform	0.80	U	5.0	0.80	ug/L			11/30/23 15:40	1
Chloromethane	0.82	U	2.0	0.82	ug/L			11/30/23 15:40	1
cis-1,2-Dichloroethene	**0.85**	**I**	1.0	0.53	ug/L			11/30/23 15:40	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			11/30/23 15:40	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			11/30/23 15:40	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			11/30/23 15:40	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			11/30/23 15:40	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			11/30/23 15:40	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			11/30/23 15:40	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			11/30/23 15:40	1
Methyl acetate	0.95	U J3	10	0.95	ug/L			11/30/23 15:40	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			11/30/23 15:40	1
Methylene Chloride	5.0	U	10	5.0	ug/L			11/30/23 15:40	1
o-Xylene	0.53	U	1.0	0.53	ug/L			11/30/23 15:40	1
Styrene	0.61	U	1.0	0.61	ug/L			11/30/23 15:40	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			11/30/23 15:40	1
Toluene	0.72	U	1.0	0.72	ug/L			11/30/23 15:40	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			11/30/23 15:40	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			11/30/23 15:40	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			11/30/23 15:40	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			11/30/23 15:40	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			11/30/23 15:40	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			11/30/23 15:40	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30865-1

Client Sample ID: LC34-GAC-20231127

Lab Sample ID: 670-30865-1

Date Collected: 11/27/23 10:55

Matrix: Water

Date Received: 11/28/23 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*11/30/23 15:40*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*11/30/23 15:40*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*11/30/23 15:40*	*1*

Client Sample ID: LC34-AS1-20231127

Lab Sample ID: 670-30865-2

Date Collected: 11/27/23 11:00

Matrix: Water

Date Received: 11/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			11/30/23 15:58	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			11/30/23 15:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			11/30/23 15:58	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			11/30/23 15:58	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			11/30/23 15:58	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			11/30/23 15:58	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			11/30/23 15:58	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			11/30/23 15:58	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			11/30/23 15:58	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			11/30/23 15:58	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			11/30/23 15:58	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			11/30/23 15:58	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			11/30/23 15:58	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			11/30/23 15:58	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			11/30/23 15:58	1
2-Hexanone	2.5	U	20	2.5	ug/L			11/30/23 15:58	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			11/30/23 15:58	1
Acetone	25	U	50	25	ug/L			11/30/23 15:58	1
Benzene	0.71	U	1.0	0.71	ug/L			11/30/23 15:58	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			11/30/23 15:58	1
Bromoform	0.75	U	1.0	0.75	ug/L			11/30/23 15:58	1
Bromomethane	0.95	U	2.0	0.95	ug/L			11/30/23 15:58	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			11/30/23 15:58	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			11/30/23 15:58	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			11/30/23 15:58	1
Chloroethane	0.98	U	2.0	0.98	ug/L			11/30/23 15:58	1
Chloroform	0.80	U	5.0	0.80	ug/L			11/30/23 15:58	1
Chloromethane	0.82	U	2.0	0.82	ug/L			11/30/23 15:58	1
cis-1,2-Dichloroethene	**0.60**	**I**	1.0	0.53	ug/L			11/30/23 15:58	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			11/30/23 15:58	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			11/30/23 15:58	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			11/30/23 15:58	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			11/30/23 15:58	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			11/30/23 15:58	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			11/30/23 15:58	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			11/30/23 15:58	1
Methyl acetate	0.95	U J3	10	0.95	ug/L			11/30/23 15:58	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			11/30/23 15:58	1
Methylene Chloride	5.0	U	10	5.0	ug/L			11/30/23 15:58	1
o-Xylene	0.53	U	1.0	0.53	ug/L			11/30/23 15:58	1

Client Sample ID: LC34-AS1-20231127

Lab Sample ID: 670-30865-2

Date Collected: 11/27/23 11:00

Matrix: Water

Date Received: 11/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			11/30/23 15:58	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			11/30/23 15:58	1
Toluene	0.72	U	1.0	0.72	ug/L			11/30/23 15:58	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			11/30/23 15:58	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			11/30/23 15:58	1
Trichloroethene	**1.1**		1.0	0.89	ug/L			11/30/23 15:58	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			11/30/23 15:58	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			11/30/23 15:58	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			11/30/23 15:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*11/30/23 15:58*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*11/30/23 15:58*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*11/30/23 15:58*	*1*

Client Sample ID: LC34-AS2-20231127

Lab Sample ID: 670-30865-3

Date Collected: 11/27/23 11:05

Matrix: Water

Date Received: 11/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			11/30/23 20:39	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			11/30/23 20:39	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			11/30/23 20:39	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			11/30/23 20:39	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			11/30/23 20:39	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			11/30/23 20:39	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			11/30/23 20:39	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			11/30/23 20:39	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			11/30/23 20:39	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			11/30/23 20:39	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			11/30/23 20:39	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			11/30/23 20:39	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			11/30/23 20:39	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			11/30/23 20:39	5
2-Butanone (MEK)	23	U	50	23	ug/L			11/30/23 20:39	5
2-Hexanone	13	U	100	13	ug/L			11/30/23 20:39	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			11/30/23 20:39	5
Acetone	130	U	250	130	ug/L			11/30/23 20:39	5
Benzene	3.6	U	5.0	3.6	ug/L			11/30/23 20:39	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			11/30/23 20:39	5
Bromoform	3.8	U	5.0	3.8	ug/L			11/30/23 20:39	5
Bromomethane	4.8	U	10	4.8	ug/L			11/30/23 20:39	5
Carbon disulfide	13	U	25	13	ug/L			11/30/23 20:39	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			11/30/23 20:39	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			11/30/23 20:39	5
Chloroethane	4.9	U	10	4.9	ug/L			11/30/23 20:39	5
Chloroform	4.0	U	25	4.0	ug/L			11/30/23 20:39	5
Chloromethane	4.1	U	10	4.1	ug/L			11/30/23 20:39	5
cis-1,2-Dichloroethene	**66**		5.0	2.7	ug/L			11/30/23 20:39	5

Client Sample ID: LC34-AS2-20231127

Lab Sample ID: 670-30865-3

Date Collected: 11/27/23 11:05

Matrix: Water

Date Received: 11/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			11/30/23 20:39	5
Cyclohexane	4.7	U	25	4.7	ug/L			11/30/23 20:39	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			11/30/23 20:39	5
Dichlorodifluoromethane	3.7	U J3	5.0	3.7	ug/L			11/30/23 20:39	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			11/30/23 20:39	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			11/30/23 20:39	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			11/30/23 20:39	5
Methyl acetate	4.8	U	50	4.8	ug/L			11/30/23 20:39	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			11/30/23 20:39	5
Methylene Chloride	25	U	50	25	ug/L			11/30/23 20:39	5
o-Xylene	2.7	U	5.0	2.7	ug/L			11/30/23 20:39	5
Styrene	3.1	U	5.0	3.1	ug/L			11/30/23 20:39	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			11/30/23 20:39	5
Toluene	3.6	U	5.0	3.6	ug/L			11/30/23 20:39	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			11/30/23 20:39	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			11/30/23 20:39	5
Trichloroethene	**170**		5.0	4.5	ug/L			11/30/23 20:39	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			11/30/23 20:39	5
Vinyl chloride	3.6	U	5.0	3.6	ug/L			11/30/23 20:39	5
Xylenes, Total	6.5	U	10	6.5	ug/L			11/30/23 20:39	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*11/30/23 20:39*	*5*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*11/30/23 20:39*	*5*
Toluene-d8 (Surr)	*101*		*40 - 146*		*11/30/23 20:39*	*5*

Client Sample ID: LC34-RW17C-20231127

Lab Sample ID: 670-30865-4

Date Collected: 11/27/23 11:10

Matrix: Water

Date Received: 11/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1600	U	2000	1600	ug/L			12/01/23 17:15	2000
1,1,2,2-Tetrachloroethane	1100	U	2000	1100	ug/L			12/01/23 17:15	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U	4000	1500	ug/L			12/01/23 17:15	2000
1,1,2-Trichloroethane	1500	U	4000	1500	ug/L			12/01/23 17:15	2000
1,1-Dichloroethane	1200	U	2000	1200	ug/L			12/01/23 17:15	2000
1,1-Dichloroethene	1900	U	2000	1900	ug/L			12/01/23 17:15	2000
1,2,4-Trichlorobenzene	1400	U	4000	1400	ug/L			12/01/23 17:15	2000
1,2-Dibromo-3-Chloropropane	1900	U	20000	1900	ug/L			12/01/23 17:15	2000
1,2-Dibromoethane (EDB)	1600	U	24000	1600	ug/L			12/01/23 17:15	2000
1,2-Dichlorobenzene	1500	U	2000	1500	ug/L			12/01/23 17:15	2000
1,2-Dichloroethane	1300	U	2000	1300	ug/L			12/01/23 17:15	2000
1,2-Dichloropropane	1600	U	2000	1600	ug/L			12/01/23 17:15	2000
1,3-Dichlorobenzene	1500	U	2000	1500	ug/L			12/01/23 17:15	2000
1,4-Dichlorobenzene	1500	U	2000	1500	ug/L			12/01/23 17:15	2000
2-Butanone (MEK)	9000	U	20000	9000	ug/L			12/01/23 17:15	2000
2-Hexanone	5000	U	40000	5000	ug/L			12/01/23 17:15	2000
4-Methyl-2-pentanone	10000	U	40000	10000	ug/L			12/01/23 17:15	2000
Acetone	50000	U	100000	50000	ug/L			12/01/23 17:15	2000

Client Sample ID: LC34-RW17C-20231127

Lab Sample ID: 670-30865-4

Date Collected: 11/27/23 11:10

Matrix: Water

Date Received: 11/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1400	U	2000	1400	ug/L			12/01/23 17:15	2000
Bromodichloromethane	1000	U	2000	1000	ug/L			12/01/23 17:15	2000
Bromoform	1500	U	2000	1500	ug/L			12/01/23 17:15	2000
Bromomethane	1900	U	4000	1900	ug/L			12/01/23 17:15	2000
Carbon disulfide	5000	U	10000	5000	ug/L			12/01/23 17:15	2000
Carbon tetrachloride	1900	U	2000	1900	ug/L			12/01/23 17:15	2000
Chlorobenzene	1400	U	2000	1400	ug/L			12/01/23 17:15	2000
Chloroethane	2000	U	4000	2000	ug/L			12/01/23 17:15	2000
Chloroform	1600	U	10000	1600	ug/L			12/01/23 17:15	2000
Chloromethane	1600	U	4000	1600	ug/L			12/01/23 17:15	2000
cis-1,2-Dichloroethene	**4700**		2000	1100	ug/L			12/01/23 17:15	2000
cis-1,3-Dichloropropene	1200	U	2000	1200	ug/L			12/01/23 17:15	2000
Cyclohexane	1900	U	10000	1900	ug/L			12/01/23 17:15	2000
Dibromochloromethane	1000	U	2000	1000	ug/L			12/01/23 17:15	2000
Dichlorodifluoromethane	1500	U	2000	1500	ug/L			12/01/23 17:15	2000
Ethylbenzene	1400	U	2000	1400	ug/L			12/01/23 17:15	2000
Isopropylbenzene	1300	U	4000	1300	ug/L			12/01/23 17:15	2000
m,p-Xylenes	2600	U	4000	2600	ug/L			12/01/23 17:15	2000
Methyl acetate	1900	U	20000	1900	ug/L			12/01/23 17:15	2000
Methyl tert-butyl ether	1200	U	4000	1200	ug/L			12/01/23 17:15	2000
Methylene Chloride	10000	U	20000	10000	ug/L			12/01/23 17:15	2000
o-Xylene	1100	U	2000	1100	ug/L			12/01/23 17:15	2000
Styrene	1200	U	2000	1200	ug/L			12/01/23 17:15	2000
Tetrachloroethene	1500	U	2000	1500	ug/L			12/01/23 17:15	2000
Toluene	1400	U	2000	1400	ug/L			12/01/23 17:15	2000
trans-1,2-Dichloroethene	1500	U	2000	1500	ug/L			12/01/23 17:15	2000
trans-1,3-Dichloropropene	1500	U	2000	1500	ug/L			12/01/23 17:15	2000
Trichloroethene	**140000**		2000	1800	ug/L			12/01/23 17:15	2000
Trichlorofluoromethane	1900	U	2000	1900	ug/L			12/01/23 17:15	2000
Vinyl chloride	1400	U	2000	1400	ug/L			12/01/23 17:15	2000
Xylenes, Total	2600	U	4000	2600	ug/L			12/01/23 17:15	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*12/01/23 17:15*	*2000*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*12/01/23 17:15*	*2000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/01/23 17:15*	*2000*

Client Sample ID: LC34-RW18C-20231127

Lab Sample ID: 670-30865-5

Date Collected: 11/27/23 11:15

Matrix: Water

Date Received: 11/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	200	U	250	200	ug/L			12/01/23 10:35	250
1,1,2,2-Tetrachloroethane	140	U	250	140	ug/L			12/01/23 10:35	250
1,1,2-Trichloro-1,2,2-trifluoroethane	180	U	500	180	ug/L			12/01/23 10:35	250
1,1,2-Trichloroethane	190	U	500	190	ug/L			12/01/23 10:35	250
1,1-Dichloroethane	160	U	250	160	ug/L			12/01/23 10:35	250
1,1-Dichloroethene	240	U	250	240	ug/L			12/01/23 10:35	250
1,2,4-Trichlorobenzene	180	U	500	180	ug/L			12/01/23 10:35	250

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30865-1

Client Sample ID: LC34-RW18C-20231127
Date Collected: 11/27/23 11:15
Date Received: 11/28/23 08:00

Lab Sample ID: 670-30865-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	240	U	2500	240	ug/L			12/01/23 10:35	250
1,2-Dibromoethane (EDB)	200	U	3000	200	ug/L			12/01/23 10:35	250
1,2-Dichlorobenzene	180	U	250	180	ug/L			12/01/23 10:35	250
1,2-Dichloroethane	160	U	250	160	ug/L			12/01/23 10:35	250
1,2-Dichloropropane	200	U	250	200	ug/L			12/01/23 10:35	250
1,3-Dichlorobenzene	190	U	250	190	ug/L			12/01/23 10:35	250
1,4-Dichlorobenzene	190	U	250	190	ug/L			12/01/23 10:35	250
2-Butanone (MEK)	1100	U	2500	1100	ug/L			12/01/23 10:35	250
2-Hexanone	630	U	5000	630	ug/L			12/01/23 10:35	250
4-Methyl-2-pentanone	1300	U	5000	1300	ug/L			12/01/23 10:35	250
Acetone	6300	U	13000	6300	ug/L			12/01/23 10:35	250
Benzene	180	U	250	180	ug/L			12/01/23 10:35	250
Bromodichloromethane	130	U	250	130	ug/L			12/01/23 10:35	250
Bromoform	190	U	250	190	ug/L			12/01/23 10:35	250
Bromomethane	240	U	500	240	ug/L			12/01/23 10:35	250
Carbon disulfide	630	U	1300	630	ug/L			12/01/23 10:35	250
Carbon tetrachloride	240	U	250	240	ug/L			12/01/23 10:35	250
Chlorobenzene	180	U	250	180	ug/L			12/01/23 10:35	250
Chloroethane	250	U	500	250	ug/L			12/01/23 10:35	250
Chloroform	200	U	1300	200	ug/L			12/01/23 10:35	250
Chloromethane	210	U	500	210	ug/L			12/01/23 10:35	250
cis-1,2-Dichloroethene	**4900**		250	130	ug/L			12/01/23 10:35	250
cis-1,3-Dichloropropene	150	U	250	150	ug/L			12/01/23 10:35	250
Cyclohexane	230	U	1300	230	ug/L			12/01/23 10:35	250
Dibromochloromethane	130	U	250	130	ug/L			12/01/23 10:35	250
Dichlorodifluoromethane	190	U	250	190	ug/L			12/01/23 10:35	250
Ethylbenzene	170	U	250	170	ug/L			12/01/23 10:35	250
Isopropylbenzene	170	U	500	170	ug/L			12/01/23 10:35	250
m,p-Xylenes	330	U	500	330	ug/L			12/01/23 10:35	250
Methyl acetate	240	U	2500	240	ug/L			12/01/23 10:35	250
Methyl tert-butyl ether	150	U	500	150	ug/L			12/01/23 10:35	250
Methylene Chloride	1300	U	2500	1300	ug/L			12/01/23 10:35	250
o-Xylene	130	U	250	130	ug/L			12/01/23 10:35	250
Styrene	150	U	250	150	ug/L			12/01/23 10:35	250
Tetrachloroethene	190	U	250	190	ug/L			12/01/23 10:35	250
Toluene	180	U	250	180	ug/L			12/01/23 10:35	250
trans-1,2-Dichloroethene	180	U	250	180	ug/L			12/01/23 10:35	250
trans-1,3-Dichloropropene	180	U	250	180	ug/L			12/01/23 10:35	250
Trichloroethene	**12000**		250	220	ug/L			12/01/23 10:35	250
Trichlorofluoromethane	240	U	250	240	ug/L			12/01/23 10:35	250
Vinyl chloride	180	U	250	180	ug/L			12/01/23 10:35	250
Xylenes, Total	330	U	500	330	ug/L			12/01/23 10:35	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*12/01/23 10:35*	*250*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*12/01/23 10:35*	*250*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/01/23 10:35*	*250*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30865-1

Client Sample ID: LC34-RW19C-20231127
Date Collected: 11/27/23 11:20
Date Received: 11/28/23 08:00

Lab Sample ID: 670-30865-6
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4000	U	5000	4000	ug/L			12/01/23 17:00	5000
1,1,2,2-Tetrachloroethane	2700	U	5000	2700	ug/L			12/01/23 17:00	5000
1,1,2-Trichloro-1,2,2-trifluoroethane	3700	U	10000	3700	ug/L			12/01/23 17:00	5000
1,1,2-Trichloroethane	3800	U	10000	3800	ug/L			12/01/23 17:00	5000
1,1-Dichloroethane	3100	U	5000	3100	ug/L			12/01/23 17:00	5000
1,1-Dichloroethene	4700	U	5000	4700	ug/L			12/01/23 17:00	5000
1,2,4-Trichlorobenzene	3500	U	10000	3500	ug/L			12/01/23 17:00	5000
1,2-Dibromo-3-Chloropropane	4800	U	50000	4800	ug/L			12/01/23 17:00	5000
1,2-Dibromoethane (EDB)	3900	U	60000	3900	ug/L			12/01/23 17:00	5000
1,2-Dichlorobenzene	3700	U	5000	3700	ug/L			12/01/23 17:00	5000
1,2-Dichloroethane	3200	U	5000	3200	ug/L			12/01/23 17:00	5000
1,2-Dichloropropane	4000	U	5000	4000	ug/L			12/01/23 17:00	5000
1,3-Dichlorobenzene	3900	U	5000	3900	ug/L			12/01/23 17:00	5000
1,4-Dichlorobenzene	3800	U	5000	3800	ug/L			12/01/23 17:00	5000
2-Butanone (MEK)	23000	U	50000	23000	ug/L			12/01/23 17:00	5000
2-Hexanone	13000	U	100000	13000	ug/L			12/01/23 17:00	5000
4-Methyl-2-pentanone	25000	U	100000	25000	ug/L			12/01/23 17:00	5000
Acetone	130000	U	250000	130000	ug/L			12/01/23 17:00	5000
Benzene	3600	U	5000	3600	ug/L			12/01/23 17:00	5000
Bromodichloromethane	2600	U	5000	2600	ug/L			12/01/23 17:00	5000
Bromoform	3800	U	5000	3800	ug/L			12/01/23 17:00	5000
Bromomethane	4800	U	10000	4800	ug/L			12/01/23 17:00	5000
Carbon disulfide	13000	U	25000	13000	ug/L			12/01/23 17:00	5000
Carbon tetrachloride	4700	U	5000	4700	ug/L			12/01/23 17:00	5000
Chlorobenzene	3600	U	5000	3600	ug/L			12/01/23 17:00	5000
Chloroethane	4900	U	10000	4900	ug/L			12/01/23 17:00	5000
Chloroform	4000	U	25000	4000	ug/L			12/01/23 17:00	5000
Chloromethane	4100	U	10000	4100	ug/L			12/01/23 17:00	5000
cis-1,2-Dichloroethene	**4500**	**I**	5000	2700	ug/L			12/01/23 17:00	5000
cis-1,3-Dichloropropene	3000	U	5000	3000	ug/L			12/01/23 17:00	5000
Cyclohexane	4700	U	25000	4700	ug/L			12/01/23 17:00	5000
Dibromochloromethane	2500	U	5000	2500	ug/L			12/01/23 17:00	5000
Dichlorodifluoromethane	3700	U	5000	3700	ug/L			12/01/23 17:00	5000
Ethylbenzene	3500	U	5000	3500	ug/L			12/01/23 17:00	5000
Isopropylbenzene	3400	U	10000	3400	ug/L			12/01/23 17:00	5000
m,p-Xylenes	6500	U	10000	6500	ug/L			12/01/23 17:00	5000
Methyl acetate	4800	U	50000	4800	ug/L			12/01/23 17:00	5000
Methyl tert-butyl ether	3000	U	10000	3000	ug/L			12/01/23 17:00	5000
Methylene Chloride	25000	U	50000	25000	ug/L			12/01/23 17:00	5000
o-Xylene	2700	U	5000	2700	ug/L			12/01/23 17:00	5000
Styrene	3100	U	5000	3100	ug/L			12/01/23 17:00	5000
Tetrachloroethene	3800	U	5000	3800	ug/L			12/01/23 17:00	5000
Toluene	3600	U	5000	3600	ug/L			12/01/23 17:00	5000
trans-1,2-Dichloroethene	3700	U	5000	3700	ug/L			12/01/23 17:00	5000
trans-1,3-Dichloropropene	3700	U	5000	3700	ug/L			12/01/23 17:00	5000
Trichloroethene	**280000**		5000	4500	ug/L			12/01/23 17:00	5000
Trichlorofluoromethane	4700	U	5000	4700	ug/L			12/01/23 17:00	5000
Vinyl chloride	3600	U	5000	3600	ug/L			12/01/23 17:00	5000
Xylenes, Total	6500	U	10000	6500	ug/L			12/01/23 17:00	5000

Client Sample ID: LC34-RW19C-20231127

Lab Sample ID: 670-30865-6

Date Collected: 11/27/23 11:20

Matrix: Water

Date Received: 11/28/23 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*12/01/23 17:00*	*5000*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*12/01/23 17:00*	*5000*
Toluene-d8 (Surr)	*107*		*40 - 146*		*12/01/23 17:00*	*5000*

Client Sample ID: LC34-RW20C-20231127

Lab Sample ID: 670-30865-7

Date Collected: 11/27/23 11:25

Matrix: Water

Date Received: 11/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	160	U	200	160	ug/L			12/01/23 16:57	200
1,1,2,2-Tetrachloroethane	110	U	200	110	ug/L			12/01/23 16:57	200
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	400	150	ug/L			12/01/23 16:57	200
1,1,2-Trichloroethane	150	U	400	150	ug/L			12/01/23 16:57	200
1,1-Dichloroethane	120	U	200	120	ug/L			12/01/23 16:57	200
1,1-Dichloroethene	190	U	200	190	ug/L			12/01/23 16:57	200
1,2,4-Trichlorobenzene	140	U	400	140	ug/L			12/01/23 16:57	200
1,2-Dibromo-3-Chloropropane	190	U	2000	190	ug/L			12/01/23 16:57	200
1,2-Dibromoethane (EDB)	160	U	2400	160	ug/L			12/01/23 16:57	200
1,2-Dichlorobenzene	150	U	200	150	ug/L			12/01/23 16:57	200
1,2-Dichloroethane	130	U	200	130	ug/L			12/01/23 16:57	200
1,2-Dichloropropane	160	U	200	160	ug/L			12/01/23 16:57	200
1,3-Dichlorobenzene	150	U	200	150	ug/L			12/01/23 16:57	200
1,4-Dichlorobenzene	150	U	200	150	ug/L			12/01/23 16:57	200
2-Butanone (MEK)	900	U	2000	900	ug/L			12/01/23 16:57	200
2-Hexanone	500	U	4000	500	ug/L			12/01/23 16:57	200
4-Methyl-2-pentanone	1000	U	4000	1000	ug/L			12/01/23 16:57	200
Acetone	5000	U	10000	5000	ug/L			12/01/23 16:57	200
Benzene	140	U	200	140	ug/L			12/01/23 16:57	200
Bromodichloromethane	100	U	200	100	ug/L			12/01/23 16:57	200
Bromoform	150	U	200	150	ug/L			12/01/23 16:57	200
Bromomethane	190	U	400	190	ug/L			12/01/23 16:57	200
Carbon disulfide	500	U	1000	500	ug/L			12/01/23 16:57	200
Carbon tetrachloride	190	U	200	190	ug/L			12/01/23 16:57	200
Chlorobenzene	140	U	200	140	ug/L			12/01/23 16:57	200
Chloroethane	200	U	400	200	ug/L			12/01/23 16:57	200
Chloroform	160	U	1000	160	ug/L			12/01/23 16:57	200
Chloromethane	160	U	400	160	ug/L			12/01/23 16:57	200
cis-1,2-Dichloroethene	**700**		200	110	ug/L			12/01/23 16:57	200
cis-1,3-Dichloropropene	120	U	200	120	ug/L			12/01/23 16:57	200
Cyclohexane	190	U	1000	190	ug/L			12/01/23 16:57	200
Dibromochloromethane	100	U	200	100	ug/L			12/01/23 16:57	200
Dichlorodifluoromethane	150	U	200	150	ug/L			12/01/23 16:57	200
Ethylbenzene	140	U	200	140	ug/L			12/01/23 16:57	200
Isopropylbenzene	130	U	400	130	ug/L			12/01/23 16:57	200
m,p-Xylenes	260	U	400	260	ug/L			12/01/23 16:57	200
Methyl acetate	190	U	2000	190	ug/L			12/01/23 16:57	200
Methyl tert-butyl ether	120	U	400	120	ug/L			12/01/23 16:57	200
Methylene Chloride	1000	U	2000	1000	ug/L			12/01/23 16:57	200
o-Xylene	110	U	200	110	ug/L			12/01/23 16:57	200

Client Sample ID: LC34-RW20C-20231127

Lab Sample ID: 670-30865-7

Date Collected: 11/27/23 11:25

Matrix: Water

Date Received: 11/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	120	U	200	120	ug/L			12/01/23 16:57	200
Tetrachloroethene	150	U	200	150	ug/L			12/01/23 16:57	200
Toluene	140	U	200	140	ug/L			12/01/23 16:57	200
trans-1,2-Dichloroethene	150	U	200	150	ug/L			12/01/23 16:57	200
trans-1,3-Dichloropropene	150	U	200	150	ug/L			12/01/23 16:57	200
Trichloroethene	**13000**		200	180	ug/L			12/01/23 16:57	200
Trichlorofluoromethane	190	U	200	190	ug/L			12/01/23 16:57	200
Vinyl chloride	140	U	200	140	ug/L			12/01/23 16:57	200
Xylenes, Total	260	U	400	260	ug/L			12/01/23 16:57	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*12/01/23 16:57*	*200*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*12/01/23 16:57*	*200*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/01/23 16:57*	*200*

Client Sample ID: LC34-RW21D-20231127

Lab Sample ID: 670-30865-8

Date Collected: 11/27/23 11:30

Matrix: Water

Date Received: 11/28/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	160	U	200	160	ug/L			12/01/23 16:40	200
1,1,2,2-Tetrachloroethane	110	U	200	110	ug/L			12/01/23 16:40	200
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	400	150	ug/L			12/01/23 16:40	200
1,1,2-Trichloroethane	150	U	400	150	ug/L			12/01/23 16:40	200
1,1-Dichloroethane	120	U	200	120	ug/L			12/01/23 16:40	200
1,1-Dichloroethene	190	U	200	190	ug/L			12/01/23 16:40	200
1,2,4-Trichlorobenzene	140	U	400	140	ug/L			12/01/23 16:40	200
1,2-Dibromo-3-Chloropropane	190	U	2000	190	ug/L			12/01/23 16:40	200
1,2-Dibromoethane (EDB)	160	U	2400	160	ug/L			12/01/23 16:40	200
1,2-Dichlorobenzene	150	U	200	150	ug/L			12/01/23 16:40	200
1,2-Dichloroethane	130	U	200	130	ug/L			12/01/23 16:40	200
1,2-Dichloropropane	160	U	200	160	ug/L			12/01/23 16:40	200
1,3-Dichlorobenzene	150	U	200	150	ug/L			12/01/23 16:40	200
1,4-Dichlorobenzene	150	U	200	150	ug/L			12/01/23 16:40	200
2-Butanone (MEK)	900	U	2000	900	ug/L			12/01/23 16:40	200
2-Hexanone	500	U	4000	500	ug/L			12/01/23 16:40	200
4-Methyl-2-pentanone	1000	U	4000	1000	ug/L			12/01/23 16:40	200
Acetone	5000	U	10000	5000	ug/L			12/01/23 16:40	200
Benzene	140	U	200	140	ug/L			12/01/23 16:40	200
Bromodichloromethane	100	U	200	100	ug/L			12/01/23 16:40	200
Bromoform	150	U	200	150	ug/L			12/01/23 16:40	200
Bromomethane	190	U	400	190	ug/L			12/01/23 16:40	200
Carbon disulfide	500	U	1000	500	ug/L			12/01/23 16:40	200
Carbon tetrachloride	190	U	200	190	ug/L			12/01/23 16:40	200
Chlorobenzene	140	U	200	140	ug/L			12/01/23 16:40	200
Chloroethane	200	U	400	200	ug/L			12/01/23 16:40	200
Chloroform	160	U	1000	160	ug/L			12/01/23 16:40	200
Chloromethane	160	U	400	160	ug/L			12/01/23 16:40	200
cis-1,2-Dichloroethene	**3900**		200	110	ug/L			12/01/23 16:40	200

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30865-1

Client Sample ID: LC34-RW21D-20231127
Date Collected: 11/27/23 11:30
Date Received: 11/28/23 08:00

Lab Sample ID: 670-30865-8
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	120	U	200	120	ug/L			12/01/23 16:40	200
Cyclohexane	190	U	1000	190	ug/L			12/01/23 16:40	200
Dibromochloromethane	100	U	200	100	ug/L			12/01/23 16:40	200
Dichlorodifluoromethane	150	U	200	150	ug/L			12/01/23 16:40	200
Ethylbenzene	140	U	200	140	ug/L			12/01/23 16:40	200
Isopropylbenzene	130	U	400	130	ug/L			12/01/23 16:40	200
m,p-Xylenes	260	U	400	260	ug/L			12/01/23 16:40	200
Methyl acetate	190	U	2000	190	ug/L			12/01/23 16:40	200
Methyl tert-butyl ether	120	U	400	120	ug/L			12/01/23 16:40	200
Methylene Chloride	1000	U	2000	1000	ug/L			12/01/23 16:40	200
o-Xylene	110	U	200	110	ug/L			12/01/23 16:40	200
Styrene	120	U	200	120	ug/L			12/01/23 16:40	200
Tetrachloroethene	150	U	200	150	ug/L			12/01/23 16:40	200
Toluene	140	U	200	140	ug/L			12/01/23 16:40	200
trans-1,2-Dichloroethene	150	U	200	150	ug/L			12/01/23 16:40	200
trans-1,3-Dichloropropene	150	U	200	150	ug/L			12/01/23 16:40	200
Trichloroethene	**8200**		200	180	ug/L			12/01/23 16:40	200
Trichlorofluoromethane	190	U	200	190	ug/L			12/01/23 16:40	200
Vinyl chloride	140	U	200	140	ug/L			12/01/23 16:40	200
Xylenes, Total	260	U	400	260	ug/L			12/01/23 16:40	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*12/01/23 16:40*	*200*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*12/01/23 16:40*	*200*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/01/23 16:40*	*200*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30865-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
		BFB	DBFM	TOL						
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)						
670-30865-1	LC34-GAC-20231127	99	102	100						
670-30865-2	LC34-AS1-20231127	94	101	100						
670-30865-3 - DL	LC34-AS2-20231127	95	108	101						
670-30865-3 MS - DL	LC34-AS2-20231127	94	100	100						
670-30865-3 MSD - DL	LC34-AS2-20231127	93	99	100						
670-30865-4 - DL	LC34-RW17C-20231127	97	103	100						
670-30865-5 - DL	LC34-RW18C-20231127	95	101	99						
670-30865-5 MS	LC34-RW18C-20231127	93	102	100						
670-30865-5 MSD	LC34-RW18C-20231127	95	99	100						
670-30865-6 - DL	LC34-RW19C-20231127	94	104	107						
670-30865-7 - DL	LC34-RW20C-20231127	98	101	99						
670-30865-8 - DL	LC34-RW21D-20231127	97	101	99						
670-30949-C-1 DU	Duplicate	96	108	100						
670-30949-C-2 MS	Matrix Spike	93	102	97						
670-30969-F-1 DU	Duplicate	96	104	104						
670-30969-G-2 MS	Matrix Spike	93	105	105						
LCS 670-65404/4	Lab Control Sample	93	100	100						
LCS 670-65460/4	Lab Control Sample	97	100	98						
LCS 670-65626/5	Lab Control Sample	95	104	106						
LCS 670-65634/4	Lab Control Sample	95	101	100						
MB 670-65404/7	Method Blank	94	101	100						
MB 670-65460/7	Method Blank	95	106	100						
MB 670-65626/8	Method Blank	95	104	105						
MB 670-65634/7	Method Blank	96	101	100						

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-65404/7
Matrix: Water
Analysis Batch: 65404

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			11/30/23 10:02	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			11/30/23 10:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			11/30/23 10:02	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			11/30/23 10:02	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			11/30/23 10:02	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			11/30/23 10:02	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			11/30/23 10:02	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			11/30/23 10:02	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			11/30/23 10:02	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			11/30/23 10:02	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			11/30/23 10:02	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			11/30/23 10:02	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			11/30/23 10:02	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			11/30/23 10:02	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			11/30/23 10:02	1
2-Hexanone	2.5	U	20	2.5	ug/L			11/30/23 10:02	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			11/30/23 10:02	1
Acetone	25	U	50	25	ug/L			11/30/23 10:02	1
Benzene	0.71	U	1.0	0.71	ug/L			11/30/23 10:02	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			11/30/23 10:02	1
Bromoform	0.75	U	1.0	0.75	ug/L			11/30/23 10:02	1
Bromomethane	0.95	U	2.0	0.95	ug/L			11/30/23 10:02	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			11/30/23 10:02	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			11/30/23 10:02	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			11/30/23 10:02	1
Chloroethane	0.98	U	2.0	0.98	ug/L			11/30/23 10:02	1
Chloroform	0.80	U	5.0	0.80	ug/L			11/30/23 10:02	1
Chloromethane	0.82	U	2.0	0.82	ug/L			11/30/23 10:02	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			11/30/23 10:02	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			11/30/23 10:02	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			11/30/23 10:02	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			11/30/23 10:02	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			11/30/23 10:02	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			11/30/23 10:02	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			11/30/23 10:02	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			11/30/23 10:02	1
Methyl acetate	0.95	U	10	0.95	ug/L			11/30/23 10:02	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			11/30/23 10:02	1
Methylene Chloride	5.0	U	10	5.0	ug/L			11/30/23 10:02	1
o-Xylene	0.53	U	1.0	0.53	ug/L			11/30/23 10:02	1
Styrene	0.61	U	1.0	0.61	ug/L			11/30/23 10:02	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			11/30/23 10:02	1
Toluene	0.72	U	1.0	0.72	ug/L			11/30/23 10:02	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			11/30/23 10:02	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			11/30/23 10:02	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			11/30/23 10:02	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			11/30/23 10:02	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			11/30/23 10:02	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-65404/7
Matrix: Water
Analysis Batch: 65404

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			11/30/23 10:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*11/30/23 10:02*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*11/30/23 10:02*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*11/30/23 10:02*	*1*

Lab Sample ID: LCS 670-65404/4
Matrix: Water
Analysis Batch: 65404

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	15.1		ug/L		76	57 - 148
1,1,2,2-Tetrachloroethane	20.0	16.7		ug/L		83	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	14.5		ug/L		72	47 - 173
1,1,2-Trichloroethane	20.0	16.5		ug/L		83	57 - 141
1,1-Dichloroethane	20.0	15.3		ug/L		76	57 - 142
1,1-Dichloroethene	20.0	15.2		ug/L		76	47 - 139
1,2,4-Trichlorobenzene	20.0	16.2		ug/L		81	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	13.8		ug/L		69	48 - 150
1,2-Dibromoethane (EDB)	20.0	15.3		ug/L		76	57 - 140
1,2-Dichlorobenzene	20.0	17.0		ug/L		85	63 - 131
1,2-Dichloroethane	20.0	14.4		ug/L		72	50 - 156
1,2-Dichloropropane	20.0	16.3		ug/L		82	61 - 133
1,3-Dichlorobenzene	20.0	16.9		ug/L		84	66 - 129
1,4-Dichlorobenzene	20.0	16.9		ug/L		85	65 - 133
2-Butanone (MEK)	200	132		ug/L		66	10 - 180
2-Hexanone	200	137		ug/L		69	12 - 180
4-Methyl-2-pentanone	200	140		ug/L		70	19 - 180
Acetone	200	139		ug/L		69	10 - 180
Benzene	20.0	15.5		ug/L		77	56 - 136
Bromodichloromethane	20.0	16.2		ug/L		81	58 - 135
Bromoform	20.0	15.2		ug/L		76	46 - 148
Bromomethane	20.0	9.63		ug/L		48	10 - 173
Carbon disulfide	20.0	14.7		ug/L		73	43 - 153
Carbon tetrachloride	20.0	14.9		ug/L		74	54 - 156
Chlorobenzene	20.0	17.1		ug/L		86	51 - 139
Chloroethane	20.0	19.5		ug/L		98	27 - 180
Chloroform	20.0	16.5		ug/L		83	58 - 139
Chloromethane	20.0	12.6		ug/L		63	33 - 154
cis-1,2-Dichloroethene	20.0	15.4		ug/L		77	56 - 128
cis-1,3-Dichloropropene	20.0	14.8		ug/L		74	64 - 128
Cyclohexane	20.0	14.8		ug/L		74	14 - 151
Dibromochloromethane	20.0	16.2		ug/L		81	50 - 140
Dichlorodifluoromethane	20.0	14.0		ug/L		70	10 - 180
Ethylbenzene	20.0	16.5		ug/L		82	63 - 133
Isopropylbenzene	20.0	16.6		ug/L		83	60 - 132
m,p-Xylenes	20.0	15.6		ug/L		78	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-65404/4
Matrix: Water
Analysis Batch: 65404

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	27.6	J3	ug/L		69	70 - 130
Methyl tert-butyl ether	20.0	13.6		ug/L		68	51 - 145
Methylene Chloride	20.0	16.4		ug/L		82	43 - 142
o-Xylene	20.0	15.4		ug/L		77	61 - 129
Styrene	20.0	15.8		ug/L		79	59 - 136
Tetrachloroethene	20.0	16.2		ug/L		81	60 - 147
Toluene	20.0	15.7		ug/L		78	64 - 131
trans-1,2-Dichloroethene	20.0	15.0		ug/L		75	54 - 134
trans-1,3-Dichloropropene	20.0	15.6		ug/L		78	65 - 149
Trichloroethene	20.0	16.3		ug/L		82	62 - 135
Trichlorofluoromethane	20.0	17.9		ug/L		90	56 - 155
Vinyl chloride	20.0	17.4		ug/L		87	20 - 167
Xylenes, Total	40.0	31.0		ug/L		78	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: MB 670-65460/7
Matrix: Water
Analysis Batch: 65460

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			11/30/23 14:27	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			11/30/23 14:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			11/30/23 14:27	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			11/30/23 14:27	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			11/30/23 14:27	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			11/30/23 14:27	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			11/30/23 14:27	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			11/30/23 14:27	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			11/30/23 14:27	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			11/30/23 14:27	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			11/30/23 14:27	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			11/30/23 14:27	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			11/30/23 14:27	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			11/30/23 14:27	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			11/30/23 14:27	1
2-Hexanone	2.5	U	20	2.5	ug/L			11/30/23 14:27	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			11/30/23 14:27	1
Acetone	25	U	50	25	ug/L			11/30/23 14:27	1
Benzene	0.71	U	1.0	0.71	ug/L			11/30/23 14:27	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			11/30/23 14:27	1
Bromoform	0.75	U	1.0	0.75	ug/L			11/30/23 14:27	1
Bromomethane	0.95	U	2.0	0.95	ug/L			11/30/23 14:27	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			11/30/23 14:27	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			11/30/23 14:27	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-65460/7
Matrix: Water
Analysis Batch: 65460

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	0.72	U	1.0	0.72	ug/L			11/30/23 14:27	1
Chloroethane	0.98	U	2.0	0.98	ug/L			11/30/23 14:27	1
Chloroform	0.80	U	5.0	0.80	ug/L			11/30/23 14:27	1
Chloromethane	0.82	U	2.0	0.82	ug/L			11/30/23 14:27	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			11/30/23 14:27	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			11/30/23 14:27	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			11/30/23 14:27	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			11/30/23 14:27	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			11/30/23 14:27	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			11/30/23 14:27	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			11/30/23 14:27	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			11/30/23 14:27	1
Methyl acetate	0.95	U	10	0.95	ug/L			11/30/23 14:27	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			11/30/23 14:27	1
Methylene Chloride	5.0	U	10	5.0	ug/L			11/30/23 14:27	1
o-Xylene	0.53	U	1.0	0.53	ug/L			11/30/23 14:27	1
Styrene	0.61	U	1.0	0.61	ug/L			11/30/23 14:27	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			11/30/23 14:27	1
Toluene	0.72	U	1.0	0.72	ug/L			11/30/23 14:27	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			11/30/23 14:27	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			11/30/23 14:27	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			11/30/23 14:27	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			11/30/23 14:27	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			11/30/23 14:27	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			11/30/23 14:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*11/30/23 14:27*	*1*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*11/30/23 14:27*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*11/30/23 14:27*	*1*

Lab Sample ID: LCS 670-65460/4
Matrix: Water
Analysis Batch: 65460

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	19.7		ug/L		99	57 - 148
1,1,2,2-Tetrachloroethane	20.0	22.4		ug/L		112	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	21.0		ug/L		105	47 - 173
1,1,2-Trichloroethane	20.0	19.2		ug/L		96	57 - 141
1,1-Dichloroethane	20.0	19.5		ug/L		98	57 - 142
1,1-Dichloroethene	20.0	19.5		ug/L		98	47 - 139
1,2,4-Trichlorobenzene	20.0	19.4		ug/L		97	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	16.5		ug/L		83	48 - 150
1,2-Dibromoethane (EDB)	20.0	18.1		ug/L		91	57 - 140
1,2-Dichlorobenzene	20.0	20.1		ug/L		100	63 - 131
1,2-Dichloroethane	20.0	20.6		ug/L		103	50 - 156
1,2-Dichloropropane	20.0	18.1		ug/L		91	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-65460/4
Matrix: Water
Analysis Batch: 65460

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	20.0	19.7		ug/L		99	66 - 129
1,4-Dichlorobenzene	20.0	20.6		ug/L		103	65 - 133
2-Butanone (MEK)	200	160		ug/L		80	10 - 180
2-Hexanone	200	155		ug/L		77	12 - 180
4-Methyl-2-pentanone	200	160		ug/L		80	19 - 180
Acetone	200	172		ug/L		86	10 - 180
Benzene	20.0	19.1		ug/L		96	56 - 136
Bromodichloromethane	20.0	19.0		ug/L		95	58 - 135
Bromoform	20.0	19.2		ug/L		96	46 - 148
Bromomethane	20.0	27.8		ug/L		139	10 - 173
Carbon disulfide	20.0	19.3		ug/L		97	43 - 153
Carbon tetrachloride	20.0	19.3		ug/L		97	54 - 156
Chlorobenzene	20.0	19.3		ug/L		97	51 - 139
Chloroethane	20.0	30.4		ug/L		152	27 - 180
Chloroform	20.0	20.3		ug/L		101	58 - 139
Chloromethane	20.0	22.5		ug/L		113	33 - 154
cis-1,2-Dichloroethene	20.0	19.3		ug/L		97	56 - 128
cis-1,3-Dichloropropene	20.0	17.1		ug/L		85	64 - 128
Cyclohexane	20.0	17.4		ug/L		87	14 - 151
Dibromochloromethane	20.0	18.4		ug/L		92	50 - 140
Dichlorodifluoromethane	20.0	54.0	L J3	ug/L		270	10 - 180
Ethylbenzene	20.0	18.8		ug/L		94	63 - 133
Isopropylbenzene	20.0	19.9		ug/L		100	60 - 132
m,p-Xylenes	20.0	18.3		ug/L		92	64 - 133
Methyl acetate	40.0	33.7		ug/L		84	70 - 130
Methyl tert-butyl ether	20.0	17.4		ug/L		87	51 - 145
Methylene Chloride	20.0	19.2		ug/L		96	43 - 142
o-Xylene	20.0	17.5		ug/L		88	61 - 129
Styrene	20.0	17.3		ug/L		87	59 - 136
Tetrachloroethene	20.0	18.7		ug/L		94	60 - 147
Toluene	20.0	18.4		ug/L		92	64 - 131
trans-1,2-Dichloroethene	20.0	19.6		ug/L		98	54 - 134
trans-1,3-Dichloropropene	20.0	18.2		ug/L		91	65 - 149
Trichloroethene	20.0	18.7		ug/L		93	62 - 135
Trichlorofluoromethane	20.0	29.2		ug/L		146	56 - 155
Vinyl chloride	20.0	28.8		ug/L		144	20 - 167
Xylenes, Total	40.0	35.8		ug/L		90	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-30949-C-2 MS
Matrix: Water
Analysis Batch: 65460

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	22.2		ug/L		111	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	23.6		ug/L		118	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	23.0		ug/L		115	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	20.8		ug/L		104	57 - 141
1,1-Dichloroethane	0.62	U	20.0	20.7		ug/L		103	57 - 142
1,1-Dichloroethene	0.94	U	20.0	21.9		ug/L		109	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	19.2		ug/L		96	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	18.4		ug/L		92	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	19.1		ug/L		96	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	20.5		ug/L		103	63 - 131
1,2-Dichloroethane	0.63	U	20.0	21.7		ug/L		109	50 - 156
1,2-Dichloropropane	0.80	U	20.0	18.8		ug/L		94	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	20.5		ug/L		102	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	20.5		ug/L		102	65 - 133
2-Butanone (MEK)	4.5	U	200	174		ug/L		87	10 - 180
2-Hexanone	2.5	U	200	175		ug/L		88	12 - 180
4-Methyl-2-pentanone	5.0	U	200	178		ug/L		89	19 - 180
Acetone	25	U	200	180		ug/L		90	10 - 180
Benzene	0.71	U	20.0	20.5		ug/L		102	56 - 136
Bromodichloromethane	0.52	U	20.0	20.0		ug/L		100	58 - 135
Bromoform	0.75	U	20.0	19.2		ug/L		96	46 - 148
Bromomethane	0.95	U	20.0	29.7		ug/L		148	10 - 173
Carbon disulfide	2.5	U	20.0	21.6		ug/L		108	43 - 153
Carbon tetrachloride	0.94	U	20.0	21.4		ug/L		107	54 - 156
Chlorobenzene	0.72	U	20.0	20.6		ug/L		103	51 - 139
Chloroethane	0.98	U	20.0	32.8		ug/L		164	27 - 180
Chloroform	0.80	U	20.0	22.1		ug/L		111	59 - 139
Chloromethane	0.82	U	20.0	22.9		ug/L		115	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	20.6		ug/L		103	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	17.7		ug/L		89	64 - 128
Cyclohexane	0.93	U	20.0	19.7		ug/L		98	14 - 141
Dibromochloromethane	0.50	U	20.0	19.7		ug/L		98	50 - 150
Dichlorodifluoromethane	0.74	U J3	20.0	57.0	L J3	ug/L		285	10 - 180
Ethylbenzene	0.69	U	20.0	19.8		ug/L		99	63 - 133
Isopropylbenzene	0.67	U	20.0	20.9		ug/L		104	60 - 132
m,p-Xylenes	1.3	U	20.0	20.3		ug/L		101	64 - 133
Methyl acetate	0.95	U	40.0	36.3		ug/L		91	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	18.2		ug/L		91	50 - 150
Methylene Chloride	5.0	U	20.0	20.9		ug/L		104	43 - 142
o-Xylene	0.53	U	20.0	19.2		ug/L		96	61 - 129
Styrene	0.61	U	20.0	18.5		ug/L		92	59 - 136
Tetrachloroethene	0.76	U	20.0	21.3		ug/L		106	60 - 147
Toluene	0.72	U	20.0	19.9		ug/L		99	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	21.2		ug/L		106	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	19.3		ug/L		96	65 - 149
Trichloroethene	0.89	U	20.0	19.8		ug/L		99	62 - 135
Trichlorofluoromethane	0.94	U	20.0	31.0		ug/L		155	56 - 155
Vinyl chloride	0.71	U	20.0	29.2		ug/L		146	20 - 167

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-30949-C-2 MS
Matrix: Water
Analysis Batch: 65460

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Xylenes, Total	1.3	U	40.0	39.5		ug/L		99	50 - 150		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Lab Sample ID: 670-30949-C-1 DU
Matrix: Water
Analysis Batch: 65460

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U		0.80	U	ug/L				NC	30
1,1,2,2-Tetrachloroethane	0.54	U		0.54	U	ug/L				NC	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U		0.73	U	ug/L				NC	30
1,1,2-Trichloroethane	0.76	U		0.76	U	ug/L				NC	30
1,1-Dichloroethane	0.62	U		0.62	U	ug/L				NC	30
1,1-Dichloroethene	0.94	U		0.94	U	ug/L				NC	30
1,2,4-Trichlorobenzene	0.70	U		0.70	U	ug/L				NC	30
1,2-Dibromo-3-Chloropropane	0.96	U		0.96	U	ug/L				NC	30
1,2-Dibromoethane (EDB)	0.78	U		0.78	U	ug/L				NC	30
1,2-Dichlorobenzene	0.73	U		0.73	U	ug/L				NC	30
1,2-Dichloroethane	0.63	U		0.63	U	ug/L				NC	30
1,2-Dichloropropane	0.80	U		0.80	U	ug/L				NC	30
1,3-Dichlorobenzene	0.77	U		0.77	U	ug/L				NC	30
1,4-Dichlorobenzene	0.76	U		0.76	U	ug/L				NC	30
2-Butanone (MEK)	4.5	U		4.5	U	ug/L				NC	30
2-Hexanone	2.5	U		2.5	U	ug/L				NC	30
4-Methyl-2-pentanone	5.0	U		5.0	U	ug/L				NC	30
Acetone	25	U		25	U	ug/L				NC	30
Benzene	0.71	U		0.71	U	ug/L				NC	30
Bromodichloromethane	0.52	U		0.52	U	ug/L				NC	30
Bromoform	0.75	U		0.75	U	ug/L				NC	30
Bromomethane	0.95	U		0.95	U	ug/L				NC	30
Carbon disulfide	2.5	U		2.5	U	ug/L				NC	30
Carbon tetrachloride	0.94	U		0.94	U	ug/L				NC	30
Chlorobenzene	0.72	U		0.72	U	ug/L				NC	30
Chloroethane	0.98	U		0.98	U	ug/L				NC	30
Chloroform	0.80	U		0.80	U	ug/L				NC	30
Chloromethane	0.82	U		0.82	U	ug/L				NC	30
cis-1,2-Dichloroethene	0.53	U		0.53	U	ug/L				NC	30
cis-1,3-Dichloropropene	0.59	U		0.59	U	ug/L				NC	30
Cyclohexane	0.93	U		0.93	U	ug/L				NC	30
Dibromochloromethane	0.50	U		0.50	U	ug/L				NC	30
Dichlorodifluoromethane	0.74	U J3		0.74	U J3	ug/L				NC	30
Ethylbenzene	0.69	U		0.69	U	ug/L				NC	30
Isopropylbenzene	0.67	U		0.67	U	ug/L				NC	30
m,p-Xylenes	1.3	U		1.3	U	ug/L				NC	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-30949-C-1 DU
Matrix: Water
Analysis Batch: 65460

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Methyl acetate	0.95	U		0.95	U	ug/L				NC	30
Methyl tert-butyl ether	0.60	U		0.60	U	ug/L				NC	30
Methylene Chloride	5.0	U		5.0	U	ug/L				NC	30
o-Xylene	0.53	U		0.53	U	ug/L				NC	30
Styrene	0.61	U		0.61	U	ug/L				NC	30
Tetrachloroethene	0.76	U		0.76	U	ug/L				NC	30
Toluene	0.72	U		0.72	U	ug/L				NC	30
trans-1,2-Dichloroethene	0.73	U		0.73	U	ug/L				NC	20
trans-1,3-Dichloropropene	0.73	U		0.73	U	ug/L				NC	30
Trichloroethene	0.89	U		0.89	U	ug/L				NC	30
Trichlorofluoromethane	0.94	U		0.94	U	ug/L				NC	30
Vinyl chloride	0.71	U		0.71	U	ug/L				NC	30
Xylenes, Total	1.3	U		1.3	U	ug/L				NC	30

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*
Dibromofluoromethane (Surr)	*108*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: MB 670-65626/8
Matrix: Water
Analysis Batch: 65626

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/01/23 10:33	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/01/23 10:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/01/23 10:33	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/01/23 10:33	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/01/23 10:33	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/01/23 10:33	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/01/23 10:33	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/01/23 10:33	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/01/23 10:33	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/01/23 10:33	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/01/23 10:33	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/01/23 10:33	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/01/23 10:33	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/01/23 10:33	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/01/23 10:33	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/01/23 10:33	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/01/23 10:33	1
Acetone	25	U	50	25	ug/L			12/01/23 10:33	1
Benzene	0.71	U	1.0	0.71	ug/L			12/01/23 10:33	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/01/23 10:33	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/01/23 10:33	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/01/23 10:33	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/01/23 10:33	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/01/23 10:33	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-65626/8
Matrix: Water
Analysis Batch: 65626

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/01/23 10:33	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/01/23 10:33	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/01/23 10:33	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/01/23 10:33	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/01/23 10:33	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/01/23 10:33	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/01/23 10:33	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/01/23 10:33	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/01/23 10:33	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/01/23 10:33	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/01/23 10:33	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/01/23 10:33	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/01/23 10:33	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/01/23 10:33	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/01/23 10:33	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/01/23 10:33	1
Styrene	0.61	U	1.0	0.61	ug/L			12/01/23 10:33	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/01/23 10:33	1
Toluene	0.72	U	1.0	0.72	ug/L			12/01/23 10:33	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/01/23 10:33	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/01/23 10:33	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/01/23 10:33	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/01/23 10:33	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/01/23 10:33	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/01/23 10:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*12/01/23 10:33*	*1*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*12/01/23 10:33*	*1*
Toluene-d8 (Surr)	*105*		*40 - 146*		*12/01/23 10:33*	*1*

Lab Sample ID: LCS 670-65626/5
Matrix: Water
Analysis Batch: 65626

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.6		ug/L		103	57 - 148
1,1,2,2-Tetrachloroethane	20.0	19.1		ug/L		95	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	19.6		ug/L		98	47 - 173
1,1,2-Trichloroethane	20.0	22.1		ug/L		111	57 - 141
1,1-Dichloroethane	20.0	20.6		ug/L		103	57 - 142
1,1-Dichloroethene	20.0	20.1		ug/L		101	47 - 139
1,2,4-Trichlorobenzene	20.0	19.9		ug/L		100	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	18.8		ug/L		94	48 - 150
1,2-Dibromoethane (EDB)	20.0	21.6		ug/L		108	57 - 140
1,2-Dichlorobenzene	20.0	18.6		ug/L		93	63 - 131
1,2-Dichloroethane	20.0	22.3		ug/L		111	50 - 156
1,2-Dichloropropane	20.0	24.0		ug/L		120	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-65626/5
Matrix: Water
Analysis Batch: 65626

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	20.0	18.8		ug/L		94	66 - 129
1,4-Dichlorobenzene	20.0	18.0		ug/L		90	65 - 133
2-Butanone (MEK)	200	246		ug/L		123	10 - 180
2-Hexanone	200	236		ug/L		118	12 - 180
4-Methyl-2-pentanone	200	251		ug/L		126	19 - 180
Acetone	200	223		ug/L		112	10 - 180
Benzene	20.0	20.7		ug/L		103	56 - 136
Bromodichloromethane	20.0	24.3		ug/L		121	58 - 135
Bromoform	20.0	17.3		ug/L		86	46 - 148
Bromomethane	20.0	21.1		ug/L		106	10 - 173
Carbon disulfide	20.0	21.4		ug/L		107	43 - 153
Carbon tetrachloride	20.0	19.8		ug/L		99	54 - 156
Chlorobenzene	20.0	19.6		ug/L		98	51 - 139
Chloroethane	20.0	23.0		ug/L		115	27 - 180
Chloroform	20.0	23.1		ug/L		115	58 - 139
Chloromethane	20.0	21.7		ug/L		109	33 - 154
cis-1,2-Dichloroethene	20.0	23.9		ug/L		120	56 - 128
cis-1,3-Dichloropropene	20.0	19.4		ug/L		97	64 - 128
Cyclohexane	20.0	21.1		ug/L		106	14 - 151
Dibromochloromethane	20.0	21.5		ug/L		107	50 - 140
Dichlorodifluoromethane	20.0	21.1		ug/L		106	10 - 180
Ethylbenzene	20.0	18.5		ug/L		93	63 - 133
Isopropylbenzene	20.0	17.6		ug/L		88	60 - 132
m,p-Xylenes	20.0	18.4		ug/L		92	64 - 133
Methyl acetate	40.0	43.1		ug/L		108	70 - 130
Methyl tert-butyl ether	20.0	20.7		ug/L		103	51 - 145
Methylene Chloride	20.0	24.2		ug/L		121	43 - 142
o-Xylene	20.0	18.2		ug/L		91	61 - 129
Styrene	20.0	20.9		ug/L		104	59 - 136
Tetrachloroethene	20.0	21.0		ug/L		105	60 - 147
Toluene	20.0	20.6		ug/L		103	64 - 131
trans-1,2-Dichloroethene	20.0	22.6		ug/L		113	54 - 134
trans-1,3-Dichloropropene	20.0	21.2		ug/L		106	65 - 149
Trichloroethene	20.0	20.5		ug/L		103	62 - 135
Trichlorofluoromethane	20.0	22.0		ug/L		110	56 - 155
Vinyl chloride	20.0	23.9		ug/L		119	20 - 167
Xylenes, Total	40.0	36.6		ug/L		92	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*
Dibromofluoromethane (Surr)	*104*		*53 - 146*
Toluene-d8 (Surr)	*106*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-30969-G-2 MS
Matrix: Water
Analysis Batch: 65626

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	18.7		ug/L		94	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	16.2		ug/L		81	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	17.9		ug/L		89	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	18.6		ug/L		93	57 - 141
1,1-Dichloroethane	0.62	U	20.0	19.0		ug/L		95	57 - 142
1,1-Dichloroethene	0.94	U	20.0	17.0		ug/L		85	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	15.8		ug/L		79	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	15.5		ug/L		78	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	18.7		ug/L		94	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	15.5		ug/L		77	63 - 131
1,2-Dichloroethane	0.63	U	20.0	19.1		ug/L		96	50 - 156
1,2-Dichloropropane	0.80	U	20.0	20.4		ug/L		102	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	15.4		ug/L		77	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	15.2		ug/L		76	65 - 133
2-Butanone (MEK)	4.5	U	200	203		ug/L		102	10 - 180
2-Hexanone	2.5	U	200	196		ug/L		98	12 - 180
4-Methyl-2-pentanone	5.0	U	200	212		ug/L		106	19 - 180
Acetone	25	U	200	180		ug/L		90	10 - 180
Benzene	0.71	U	20.0	18.5		ug/L		92	56 - 136
Bromodichloromethane	0.52	U	20.0	20.6		ug/L		103	58 - 135
Bromoform	0.75	U	20.0	14.6		ug/L		73	46 - 148
Bromomethane	0.95	U	20.0	18.8		ug/L		94	10 - 173
Carbon disulfide	2.5	U	20.0	15.9		ug/L		79	43 - 153
Carbon tetrachloride	0.94	U	20.0	18.1		ug/L		91	54 - 156
Chlorobenzene	0.72	U	20.0	17.4		ug/L		87	51 - 139
Chloroethane	0.98	U	20.0	23.2		ug/L		116	27 - 180
Chloroform	0.80	U	20.0	20.4		ug/L		102	59 - 139
Chloromethane	0.82	U	20.0	21.3		ug/L		106	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	20.8		ug/L		104	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	16.6		ug/L		83	64 - 128
Cyclohexane	0.93	U	20.0	18.8		ug/L		94	14 - 141
Dibromochloromethane	0.50	U	20.0	18.5		ug/L		92	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	19.4		ug/L		97	10 - 180
Ethylbenzene	0.69	U	20.0	16.7		ug/L		84	63 - 133
Isopropylbenzene	0.67	U	20.0	15.3		ug/L		77	60 - 132
m,p-Xylenes	1.3	U	20.0	16.6		ug/L		83	64 - 133
Methyl acetate	0.95	U	40.0	36.2		ug/L		90	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	17.7		ug/L		88	50 - 150
Methylene Chloride	5.0	U	20.0	20.8		ug/L		104	43 - 142
o-Xylene	0.53	U	20.0	16.3		ug/L		82	61 - 129
Styrene	0.61	U	20.0	18.0		ug/L		90	59 - 136
Tetrachloroethene	0.76	U	20.0	18.9		ug/L		95	60 - 147
Toluene	0.72	U	20.0	18.1		ug/L		90	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	19.6		ug/L		98	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	17.9		ug/L		90	65 - 149
Trichloroethene	0.89	U	20.0	18.6		ug/L		93	62 - 135
Trichlorofluoromethane	0.94	U	20.0	22.9		ug/L		115	56 - 155
Vinyl chloride	0.71	U	20.0	24.7		ug/L		123	20 - 167

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-30969-G-2 MS
Matrix: Water
Analysis Batch: 65626

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Xylenes, Total	1.3	U	40.0	32.9		ug/L		82	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*
Dibromofluoromethane (Surr)	*105*		*53 - 146*
Toluene-d8 (Surr)	*105*		*40 - 146*

Lab Sample ID: 670-30969-F-1 DU
Matrix: Water
Analysis Batch: 65626

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	0.80	U	ug/L		NC	30
1,1,2,2-Tetrachloroethane	0.54	U	0.54	U	ug/L		NC	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	0.73	U	ug/L		NC	30
1,1,2-Trichloroethane	0.76	U	0.76	U	ug/L		NC	30
1,1-Dichloroethane	0.62	U	0.62	U	ug/L		NC	30
1,1-Dichloroethene	0.94	U	0.94	U	ug/L		NC	30
1,2,4-Trichlorobenzene	0.70	U	0.70	U	ug/L		NC	30
1,2-Dibromo-3-Chloropropane	0.96	U	0.96	U	ug/L		NC	30
1,2-Dibromoethane (EDB)	0.78	U	0.78	U	ug/L		NC	30
1,2-Dichlorobenzene	0.73	U	0.73	U	ug/L		NC	30
1,2-Dichloroethane	0.63	U	0.63	U	ug/L		NC	30
1,2-Dichloropropane	0.80	U	0.80	U	ug/L		NC	30
1,3-Dichlorobenzene	0.77	U	0.77	U	ug/L		NC	30
1,4-Dichlorobenzene	0.76	U	0.76	U	ug/L		NC	30
2-Butanone (MEK)	4.5	U	4.5	U	ug/L		NC	30
2-Hexanone	2.5	U	2.5	U	ug/L		NC	30
4-Methyl-2-pentanone	5.0	U	5.0	U	ug/L		NC	30
Acetone	25	U	25	U	ug/L		NC	30
Benzene	0.71	U	0.71	U	ug/L		NC	30
Bromodichloromethane	0.52	U	0.52	U	ug/L		NC	30
Bromoform	0.75	U	0.75	U	ug/L		NC	30
Bromomethane	0.95	U	0.95	U	ug/L		NC	30
Carbon disulfide	2.5	U	2.5	U	ug/L		NC	30
Carbon tetrachloride	0.94	U	0.94	U	ug/L		NC	30
Chlorobenzene	0.72	U	0.72	U	ug/L		NC	30
Chloroethane	0.98	U	0.98	U	ug/L		NC	30
Chloroform	0.80	U	0.80	U	ug/L		NC	30
Chloromethane	0.82	U	0.82	U	ug/L		NC	30
cis-1,2-Dichloroethene	0.53	U	0.53	U	ug/L		NC	30
cis-1,3-Dichloropropene	0.59	U	0.59	U	ug/L		NC	30
Cyclohexane	0.93	U	0.93	U	ug/L		NC	30
Dibromochloromethane	0.50	U	0.50	U	ug/L		NC	30
Dichlorodifluoromethane	0.74	U	0.74	U	ug/L		NC	30
Ethylbenzene	0.69	U	0.69	U	ug/L		NC	30
Isopropylbenzene	0.67	U	0.67	U	ug/L		NC	30
m,p-Xylenes	1.3	U	1.3	U	ug/L		NC	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-30969-F-1 DU
Matrix: Water
Analysis Batch: 65626

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Methyl acetate	0.95	U		0.95	U	ug/L				NC	30
Methyl tert-butyl ether	0.60	U		0.60	U	ug/L				NC	30
Methylene Chloride	5.0	U		5.0	U	ug/L				NC	30
o-Xylene	0.53	U		0.53	U	ug/L				NC	30
Styrene	0.61	U		0.61	U	ug/L				NC	30
Tetrachloroethene	0.76	U		0.76	U	ug/L				NC	30
Toluene	0.72	U		0.72	U	ug/L				NC	30
trans-1,2-Dichloroethene	0.73	U		0.73	U	ug/L				NC	20
trans-1,3-Dichloropropene	0.73	U		0.73	U	ug/L				NC	30
Trichloroethene	0.89	U		0.89	U	ug/L				NC	30
Trichlorofluoromethane	0.94	U		0.94	U	ug/L				NC	30
Vinyl chloride	0.71	U		0.71	U	ug/L				NC	30
Xylenes, Total	1.3	U		1.3	U	ug/L				NC	30

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*
Dibromofluoromethane (Surr)	*104*		*53 - 146*
Toluene-d8 (Surr)	*104*		*40 - 146*

Lab Sample ID: MB 670-65634/7
Matrix: Water
Analysis Batch: 65634

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/01/23 10:17	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/01/23 10:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/01/23 10:17	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/01/23 10:17	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/01/23 10:17	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/01/23 10:17	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/01/23 10:17	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/01/23 10:17	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/01/23 10:17	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/01/23 10:17	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/01/23 10:17	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/01/23 10:17	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/01/23 10:17	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/01/23 10:17	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/01/23 10:17	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/01/23 10:17	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/01/23 10:17	1
Acetone	25	U	50	25	ug/L			12/01/23 10:17	1
Benzene	0.71	U	1.0	0.71	ug/L			12/01/23 10:17	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/01/23 10:17	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/01/23 10:17	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/01/23 10:17	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/01/23 10:17	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/01/23 10:17	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-65634/7
Matrix: Water
Analysis Batch: 65634

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/01/23 10:17	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/01/23 10:17	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/01/23 10:17	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/01/23 10:17	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/01/23 10:17	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/01/23 10:17	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/01/23 10:17	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/01/23 10:17	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/01/23 10:17	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/01/23 10:17	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/01/23 10:17	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/01/23 10:17	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/01/23 10:17	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/01/23 10:17	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/01/23 10:17	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/01/23 10:17	1
Styrene	0.61	U	1.0	0.61	ug/L			12/01/23 10:17	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/01/23 10:17	1
Toluene	0.72	U	1.0	0.72	ug/L			12/01/23 10:17	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/01/23 10:17	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/01/23 10:17	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/01/23 10:17	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/01/23 10:17	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/01/23 10:17	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/01/23 10:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*12/01/23 10:17*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*12/01/23 10:17*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/01/23 10:17*	*1*

Lab Sample ID: LCS 670-65634/4
Matrix: Water
Analysis Batch: 65634

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	15.8		ug/L		79	57 - 148
1,1,2,2-Tetrachloroethane	20.0	17.2		ug/L		86	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	16.1		ug/L		80	47 - 173
1,1,2-Trichloroethane	20.0	17.2		ug/L		86	57 - 141
1,1-Dichloroethane	20.0	16.9		ug/L		85	57 - 142
1,1-Dichloroethene	20.0	16.5		ug/L		83	47 - 139
1,2,4-Trichlorobenzene	20.0	15.6		ug/L		78	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	13.6		ug/L		68	48 - 150
1,2-Dibromoethane (EDB)	20.0	16.0		ug/L		80	57 - 140
1,2-Dichlorobenzene	20.0	16.8		ug/L		84	63 - 131
1,2-Dichloroethane	20.0	15.4		ug/L		77	50 - 156
1,2-Dichloropropane	20.0	17.6		ug/L		88	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-65634/4
Matrix: Water
Analysis Batch: 65634

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	20.0	16.7		ug/L		83	66 - 129
1,4-Dichlorobenzene	20.0	17.1		ug/L		86	65 - 133
2-Butanone (MEK)	200	142		ug/L		71	10 - 180
2-Hexanone	200	142		ug/L		71	12 - 180
4-Methyl-2-pentanone	200	144		ug/L		72	19 - 180
Acetone	200	155		ug/L		77	10 - 180
Benzene	20.0	17.0		ug/L		85	56 - 136
Bromodichloromethane	20.0	16.5		ug/L		83	58 - 135
Bromoform	20.0	15.4		ug/L		77	46 - 148
Bromomethane	20.0	13.1		ug/L		66	10 - 173
Carbon disulfide	20.0	16.7		ug/L		84	43 - 153
Carbon tetrachloride	20.0	16.2		ug/L		81	54 - 156
Chlorobenzene	20.0	17.1		ug/L		86	51 - 139
Chloroethane	20.0	19.6		ug/L		98	27 - 180
Chloroform	20.0	17.7		ug/L		89	58 - 139
Chloromethane	20.0	17.5		ug/L		88	33 - 154
cis-1,2-Dichloroethene	20.0	16.8		ug/L		84	56 - 128
cis-1,3-Dichloropropene	20.0	15.7		ug/L		79	64 - 128
Cyclohexane	20.0	16.0		ug/L		80	14 - 151
Dibromochloromethane	20.0	16.2		ug/L		81	50 - 140
Dichlorodifluoromethane	20.0	26.3		ug/L		131	10 - 180
Ethylbenzene	20.0	16.8		ug/L		84	63 - 133
Isopropylbenzene	20.0	16.4		ug/L		82	60 - 132
m,p-Xylenes	20.0	15.8		ug/L		79	64 - 133
Methyl acetate	40.0	33.4		ug/L		83	70 - 130
Methyl tert-butyl ether	20.0	15.1		ug/L		75	51 - 145
Methylene Chloride	20.0	17.8		ug/L		89	43 - 142
o-Xylene	20.0	15.7		ug/L		79	61 - 129
Styrene	20.0	15.9		ug/L		80	59 - 136
Tetrachloroethene	20.0	16.7		ug/L		83	60 - 147
Toluene	20.0	16.0		ug/L		80	64 - 131
trans-1,2-Dichloroethene	20.0	17.1		ug/L		86	54 - 134
trans-1,3-Dichloropropene	20.0	16.4		ug/L		82	65 - 149
Trichloroethene	20.0	17.3		ug/L		86	62 - 135
Trichlorofluoromethane	20.0	20.2		ug/L		101	56 - 155
Vinyl chloride	20.0	22.2		ug/L		111	20 - 167
Xylenes, Total	40.0	31.5		ug/L		79	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-30865-5 MS
Matrix: Water
Analysis Batch: 65634

Client Sample ID: LC34-RW18C-20231127
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	200	U	5000	3980		ug/L		80	57 - 148
1,1,2,2-Tetrachloroethane	140	U	5000	4200		ug/L		84	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	180	U	5000	4130		ug/L		83	50 - 150
1,1,2-Trichloroethane	190	U	5000	3940		ug/L		79	57 - 141
1,1-Dichloroethane	160	U	5000	4070		ug/L		81	57 - 142
1,1-Dichloroethene	240	U	5000	4230		ug/L		85	49 - 139
1,2,4-Trichlorobenzene	180	U	5000	3630		ug/L		73	52 - 159
1,2-Dibromo-3-Chloropropane	240	U	5000	3340		ug/L		67	48 - 150
1,2-Dibromoethane (EDB)	200	U	5000	3680		ug/L		74	50 - 150
1,2-Dichlorobenzene	180	U	5000	3880		ug/L		78	63 - 131
1,2-Dichloroethane	160	U	5000	3630		ug/L		73	50 - 156
1,2-Dichloropropane	200	U	5000	4080		ug/L		82	61 - 133
1,3-Dichlorobenzene	190	U	5000	3930		ug/L		79	66 - 129
1,4-Dichlorobenzene	190	U	5000	3900		ug/L		78	65 - 133
2-Butanone (MEK)	1100	U	50000	34700		ug/L		69	10 - 180
2-Hexanone	630	U	50000	34100		ug/L		68	12 - 180
4-Methyl-2-pentanone	1300	U	50000	35200		ug/L		70	19 - 180
Acetone	6300	U	50000	33100		ug/L		66	10 - 180
Benzene	180	U	5000	4060		ug/L		81	56 - 136
Bromodichloromethane	130	U	5000	3870		ug/L		77	58 - 135
Bromoform	190	U	5000	3560		ug/L		71	46 - 148
Bromomethane	240	U	5000	3500		ug/L		70	10 - 173
Carbon disulfide	630	U	5000	4110		ug/L		82	43 - 153
Carbon tetrachloride	240	U	5000	3940		ug/L		79	54 - 156
Chlorobenzene	180	U	5000	4040		ug/L		81	51 - 139
Chloroethane	250	U	5000	5040		ug/L		101	27 - 180
Chloroform	200	U	5000	4120		ug/L		82	59 - 139
Chloromethane	210	U	5000	4490		ug/L		90	33 - 154
cis-1,2-Dichloroethene	4900		5000	8770		ug/L		77	56 - 128
cis-1,3-Dichloropropene	150	U	5000	3520		ug/L		70	64 - 128
Cyclohexane	230	U	5000	4030		ug/L		81	14 - 141
Dibromochloromethane	130	U	5000	3740		ug/L		75	50 - 150
Dichlorodifluoromethane	190	U	5000	7050		ug/L		141	10 - 180
Ethylbenzene	170	U	5000	3970		ug/L		79	63 - 133
Isopropylbenzene	170	U	5000	3990		ug/L		80	60 - 132
m,p-Xylenes	330	U	5000	3740		ug/L		75	64 - 133
Methyl acetate	240	U	10000	7510		ug/L		75	50 - 150
Methyl tert-butyl ether	150	U	5000	3600		ug/L		72	50 - 150
Methylene Chloride	1300	U	5000	4130		ug/L		83	43 - 142
o-Xylene	130	U	5000	3650		ug/L		73	61 - 129
Styrene	150	U	5000	3690		ug/L		74	59 - 136
Tetrachloroethene	190	U	5000	4090		ug/L		82	60 - 147
Toluene	180	U	5000	3950		ug/L		79	64 - 131
trans-1,2-Dichloroethene	180	U	5000	4160		ug/L		83	54 - 134
trans-1,3-Dichloropropene	180	U	5000	3780		ug/L		76	65 - 149
Trichloroethene	12000		5000	15700		ug/L		76	62 - 135
Trichlorofluoromethane	240	U	5000	5430		ug/L		109	56 - 155
Vinyl chloride	180	U	5000	5850		ug/L		117	20 - 167

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-30865-5 MS
Matrix: Water
Analysis Batch: 65634

Client Sample ID: LC34-RW18C-20231127
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Xylenes, Total	330	U	10000	7390		ug/L		74	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-30865-5 MSD
Matrix: Water
Analysis Batch: 65634

Client Sample ID: LC34-RW18C-20231127
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	200	U	5000	3820		ug/L		76	57 - 148	4	25
1,1,2,2-Tetrachloroethane	140	U	5000	4260		ug/L		85	60 - 139	1	17
1,1,2-Trichloro-1,2,2-trifluoroethane	180	U	5000	4140		ug/L		83	50 - 150	0	30
1,1,2-Trichloroethane	190	U	5000	3930		ug/L		79	57 - 141	0	16
1,1-Dichloroethane	160	U	5000	3930		ug/L		79	57 - 142	3	24
1,1-Dichloroethene	240	U	5000	4170		ug/L		83	49 - 139	1	16
1,2,4-Trichlorobenzene	180	U	5000	3730		ug/L		75	52 - 159	3	24
1,2-Dibromo-3-Chloropropane	240	U	5000	3520		ug/L		70	48 - 150	5	21
1,2-Dibromoethane (EDB)	200	U	5000	3730		ug/L		75	50 - 150	1	16
1,2-Dichlorobenzene	180	U	5000	3910		ug/L		78	63 - 131	1	25
1,2-Dichloroethane	160	U	5000	3650		ug/L		73	50 - 156	1	18
1,2-Dichloropropane	200	U	5000	3960		ug/L		79	61 - 133	3	26
1,3-Dichlorobenzene	190	U	5000	3940		ug/L		79	66 - 129	0	23
1,4-Dichlorobenzene	190	U	5000	3990		ug/L		80	65 - 133	2	23
2-Butanone (MEK)	1100	U	50000	33900		ug/L		68	10 - 180	2	29
2-Hexanone	630	U	50000	34000		ug/L		68	12 - 180	0	28
4-Methyl-2-pentanone	1300	U	50000	34900		ug/L		70	19 - 180	1	24
Acetone	6300	U	50000	31500		ug/L		63	10 - 180	5	19
Benzene	180	U	5000	3970		ug/L		79	56 - 136	2	14
Bromodichloromethane	130	U	5000	3850		ug/L		77	58 - 135	1	19
Bromoform	190	U	5000	3670		ug/L		73	46 - 148	3	18
Bromomethane	240	U	5000	3780		ug/L		76	10 - 173	8	29
Carbon disulfide	630	U	5000	4020		ug/L		80	43 - 153	2	26
Carbon tetrachloride	240	U	5000	3840		ug/L		77	54 - 156	3	27
Chlorobenzene	180	U	5000	3980		ug/L		80	51 - 139	2	13
Chloroethane	250	U	5000	5110		ug/L		102	27 - 180	1	22
Chloroform	200	U	5000	4050		ug/L		81	59 - 139	2	17
Chloromethane	210	U	5000	4330		ug/L		87	33 - 154	4	31
cis-1,2-Dichloroethene	4900		5000	8680		ug/L		75	56 - 128	1	17
cis-1,3-Dichloropropene	150	U	5000	3580		ug/L		72	64 - 128	2	20
Cyclohexane	230	U	5000	3990		ug/L		80	14 - 141	1	30
Dibromochloromethane	130	U	5000	3760		ug/L		75	50 - 150	0	18
Dichlorodifluoromethane	190	U	5000	6850		ug/L		137	10 - 180	3	26
Ethylbenzene	170	U	5000	3950		ug/L		79	63 - 133	0	18
Isopropylbenzene	170	U	5000	3980		ug/L		80	60 - 132	0	23
m,p-Xylenes	330	U	5000	3720		ug/L		74	64 - 133	0	18

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-30865-5 MSD
Matrix: Water
Analysis Batch: 65634

Client Sample ID: LC34-RW18C-20231127
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methyl acetate	240	U	10000	7510		ug/L		75	50 - 150	0	30
Methyl tert-butyl ether	150	U	5000	3540		ug/L		71	50 - 150	2	22
Methylene Chloride	1300	U	5000	4100		ug/L		82	43 - 142	1	23
o-Xylene	130	U	5000	3650		ug/L		73	61 - 129	0	16
Styrene	150	U	5000	3670		ug/L		73	59 - 136	1	32
Tetrachloroethene	190	U	5000	4000		ug/L		80	60 - 147	2	21
Toluene	180	U	5000	3860		ug/L		77	64 - 131	2	16
trans-1,2-Dichloroethene	180	U	5000	3980		ug/L		80	54 - 134	4	20
trans-1,3-Dichloropropene	180	U	5000	3720		ug/L		74	65 - 149	1	17
Trichloroethene	12000		5000	15300		ug/L		68	62 - 135	2	20
Trichlorofluoromethane	240	U	5000	5320		ug/L		106	56 - 155	2	22
Vinyl chloride	180	U	5000	5690		ug/L		114	20 - 167	3	24
Xylenes, Total	330	U	10000	7370		ug/L		74	50 - 150	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Lab Sample ID: 670-30865-3 MS
Matrix: Water
Analysis Batch: 65404

Client Sample ID: LC34-AS2-20231127
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane - DL	40	U	1000	839		ug/L		84	57 - 148
1,1,2,2-Tetrachloroethane - DL	27	U	1000	932		ug/L		93	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	37	U	1000	840		ug/L		84	50 - 150
1,1,2-Trichloroethane - DL	38	U	1000	876		ug/L		88	57 - 141
1,1-Dichloroethane - DL	31	U	1000	836		ug/L		84	57 - 142
1,1-Dichloroethene - DL	47	U	1000	838		ug/L		84	49 - 139
1,2,4-Trichlorobenzene - DL	35	U	1000	841		ug/L		84	52 - 159
1,2-Dibromo-3-Chloropropane - DL	48	U	1000	728		ug/L		73	48 - 150
1,2-Dibromoethane (EDB) - DL	39	U	1000	831		ug/L		83	50 - 150
1,2-Dichlorobenzene - DL	37	U	1000	883		ug/L		88	63 - 131
1,2-Dichloroethane - DL	32	U	1000	777		ug/L		78	50 - 156
1,2-Dichloropropane - DL	40	U	1000	864		ug/L		86	61 - 133
1,3-Dichlorobenzene - DL	39	U	1000	889		ug/L		89	66 - 129
1,4-Dichlorobenzene - DL	38	U	1000	893		ug/L		89	65 - 133
2-Butanone (MEK) - DL	230	U	10000	7450		ug/L		74	10 - 180
2-Hexanone - DL	130	U	10000	7700		ug/L		77	12 - 180
4-Methyl-2-pentanone - DL	250	U	10000	7760		ug/L		78	19 - 180
Acetone - DL	1300	U	10000	7170		ug/L		72	10 - 180
Benzene - DL	36	U	1000	860		ug/L		86	56 - 136
Bromodichloromethane - DL	26	U	1000	847		ug/L		85	58 - 135
Bromoform - DL	38	U	1000	793		ug/L		79	46 - 148

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-30865-3 MS
Matrix: Water
Analysis Batch: 65404

Client Sample ID: LC34-AS2-20231127
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Bromomethane - DL	48	U	1000	542		ug/L		54	10 - 173
Carbon disulfide - DL	130	U	1000	811		ug/L		81	43 - 153
Carbon tetrachloride - DL	47	U	1000	832		ug/L		83	54 - 156
Chlorobenzene - DL	36	U	1000	894		ug/L		89	51 - 139
Chloroethane - DL	49	U	1000	980		ug/L		98	27 - 180
Chloroform - DL	40	U	1000	887		ug/L		89	59 - 139
Chloromethane - DL	41	U	1000	722		ug/L		72	33 - 154
cis-1,2-Dichloroethene - DL	58		1000	869		ug/L		81	56 - 128
cis-1,3-Dichloropropene - DL	30	U	1000	791		ug/L		79	64 - 128
Cyclohexane - DL	47	U	1000	814		ug/L		81	14 - 141
Dibromochloromethane - DL	25	U	1000	841		ug/L		84	50 - 150
Dichlorodifluoromethane - DL	37	U	1000	857		ug/L		86	10 - 180
Ethylbenzene - DL	35	U	1000	889		ug/L		89	63 - 133
Isopropylbenzene - DL	34	U	1000	903		ug/L		90	60 - 132
m,p-Xylenes - DL	65	U	1000	823		ug/L		82	64 - 133
Methyl acetate - DL	48	U J3	2000	1510		ug/L		76	50 - 150
Methyl tert-butyl ether - DL	30	U	1000	719		ug/L		72	50 - 150
Methylene Chloride - DL	250	U	1000	863		ug/L		86	43 - 142
o-Xylene - DL	27	U	1000	830		ug/L		83	61 - 129
Styrene - DL	31	U	1000	819		ug/L		82	59 - 136
Tetrachloroethene - DL	38	U	1000	894		ug/L		89	60 - 147
Toluene - DL	36	U	1000	858		ug/L		86	64 - 131
trans-1,2-Dichloroethene - DL	37	U	1000	841		ug/L		84	54 - 134
trans-1,3-Dichloropropene - DL	37	U	1000	849		ug/L		85	65 - 149
Trichloroethene - DL	170		1000	1080		ug/L		90	62 - 135
Trichlorofluoromethane - DL	47	U	1000	1050		ug/L		105	56 - 155
Vinyl chloride - DL	36	U	1000	1040		ug/L		104	20 - 167
Xylenes, Total - DL	65	U	2000	1650		ug/L		83	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*94*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*100*		*53 - 146*
Toluene-d8 (Surr) - DL	*100*		*40 - 146*

Lab Sample ID: 670-30865-3 MSD
Matrix: Water
Analysis Batch: 65404

Client Sample ID: LC34-AS2-20231127
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane - DL	40	U	1000	766		ug/L		77	57 - 148	9	25
1,1,2,2-Tetrachloroethane - DL	27	U	1000	854		ug/L		85	60 - 139	9	17
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	37	U	1000	750		ug/L		75	50 - 150	11	30
1,1,2-Trichloroethane - DL	38	U	1000	822		ug/L		82	57 - 141	6	16
1,1-Dichloroethane - DL	31	U	1000	758		ug/L		76	57 - 142	10	24
1,1-Dichloroethene - DL	47	U	1000	759		ug/L		76	49 - 139	10	16
1,2,4-Trichlorobenzene - DL	35	U	1000	771		ug/L		77	52 - 159	9	24

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-30865-3 MSD
Matrix: Water
Analysis Batch: 65404

Client Sample ID: LC34-AS2-20231127
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane - DL	48	U	1000	716		ug/L		72	48 - 150	2	21
1,2-Dibromoethane (EDB) - DL	39	U	1000	792		ug/L		79	50 - 150	5	16
1,2-Dichlorobenzene - DL	37	U	1000	794		ug/L		79	63 - 131	11	25
1,2-Dichloroethane - DL	32	U	1000	712		ug/L		71	50 - 156	9	18
1,2-Dichloropropane - DL	40	U	1000	781		ug/L		78	61 - 133	10	26
1,3-Dichlorobenzene - DL	39	U	1000	797		ug/L		80	66 - 129	11	23
1,4-Dichlorobenzene - DL	38	U	1000	802		ug/L		80	65 - 133	11	23
2-Butanone (MEK) - DL	230	U	10000	7260		ug/L		73	10 - 180	3	29
2-Hexanone - DL	130	U	10000	7580		ug/L		76	12 - 180	2	28
4-Methyl-2-pentanone - DL	250	U	10000	7560		ug/L		76	19 - 180	3	24
Acetone - DL	1300	U	10000	6960		ug/L		70	10 - 180	3	19
Benzene - DL	36	U	1000	763		ug/L		76	56 - 136	12	14
Bromodichloromethane - DL	26	U	1000	787		ug/L		79	58 - 135	7	19
Bromoform - DL	38	U	1000	746		ug/L		75	46 - 148	6	18
Bromomethane - DL	48	U	1000	536		ug/L		54	10 - 173	1	29
Carbon disulfide - DL	130	U	1000	725		ug/L		72	43 - 153	11	26
Carbon tetrachloride - DL	47	U	1000	762		ug/L		76	54 - 156	9	27
Chlorobenzene - DL	36	U	1000	812		ug/L		81	51 - 139	10	13
Chloroethane - DL	49	U	1000	867		ug/L		87	27 - 180	12	22
Chloroform - DL	40	U	1000	804		ug/L		80	59 - 139	10	17
Chloromethane - DL	41	U	1000	657		ug/L		66	33 - 154	10	31
cis-1,2-Dichloroethene - DL	58		1000	791		ug/L		73	56 - 128	9	17
cis-1,3-Dichloropropene - DL	30	U	1000	723		ug/L		72	64 - 128	9	20
Cyclohexane - DL	47	U	1000	741		ug/L		74	14 - 141	9	30
Dibromochloromethane - DL	25	U	1000	789		ug/L		79	50 - 150	6	18
Dichlorodifluoromethane - DL	37	U	1000	758		ug/L		76	10 - 180	12	26
Ethylbenzene - DL	35	U	1000	812		ug/L		81	63 - 133	9	18
Isopropylbenzene - DL	34	U	1000	805		ug/L		81	60 - 132	12	23
m,p-Xylenes - DL	65	U	1000	748		ug/L		75	64 - 133	10	18
Methyl acetate - DL	48	U J3	2000	1470		ug/L		73	50 - 150	3	30
Methyl tert-butyl ether - DL	30	U	1000	680		ug/L		68	50 - 150	5	22
Methylene Chloride - DL	250	U	1000	763		ug/L		76	43 - 142	12	23
o-Xylene - DL	27	U	1000	743		ug/L		74	61 - 129	11	16
Styrene - DL	31	U	1000	741		ug/L		74	59 - 136	10	32
Tetrachloroethene - DL	38	U	1000	828		ug/L		83	60 - 147	8	21
Toluene - DL	36	U	1000	771		ug/L		77	64 - 131	11	16
trans-1,2-Dichloroethene - DL	37	U	1000	734		ug/L		73	54 - 134	14	20
trans-1,3-Dichloropropene - DL	37	U	1000	773		ug/L		77	65 - 149	9	17
Trichloroethene - DL	170		1000	953		ug/L		78	62 - 135	12	20
Trichlorofluoromethane - DL	47	U	1000	972		ug/L		97	56 - 155	8	22
Vinyl chloride - DL	36	U	1000	906		ug/L		91	20 - 167	14	24
Xylenes, Total - DL	65	U	2000	1490		ug/L		75	50 - 150	10	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*93*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*99*		*53 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-30865-3 MSD
Matrix: Water
Analysis Batch: 65404

Client Sample ID: LC34-AS2-20231127
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr) - DL	100		40 - 146

GC/MS VOA

Analysis Batch: 65404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-30865-1	LC34-GAC-20231127	Total/NA	Water	8260D	
670-30865-2	LC34-AS1-20231127	Total/NA	Water	8260D	
MB 670-65404/7	Method Blank	Total/NA	Water	8260D	
LCS 670-65404/4	Lab Control Sample	Total/NA	Water	8260D	
670-30865-3 MS - DL	LC34-AS2-20231127	Total/NA	Water	8260D	
670-30865-3 MSD - DL	LC34-AS2-20231127	Total/NA	Water	8260D	

Analysis Batch: 65460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-30865-3 - DL	LC34-AS2-20231127	Total/NA	Water	8260D	
MB 670-65460/7	Method Blank	Total/NA	Water	8260D	
LCS 670-65460/4	Lab Control Sample	Total/NA	Water	8260D	
670-30949-C-2 MS	Matrix Spike	Total/NA	Water	8260D	
670-30949-C-1 DU	Duplicate	Total/NA	Water	8260D	

Analysis Batch: 65626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-30865-6 - DL	LC34-RW19C-20231127	Total/NA	Water	8260D	
MB 670-65626/8	Method Blank	Total/NA	Water	8260D	
LCS 670-65626/5	Lab Control Sample	Total/NA	Water	8260D	
670-30969-G-2 MS	Matrix Spike	Total/NA	Water	8260D	
670-30969-F-1 DU	Duplicate	Total/NA	Water	8260D	

Analysis Batch: 65634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-30865-4 - DL	LC34-RW17C-20231127	Total/NA	Water	8260D	
670-30865-5 - DL	LC34-RW18C-20231127	Total/NA	Water	8260D	
670-30865-7 - DL	LC34-RW20C-20231127	Total/NA	Water	8260D	
670-30865-8 - DL	LC34-RW21D-20231127	Total/NA	Water	8260D	
MB 670-65634/7	Method Blank	Total/NA	Water	8260D	
LCS 670-65634/4	Lab Control Sample	Total/NA	Water	8260D	
670-30865-5 MS	LC34-RW18C-20231127	Total/NA	Water	8260D	
670-30865-5 MSD	LC34-RW18C-20231127	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30865-1

Client Sample ID: LC34-GAC-20231127
Lab Sample ID: 670-30865-1
Date Collected: 11/27/23 10:55
Matrix: Water
Date Received: 11/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65404	KG	EET ORL	11/30/23 15:40

Client Sample ID: LC34-AS1-20231127
Lab Sample ID: 670-30865-2
Date Collected: 11/27/23 11:00
Matrix: Water
Date Received: 11/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65404	KG	EET ORL	11/30/23 15:58

Client Sample ID: LC34-AS2-20231127
Lab Sample ID: 670-30865-3
Date Collected: 11/27/23 11:05
Matrix: Water
Date Received: 11/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	65460	P1K	EET ORL	11/30/23 20:39

Client Sample ID: LC34-RW17C-20231127
Lab Sample ID: 670-30865-4
Date Collected: 11/27/23 11:10
Matrix: Water
Date Received: 11/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2000	65634	KG	EET ORL	12/01/23 17:15

Client Sample ID: LC34-RW18C-20231127
Lab Sample ID: 670-30865-5
Date Collected: 11/27/23 11:15
Matrix: Water
Date Received: 11/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	250	65634	KG	EET ORL	12/01/23 10:35

Client Sample ID: LC34-RW19C-20231127
Lab Sample ID: 670-30865-6
Date Collected: 11/27/23 11:20
Matrix: Water
Date Received: 11/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5000	65626	P1K	EET ORL	12/01/23 17:00

Client Sample ID: LC34-RW20C-20231127
Lab Sample ID: 670-30865-7
Date Collected: 11/27/23 11:25
Matrix: Water
Date Received: 11/28/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	65634	KG	EET ORL	12/01/23 16:57

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30865-1

Client Sample ID: LC34-RW21D-20231127
Date Collected: 11/27/23 11:30
Date Received: 11/28/23 08:00

Lab Sample ID: 670-30865-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	65634	KG	EET ORL	12/01/23 16:40

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-30865-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30865-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-30865-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-30865-1	LC34-GAC-20231127	Water	11/27/23 10:55	11/28/23 08:00
670-30865-2	LC34-AS1-20231127	Water	11/27/23 11:00	11/28/23 08:00
670-30865-3	LC34-AS2-20231127	Water	11/27/23 11:05	11/28/23 08:00
670-30865-4	LC34-RW17C-20231127	Water	11/27/23 11:10	11/28/23 08:00
670-30865-5	LC34-RW18C-20231127	Water	11/27/23 11:15	11/28/23 08:00
670-30865-6	LC34-RW19C-20231127	Water	11/27/23 11:20	11/28/23 08:00
670-30865-7	LC34-RW20C-20231127	Water	11/27/23 11:25	11/28/23 08:00
670-30865-8	LC34-RW21D-20231127	Water	11/27/23 11:30	11/28/23 08:00

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3823 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112608985	LC34	Mark Jonnet	412-921-8622	Eurofins- Katlin Dylnick
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
Natalie Volk – Natalie Volk		Chuck Sorden	321-591-7580	481 Newburyport Ave
		CARRIER/WAYBILL NUMBER		CITY, STATE
				Altamonte Springs, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G

PRESERVATIVE USED

TYPE OF ANALYSIS: 8260-(MOD) NASA LC34 Custom List

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	8260-(MOD) NASA LC34 Custom List	COMMENTS
11/27	1055	LC34-GAC-20231127	–	–	–	GW	G	3	X	
	1100	LC34-AS1-20231127							X	
	1105	LC34-AS2-20231127							X	
	1110	LC34-RW17C-20231127							X	
	1115	LC34-RW18C-20231127							X	
	1120	LC34-RW19C-20231127							X	
	1125	LC34-RW20C-20231127							X	
	1130	LC34-RW21D-20231127							X	

670-30865 Chain of Custody

1. RELINQUISHED BY Natalie Volk	DATE 11/27/2023	TIME 1415	1. RECEIVED BY [signature]	DATE 11-28-23	TIME 0800
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 0.7/0.5

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R

FORM NO. TtN 12/13/2023

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-30865-1

Login Number: 30865

List Source: Eurofins Orlando

List Number: 1

Creator: Lavardera, Angelina

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-31480-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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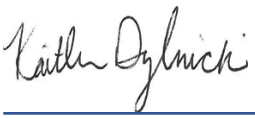

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Authorized for release by
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Client: Tetra Tech, Inc.
Job ID: 670-31480-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-31480-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/8/2023 2:25 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.9°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-67524 recovered outside acceptance criteria, low biased, for 1,2,4-Trichlorobenzene and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The laboratory control sample (LCS) for analytical batch 670-67524 recovered outside control limits for the following analytes: 1,2-Dichlorobenzene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0045D2-110.0-20231208 (670-31480-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Tetra Tech note: The well ID LC34-IW0160 presented in this report is incorrect; the well ID is LC34-IW0161

Detection Summary

Client: Tetra Tech, Inc.
Job ID: 670-31480-1
Project/Site: NASA KSC LC34

Client Sample ID: LC34-IW0001D2-110.0-20231208 — Lab Sample ID: 670-31480-1

No Detections.

Client Sample ID: LC34-IW0160-110.0-20231208 — Lab Sample ID: 670-31480-2

No Detections.

Client Sample ID: LC34-IW0045D2-110.0-20231208 — Lab Sample ID: 670-31480-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	140		5.0	2.7	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0043D2-110.0-20231208 — Lab Sample ID: 670-31480-4

No Detections.

Client Sample ID: LC34-IW0042D2-089.5-20231208 — Lab Sample ID: 670-31480-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.73	I	1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0165-110.0-20231208 — Lab Sample ID: 670-31480-6

No Detections.

Client Sample ID: LC34-IW0164-110.0-20231208 — Lab Sample ID: 670-31480-7

No Detections.

Client Sample ID: LC34-IW0163-110.0-20231208 — Lab Sample ID: 670-31480-8

No Detections.

Client Sample ID: LC34-IW0160-110.0-20231208 — Lab Sample ID: 670-31480-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	35		5.0	2.5	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31480-1

Client Sample ID: LC34-IW0001D2-110.0-20231208
Date Collected: 12/08/23 08:55
Date Received: 12/08/23 14:25

Lab Sample ID: 670-31480-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/14/23 15:36	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/14/23 15:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/14/23 15:36	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/14/23 15:36	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/14/23 15:36	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/14/23 15:36	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/14/23 15:36	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/14/23 15:36	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/14/23 15:36	1
1,2-Dichlorobenzene	0.73	U J3	1.0	0.73	ug/L			12/14/23 15:36	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/14/23 15:36	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/14/23 15:36	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/14/23 15:36	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/14/23 15:36	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/14/23 15:36	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/14/23 15:36	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/14/23 15:36	1
Acetone	25	U	50	25	ug/L			12/14/23 15:36	1
Benzene	0.71	U	1.0	0.71	ug/L			12/14/23 15:36	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/14/23 15:36	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/14/23 15:36	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/14/23 15:36	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/14/23 15:36	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/14/23 15:36	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/14/23 15:36	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/14/23 15:36	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/14/23 15:36	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/14/23 15:36	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/14/23 15:36	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/14/23 15:36	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/14/23 15:36	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/14/23 15:36	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/14/23 15:36	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/14/23 15:36	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/14/23 15:36	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/14/23 15:36	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/14/23 15:36	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/14/23 15:36	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/14/23 15:36	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/14/23 15:36	1
Styrene	0.61	U	1.0	0.61	ug/L			12/14/23 15:36	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/14/23 15:36	1
Toluene	0.72	U	1.0	0.72	ug/L			12/14/23 15:36	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/14/23 15:36	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/14/23 15:36	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/14/23 15:36	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/14/23 15:36	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/14/23 15:36	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/14/23 15:36	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31480-1

Client Sample ID: LC34-IW0001D2-110.0-20231208

Lab Sample ID: 670-31480-1

Date Collected: 12/08/23 08:55
Matrix: Water
Date Received: 12/08/23 14:25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*12/14/23 15:36*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*12/14/23 15:36*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/14/23 15:36*	*1*

Client Sample ID: LC34-IW0160-110.0-20231208

Lab Sample ID: 670-31480-2

Date Collected: 12/08/23 09:25
Matrix: Water
Date Received: 12/08/23 14:25

Tetra Tech note: The well ID LC34-IW0160 presented in this report is incorrect; the well ID is LC34-IW0161

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/14/23 19:13	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/14/23 19:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/14/23 19:13	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/14/23 19:13	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/14/23 19:13	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/14/23 19:13	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/14/23 19:13	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/14/23 19:13	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/14/23 19:13	1
1,2-Dichlorobenzene	0.73	U J3	1.0	0.73	ug/L			12/14/23 19:13	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/14/23 19:13	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/14/23 19:13	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/14/23 19:13	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/14/23 19:13	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/14/23 19:13	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/14/23 19:13	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/14/23 19:13	1
Acetone	25	U	50	25	ug/L			12/14/23 19:13	1
Benzene	0.71	U	1.0	0.71	ug/L			12/14/23 19:13	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/14/23 19:13	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/14/23 19:13	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/14/23 19:13	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/14/23 19:13	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/14/23 19:13	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/14/23 19:13	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/14/23 19:13	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/14/23 19:13	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/14/23 19:13	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/14/23 19:13	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/14/23 19:13	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/14/23 19:13	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/14/23 19:13	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/14/23 19:13	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/14/23 19:13	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/14/23 19:13	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/14/23 19:13	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/14/23 19:13	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/14/23 19:13	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/14/23 19:13	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/14/23 19:13	1

Client Sample ID: LC34-IW0160-110.0-20231208

Lab Sample ID: 670-31480-2

Date Collected: 12/08/23 09:25

Matrix: Water

Date Received: 12/08/23 14:25

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			12/14/23 19:13	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/14/23 19:13	1
Toluene	0.72	U	1.0	0.72	ug/L			12/14/23 19:13	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/14/23 19:13	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/14/23 19:13	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/14/23 19:13	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/14/23 19:13	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/14/23 19:13	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/14/23 19:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*132*		*41 - 142*		*12/14/23 19:13*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*12/14/23 19:13*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*12/14/23 19:13*	*1*

Client Sample ID: LC34-IW0045D2-110.0-20231208

Lab Sample ID: 670-31480-3

Date Collected: 12/08/23 09:50

Matrix: Water

Date Received: 12/08/23 14:25

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			12/14/23 19:34	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			12/14/23 19:34	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			12/14/23 19:34	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			12/14/23 19:34	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			12/14/23 19:34	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			12/14/23 19:34	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			12/14/23 19:34	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			12/14/23 19:34	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			12/14/23 19:34	5
1,2-Dichlorobenzene	3.7	U J3	5.0	3.7	ug/L			12/14/23 19:34	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			12/14/23 19:34	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			12/14/23 19:34	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			12/14/23 19:34	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			12/14/23 19:34	5
2-Butanone (MEK)	23	U	50	23	ug/L			12/14/23 19:34	5
2-Hexanone	13	U	100	13	ug/L			12/14/23 19:34	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			12/14/23 19:34	5
Acetone	130	U	250	130	ug/L			12/14/23 19:34	5
Benzene	3.6	U	5.0	3.6	ug/L			12/14/23 19:34	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			12/14/23 19:34	5
Bromoform	3.8	U	5.0	3.8	ug/L			12/14/23 19:34	5
Bromomethane	4.8	U	10	4.8	ug/L			12/14/23 19:34	5
Carbon disulfide	13	U	25	13	ug/L			12/14/23 19:34	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			12/14/23 19:34	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			12/14/23 19:34	5
Chloroethane	4.9	U	10	4.9	ug/L			12/14/23 19:34	5
Chloroform	4.0	U	25	4.0	ug/L			12/14/23 19:34	5
Chloromethane	4.1	U	10	4.1	ug/L			12/14/23 19:34	5
cis-1,2-Dichloroethene	**140**		5.0	2.7	ug/L			12/14/23 19:34	5

Client Sample ID: LC34-IW0045D2-110.0-20231208
Lab Sample ID: 670-31480-3

Date Collected: 12/08/23 09:50
Matrix: Water
Date Received: 12/08/23 14:25

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			12/14/23 19:34	5
Cyclohexane	4.7	U	25	4.7	ug/L			12/14/23 19:34	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			12/14/23 19:34	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			12/14/23 19:34	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			12/14/23 19:34	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			12/14/23 19:34	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			12/14/23 19:34	5
Methyl acetate	4.8	U	50	4.8	ug/L			12/14/23 19:34	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			12/14/23 19:34	5
Methylene Chloride	25	U	50	25	ug/L			12/14/23 19:34	5
o-Xylene	2.7	U	5.0	2.7	ug/L			12/14/23 19:34	5
Styrene	3.1	U	5.0	3.1	ug/L			12/14/23 19:34	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			12/14/23 19:34	5
Toluene	3.6	U	5.0	3.6	ug/L			12/14/23 19:34	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			12/14/23 19:34	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			12/14/23 19:34	5
Trichloroethene	4.5	U	5.0	4.5	ug/L			12/14/23 19:34	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			12/14/23 19:34	5
Vinyl chloride	3.6	U	5.0	3.6	ug/L			12/14/23 19:34	5
Xylenes, Total	6.5	U	10	6.5	ug/L			12/14/23 19:34	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*12/14/23 19:34*	*5*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*12/14/23 19:34*	*5*
Toluene-d8 (Surr)	*101*		*40 - 146*		*12/14/23 19:34*	*5*

Client Sample ID: LC34-IW0043D2-110.0-20231208
Lab Sample ID: 670-31480-4

Date Collected: 12/08/23 10:15
Matrix: Water
Date Received: 12/08/23 14:25

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/14/23 16:11	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/14/23 16:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/14/23 16:11	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/14/23 16:11	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/14/23 16:11	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/14/23 16:11	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/14/23 16:11	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/14/23 16:11	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/14/23 16:11	1
1,2-Dichlorobenzene	0.73	U J3	1.0	0.73	ug/L			12/14/23 16:11	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/14/23 16:11	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/14/23 16:11	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/14/23 16:11	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/14/23 16:11	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/14/23 16:11	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/14/23 16:11	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/14/23 16:11	1
Acetone	25	U	50	25	ug/L			12/14/23 16:11	1

Client Sample ID: LC34-IW0043D2-110.0-20231208

Lab Sample ID: 670-31480-4

Date Collected: 12/08/23 10:15

Matrix: Water

Date Received: 12/08/23 14:25

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			12/14/23 16:11	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/14/23 16:11	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/14/23 16:11	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/14/23 16:11	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/14/23 16:11	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/14/23 16:11	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/14/23 16:11	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/14/23 16:11	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/14/23 16:11	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/14/23 16:11	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/14/23 16:11	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/14/23 16:11	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/14/23 16:11	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/14/23 16:11	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/14/23 16:11	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/14/23 16:11	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/14/23 16:11	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/14/23 16:11	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/14/23 16:11	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/14/23 16:11	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/14/23 16:11	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/14/23 16:11	1
Styrene	0.61	U	1.0	0.61	ug/L			12/14/23 16:11	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/14/23 16:11	1
Toluene	0.72	U	1.0	0.72	ug/L			12/14/23 16:11	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/14/23 16:11	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/14/23 16:11	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/14/23 16:11	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/14/23 16:11	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/14/23 16:11	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/14/23 16:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*12/14/23 16:11*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*12/14/23 16:11*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/14/23 16:11*	*1*

Client Sample ID: LC34-IW0042D2-089.5-20231208

Lab Sample ID: 670-31480-5

Date Collected: 12/08/23 10:50

Matrix: Water

Date Received: 12/08/23 14:25

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/14/23 19:52	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/14/23 19:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/14/23 19:52	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/14/23 19:52	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/14/23 19:52	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/14/23 19:52	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/14/23 19:52	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31480-1

Client Sample ID: LC34-IW0042D2-089.5-20231208
Date Collected: 12/08/23 10:50
Date Received: 12/08/23 14:25

Lab Sample ID: 670-31480-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/14/23 19:52	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/14/23 19:52	1
1,2-Dichlorobenzene	0.73	U J3	1.0	0.73	ug/L			12/14/23 19:52	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/14/23 19:52	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/14/23 19:52	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/14/23 19:52	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/14/23 19:52	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/14/23 19:52	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/14/23 19:52	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/14/23 19:52	1
Acetone	25	U	50	25	ug/L			12/14/23 19:52	1
Benzene	0.71	U	1.0	0.71	ug/L			12/14/23 19:52	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/14/23 19:52	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/14/23 19:52	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/14/23 19:52	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/14/23 19:52	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/14/23 19:52	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/14/23 19:52	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/14/23 19:52	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/14/23 19:52	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/14/23 19:52	1
cis-1,2-Dichloroethene	**0.73**	**I**	1.0	0.53	ug/L			12/14/23 19:52	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/14/23 19:52	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/14/23 19:52	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/14/23 19:52	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/14/23 19:52	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/14/23 19:52	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/14/23 19:52	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/14/23 19:52	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/14/23 19:52	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/14/23 19:52	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/14/23 19:52	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/14/23 19:52	1
Styrene	0.61	U	1.0	0.61	ug/L			12/14/23 19:52	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/14/23 19:52	1
Toluene	0.72	U	1.0	0.72	ug/L			12/14/23 19:52	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/14/23 19:52	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/14/23 19:52	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/14/23 19:52	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/14/23 19:52	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/14/23 19:52	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/14/23 19:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*12/14/23 19:52*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*12/14/23 19:52*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/14/23 19:52*	*1*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31480-1

Client Sample ID: LC34-IW0165-110.0-20231208
Date Collected: 12/08/23 11:20
Date Received: 12/08/23 14:25

Lab Sample ID: 670-31480-6
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/14/23 20:09	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/14/23 20:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/14/23 20:09	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/14/23 20:09	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/14/23 20:09	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/14/23 20:09	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/14/23 20:09	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/14/23 20:09	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/14/23 20:09	1
1,2-Dichlorobenzene	0.73	U J3	1.0	0.73	ug/L			12/14/23 20:09	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/14/23 20:09	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/14/23 20:09	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/14/23 20:09	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/14/23 20:09	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/14/23 20:09	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/14/23 20:09	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/14/23 20:09	1
Acetone	25	U	50	25	ug/L			12/14/23 20:09	1
Benzene	0.71	U	1.0	0.71	ug/L			12/14/23 20:09	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/14/23 20:09	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/14/23 20:09	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/14/23 20:09	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/14/23 20:09	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/14/23 20:09	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/14/23 20:09	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/14/23 20:09	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/14/23 20:09	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/14/23 20:09	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/14/23 20:09	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/14/23 20:09	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/14/23 20:09	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/14/23 20:09	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/14/23 20:09	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/14/23 20:09	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/14/23 20:09	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/14/23 20:09	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/14/23 20:09	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/14/23 20:09	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/14/23 20:09	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/14/23 20:09	1
Styrene	0.61	U	1.0	0.61	ug/L			12/14/23 20:09	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/14/23 20:09	1
Toluene	0.72	U	1.0	0.72	ug/L			12/14/23 20:09	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/14/23 20:09	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/14/23 20:09	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/14/23 20:09	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/14/23 20:09	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/14/23 20:09	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/14/23 20:09	1

Client Sample ID: LC34-IW0165-110.0-20231208

Lab Sample ID: 670-31480-6

Date Collected: 12/08/23 11:20

Matrix: Water

Date Received: 12/08/23 14:25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*41 - 142*		*12/14/23 20:09*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*12/14/23 20:09*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*12/14/23 20:09*	*1*

Client Sample ID: LC34-IW0164-110.0-20231208

Lab Sample ID: 670-31480-7

Date Collected: 12/08/23 11:50

Matrix: Water

Date Received: 12/08/23 14:25

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/14/23 20:27	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/14/23 20:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/14/23 20:27	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/14/23 20:27	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/14/23 20:27	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/14/23 20:27	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/14/23 20:27	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/14/23 20:27	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/14/23 20:27	1
1,2-Dichlorobenzene	0.73	U J3	1.0	0.73	ug/L			12/14/23 20:27	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/14/23 20:27	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/14/23 20:27	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/14/23 20:27	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/14/23 20:27	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/14/23 20:27	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/14/23 20:27	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/14/23 20:27	1
Acetone	25	U	50	25	ug/L			12/14/23 20:27	1
Benzene	0.71	U	1.0	0.71	ug/L			12/14/23 20:27	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/14/23 20:27	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/14/23 20:27	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/14/23 20:27	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/14/23 20:27	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/14/23 20:27	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/14/23 20:27	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/14/23 20:27	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/14/23 20:27	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/14/23 20:27	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/14/23 20:27	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/14/23 20:27	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/14/23 20:27	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/14/23 20:27	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/14/23 20:27	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/14/23 20:27	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/14/23 20:27	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/14/23 20:27	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/14/23 20:27	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/14/23 20:27	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/14/23 20:27	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/14/23 20:27	1

Client Sample ID: LC34-IW0164-110.0-20231208

Lab Sample ID: 670-31480-7

Date Collected: 12/08/23 11:50

Matrix: Water

Date Received: 12/08/23 14:25

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			12/14/23 20:27	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/14/23 20:27	1
Toluene	0.72	U	1.0	0.72	ug/L			12/14/23 20:27	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/14/23 20:27	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/14/23 20:27	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/14/23 20:27	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/14/23 20:27	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/14/23 20:27	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/14/23 20:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*41 - 142*		*12/14/23 20:27*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*12/14/23 20:27*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/14/23 20:27*	*1*

Client Sample ID: LC34-IW0163-110.0-20231208

Lab Sample ID: 670-31480-8

Date Collected: 12/08/23 12:25

Matrix: Water

Date Received: 12/08/23 14:25

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/14/23 20:44	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/14/23 20:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/14/23 20:44	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/14/23 20:44	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/14/23 20:44	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/14/23 20:44	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/14/23 20:44	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/14/23 20:44	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/14/23 20:44	1
1,2-Dichlorobenzene	0.73	U J3	1.0	0.73	ug/L			12/14/23 20:44	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/14/23 20:44	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/14/23 20:44	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/14/23 20:44	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/14/23 20:44	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/14/23 20:44	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/14/23 20:44	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/14/23 20:44	1
Acetone	25	U	50	25	ug/L			12/14/23 20:44	1
Benzene	0.71	U	1.0	0.71	ug/L			12/14/23 20:44	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/14/23 20:44	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/14/23 20:44	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/14/23 20:44	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/14/23 20:44	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/14/23 20:44	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/14/23 20:44	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/14/23 20:44	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/14/23 20:44	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/14/23 20:44	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/14/23 20:44	1

Client Sample ID: LC34-IW0163-110.0-20231208

Lab Sample ID: 670-31480-8

Date Collected: 12/08/23 12:25

Matrix: Water

Date Received: 12/08/23 14:25

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/14/23 20:44	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/14/23 20:44	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/14/23 20:44	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/14/23 20:44	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/14/23 20:44	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/14/23 20:44	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/14/23 20:44	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/14/23 20:44	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/14/23 20:44	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/14/23 20:44	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/14/23 20:44	1
Styrene	0.61	U	1.0	0.61	ug/L			12/14/23 20:44	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/14/23 20:44	1
Toluene	0.72	U	1.0	0.72	ug/L			12/14/23 20:44	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/14/23 20:44	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/14/23 20:44	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/14/23 20:44	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/14/23 20:44	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/14/23 20:44	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/14/23 20:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*41 - 142*		*12/14/23 20:44*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*12/14/23 20:44*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/14/23 20:44*	*1*

Client Sample ID: LC34-IW0160-110.0-20231208

Lab Sample ID: 670-31480-9

Date Collected: 12/08/23 13:00

Matrix: Water

Date Received: 12/08/23 14:25

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/14/23 21:02	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/14/23 21:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/14/23 21:02	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/14/23 21:02	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/14/23 21:02	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/14/23 21:02	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/14/23 21:02	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/14/23 21:02	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/14/23 21:02	1
1,2-Dichlorobenzene	0.73	U J3	1.0	0.73	ug/L			12/14/23 21:02	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/14/23 21:02	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/14/23 21:02	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/14/23 21:02	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/14/23 21:02	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/14/23 21:02	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/14/23 21:02	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/14/23 21:02	1
Acetone	25	U	50	25	ug/L			12/14/23 21:02	1

Client Sample ID: LC34-IW0160-110.0-20231208
Date Collected: 12/08/23 13:00
Date Received: 12/08/23 14:25

Lab Sample ID: 670-31480-9
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			12/14/23 21:02	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/14/23 21:02	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/14/23 21:02	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/14/23 21:02	1
Carbon disulfide	**35**		5.0	2.5	ug/L			12/14/23 21:02	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/14/23 21:02	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/14/23 21:02	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/14/23 21:02	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/14/23 21:02	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/14/23 21:02	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/14/23 21:02	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/14/23 21:02	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/14/23 21:02	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/14/23 21:02	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/14/23 21:02	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/14/23 21:02	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/14/23 21:02	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/14/23 21:02	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/14/23 21:02	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/14/23 21:02	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/14/23 21:02	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/14/23 21:02	1
Styrene	0.61	U	1.0	0.61	ug/L			12/14/23 21:02	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/14/23 21:02	1
Toluene	0.72	U	1.0	0.72	ug/L			12/14/23 21:02	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/14/23 21:02	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/14/23 21:02	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/14/23 21:02	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/14/23 21:02	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/14/23 21:02	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/14/23 21:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*41 - 142*		*12/14/23 21:02*	*1*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*12/14/23 21:02*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/14/23 21:02*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31480-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
		BFB	DBFM	TOL						
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)						
670-31480-1	LC34-IW0001D2-110.0-20231208	100	101	100						
670-31480-1 DU	LC34-IW0001D2-110.0-20231208	139	101	99						
670-31480-2	LC34-IW0160-110.0-20231208	132	100	98						
670-31480-3 - DL	LC34-IW0045D2-110.0-20231208	102	104	101						
670-31480-4	LC34-IW0043D2-110.0-20231208	102	100	100						
670-31480-4 MS	LC34-IW0043D2-110.0-20231208	103	99	100						
670-31480-5	LC34-IW0042D2-089.5-20231208	101	102	100						
670-31480-6	LC34-IW0165-110.0-20231208	91	102	98						
670-31480-7	LC34-IW0164-110.0-20231208	110	101	100						
670-31480-8	LC34-IW0163-110.0-20231208	108	100	99						
670-31480-9	LC34-IW0160-110.0-20231208	113	99	99						
LCS 670-67524/4	Lab Control Sample	94	101	103						
MB 670-67524/7	Method Blank	103	102	99						

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-67524/7
Matrix: Water
Analysis Batch: 67524

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/14/23 13:49	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/14/23 13:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/14/23 13:49	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/14/23 13:49	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/14/23 13:49	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/14/23 13:49	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/14/23 13:49	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/14/23 13:49	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/14/23 13:49	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/14/23 13:49	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/14/23 13:49	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/14/23 13:49	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/14/23 13:49	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/14/23 13:49	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/14/23 13:49	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/14/23 13:49	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/14/23 13:49	1
Acetone	25	U	50	25	ug/L			12/14/23 13:49	1
Benzene	0.71	U	1.0	0.71	ug/L			12/14/23 13:49	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/14/23 13:49	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/14/23 13:49	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/14/23 13:49	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/14/23 13:49	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/14/23 13:49	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/14/23 13:49	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/14/23 13:49	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/14/23 13:49	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/14/23 13:49	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/14/23 13:49	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/14/23 13:49	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/14/23 13:49	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/14/23 13:49	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/14/23 13:49	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/14/23 13:49	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/14/23 13:49	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/14/23 13:49	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/14/23 13:49	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/14/23 13:49	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/14/23 13:49	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/14/23 13:49	1
Styrene	0.61	U	1.0	0.61	ug/L			12/14/23 13:49	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/14/23 13:49	1
Toluene	0.72	U	1.0	0.72	ug/L			12/14/23 13:49	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/14/23 13:49	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/14/23 13:49	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/14/23 13:49	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/14/23 13:49	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/14/23 13:49	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-67524/7
Matrix: Water
Analysis Batch: 67524

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/14/23 13:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*12/14/23 13:49*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*12/14/23 13:49*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/14/23 13:49*	*1*

Lab Sample ID: LCS 670-67524/4
Matrix: Water
Analysis Batch: 67524

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	22.9		ug/L		115	57 - 148
1,1,2,2-Tetrachloroethane	20.0	21.3		ug/L		106	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	23.2		ug/L		116	47 - 173
1,1,2-Trichloroethane	20.0	22.9		ug/L		115	57 - 141
1,1-Dichloroethane	20.0	23.1		ug/L		115	57 - 142
1,1-Dichloroethene	20.0	23.8		ug/L		119	47 - 139
1,2,4-Trichlorobenzene	20.0	25.6		ug/L		128	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	24.1		ug/L		120	48 - 150
1,2-Dibromoethane (EDB)	20.0	21.8		ug/L		109	57 - 140
1,2-Dichlorobenzene	20.0	28.5	J3	ug/L		143	63 - 131
1,2-Dichloroethane	20.0	22.3		ug/L		111	50 - 156
1,2-Dichloropropane	20.0	25.9		ug/L		130	61 - 133
1,3-Dichlorobenzene	20.0	24.8		ug/L		124	66 - 129
1,4-Dichlorobenzene	20.0	24.1		ug/L		121	65 - 133
2-Butanone (MEK)	200	222		ug/L		111	10 - 180
2-Hexanone	200	209		ug/L		104	12 - 180
4-Methyl-2-pentanone	200	212		ug/L		106	19 - 180
Acetone	200	218		ug/L		109	10 - 180
Benzene	20.0	24.6		ug/L		123	56 - 136
Bromodichloromethane	20.0	24.2		ug/L		121	58 - 135
Bromoform	20.0	19.8		ug/L		99	46 - 148
Bromomethane	20.0	18.7		ug/L		94	10 - 173
Carbon disulfide	20.0	24.4		ug/L		122	43 - 153
Carbon tetrachloride	20.0	22.2		ug/L		111	54 - 156
Chlorobenzene	20.0	22.7		ug/L		113	51 - 139
Chloroethane	20.0	17.1		ug/L		85	27 - 180
Chloroform	20.0	22.4		ug/L		112	58 - 139
Chloromethane	20.0	16.4		ug/L		82	33 - 154
cis-1,2-Dichloroethene	20.0	24.3		ug/L		122	56 - 128
cis-1,3-Dichloropropene	20.0	20.6		ug/L		103	64 - 128
Cyclohexane	20.0	23.4		ug/L		117	14 - 151
Dibromochloromethane	20.0	22.3		ug/L		111	50 - 140
Dichlorodifluoromethane	20.0	15.6		ug/L		78	10 - 180
Ethylbenzene	20.0	22.5		ug/L		113	63 - 133
Isopropylbenzene	20.0	19.6		ug/L		98	60 - 132
m,p-Xylenes	20.0	22.1		ug/L		110	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-67524/4
Matrix: Water
Analysis Batch: 67524

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	48.9		ug/L		122	70 - 130
Methyl tert-butyl ether	20.0	23.1		ug/L		116	51 - 145
Methylene Chloride	20.0	23.4		ug/L		117	43 - 142
o-Xylene	20.0	21.6		ug/L		108	61 - 129
Styrene	20.0	21.7		ug/L		108	59 - 136
Tetrachloroethene	20.0	22.9		ug/L		114	60 - 147
Toluene	20.0	22.1		ug/L		111	64 - 131
trans-1,2-Dichloroethene	20.0	23.0		ug/L		115	54 - 134
trans-1,3-Dichloropropene	20.0	21.7		ug/L		109	65 - 149
Trichloroethene	20.0	22.2		ug/L		111	62 - 135
Trichlorofluoromethane	20.0	19.4		ug/L		97	56 - 155
Vinyl chloride	20.0	21.0		ug/L		105	20 - 167
Xylenes, Total	40.0	43.7		ug/L		109	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*103*		*40 - 146*

Lab Sample ID: 670-31480-4 MS
Matrix: Water
Analysis Batch: 67524

Client Sample ID: LC34-IW0043D2-110.0-20231208
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	23.3		ug/L		116	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	26.1		ug/L		131	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	24.1		ug/L		120	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	23.2		ug/L		116	57 - 141
1,1-Dichloroethane	0.62	U	20.0	23.7		ug/L		119	57 - 142
1,1-Dichloroethene	0.94	U	20.0	24.8		ug/L		124	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	29.0		ug/L		145	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	26.0		ug/L		130	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	22.6		ug/L		113	50 - 150
1,2-Dichlorobenzene	0.73	U J3	20.0	24.6		ug/L		123	63 - 131
1,2-Dichloroethane	0.63	U	20.0	23.6		ug/L		118	50 - 156
1,2-Dichloropropane	0.80	U	20.0	26.2		ug/L		131	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	22.3		ug/L		111	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	23.4		ug/L		117	65 - 133
2-Butanone (MEK)	4.5	U	200	252		ug/L		126	10 - 180
2-Hexanone	2.5	U	200	240		ug/L		120	12 - 180
4-Methyl-2-pentanone	5.0	U	200	241		ug/L		121	19 - 180
Acetone	25	U	200	236		ug/L		118	10 - 180
Benzene	0.71	U	20.0	25.1		ug/L		126	56 - 136
Bromodichloromethane	0.52	U	20.0	23.3		ug/L		117	58 - 135
Bromoform	0.75	U	20.0	23.4		ug/L		117	46 - 148
Bromomethane	0.95	U	20.0	14.4		ug/L		72	10 - 173
Carbon disulfide	2.5	U	20.0	27.2		ug/L		136	43 - 153
Carbon tetrachloride	0.94	U	20.0	23.1		ug/L		116	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-31480-4 MS
Matrix: Water
Analysis Batch: 67524

Client Sample ID: LC34-IW0043D2-110.0-20231208
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	23.2		ug/L		116	51 - 139
Chloroethane	0.98	U	20.0	26.5		ug/L		132	27 - 180
Chloroform	0.80	U	20.0	22.5		ug/L		113	59 - 139
Chloromethane	0.82	U	20.0	21.0		ug/L		105	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	24.5		ug/L		123	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	19.8		ug/L		99	64 - 128
Cyclohexane	0.93	U	20.0	24.7		ug/L		124	14 - 141
Dibromochloromethane	0.50	U	20.0	21.8		ug/L		109	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	15.1		ug/L		75	10 - 180
Ethylbenzene	0.69	U	20.0	23.1		ug/L		116	63 - 133
Isopropylbenzene	0.67	U	20.0	23.1		ug/L		116	60 - 132
m,p-Xylenes	1.3	U	20.0	22.8		ug/L		114	64 - 133
Methyl acetate	0.95	U	40.0	53.5		ug/L		134	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	23.6		ug/L		118	50 - 150
Methylene Chloride	5.0	U	20.0	22.9		ug/L		114	43 - 142
o-Xylene	0.53	U	20.0	22.2		ug/L		111	61 - 129
Styrene	0.61	U	20.0	21.9		ug/L		109	59 - 136
Tetrachloroethene	0.76	U	20.0	23.6		ug/L		118	60 - 147
Toluene	0.72	U	20.0	22.6		ug/L		113	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	24.6		ug/L		123	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	22.2		ug/L		111	65 - 149
Trichloroethene	0.89	U	20.0	22.7		ug/L		114	62 - 135
Trichlorofluoromethane	0.94	U	20.0	18.9		ug/L		95	56 - 155
Vinyl chloride	0.71	U	20.0	24.3		ug/L		122	20 - 167
Xylenes, Total	1.3	U	40.0	45.0		ug/L		113	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-31480-1 DU
Matrix: Water
Analysis Batch: 67524

Client Sample ID: LC34-IW0001D2-110.0-20231208
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	0.80	U	ug/L		NC	30
1,1,2,2-Tetrachloroethane	0.54	U	0.54	U	ug/L		NC	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	0.73	U	ug/L		NC	30
1,1,2-Trichloroethane	0.76	U	0.76	U	ug/L		NC	30
1,1-Dichloroethane	0.62	U	0.62	U	ug/L		NC	30
1,1-Dichloroethene	0.94	U	0.94	U	ug/L		NC	30
1,2,4-Trichlorobenzene	0.70	U	0.70	U	ug/L		NC	30
1,2-Dibromo-3-Chloropropane	0.96	U	0.96	U	ug/L		NC	30
1,2-Dibromoethane (EDB)	0.78	U	0.78	U	ug/L		NC	30
1,2-Dichlorobenzene	0.73	U J3	0.73	U J3	ug/L		NC	30
1,2-Dichloroethane	0.63	U	0.63	U	ug/L		NC	30
1,2-Dichloropropane	0.80	U	0.80	U	ug/L		NC	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-31480-1 DU
Matrix: Water
Analysis Batch: 67524

Client Sample ID: LC34-IW0001D2-110.0-20231208
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U		0.77	U	ug/L				NC	30
1,4-Dichlorobenzene	0.76	U		0.76	U	ug/L				NC	30
2-Butanone (MEK)	4.5	U		4.5	U	ug/L				NC	30
2-Hexanone	2.5	U		2.5	U	ug/L				NC	30
4-Methyl-2-pentanone	5.0	U		5.0	U	ug/L				NC	30
Acetone	25	U		25	U	ug/L				NC	30
Benzene	0.71	U		0.71	U	ug/L				NC	30
Bromodichloromethane	0.52	U		0.52	U	ug/L				NC	30
Bromoform	0.75	U		0.75	U	ug/L				NC	30
Bromomethane	0.95	U		0.95	U	ug/L				NC	30
Carbon disulfide	2.5	U		2.5	U	ug/L				NC	30
Carbon tetrachloride	0.94	U		0.94	U	ug/L				NC	30
Chlorobenzene	0.72	U		0.72	U	ug/L				NC	30
Chloroethane	0.98	U		0.98	U	ug/L				NC	30
Chloroform	0.80	U		0.80	U	ug/L				NC	30
Chloromethane	0.82	U		0.82	U	ug/L				NC	30
cis-1,2-Dichloroethene	0.53	U		0.53	U	ug/L				NC	30
cis-1,3-Dichloropropene	0.59	U		0.59	U	ug/L				NC	30
Cyclohexane	0.93	U		0.93	U	ug/L				NC	30
Dibromochloromethane	0.50	U		0.50	U	ug/L				NC	30
Dichlorodifluoromethane	0.74	U		0.74	U	ug/L				NC	30
Ethylbenzene	0.69	U		0.69	U	ug/L				NC	30
Isopropylbenzene	0.67	U		0.67	U	ug/L				NC	30
m,p-Xylenes	1.3	U		1.3	U	ug/L				NC	30
Methyl acetate	0.95	U		0.95	U	ug/L				NC	30
Methyl tert-butyl ether	0.60	U		0.60	U	ug/L				NC	30
Methylene Chloride	5.0	U		5.0	U	ug/L				NC	30
o-Xylene	0.53	U		0.53	U	ug/L				NC	30
Styrene	0.61	U		0.61	U	ug/L				NC	30
Tetrachloroethene	0.76	U		0.76	U	ug/L				NC	30
Toluene	0.72	U		0.72	U	ug/L				NC	30
trans-1,2-Dichloroethene	0.73	U		0.73	U	ug/L				NC	20
trans-1,3-Dichloropropene	0.73	U		0.73	U	ug/L				NC	30
Trichloroethene	0.89	U		0.89	U	ug/L				NC	30
Trichlorofluoromethane	0.94	U		0.94	U	ug/L				NC	30
Vinyl chloride	0.71	U		0.71	U	ug/L				NC	30
Xylenes, Total	1.3	U		1.3	U	ug/L				NC	30

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*139*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31480-1

GC/MS VOA

Analysis Batch: 67524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-31480-1	LC34-IW0001D2-110.0-20231208	Total/NA	Water	8260D	
670-31480-2	LC34-IW0160-110.0-20231208	Total/NA	Water	8260D	
670-31480-3 - DL	LC34-IW0045D2-110.0-20231208	Total/NA	Water	8260D	
670-31480-4	LC34-IW0043D2-110.0-20231208	Total/NA	Water	8260D	
670-31480-5	LC34-IW0042D2-089.5-20231208	Total/NA	Water	8260D	
670-31480-6	LC34-IW0165-110.0-20231208	Total/NA	Water	8260D	
670-31480-7	LC34-IW0164-110.0-20231208	Total/NA	Water	8260D	
670-31480-8	LC34-IW0163-110.0-20231208	Total/NA	Water	8260D	
670-31480-9	LC34-IW0160-110.0-20231208	Total/NA	Water	8260D	
MB 670-67524/7	Method Blank	Total/NA	Water	8260D	
LCS 670-67524/4	Lab Control Sample	Total/NA	Water	8260D	
670-31480-4 MS	LC34-IW0043D2-110.0-20231208	Total/NA	Water	8260D	
670-31480-1 DU	LC34-IW0001D2-110.0-20231208	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31480-1

Client Sample ID: LC34-IW0001D2-110.0-20231208 — Lab Sample ID: 670-31480-1

Date Collected: 12/08/23 08:55 — **Matrix: Water**
Date Received: 12/08/23 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	67524	P1K	EET ORL	12/14/23 15:36

Client Sample ID: LC34-IW0160-110.0-20231208 — Lab Sample ID: 670-31480-2

Date Collected: 12/08/23 09:25 — **Matrix: Water**
Date Received: 12/08/23 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	67524	P1K	EET ORL	12/14/23 19:13

Client Sample ID: LC34-IW0045D2-110.0-20231208 — Lab Sample ID: 670-31480-3

Date Collected: 12/08/23 09:50 — **Matrix: Water**
Date Received: 12/08/23 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	67524	P1K	EET ORL	12/14/23 19:34

Client Sample ID: LC34-IW0043D2-110.0-20231208 — Lab Sample ID: 670-31480-4

Date Collected: 12/08/23 10:15 — **Matrix: Water**
Date Received: 12/08/23 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	67524	P1K	EET ORL	12/14/23 16:11

Client Sample ID: LC34-IW0042D2-089.5-20231208 — Lab Sample ID: 670-31480-5

Date Collected: 12/08/23 10:50 — **Matrix: Water**
Date Received: 12/08/23 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	67524	P1K	EET ORL	12/14/23 19:52

Client Sample ID: LC34-IW0165-110.0-20231208 — Lab Sample ID: 670-31480-6

Date Collected: 12/08/23 11:20 — **Matrix: Water**
Date Received: 12/08/23 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	67524	P1K	EET ORL	12/14/23 20:09

Client Sample ID: LC34-IW0164-110.0-20231208 — Lab Sample ID: 670-31480-7

Date Collected: 12/08/23 11:50 — **Matrix: Water**
Date Received: 12/08/23 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	67524	P1K	EET ORL	12/14/23 20:27

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31480-1

Client Sample ID: LC34-IW0163-110.0-20231208

Lab Sample ID: 670-31480-8

Date Collected: 12/08/23 12:25
Matrix: Water
Date Received: 12/08/23 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	67524	P1K	EET ORL	12/14/23 20:44

Client Sample ID: LC34-IW0160-110.0-20231208

Lab Sample ID: 670-31480-9

Date Collected: 12/08/23 13:00
Matrix: Water
Date Received: 12/08/23 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	67524	P1K	EET ORL	12/14/23 21:02

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-31480-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31480-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31480-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-31480-1	LC34-IW0001D2-110.0-20231208	Water	12/08/23 08:55	12/08/23 14:25
670-31480-2	LC34-IW0160-110.0-20231208	Water	12/08/23 09:25	12/08/23 14:25
670-31480-3	LC34-IW0045D2-110.0-20231208	Water	12/08/23 09:50	12/08/23 14:25
670-31480-4	LC34-IW0043D2-110.0-20231208	Water	12/08/23 10:15	12/08/23 14:25
670-31480-5	LC34-IW0042D2-089.5-20231208	Water	12/08/23 10:50	12/08/23 14:25
670-31480-6	LC34-IW0165-110.0-20231208	Water	12/08/23 11:20	12/08/23 14:25
670-31480-7	LC34-IW0164-110.0-20231208	Water	12/08/23 11:50	12/08/23 14:25
670-31480-8	LC34-IW0163-110.0-20231208	Water	12/08/23 12:25	12/08/23 14:25
670-31480-9	LC34-IW0160-110.0-20231208	Water	12/08/23 13:00	12/08/23 14:25

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3847 | PAGE 1 OF 1

PROJECT NO: 112G089985	FACILITY: KSC-LC34	PROJECT MANAGER Mark Sonnet	PHONE NUMBER (412) 921-8022	LABORATORY NAME AND CONTACT: Eurofins — Kaitlin Dylewski
SAMPLERS (SIGNATURE) - Chuck Serden; - Aaron Kupper		FIELD OPERATIONS LEADER Chuck Serden	PHONE NUMBER (321) 591-7580	ADDRESS 481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER		CITY, STATE Altamonte Springs, FL

STANDARD TAT ☒
RUSH TAT ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): G; PRESERVATIVE USED: HCl/4°C; TYPE OF ANALYSIS: 8260D-(MOD) NASA LC34 Custom List	COMMENTS
12/08	0855	LC34-IW000102-110.0-20231208	0102	105	115	GW	G	3	X	
1	0925	LC34-IW0160-110.0-20231208	160	105	115					
	0950	LC34-IW0045D2-110.0-20231208	45D2	105	115					
	1015	LC34-IW0043D2-110.0-20231208	43D2	105	115					
	1050	LC34-IW0042D2-089.5-20231208	42D2	87	92					
	1120	LC34-IW0165-110.0-20231208	165	105	115					
	1150	LC34-IW0164-110.0-20231208	164	105	115					
	1225	LC34-IW0163-110.0-20231208	163	105	115					
12/08	1300	LC34-IW016[illegible]-110.0-20231208	161	105	115	GW	G	3	X	

670-31480 Chain of Custody

1. RELINQUISHED BY	DATE 12/08/23	TIME 1425	1. RECEIVED BY	DATE 12/8/23	TIME 1425
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 2.1/1.9 596

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 4/92R

FORM NO. TtNUS-001

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3847 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08985	KSC-LC34	Mark Jonnet	(412) 921-8622	Eurofins — Kaitlin Dylnicki

SAMPLERS (SIGNATURE)	FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
[signature] - Chuck Sorden [signature] - Aaron Kuppar	Chuck Sorden	(321) 591-7580	481 Newburyport Ave.
	CARRIER/WAYBILL NUMBER		CITY, STATE: Altamonte Springs, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G
PRESERVATIVE USED: HCl/4°C

TYPE OF ANALYSIS: 82COD-(MOD) NASA LC34 Custom List

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	82COD-(MOD) NASA LC34 Custom List	COMMENTS
12/08	0855	LC34-IW0001D2-110.0-20231208	01D2	105	~~110~~ 115	GW	G	3	X	
↑	0925	LC34-IW0160-110.0-20231208	160	105	115	↑	↑	↑	↑	
	0950	LC34-IW0045D2-110.0-20231208	45D2	105	115					
	1015	LC34-IW0043D2-110.0-20231208	43D2	105	115					
	1050	LC34-IW0042D2-089.5-20231208	42D2	87	92					
	1120	LC34-IW0165-110.0-20231208	165	105	115					
	1150	LC34-IW0164-110.0-20231208	164	105	115					
↓	1225	LC34-IW0163-110.0-20231208	163	105	115	↓	↓	↓	↓	
12/08	1300	LC34-IW0161-110.0-20231208	161	105	115	GW	G	3	X	

670-31480 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY [signature]	12/08/23	1425	1. RECEIVED BY [signature]	12/8/23	1425
2. RELINQUISHED BY			2. RECEIVED BY		
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS

2.1/1.9
596
client

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-01
12/21/2023

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-31480-1

Login Number: 31480

List Source: Eurofins Orlando

List Number: 1

Creator: Bittle, David W

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-31481-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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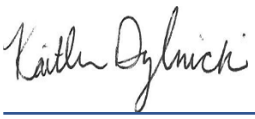

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Authorized for release by
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Client: Tetra Tech, Inc.
Job ID: 670-31481-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-31481-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-31481-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/8/2023 2:25 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.9°C

GC/MS VOA
Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0044D2-110.0-20231208 (670-31481-1). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-67096 recovered outside acceptance criteria, low biased, for Bromomethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The matrix spike duplicate (MSD) recoveries and precision for analytical batch 670-67096 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31481-1

Client Sample ID: LC34-IW0044D2-110.0-20231208 — Lab Sample ID: 670-31481-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	2.1		1.0	0.94	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	12		1.0	0.73	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene - DL	730		25	13	ug/L	25		8260D	Total/NA
Trichloroethene - DL	1200		25	22	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	130		25	18	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-IW0162-110.0-20231208 — Lab Sample ID: 670-31481-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.3		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	2.0		1.0	0.89	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31481-1

Client Sample ID: LC34-IW0044D2-110.0-20231208
Date Collected: 12/08/23 13:30
Date Received: 12/08/23 14:25

Lab Sample ID: 670-31481-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/11/23 19:01	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/11/23 19:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/11/23 19:01	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/11/23 19:01	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/11/23 19:01	1
1,1-Dichloroethene	**2.1**		1.0	0.94	ug/L			12/11/23 19:01	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/11/23 19:01	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/11/23 19:01	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/11/23 19:01	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/11/23 19:01	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/11/23 19:01	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/11/23 19:01	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/11/23 19:01	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/11/23 19:01	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/11/23 19:01	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/11/23 19:01	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/11/23 19:01	1
Acetone	25	U	50	25	ug/L			12/11/23 19:01	1
Benzene	0.71	U	1.0	0.71	ug/L			12/11/23 19:01	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/11/23 19:01	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/11/23 19:01	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/11/23 19:01	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/11/23 19:01	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/11/23 19:01	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/11/23 19:01	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/11/23 19:01	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/11/23 19:01	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/11/23 19:01	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/11/23 19:01	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/11/23 19:01	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/11/23 19:01	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/11/23 19:01	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/11/23 19:01	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/11/23 19:01	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/11/23 19:01	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/11/23 19:01	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/11/23 19:01	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/11/23 19:01	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/11/23 19:01	1
Styrene	0.61	U	1.0	0.61	ug/L			12/11/23 19:01	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/11/23 19:01	1
Toluene	0.72	U	1.0	0.72	ug/L			12/11/23 19:01	1
trans-1,2-Dichloroethene	**12**		1.0	0.73	ug/L			12/11/23 19:01	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/11/23 19:01	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/11/23 19:01	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/11/23 19:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*12/11/23 19:01*	*1*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*12/11/23 19:01*	*1*

Client Sample ID: LC34-IW0044D2-110.0-20231208

Lab Sample ID: 670-31481-1

Date Collected: 12/08/23 13:30

Matrix: Water

Date Received: 12/08/23 14:25

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*40 - 146*		*12/11/23 19:01*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**730**		25	13	ug/L			12/12/23 10:50	25
Trichloroethene	**1200**		25	22	ug/L			12/12/23 10:50	25
Vinyl chloride	**130**		25	18	ug/L			12/12/23 10:50	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*12/12/23 10:50*	*25*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*12/12/23 10:50*	*25*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/12/23 10:50*	*25*

Client Sample ID: LC34-IW0162-110.0-20231208

Lab Sample ID: 670-31481-2

Date Collected: 12/08/23 14:00

Matrix: Water

Date Received: 12/08/23 14:25

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/11/23 19:19	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/11/23 19:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/11/23 19:19	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/11/23 19:19	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/11/23 19:19	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/11/23 19:19	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/11/23 19:19	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/11/23 19:19	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/11/23 19:19	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/11/23 19:19	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/11/23 19:19	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/11/23 19:19	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/11/23 19:19	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/11/23 19:19	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/11/23 19:19	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/11/23 19:19	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/11/23 19:19	1
Acetone	25	U	50	25	ug/L			12/11/23 19:19	1
Benzene	0.71	U	1.0	0.71	ug/L			12/11/23 19:19	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/11/23 19:19	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/11/23 19:19	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/11/23 19:19	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/11/23 19:19	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/11/23 19:19	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/11/23 19:19	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/11/23 19:19	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/11/23 19:19	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/11/23 19:19	1
cis-1,2-Dichloroethene	**1.3**		1.0	0.53	ug/L			12/12/23 12:01	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/11/23 19:19	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/11/23 19:19	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31481-1

Client Sample ID: LC34-IW0162-110.0-20231208
Date Collected: 12/08/23 14:00
Date Received: 12/08/23 14:25

Lab Sample ID: 670-31481-2
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/11/23 19:19	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/11/23 19:19	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/11/23 19:19	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/11/23 19:19	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/11/23 19:19	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/11/23 19:19	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/11/23 19:19	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/11/23 19:19	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/11/23 19:19	1
Styrene	0.61	U	1.0	0.61	ug/L			12/11/23 19:19	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/11/23 19:19	1
Toluene	0.72	U	1.0	0.72	ug/L			12/11/23 19:19	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/11/23 19:19	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/11/23 19:19	1
Trichloroethene	**2.0**		1.0	0.89	ug/L			12/12/23 12:01	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/11/23 19:19	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/12/23 12:01	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/11/23 19:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*		*12/11/23 19:19*	*1*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*12/12/23 12:01*	*1*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*12/11/23 19:19*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*12/12/23 12:01*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*12/11/23 19:19*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/12/23 12:01*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31481-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
660-133224-D-14 DU - DL	Duplicate	93	103	101
670-31335-C-3 MS - DL	Matrix Spike	94	105	101
670-31481-1	LC34-IW0044D2-110.0-20231208	94	104	102
670-31481-1 - DL	LC34-IW0044D2-110.0-20231208	103	100	99
670-31481-1 MS	LC34-IW0044D2-110.0-20231208	99	99	100
670-31481-1 MSD	LC34-IW0044D2-110.0-20231208	100	99	100
670-31481-2	LC34-IW0162-110.0-20231208	93	103	101
670-31481-2	LC34-IW0162-110.0-20231208	101	100	99
LCS 670-66958/4	Lab Control Sample	92	101	101
LCS 670-67096/4	Lab Control Sample	99	100	99
MB 670-66958/7	Method Blank	95	103	100
MB 670-67096/7	Method Blank	98	101	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-66958/7
Matrix: Water
Analysis Batch: 66958

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/11/23 14:06	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/11/23 14:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/11/23 14:06	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/11/23 14:06	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/11/23 14:06	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/11/23 14:06	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/11/23 14:06	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/11/23 14:06	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/11/23 14:06	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/11/23 14:06	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/11/23 14:06	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/11/23 14:06	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/11/23 14:06	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/11/23 14:06	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/11/23 14:06	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/11/23 14:06	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/11/23 14:06	1
Acetone	25	U	50	25	ug/L			12/11/23 14:06	1
Benzene	0.71	U	1.0	0.71	ug/L			12/11/23 14:06	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/11/23 14:06	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/11/23 14:06	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/11/23 14:06	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/11/23 14:06	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/11/23 14:06	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/11/23 14:06	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/11/23 14:06	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/11/23 14:06	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/11/23 14:06	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/11/23 14:06	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/11/23 14:06	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/11/23 14:06	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/11/23 14:06	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/11/23 14:06	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/11/23 14:06	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/11/23 14:06	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/11/23 14:06	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/11/23 14:06	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/11/23 14:06	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/11/23 14:06	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/11/23 14:06	1
Styrene	0.61	U	1.0	0.61	ug/L			12/11/23 14:06	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/11/23 14:06	1
Toluene	0.72	U	1.0	0.72	ug/L			12/11/23 14:06	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/11/23 14:06	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/11/23 14:06	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/11/23 14:06	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/11/23 14:06	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/11/23 14:06	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-66958/7
Matrix: Water
Analysis Batch: 66958

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/11/23 14:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*12/11/23 14:06*	*1*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*12/11/23 14:06*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/11/23 14:06*	*1*

Lab Sample ID: LCS 670-66958/4
Matrix: Water
Analysis Batch: 66958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.2		ug/L		101	57 - 148
1,1,2,2-Tetrachloroethane	20.0	18.9		ug/L		95	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	20.6		ug/L		103	47 - 173
1,1,2-Trichloroethane	20.0	19.7		ug/L		98	57 - 141
1,1-Dichloroethane	20.0	19.6		ug/L		98	57 - 142
1,1-Dichloroethene	20.0	20.5		ug/L		103	47 - 139
1,2,4-Trichlorobenzene	20.0	19.7		ug/L		98	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	18.8		ug/L		94	48 - 150
1,2-Dibromoethane (EDB)	20.0	20.0		ug/L		100	57 - 140
1,2-Dichlorobenzene	20.0	19.5		ug/L		97	63 - 131
1,2-Dichloroethane	20.0	20.0		ug/L		100	50 - 156
1,2-Dichloropropane	20.0	21.6		ug/L		108	61 - 133
1,3-Dichlorobenzene	20.0	19.2		ug/L		96	66 - 129
1,4-Dichlorobenzene	20.0	19.4		ug/L		97	65 - 133
2-Butanone (MEK)	200	222		ug/L		111	10 - 180
2-Hexanone	200	208		ug/L		104	12 - 180
4-Methyl-2-pentanone	200	210		ug/L		105	19 - 180
Acetone	200	220		ug/L		110	10 - 180
Benzene	20.0	19.5		ug/L		98	56 - 136
Bromodichloromethane	20.0	22.5		ug/L		112	58 - 135
Bromoform	20.0	19.0		ug/L		95	46 - 148
Bromomethane	20.0	18.6		ug/L		93	10 - 173
Carbon disulfide	20.0	21.9		ug/L		110	43 - 153
Carbon tetrachloride	20.0	20.0		ug/L		100	54 - 156
Chlorobenzene	20.0	20.7		ug/L		103	51 - 139
Chloroethane	20.0	19.8		ug/L		99	27 - 180
Chloroform	20.0	22.0		ug/L		110	58 - 139
Chloromethane	20.0	17.0		ug/L		85	33 - 154
cis-1,2-Dichloroethene	20.0	22.1		ug/L		110	56 - 128
cis-1,3-Dichloropropene	20.0	18.0		ug/L		90	64 - 128
Cyclohexane	20.0	20.4		ug/L		102	14 - 151
Dibromochloromethane	20.0	20.9		ug/L		104	50 - 140
Dichlorodifluoromethane	20.0	14.1		ug/L		70	10 - 180
Ethylbenzene	20.0	19.6		ug/L		98	63 - 133
Isopropylbenzene	20.0	18.9		ug/L		95	60 - 132
m,p-Xylenes	20.0	19.3		ug/L		97	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-66958/4
Matrix: Water
Analysis Batch: 66958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	40.9		ug/L		102	70 - 130
Methyl tert-butyl ether	20.0	18.9		ug/L		94	51 - 145
Methylene Chloride	20.0	21.5		ug/L		108	43 - 142
o-Xylene	20.0	19.3		ug/L		96	61 - 129
Styrene	20.0	21.3		ug/L		107	59 - 136
Tetrachloroethene	20.0	20.7		ug/L		104	60 - 147
Toluene	20.0	19.8		ug/L		99	64 - 131
trans-1,2-Dichloroethene	20.0	21.1		ug/L		106	54 - 134
trans-1,3-Dichloropropene	20.0	20.0		ug/L		100	65 - 149
Trichloroethene	20.0	20.1		ug/L		101	62 - 135
Trichlorofluoromethane	20.0	20.3		ug/L		102	56 - 155
Vinyl chloride	20.0	20.5		ug/L		102	20 - 167
Xylenes, Total	40.0	38.6		ug/L		97	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Lab Sample ID: MB 670-67096/7
Matrix: Water
Analysis Batch: 67096

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/12/23 10:32	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/12/23 10:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/12/23 10:32	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/12/23 10:32	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/12/23 10:32	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/12/23 10:32	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/12/23 10:32	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/12/23 10:32	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/12/23 10:32	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/12/23 10:32	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/12/23 10:32	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/12/23 10:32	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/12/23 10:32	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/12/23 10:32	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/12/23 10:32	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/12/23 10:32	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/12/23 10:32	1
Acetone	25	U	50	25	ug/L			12/12/23 10:32	1
Benzene	0.71	U	1.0	0.71	ug/L			12/12/23 10:32	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/12/23 10:32	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/12/23 10:32	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/12/23 10:32	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/12/23 10:32	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/12/23 10:32	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-67096/7
Matrix: Water
Analysis Batch: 67096

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/12/23 10:32	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/12/23 10:32	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/12/23 10:32	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/12/23 10:32	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/12/23 10:32	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/12/23 10:32	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/12/23 10:32	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/12/23 10:32	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/12/23 10:32	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/12/23 10:32	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/12/23 10:32	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/12/23 10:32	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/12/23 10:32	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/12/23 10:32	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/12/23 10:32	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/12/23 10:32	1
Styrene	0.61	U	1.0	0.61	ug/L			12/12/23 10:32	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/12/23 10:32	1
Toluene	0.72	U	1.0	0.72	ug/L			12/12/23 10:32	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/12/23 10:32	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/12/23 10:32	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/12/23 10:32	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/12/23 10:32	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/12/23 10:32	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/12/23 10:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*12/12/23 10:32*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*12/12/23 10:32*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/12/23 10:32*	*1*

Lab Sample ID: LCS 670-67096/4
Matrix: Water
Analysis Batch: 67096

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	5.00	4.88		ug/L		98	57 - 148
1,1,2,2-Tetrachloroethane	5.00	5.01		ug/L		100	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	5.12		ug/L		102	47 - 173
1,1,2-Trichloroethane	5.00	4.98		ug/L		100	57 - 141
1,1-Dichloroethane	5.00	4.87		ug/L		97	57 - 142
1,1-Dichloroethene	5.00	5.15		ug/L		103	47 - 139
1,2,4-Trichlorobenzene	5.00	4.78		ug/L		96	52 - 159
1,2-Dibromo-3-Chloropropane	5.00	4.37	I	ug/L		87	48 - 150
1,2-Dibromoethane (EDB)	5.00	4.83	I	ug/L		97	57 - 140
1,2-Dichlorobenzene	5.00	5.33		ug/L		107	63 - 131
1,2-Dichloroethane	5.00	4.57		ug/L		91	50 - 156
1,2-Dichloropropane	5.00	5.23		ug/L		105	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-67096/4
Matrix: Water
Analysis Batch: 67096

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	5.00	5.02		ug/L		100	66 - 129
1,4-Dichlorobenzene	5.00	5.15		ug/L		103	65 - 133
2-Butanone (MEK)	50.0	45.9		ug/L		92	10 - 180
2-Hexanone	50.0	41.7		ug/L		83	12 - 180
4-Methyl-2-pentanone	50.0	39.8		ug/L		80	19 - 180
Acetone	50.0	45.3	I	ug/L		91	10 - 180
Benzene	5.00	5.12		ug/L		102	56 - 136
Bromodichloromethane	5.00	4.92		ug/L		98	58 - 135
Bromoform	5.00	4.43		ug/L		89	46 - 148
Bromomethane	5.00	3.42		ug/L		68	10 - 173
Carbon disulfide	5.00	5.78		ug/L		116	43 - 153
Carbon tetrachloride	5.00	4.64		ug/L		93	54 - 156
Chlorobenzene	5.00	4.93		ug/L		99	51 - 139
Chloroethane	5.00	3.51		ug/L		70	27 - 180
Chloroform	5.00	4.83	I	ug/L		97	58 - 139
Chloromethane	5.00	3.28		ug/L		66	33 - 154
cis-1,2-Dichloroethene	5.00	4.88		ug/L		98	56 - 128
cis-1,3-Dichloropropene	5.00	4.07		ug/L		81	64 - 128
Cyclohexane	5.00	5.04		ug/L		101	14 - 151
Dibromochloromethane	5.00	4.45		ug/L		89	50 - 140
Dichlorodifluoromethane	5.00	2.46		ug/L		49	10 - 180
Ethylbenzene	5.00	4.85		ug/L		97	63 - 133
Isopropylbenzene	5.00	4.59		ug/L		92	60 - 132
m,p-Xylenes	5.00	4.76		ug/L		95	64 - 133
Methyl acetate	10.0	10.1		ug/L		101	70 - 130
Methyl tert-butyl ether	5.00	4.84		ug/L		97	51 - 145
Methylene Chloride	5.00	5.0	U	ug/L		94	43 - 142
o-Xylene	5.00	4.42		ug/L		88	61 - 129
Styrene	5.00	4.09		ug/L		82	59 - 136
Tetrachloroethene	5.00	5.13		ug/L		103	60 - 147
Toluene	5.00	4.74		ug/L		95	64 - 131
trans-1,2-Dichloroethene	5.00	4.82		ug/L		96	54 - 134
trans-1,3-Dichloropropene	5.00	4.74		ug/L		95	65 - 149
Trichloroethene	5.00	4.91		ug/L		98	62 - 135
Trichlorofluoromethane	5.00	3.89		ug/L		78	56 - 155
Vinyl chloride	5.00	4.03		ug/L		81	20 - 167
Xylenes, Total	10.0	9.18		ug/L		92	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-31481-1 MS
Matrix: Water
Analysis Batch: 67096

Client Sample ID: LC34-IW0044D2-110.0-20231208
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20	U	500	537		ug/L		107	57 - 148
1,1,2,2-Tetrachloroethane	14	U	500	532		ug/L		106	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	500	537		ug/L		107	50 - 150
1,1,2-Trichloroethane	19	U	500	494		ug/L		99	57 - 141
1,1-Dichloroethane	16	U	500	527		ug/L		105	57 - 142
1,1-Dichloroethene	24	U	500	567		ug/L		113	49 - 139
1,2,4-Trichlorobenzene	18	U	500	463		ug/L		93	52 - 159
1,2-Dibromo-3-Chloropropane	24	U	500	453		ug/L		91	48 - 150
1,2-Dibromoethane (EDB)	20	U	500	502		ug/L		100	50 - 150
1,2-Dichlorobenzene	18	U	500	524		ug/L		105	63 - 131
1,2-Dichloroethane	16	U	500	509		ug/L		102	50 - 156
1,2-Dichloropropane	20	U	500	565		ug/L		113	61 - 133
1,3-Dichlorobenzene	19	U	500	497		ug/L		99	66 - 129
1,4-Dichlorobenzene	19	U	500	527		ug/L		105	65 - 133
2-Butanone (MEK)	200	I	5000	5190		ug/L		100	10 - 180
2-Hexanone	63	U	5000	4730		ug/L		95	12 - 180
4-Methyl-2-pentanone	130	U	5000	4830		ug/L		97	19 - 180
Acetone	630	U	5000	4780		ug/L		96	10 - 180
Benzene	18	U	500	562		ug/L		112	56 - 136
Bromodichloromethane	13	U	500	526		ug/L		105	58 - 135
Bromoform	19	U	500	490		ug/L		98	46 - 148
Bromomethane	24	U	500	398		ug/L		80	10 - 173
Carbon disulfide	63	U	500	612		ug/L		122	43 - 153
Carbon tetrachloride	24	U	500	520		ug/L		104	54 - 156
Chlorobenzene	18	U	500	515		ug/L		103	51 - 139
Chloroethane	25	U J3	500	471		ug/L		94	27 - 180
Chloroform	20	U	500	539		ug/L		108	59 - 139
Chloromethane	21	U	500	446		ug/L		89	33 - 154
cis-1,2-Dichloroethene	730		500	1270		ug/L		109	56 - 128
cis-1,3-Dichloropropene	15	U	500	443		ug/L		89	64 - 128
Cyclohexane	23	U	500	548		ug/L		110	14 - 141
Dibromochloromethane	13	U	500	483		ug/L		97	50 - 150
Dichlorodifluoromethane	19	U	500	422		ug/L		84	10 - 180
Ethylbenzene	17	U	500	518		ug/L		104	63 - 133
Isopropylbenzene	17	U	500	501		ug/L		100	60 - 132
m,p-Xylenes	33	U	500	518		ug/L		104	64 - 133
Methyl acetate	24	U	1000	1130		ug/L		113	50 - 150
Methyl tert-butyl ether	15	U	500	515		ug/L		103	50 - 150
Methylene Chloride	130	U	500	532		ug/L		106	43 - 142
o-Xylene	13	U	500	489		ug/L		98	61 - 129
Styrene	15	U	500	484		ug/L		97	59 - 136
Tetrachloroethene	19	U	500	522		ug/L		104	60 - 147
Toluene	18	U	500	507		ug/L		101	64 - 131
trans-1,2-Dichloroethene	18	I	500	567		ug/L		113	54 - 134
trans-1,3-Dichloropropene	18	U	500	476		ug/L		95	65 - 149
Trichloroethene	1200		500	1740		ug/L		100	62 - 135
Trichlorofluoromethane	24	U	500	556		ug/L		111	56 - 155
Vinyl chloride	130		500	686		ug/L		112	20 - 167

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-31481-1 MS
Matrix: Water
Analysis Batch: 67096

Client Sample ID: LC34-IW0044D2-110.0-20231208
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Xylenes, Total	33	U	1000	1010		ug/L		101	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-31481-1 MSD
Matrix: Water
Analysis Batch: 67096

Client Sample ID: LC34-IW0044D2-110.0-20231208
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	20	U	500	500		ug/L		100	57 - 148	7	25
1,1,2,2-Tetrachloroethane	14	U	500	533		ug/L		107	60 - 139	0	17
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	500	498		ug/L		100	50 - 150	8	30
1,1,2-Trichloroethane	19	U	500	484		ug/L		97	57 - 141	2	16
1,1-Dichloroethane	16	U	500	494		ug/L		99	57 - 142	6	24
1,1-Dichloroethene	24	U	500	516		ug/L		103	49 - 139	10	16
1,2,4-Trichlorobenzene	18	U	500	456		ug/L		91	52 - 159	1	24
1,2-Dibromo-3-Chloropropane	24	U	500	475		ug/L		95	48 - 150	5	21
1,2-Dibromoethane (EDB)	20	U	500	463		ug/L		93	50 - 150	8	16
1,2-Dichlorobenzene	18	U	500	510		ug/L		102	63 - 131	3	25
1,2-Dichloroethane	16	U	500	477		ug/L		95	50 - 156	7	18
1,2-Dichloropropane	20	U	500	538		ug/L		108	61 - 133	5	26
1,3-Dichlorobenzene	19	U	500	479		ug/L		96	66 - 129	4	23
1,4-Dichlorobenzene	19	U	500	498		ug/L		100	65 - 133	6	23
2-Butanone (MEK)	200	I	5000	5130		ug/L		99	10 - 180	1	29
2-Hexanone	63	U	5000	4800		ug/L		96	12 - 180	2	28
4-Methyl-2-pentanone	130	U	5000	4780		ug/L		96	19 - 180	1	24
Acetone	630	U	5000	4860		ug/L		97	10 - 180	2	19
Benzene	18	U	500	528		ug/L		106	56 - 136	6	14
Bromodichloromethane	13	U	500	493		ug/L		99	58 - 135	6	19
Bromoform	19	U	500	478		ug/L		96	46 - 148	3	18
Bromomethane	24	U	500	350		ug/L		70	10 - 173	13	29
Carbon disulfide	63	U	500	578		ug/L		116	43 - 153	6	26
Carbon tetrachloride	24	U	500	492		ug/L		98	54 - 156	6	27
Chlorobenzene	18	U	500	492		ug/L		98	51 - 139	5	13
Chloroethane	25	U J3	500	356	J3	ug/L		71	27 - 180	28	22
Chloroform	20	U	500	464		ug/L		93	59 - 139	15	17
Chloromethane	21	U	500	397		ug/L		79	33 - 154	12	31
cis-1,2-Dichloroethene	730		500	1190		ug/L		93	56 - 128	7	17
cis-1,3-Dichloropropene	15	U	500	410		ug/L		82	64 - 128	8	20
Cyclohexane	23	U	500	511		ug/L		102	14 - 141	7	30
Dibromochloromethane	13	U	500	461		ug/L		92	50 - 150	5	18
Dichlorodifluoromethane	19	U	500	397		ug/L		79	10 - 180	6	26
Ethylbenzene	17	U	500	489		ug/L		98	63 - 133	6	18
Isopropylbenzene	17	U	500	487		ug/L		97	60 - 132	3	23
m,p-Xylenes	33	U	500	485		ug/L		97	64 - 133	7	18

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-31481-1 MSD
Matrix: Water
Analysis Batch: 67096

Client Sample ID: LC34-IW0044D2-110.0-20231208
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methyl acetate	24	U	1000	1150		ug/L		115	50 - 150	2	30
Methyl tert-butyl ether	15	U	500	493		ug/L		99	50 - 150	4	22
Methylene Chloride	130	U	500	507		ug/L		101	43 - 142	5	23
o-Xylene	13	U	500	469		ug/L		94	61 - 129	4	16
Styrene	15	U	500	461		ug/L		92	59 - 136	5	32
Tetrachloroethene	19	U	500	491		ug/L		98	60 - 147	6	21
Toluene	18	U	500	481		ug/L		96	64 - 131	5	16
trans-1,2-Dichloroethene	18	I	500	512		ug/L		102	54 - 134	10	20
trans-1,3-Dichloropropene	18	U	500	457		ug/L		91	65 - 149	4	17
Trichloroethene	1200		500	1610		ug/L		73	62 - 135	8	20
Trichlorofluoromethane	24	U	500	520		ug/L		104	56 - 155	7	22
Vinyl chloride	130		500	641		ug/L		103	20 - 167	7	24
Xylenes, Total	33	U	1000	954		ug/L		95	50 - 150	5	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Lab Sample ID: 670-31335-C-3 MS
Matrix: Water
Analysis Batch: 66958

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane - DL	200	U	5000	5020		ug/L		100	57 - 148
1,1,2,2-Tetrachloroethane - DL	140	U	5000	4150		ug/L		83	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	180	U	5000	5240		ug/L		105	50 - 150
1,1,2-Trichloroethane - DL	190	U	5000	4340		ug/L		87	57 - 141
1,1-Dichloroethane - DL	160	U	5000	4740		ug/L		95	57 - 142
1,1-Dichloroethene - DL	240	U	5000	5200		ug/L		104	49 - 139
1,2,4-Trichlorobenzene - DL	180	U	5000	3980		ug/L		80	52 - 159
1,2-Dibromo-3-Chloropropane - DL	240	U	5000	3890		ug/L		78	48 - 150
1,2-Dibromoethane (EDB) - DL	200	U	5000	4550		ug/L		91	50 - 150
1,2-Dichlorobenzene - DL	180	U	5000	4450		ug/L		89	63 - 131
1,2-Dichloroethane - DL	160	U	5000	4710		ug/L		94	50 - 156
1,2-Dichloropropane - DL	200	U	5000	5120		ug/L		102	61 - 133
1,3-Dichlorobenzene - DL	190	U	5000	4720		ug/L		94	66 - 129
1,4-Dichlorobenzene - DL	190	U	5000	4600		ug/L		92	65 - 133
2-Butanone (MEK) - DL	1100	U	50000	43800		ug/L		88	10 - 180
2-Hexanone - DL	630	U	50000	42100		ug/L		84	12 - 180
4-Methyl-2-pentanone - DL	1300	U	50000	44000		ug/L		88	19 - 180
Acetone - DL	6300	U	50000	42200		ug/L		84	10 - 180
Benzene - DL	180	U	5000	4660		ug/L		93	56 - 136
Bromodichloromethane - DL	130	U	5000	5260		ug/L		105	58 - 135
Bromoform - DL	190	U	5000	4240		ug/L		85	46 - 148

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-31335-C-3 MS
Matrix: Water
Analysis Batch: 66958

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Bromomethane - DL	240	U	5000	4470		ug/L		89	10 - 173
Carbon disulfide - DL	630	U	5000	5350		ug/L		107	43 - 153
Carbon tetrachloride - DL	240	U	5000	4930		ug/L		99	54 - 156
Chlorobenzene - DL	180	U	5000	4710		ug/L		94	51 - 139
Chloroethane - DL	250	U	5000	5270		ug/L		105	27 - 180
Chloroform - DL	200	U	5000	5150		ug/L		103	59 - 139
Chloromethane - DL	210	U	5000	4170		ug/L		83	33 - 154
cis-1,2-Dichloroethene - DL	13000		5000	18400		ug/L		106	56 - 128
cis-1,3-Dichloropropene - DL	150	U	5000	4170		ug/L		83	64 - 128
Cyclohexane - DL	230	U	5000	5180		ug/L		104	14 - 141
Dibromochloromethane - DL	130	U	5000	4640		ug/L		93	50 - 150
Dichlorodifluoromethane - DL	190	U	5000	3840		ug/L		77	10 - 180
Ethylbenzene - DL	170	U	5000	4520		ug/L		90	63 - 133
Isopropylbenzene - DL	170	U	5000	4640		ug/L		93	60 - 132
m,p-Xylenes - DL	330	U	5000	4500		ug/L		90	64 - 133
Methyl acetate - DL	240	U	10000	8610		ug/L		86	50 - 150
Methyl tert-butyl ether - DL	150	U	5000	4180		ug/L		84	50 - 150
Methylene Chloride - DL	1300	U	5000	5050		ug/L		101	43 - 142
o-Xylene - DL	130	U	5000	4440		ug/L		89	61 - 129
Styrene - DL	150	U	5000	4870		ug/L		97	59 - 136
Tetrachloroethene - DL	190	U	5000	5180		ug/L		104	60 - 147
Toluene - DL	180	U	5000	4680		ug/L		94	64 - 131
trans-1,2-Dichloroethene - DL	180	U	5000	5360		ug/L		107	54 - 134
trans-1,3-Dichloropropene - DL	180	U	5000	4360		ug/L		87	65 - 149
Trichloroethene - DL	220	U	5000	5090		ug/L		102	62 - 135
Trichlorofluoromethane - DL	240	U	5000	5560		ug/L		111	56 - 155
Vinyl chloride - DL	9600		5000	14900		ug/L		105	20 - 167
Xylenes, Total - DL	330	U	10000	8940		ug/L		89	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*94*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*105*		*53 - 146*
Toluene-d8 (Surr) - DL	*101*		*40 - 146*

Lab Sample ID: 660-133224-D-14 DU
Matrix: Water
Analysis Batch: 66958

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
1,1,1-Trichloroethane - DL	8.0	U	8.0	U	ug/L		NC	30
1,1,2,2-Tetrachloroethane - DL	5.4	U	5.4	U	ug/L		NC	30
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	7.3	U	7.3	U	ug/L		NC	30
1,1,2-Trichloroethane - DL	7.6	U	7.6	U	ug/L		NC	30
1,1-Dichloroethane - DL	19		18.4		ug/L		5	30
1,1-Dichloroethene - DL	9.4	U	9.4	U	ug/L		NC	30
1,2,4-Trichlorobenzene - DL	7.0	U	7.0	U	ug/L		NC	30

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 660-133224-D-14 DU
Matrix: Water
Analysis Batch: 66958

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
1,2-Dibromo-3-Chloropropane - DL	9.6	U		9.6	U	ug/L				NC	30
1,2-Dibromoethane (EDB) - DL	7.8	U		7.8	U	ug/L				NC	30
1,2-Dichlorobenzene - DL	7.3	U		7.3	U	ug/L				NC	30
1,2-Dichloroethane - DL	6.3	U		6.3	U	ug/L				NC	30
1,2-Dichloropropane - DL	8.0	U		8.0	U	ug/L				NC	30
1,3-Dichlorobenzene - DL	7.7	U		7.7	U	ug/L				NC	30
1,4-Dichlorobenzene - DL	7.6	U		7.6	U	ug/L				NC	30
2-Butanone (MEK) - DL	45	U		45	U	ug/L				NC	30
2-Hexanone - DL	25	U		25	U	ug/L				NC	30
4-Methyl-2-pentanone - DL	50	U		50	U	ug/L				NC	30
Acetone - DL	250	U		250	U	ug/L				NC	30
Benzene - DL	7.1	U		7.1	U	ug/L				NC	30
Bromodichloromethane - DL	5.2	U		5.2	U	ug/L				NC	30
Bromoform - DL	7.5	U		7.5	U	ug/L				NC	30
Bromomethane - DL	9.5	U		9.5	U	ug/L				NC	30
Carbon disulfide - DL	25	U		25	U	ug/L				NC	30
Carbon tetrachloride - DL	9.4	U		9.4	U	ug/L				NC	30
Chlorobenzene - DL	7.2	U		7.2	U	ug/L				NC	30
Chloroethane - DL	9.8	U		9.8	U	ug/L				NC	30
Chloroform - DL	8.0	U		8.0	U	ug/L				NC	30
Chloromethane - DL	8.2	U		8.2	U	ug/L				NC	30
cis-1,2-Dichloroethene - DL	17			17.2		ug/L				0.7	30
cis-1,3-Dichloropropene - DL	5.9	U		5.9	U	ug/L				NC	30
Cyclohexane - DL	9.3	U		9.3	U	ug/L				NC	30
Dibromochloromethane - DL	5.0	U		5.0	U	ug/L				NC	30
Dichlorodifluoromethane - DL	7.4	U		7.4	U	ug/L				NC	30
Ethylbenzene - DL	6.9	U		6.9	U	ug/L				NC	30
Isopropylbenzene - DL	6.7	U		6.7	U	ug/L				NC	30
m,p-Xylenes - DL	13	U		13	U	ug/L				NC	30
Methyl acetate - DL	9.5	U		9.5	U	ug/L				NC	30
Methyl tert-butyl ether - DL	6.0	U		6.0	U	ug/L				NC	30
Methylene Chloride - DL	50	U		50	U	ug/L				NC	30
o-Xylene - DL	5.3	U		5.3	U	ug/L				NC	30
Styrene - DL	6.1	U		6.1	U	ug/L				NC	30
Tetrachloroethene - DL	7.6	U		7.6	U	ug/L				NC	30
Toluene - DL	7.2	U		7.2	U	ug/L				NC	30
trans-1,2-Dichloroethene - DL	7.3	U		7.3	U	ug/L				NC	20
trans-1,3-Dichloropropene - DL	7.3	U		7.3	U	ug/L				NC	30
Trichloroethene - DL	8.9	U		8.9	U	ug/L				NC	30
Trichlorofluoromethane - DL	9.4	U		9.4	U	ug/L				NC	30
Vinyl chloride - DL	270			251		ug/L				8	30
Xylenes, Total - DL	13	U		13	U	ug/L				NC	30

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*93*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*103*		*53 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 660-133224-D-14 DU
Matrix: Water
Analysis Batch: 66958

Client Sample ID: Duplicate
Prep Type: Total/NA

Surrogate	DU %Recovery	DU Qualifier	Limits
Toluene-d8 (Surr) - DL	101		40 - 146

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31481-1

GC/MS VOA

Analysis Batch: 66958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-31481-1	LC34-IW0044D2-110.0-20231208	Total/NA	Water	8260D	
670-31481-2	LC34-IW0162-110.0-20231208	Total/NA	Water	8260D	
MB 670-66958/7	Method Blank	Total/NA	Water	8260D	
LCS 670-66958/4	Lab Control Sample	Total/NA	Water	8260D	
670-31335-C-3 MS - DL	Matrix Spike	Total/NA	Water	8260D	
660-133224-D-14 DU - DL	Duplicate	Total/NA	Water	8260D	

Analysis Batch: 67096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-31481-1 - DL	LC34-IW0044D2-110.0-20231208	Total/NA	Water	8260D	
670-31481-2	LC34-IW0162-110.0-20231208	Total/NA	Water	8260D	
MB 670-67096/7	Method Blank	Total/NA	Water	8260D	
LCS 670-67096/4	Lab Control Sample	Total/NA	Water	8260D	
670-31481-1 MS	LC34-IW0044D2-110.0-20231208	Total/NA	Water	8260D	
670-31481-1 MSD	LC34-IW0044D2-110.0-20231208	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-31481-1
Project/Site: NASA KSC LC34

Client Sample ID: LC34-IW0044D2-110.0-20231208
Lab Sample ID: 670-31481-1

Date Collected: 12/08/23 13:30
Matrix: Water
Date Received: 12/08/23 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	66958	KG	EET ORL	12/11/23 19:01
Total/NA	Analysis	8260D	DL	25	67096	KG	EET ORL	12/12/23 10:50

Client Sample ID: LC34-IW0162-110.0-20231208
Lab Sample ID: 670-31481-2

Date Collected: 12/08/23 14:00
Matrix: Water
Date Received: 12/08/23 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	66958	KG	EET ORL	12/11/23 19:19
Total/NA	Analysis	8260D		1	67096	KG	EET ORL	12/12/23 12:01

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-31481-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31481-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31481-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-31481-1	LC34-IW0044D2-110.0-20231208	Water	12/08/23 13:30	12/08/23 14:25
670-31481-2	LC34-IW0162-110.0-20231208	Water	12/08/23 14:00	12/08/23 14:25

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3848 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08985	KSC-LC34	Mark Jonnet	(412) 921-8622	Eurofins — Kristin Dylnicki

SAMPLERS (SIGNATURE)	FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
[signature] - Chuck Sorden Aaron Kuppa - [signature]	Chuck Sorden	(321) 591-7580	481 Newburyport Ave.
	CARRIER/WAYBILL NUMBER		CITY, STATE: Altamonte Springs, FL

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☒ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G

PRESERVATIVE USED: HCl/4°C

TYPE OF ANALYSIS: 82COD-(MOD) NASA LC34 Custom List

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	82COD-(MOD) NASA LC34 Custom List								COMMENTS
12/08	1330	LC34-IW0044D2-110.0-20231208	44D2	105	115	GW	G	3	X								
12/08	1400	LC34-IW0162-110.0-20231208	162	105	115	GW	G	3	X								

670-31481 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY [signature]	12/08/23	1425	1. RECEIVED BY [signature]	12/8/23	1425
2. RELINQUISHED BY			2. RECEIVED BY		
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS

2.1/1.9

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

596 client

FORM NO. TtNUS-001

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3848 | PAGE 1 OF 1

PROJECT NO: 112G08985	FACILITY: KSC-LC34	PROJECT MANAGER Mark Jonnet	PHONE NUMBER (412) 921-8622	LABORATORY NAME AND CONTACT: Eurofins — Kamin Dylnicki
SAMPLERS (SIGNATURE) - Chuck Sorden		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER		CITY, STATE Altamonte Springs, FL

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☒ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): G	PRESERVATIVE USED: HCl/4°C	TYPE OF ANALYSIS: 8260D-(MOD) NASA LC34 Custom List	COMMENTS
12/08	1330	LC34-IW0044D2-110.0-20231208	44D2	105	115	GW	G	3			X	
12/08	1400	LC34-IW0162-110.0-20231208	162	105	115	GW	G	3			X	

670-31481 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	12/08/23	1425	1. RECEIVED BY	12/8/23	1425
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 2.1/1.9 596 client

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FORM NO. TtNUS-001

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-31481-1

Login Number: 31481

List Source: Eurofins Orlando

List Number: 1

Creator: Bittle, David W

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34 - Bi Weekly

JOB NUMBER

670-32146-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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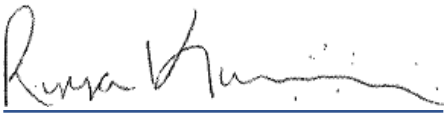

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Client: Tetra Tech, Inc. Job ID: 670-32146-1
Project/Site: NASA KSC LC34 - Bi Weekly

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-32146-1 Eurofins Orlando

Job Narrative
670-32146-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985

Receipt
The samples were received on 12/22/2023 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.4°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-69346 recovered outside acceptance criteria, low biased, for 1,1,2,2-Tetrachloroethane, 1,2-Dibromo-3-Chloropropane, Acetone, Chloromethane and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 670-69346 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0044D2-110.0-20231221 (670-32146-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Job ID: 670-32146-1
Project/Site: NASA KSC LC34 - Bi Weekly

Client Sample ID: LC34-IW0044D2-110.0-20231221 — Lab Sample ID: 670-32146-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	260		10	5.3	ug/L	10		8260D	Total/NA
Trichloroethene - DL	400		10	8.9	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	85		10	7.1	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0162-110.0-20231221 — Lab Sample ID: 670-32146-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.92	I	1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	2.0		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	0.95	I	1.0	0.71	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Job ID: 670-32146-1
Project/Site: NASA KSC LC34 - Bi Weekly

Client Sample ID: LC34-IW0044D2-110.0-20231221
Lab Sample ID: 670-32146-1
Date Collected: 12/21/23 10:05
Matrix: Water
Date Received: 12/22/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			12/28/23 10:54	10
1,1,2,2-Tetrachloroethane	5.4	U J3	10	5.4	ug/L			12/28/23 10:54	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			12/28/23 10:54	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			12/28/23 10:54	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			12/28/23 10:54	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			12/28/23 10:54	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			12/28/23 10:54	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			12/28/23 10:54	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			12/28/23 10:54	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			12/28/23 10:54	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			12/28/23 10:54	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			12/28/23 10:54	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			12/28/23 10:54	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			12/28/23 10:54	10
2-Butanone (MEK)	45	U	100	45	ug/L			12/28/23 10:54	10
2-Hexanone	25	U	200	25	ug/L			12/28/23 10:54	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			12/28/23 10:54	10
Acetone	250	U	500	250	ug/L			12/28/23 10:54	10
Benzene	7.1	U	10	7.1	ug/L			12/28/23 10:54	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			12/28/23 10:54	10
Bromoform	7.5	U J3	10	7.5	ug/L			12/28/23 10:54	10
Bromomethane	9.5	U	20	9.5	ug/L			12/28/23 10:54	10
Carbon disulfide	25	U	50	25	ug/L			12/28/23 10:54	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			12/28/23 10:54	10
Chlorobenzene	7.2	U	10	7.2	ug/L			12/28/23 10:54	10
Chloroethane	9.8	U	20	9.8	ug/L			12/28/23 10:54	10
Chloroform	8.0	U	50	8.0	ug/L			12/28/23 10:54	10
Chloromethane	8.2	U	20	8.2	ug/L			12/28/23 10:54	10
cis-1,2-Dichloroethene	**260**		10	5.3	ug/L			12/28/23 10:54	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			12/28/23 10:54	10
Cyclohexane	9.3	U	50	9.3	ug/L			12/28/23 10:54	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			12/28/23 10:54	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			12/28/23 10:54	10
Ethylbenzene	6.9	U	10	6.9	ug/L			12/28/23 10:54	10
Isopropylbenzene	6.7	U J3	20	6.7	ug/L			12/28/23 10:54	10
m,p-Xylenes	13	U	20	13	ug/L			12/28/23 10:54	10
Methyl acetate	9.5	U	100	9.5	ug/L			12/28/23 10:54	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			12/28/23 10:54	10
Methylene Chloride	50	U	100	50	ug/L			12/28/23 10:54	10
o-Xylene	5.3	U	10	5.3	ug/L			12/28/23 10:54	10
Styrene	6.1	U	10	6.1	ug/L			12/28/23 10:54	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			12/28/23 10:54	10
Toluene	7.2	U	10	7.2	ug/L			12/28/23 10:54	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			12/28/23 10:54	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			12/28/23 10:54	10
Trichloroethene	**400**		10	8.9	ug/L			12/28/23 10:54	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			12/28/23 10:54	10
Vinyl chloride	**85**		10	7.1	ug/L			12/28/23 10:54	10
Xylenes, Total	13	U	20	13	ug/L			12/28/23 10:54	10

Client Sample ID: LC34-IW0044D2-110.0-20231221

Lab Sample ID: 670-32146-1

Date Collected: 12/21/23 10:05

Matrix: Water

Date Received: 12/22/23 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*12/28/23 10:54*	*10*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*12/28/23 10:54*	*10*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/28/23 10:54*	*10*

Client Sample ID: LC34-IW0162-110.0-20231221

Lab Sample ID: 670-32146-2

Date Collected: 12/21/23 10:35

Matrix: Water

Date Received: 12/22/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/28/23 12:05	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/28/23 12:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/28/23 12:05	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/28/23 12:05	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/28/23 12:05	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/28/23 12:05	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/28/23 12:05	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/28/23 12:05	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/28/23 12:05	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/28/23 12:05	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/28/23 12:05	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/28/23 12:05	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/28/23 12:05	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/28/23 12:05	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/28/23 12:05	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/28/23 12:05	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/28/23 12:05	1
Acetone	25	U	50	25	ug/L			12/28/23 12:05	1
Benzene	0.71	U	1.0	0.71	ug/L			12/28/23 12:05	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/28/23 12:05	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/28/23 12:05	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/28/23 12:05	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/28/23 12:05	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/28/23 12:05	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/28/23 12:05	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/28/23 12:05	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/28/23 12:05	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/28/23 12:05	1
cis-1,2-Dichloroethene	**0.92**	**I**	1.0	0.53	ug/L			12/28/23 12:05	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/28/23 12:05	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/28/23 12:05	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/28/23 12:05	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/28/23 12:05	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/28/23 12:05	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/28/23 12:05	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/28/23 12:05	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/28/23 12:05	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/28/23 12:05	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/28/23 12:05	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/28/23 12:05	1

Client: Tetra Tech, Inc.
Job ID: 670-32146-1
Project/Site: NASA KSC LC34 - Bi Weekly

Client Sample ID: LC34-IW0162-110.0-20231221
Lab Sample ID: 670-32146-2
Date Collected: 12/21/23 10:35
Matrix: Water
Date Received: 12/22/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			12/28/23 12:05	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/28/23 12:05	1
Toluene	0.72	U	1.0	0.72	ug/L			12/28/23 12:05	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/28/23 12:05	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/28/23 12:05	1
Trichloroethene	**2.0**		1.0	0.89	ug/L			12/28/23 12:05	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/28/23 12:05	1
Vinyl chloride	**0.95**	**I**	1.0	0.71	ug/L			12/28/23 12:05	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/28/23 12:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*12/28/23 12:05*	*1*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*12/28/23 12:05*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*12/28/23 12:05*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-32146-1
Project/Site: NASA KSC LC34 - Bi Weekly

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-32146-1 - DL	LC34-IW0044D2-110.0-20231221	101	105	100
670-32146-1 MS - DL	LC34-IW0044D2-110.0-20231221	66	102	101
670-32146-1 MSD - DL	LC34-IW0044D2-110.0-20231221	99	98	93
670-32146-2	LC34-IW0162-110.0-20231221	103	104	101
LCS 670-69346/4	Lab Control Sample	98	101	101
MB 670-69346/7	Method Blank	110	108	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 - Bi Weekly

Job ID: 670-32146-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-69346/7
Matrix: Water
Analysis Batch: 69346

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/28/23 10:32	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/28/23 10:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/28/23 10:32	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/28/23 10:32	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/28/23 10:32	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/28/23 10:32	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/28/23 10:32	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/28/23 10:32	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/28/23 10:32	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/28/23 10:32	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/28/23 10:32	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/28/23 10:32	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/28/23 10:32	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/28/23 10:32	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/28/23 10:32	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/28/23 10:32	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/28/23 10:32	1
Acetone	25	U	50	25	ug/L			12/28/23 10:32	1
Benzene	0.71	U	1.0	0.71	ug/L			12/28/23 10:32	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/28/23 10:32	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/28/23 10:32	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/28/23 10:32	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/28/23 10:32	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/28/23 10:32	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/28/23 10:32	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/28/23 10:32	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/28/23 10:32	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/28/23 10:32	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/28/23 10:32	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/28/23 10:32	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/28/23 10:32	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/28/23 10:32	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/28/23 10:32	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/28/23 10:32	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/28/23 10:32	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/28/23 10:32	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/28/23 10:32	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/28/23 10:32	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/28/23 10:32	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/28/23 10:32	1
Styrene	0.61	U	1.0	0.61	ug/L			12/28/23 10:32	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/28/23 10:32	1
Toluene	0.72	U	1.0	0.72	ug/L			12/28/23 10:32	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/28/23 10:32	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/28/23 10:32	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/28/23 10:32	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/28/23 10:32	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/28/23 10:32	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-69346/7
Matrix: Water
Analysis Batch: 69346

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/28/23 10:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*41 - 142*		*12/28/23 10:32*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/28/23 10:32*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/28/23 10:32*	*1*

Lab Sample ID: LCS 670-69346/4
Matrix: Water
Analysis Batch: 69346

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	18.7		ug/L		94	57 - 148
1,1,2,2-Tetrachloroethane	20.0	18.5		ug/L		92	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	17.4		ug/L		87	47 - 173
1,1,2-Trichloroethane	20.0	18.8		ug/L		94	57 - 141
1,1-Dichloroethane	20.0	18.2		ug/L		91	57 - 142
1,1-Dichloroethene	20.0	17.5		ug/L		87	47 - 139
1,2,4-Trichlorobenzene	20.0	21.4		ug/L		107	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	21.7		ug/L		108	48 - 150
1,2-Dibromoethane (EDB)	20.0	18.5		ug/L		93	57 - 140
1,2-Dichlorobenzene	20.0	18.6		ug/L		93	63 - 131
1,2-Dichloroethane	20.0	17.8		ug/L		89	50 - 156
1,2-Dichloropropane	20.0	18.7		ug/L		93	61 - 133
1,3-Dichlorobenzene	20.0	18.6		ug/L		93	66 - 129
1,4-Dichlorobenzene	20.0	19.0		ug/L		95	65 - 133
2-Butanone (MEK)	200	168		ug/L		84	10 - 180
2-Hexanone	200	172		ug/L		86	12 - 180
4-Methyl-2-pentanone	200	171		ug/L		85	19 - 180
Acetone	200	148		ug/L		74	10 - 180
Benzene	20.0	18.5		ug/L		92	56 - 136
Bromodichloromethane	20.0	18.6		ug/L		93	58 - 135
Bromoform	20.0	18.0		ug/L		90	46 - 148
Bromomethane	20.0	13.3		ug/L		66	10 - 173
Carbon disulfide	20.0	17.0		ug/L		85	43 - 153
Carbon tetrachloride	20.0	18.7		ug/L		94	54 - 156
Chlorobenzene	20.0	18.6		ug/L		93	51 - 139
Chloroethane	20.0	13.2		ug/L		66	27 - 180
Chloroform	20.0	17.7		ug/L		88	58 - 139
Chloromethane	20.0	6.62		ug/L		33	33 - 154
cis-1,2-Dichloroethene	20.0	18.1		ug/L		91	56 - 128
cis-1,3-Dichloropropene	20.0	17.5		ug/L		87	64 - 128
Cyclohexane	20.0	17.5		ug/L		87	14 - 151
Dibromochloromethane	20.0	18.8		ug/L		94	50 - 140
Dichlorodifluoromethane	20.0	2.05		ug/L		10	10 - 180
Ethylbenzene	20.0	17.8		ug/L		89	63 - 133
Isopropylbenzene	20.0	16.6		ug/L		83	60 - 132
m,p-Xylenes	20.0	16.5		ug/L		83	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-69346/4
Matrix: Water
Analysis Batch: 69346

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	35.7		ug/L		89	70 - 130
Methyl tert-butyl ether	20.0	16.6		ug/L		83	51 - 145
Methylene Chloride	20.0	17.1		ug/L		86	43 - 142
o-Xylene	20.0	15.7		ug/L		79	61 - 129
Styrene	20.0	15.4		ug/L		77	59 - 136
Tetrachloroethene	20.0	20.0		ug/L		100	60 - 147
Toluene	20.0	18.3		ug/L		91	64 - 131
trans-1,2-Dichloroethene	20.0	17.5		ug/L		88	54 - 134
trans-1,3-Dichloropropene	20.0	20.2		ug/L		101	65 - 149
Trichloroethene	20.0	19.2		ug/L		96	62 - 135
Trichlorofluoromethane	20.0	16.6		ug/L		83	56 - 155
Vinyl chloride	20.0	10.3		ug/L		52	20 - 167
Xylenes, Total	40.0	32.2		ug/L		81	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Lab Sample ID: 670-32146-1 MS
Matrix: Water
Analysis Batch: 69346

Client Sample ID: LC34-IW0044D2-110.0-20231221
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane - DL	8.0	U	200	181		ug/L		91	57 - 148
1,1,2,2-Tetrachloroethane - DL	5.4	U J3	200	127		ug/L		64	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	7.3	U	200	179		ug/L		89	50 - 150
1,1,2-Trichloroethane - DL	7.6	U	200	185		ug/L		92	57 - 141
1,1-Dichloroethane - DL	6.2	U	200	172		ug/L		86	57 - 142
1,1-Dichloroethene - DL	9.4	U	200	174		ug/L		87	49 - 139
1,2,4-Trichlorobenzene - DL	7.0	U	200	155		ug/L		78	52 - 159
1,2-Dibromo-3-Chloropropane - DL	9.6	U	200	172		ug/L		86	48 - 150
1,2-Dibromoethane (EDB) - DL	7.8	U	200	168		ug/L		84	50 - 150
1,2-Dichlorobenzene - DL	7.3	U	200	181		ug/L		90	63 - 131
1,2-Dichloroethane - DL	6.3	U	200	158		ug/L		79	50 - 156
1,2-Dichloropropane - DL	8.0	U	200	180		ug/L		90	61 - 133
1,3-Dichlorobenzene - DL	7.7	U	200	181		ug/L		90	66 - 129
1,4-Dichlorobenzene - DL	7.6	U	200	182		ug/L		91	65 - 133
2-Butanone (MEK) - DL	45	U	2000	1510		ug/L		75	10 - 180
2-Hexanone - DL	25	U	2000	1540		ug/L		77	12 - 180
4-Methyl-2-pentanone - DL	50	U	2000	1520		ug/L		76	19 - 180
Acetone - DL	250	U	2000	1300		ug/L		65	10 - 180
Benzene - DL	7.1	U	200	182		ug/L		91	56 - 136
Bromodichloromethane - DL	5.2	U	200	183		ug/L		91	58 - 135
Bromoform - DL	7.5	U J3	200	127		ug/L		64	46 - 148

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-32146-1 MS
Client Sample ID: LC34-IW0044D2-110.0-20231221
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 69346

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Bromomethane - DL	9.5	U	200	123		ug/L		61	10 - 173
Carbon disulfide - DL	25	U	200	165		ug/L		83	43 - 153
Carbon tetrachloride - DL	9.4	U	200	197		ug/L		99	54 - 156
Chlorobenzene - DL	7.2	U	200	179		ug/L		90	51 - 139
Chloroethane - DL	9.8	U	200	176		ug/L		88	27 - 180
Chloroform - DL	8.0	U	200	173		ug/L		87	59 - 139
Chloromethane - DL	8.2	U	200	116		ug/L		58	33 - 154
cis-1,2-Dichloroethene - DL	260		200	407		ug/L		72	56 - 128
cis-1,3-Dichloropropene - DL	5.9	U	200	160		ug/L		80	64 - 128
Cyclohexane - DL	9.3	U	200	173		ug/L		86	14 - 141
Dibromochloromethane - DL	5.0	U	200	187		ug/L		94	50 - 150
Dichlorodifluoromethane - DL	7.4	U	200	107		ug/L		54	10 - 180
Ethylbenzene - DL	6.9	U	200	181		ug/L		91	63 - 133
Isopropylbenzene - DL	6.7	U J3	200	122		ug/L		61	60 - 132
m,p-Xylenes - DL	13	U	200	164		ug/L		82	64 - 133
Methyl acetate - DL	9.5	U	400	339		ug/L		85	50 - 150
Methyl tert-butyl ether - DL	6.0	U	200	155		ug/L		77	50 - 150
Methylene Chloride - DL	50	U	200	161		ug/L		81	43 - 142
o-Xylene - DL	5.3	U	200	156		ug/L		78	61 - 129
Styrene - DL	6.1	U	200	158		ug/L		79	59 - 136
Tetrachloroethene - DL	7.6	U	200	213		ug/L		107	60 - 147
Toluene - DL	7.2	U	200	183		ug/L		91	64 - 131
trans-1,2-Dichloroethene - DL	7.3	U	200	178		ug/L		89	54 - 134
trans-1,3-Dichloropropene - DL	7.3	U	200	181		ug/L		91	65 - 149
Trichloroethene - DL	400		200	586		ug/L		91	62 - 135
Trichlorofluoromethane - DL	9.4	U	200	206		ug/L		103	56 - 155
Vinyl chloride - DL	85		200	236		ug/L		76	20 - 167
Xylenes, Total - DL	13	U	400	320		ug/L		80	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*66*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*102*		*53 - 146*
Toluene-d8 (Surr) - DL	*101*		*40 - 146*

Lab Sample ID: 670-32146-1 MSD
Client Sample ID: LC34-IW0044D2-110.0-20231221
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 69346

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane - DL	8.0	U	200	171		ug/L		85	57 - 148	6	25
1,1,2,2-Tetrachloroethane - DL	5.4	U J3	200	183	J3	ug/L		92	60 - 139	36	17
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	7.3	U	200	161		ug/L		81	50 - 150	10	30
1,1,2-Trichloroethane - DL	7.6	U	200	177		ug/L		89	57 - 141	4	16
1,1-Dichloroethane - DL	6.2	U	200	178		ug/L		89	57 - 142	3	24
1,1-Dichloroethene - DL	9.4	U	200	174		ug/L		87	49 - 139	0	16
1,2,4-Trichlorobenzene - DL	7.0	U	200	154		ug/L		77	52 - 159	1	24

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-32146-1 MSD
Client Sample ID: LC34-IW0044D2-110.0-20231221
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 69346

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane - DL	9.6	U	200	162		ug/L		81	48 - 150	6	21
1,2-Dibromoethane (EDB) - DL	7.8	U	200	165		ug/L		82	50 - 150	2	16
1,2-Dichlorobenzene - DL	7.3	U	200	170		ug/L		85	63 - 131	6	25
1,2-Dichloroethane - DL	6.3	U	200	161		ug/L		80	50 - 156	2	18
1,2-Dichloropropane - DL	8.0	U	200	183		ug/L		92	61 - 133	2	26
1,3-Dichlorobenzene - DL	7.7	U	200	175		ug/L		87	66 - 129	4	23
1,4-Dichlorobenzene - DL	7.6	U	200	175		ug/L		88	65 - 133	4	23
2-Butanone (MEK) - DL	45	U	2000	1670		ug/L		83	10 - 180	10	29
2-Hexanone - DL	25	U	2000	1770		ug/L		89	12 - 180	14	28
4-Methyl-2-pentanone - DL	50	U	2000	1770		ug/L		88	19 - 180	15	24
Acetone - DL	250	U	2000	1510		ug/L		75	10 - 180	15	19
Benzene - DL	7.1	U	200	173		ug/L		87	56 - 136	5	14
Bromodichloromethane - DL	5.2	U	200	174		ug/L		87	58 - 135	5	19
Bromoform - DL	7.5	U J3	200	182	J3	ug/L		91	46 - 148	35	18
Bromomethane - DL	9.5	U	200	141		ug/L		70	10 - 173	14	29
Carbon disulfide - DL	25	U	200	171		ug/L		85	43 - 153	3	26
Carbon tetrachloride - DL	9.4	U	200	172		ug/L		86	54 - 156	13	27
Chlorobenzene - DL	7.2	U	200	175		ug/L		87	51 - 139	2	13
Chloroethane - DL	9.8	U	200	189		ug/L		94	27 - 180	7	22
Chloroform - DL	8.0	U	200	166		ug/L		83	59 - 139	4	17
Chloromethane - DL	8.2	U	200	134		ug/L		67	33 - 154	14	31
cis-1,2-Dichloroethene - DL	260		200	429		ug/L		83	56 - 128	5	17
cis-1,3-Dichloropropene - DL	5.9	U	200	157		ug/L		79	64 - 128	2	20
Cyclohexane - DL	9.3	U	200	184		ug/L		92	14 - 141	6	30
Dibromochloromethane - DL	5.0	U	200	166		ug/L		83	50 - 150	12	18
Dichlorodifluoromethane - DL	7.4	U	200	106		ug/L		53	10 - 180	1	26
Ethylbenzene - DL	6.9	U	200	174		ug/L		87	63 - 133	4	18
Isopropylbenzene - DL	6.7	U J3	200	176	J3	ug/L		88	60 - 132	36	23
m,p-Xylenes - DL	13	U	200	164		ug/L		82	64 - 133	0	18
Methyl acetate - DL	9.5	U	400	384		ug/L		96	50 - 150	12	30
Methyl tert-butyl ether - DL	6.0	U	200	160		ug/L		80	50 - 150	3	22
Methylene Chloride - DL	50	U	200	163		ug/L		81	43 - 142	1	23
o-Xylene - DL	5.3	U	200	163		ug/L		82	61 - 129	4	16
Styrene - DL	6.1	U	200	167		ug/L		83	59 - 136	5	32
Tetrachloroethene - DL	7.6	U	200	174		ug/L		87	60 - 147	20	21
Toluene - DL	7.2	U	200	163		ug/L		81	64 - 131	11	16
trans-1,2-Dichloroethene - DL	7.3	U	200	172		ug/L		86	54 - 134	3	20
trans-1,3-Dichloropropene - DL	7.3	U	200	184		ug/L		92	65 - 149	2	17
Trichloroethene - DL	400		200	532		ug/L		64	62 - 135	10	20
Trichlorofluoromethane - DL	9.4	U	200	205		ug/L		102	56 - 155	0	22
Vinyl chloride - DL	85		200	283		ug/L		99	20 - 167	18	24
Xylenes, Total - DL	13	U	400	327		ug/L		82	50 - 150	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*99*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*98*		*53 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-32146-1 MSD
Client Sample ID: LC34-IW0044D2-110.0-20231221
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 69346

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr) - DL	93		40 - 146

QC Association Summary

Client: Tetra Tech, Inc.
Job ID: 670-32146-1
Project/Site: NASA KSC LC34 - Bi Weekly

GC/MS VOA

Analysis Batch: 69346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-32146-1 - DL	LC34-IW0044D2-110.0-20231221	Total/NA	Water	8260D	
670-32146-2	LC34-IW0162-110.0-20231221	Total/NA	Water	8260D	
MB 670-69346/7	Method Blank	Total/NA	Water	8260D	
LCS 670-69346/4	Lab Control Sample	Total/NA	Water	8260D	
670-32146-1 MS - DL	LC34-IW0044D2-110.0-20231221	Total/NA	Water	8260D	
670-32146-1 MSD - DL	LC34-IW0044D2-110.0-20231221	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-32146-1
Project/Site: NASA KSC LC34 - Bi Weekly

Client Sample ID: LC34-IW0044D2-110.0-20231221
Lab Sample ID: 670-32146-1

Date Collected: 12/21/23 10:05
Matrix: Water
Date Received: 12/22/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	69346	KG	EET ORL	12/28/23 10:54

Client Sample ID: LC34-IW0162-110.0-20231221
Lab Sample ID: 670-32146-2

Date Collected: 12/21/23 10:35
Matrix: Water
Date Received: 12/22/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	69346	KG	EET ORL	12/28/23 12:05

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-32146-1
Project/Site: NASA KSC LC34 - Bi Weekly

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-32146-1
Project/Site: NASA KSC LC34 - Bi Weekly

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-32146-1
Project/Site: NASA KSC LC34 - Bi Weekly

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-32146-1	LC34-IW0044D2-110.0-20231221	Water	12/21/23 10:05	12/22/23 08:00
670-32146-2	LC34-IW0162-110.0-20231221	Water	12/21/23 10:35	12/22/23 08:00

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ☑ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name:
Chuck Sorden
Address :
1353 N Courtenay Pkwy, Suite S
Address 2:
City, State Zip: **Phone:**
Merritt Island,
Florida 32953
Deliverables:
Special Instructions:
3 Day TAT Please

Client Contact Info

Company:
Tetra Tech, Inc.
Purchase Order:
1179322
Work Order:
112G08985
Email:
Chuck.Sorden@tetratech.com
Proposed Due Date:
Project Manager
Dylnicki, Kaitlin
Project Reference:
Site Name:
NASA KSC LC34
Sampler:
Chuck Sorden
Description:
LC34 Bi-Weekly Samples
12/21/23

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-IW0044D2-110.0-20231221	Grab	Water	12/21/2023 10:05	FL			X	3	3
2	LC34-IW0162-110.0-20231221	Grab	Water	12/21/2023 10:35	FL			X	3	3

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	12/21/23 14:39	Chuck Sorden	12/21/23 15:32	Clerisier, Meline	12/22/23 10:11

Chain of Custody Sample Data

LC34-IW0044D2-110.0-20231221

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]: 12/21/2023 10:05 **Time Zone:** Eastern

[1] All collection times displayed in 24 hour format.

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ☑ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name: Chuck Sorden
Address : 1353 N Courtenay Pkwy, Suite S
Address 2:
City, State Zip: Merritt Island, Florida 32953
Phone:
Deliverables:
Special Instructions: 3 Day TAT Please

Client Contact Info

Company: Tetra Tech, Inc.
Purchase Order: 1179322
Work Order: 112G08985
Email: Chuck.Sorden@tetratech.com
Proposed Due Date:
Project Manager Dylnicki, Kaitlin
Project Reference:
Site Name: NASA KSC LC34
Sampler: Chuck Sorden
Description: LC34 Bi-Weekly Samples 12/21/23

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-IW0044D2-110.0-20231221	Grab	Water	12/21/2023 10:05	FL			X	3	3
2	LC34-IW0162-110.0-20231221	Grab	Water	12/21/2023 10:35	FL			X	3	3

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month)

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:	
Chuck Sorden	12/21/23 14:39	Chuck Sorden	12/21/23 15:32	Clerisier, Meline	12/22/23 10:11	0.6 / 0.4

596°

670-32146 Chain of Custody

Chain of Custody Sample Data

LC34-IW0044D2-110.0-20231221

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]: 12/21/2023 10:05 **Time Zone:** Eastern

[1] All collection times displayed in 24 hour format.

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-32146-1

Login Number: 32146

List Source: Eurofins Orlando

List Number: 1

Creator: Clerisier, Meline

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34 - Monthly

JOB NUMBER

670-32149-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

Job Notes

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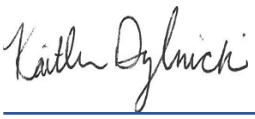

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Authorized for release by
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Definitions/Glossary

Client: Tetra Tech, Inc. Job ID: 670-32149-1
Project/Site: NASA KSC LC34 - Monthly

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-32149-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/22/2023 10:19 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.4°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-69581 recovered above the upper control limit for 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1-Dichloroethene and Chloroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-69581/3).

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-INFLUENT-20231221 (670-32149-4), LC34-RW1A-20231221 (670-32149-5), LC34-RW1B-20231221 (670-32149-6) and LC34-RW2A-20231221 (670-32149-7). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-69688 recovered above the upper control limit for Chloroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-69688/4).

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-AS2-20231221 (670-32149-3), LC34-RW1A-20231221 (670-32149-5) and LC34-RW1B-20231221 (670-32149-6). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-69710 recovered outside acceptance criteria, low biased, for 1,1,2,2-Tetrachloroethane, 2-Butanone (MEK), 2-Hexanone, 4-Methyl-2-pentanone, Acetone, Bromomethane, Carbon disulfide, Chloroethane, Dichlorodifluoromethane and Trichlorofluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 670-69710 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-INFLUENT-20231221 (670-32149-4), LC34-RW2B-20231221 (670-32149-8), LC34-RW3A-20231221 (670-32149-9), LC34-RW9A-20231221 (670-32149-10), LC34-RW17C-20231221 (670-32149-11), LC34-RW18C-20231221 (670-32149-12), LC34-RW19C-20231221 (670-32149-13), LC34-RW20C-20231221 (670-32149-14) and LC34-RW21D-20231221 (670-32149-15). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-69900 recovered outside acceptance criteria, low biased, for 1,1,2,2-Tetrachloroethane, 4-Methyl-2-pentanone, Chloromethane, Cyclohexane and Isopropylbenzene. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect

Job ID: 670-32149-1 (Continued) Eurofins Orlando

for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-69900 recovered above the upper control limit for Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-69900/4).

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 670-69900 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Job ID: 670-32149-1
Project/Site: NASA KSC LC34 - Monthly

Client Sample ID: LC34-GAC-20231221 — Lab Sample ID: 670-32149-1

No Detections.

Client Sample ID: LC34-AS1-20231221 — Lab Sample ID: 670-32149-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.99	I	1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	0.93	I	1.0	0.89	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-AS2-20231221 — Lab Sample ID: 670-32149-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	120		5.0	2.7	ug/L	5		8260D	Total/NA
Trichloroethene - DL	210		5.0	4.5	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-INFLUENT-20231221 — Lab Sample ID: 670-32149-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	3800		200	110	ug/L	200		8260D	Total/NA
Trichloroethene - DL	24000		500	450	ug/L	500		8260D	Total/NA
Vinyl chloride - DL	290		200	140	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-RW1A-20231221 — Lab Sample ID: 670-32149-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	9400		500	270	ug/L	500		8260D	Total/NA
trans-1,2-Dichloroethene - DL	210		100	73	ug/L	100		8260D	Total/NA
Trichloroethene - DL	17000		500	450	ug/L	500		8260D	Total/NA
Vinyl chloride - DL	1100		100	71	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-RW1B-20231221 — Lab Sample ID: 670-32149-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	5100		100	53	ug/L	100		8260D	Total/NA
Trichloroethene - DL	13000		200	180	ug/L	200		8260D	Total/NA
Vinyl chloride - DL	260		100	71	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-RW2A-20231221 — Lab Sample ID: 670-32149-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	2600		100	53	ug/L	100		8260D	Total/NA
Trichloroethene - DL	9300		100	89	ug/L	100		8260D	Total/NA
Vinyl chloride - DL	430		100	71	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-RW2B-20231221 — Lab Sample ID: 670-32149-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	4100		500	270	ug/L	500		8260D	Total/NA
Trichloroethene - DL	27000		500	450	ug/L	500		8260D	Total/NA
Vinyl chloride - DL	790		500	360	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-RW3A-20231221 — Lab Sample ID: 670-32149-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	2100		50	27	ug/L	50		8260D	Total/NA
trans-1,2-Dichloroethene - DL	41	I	50	37	ug/L	50		8260D	Total/NA
Trichloroethene - DL	2300		50	45	ug/L	50		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample ID: LC34-RW3A-20231221 (Continued)
Lab Sample ID: 670-32149-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride - DL	410		50	36	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-RW9A-20231221
Lab Sample ID: 670-32149-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	2200		50	27	ug/L	50		8260D	Total/NA
trans-1,2-Dichloroethene - DL	72		25	18	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	2200		25	18	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-RW17C-20231221
Lab Sample ID: 670-32149-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	4600		2000	1100	ug/L	2000		8260D	Total/NA
Trichloroethene - DL	160000		2000	1800	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-RW18C-20231221
Lab Sample ID: 670-32149-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	5300		1000	530	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	73000		1000	890	ug/L	1000		8260D	Total/NA

Client Sample ID: LC34-RW19C-20231221
Lab Sample ID: 670-32149-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	3900		2500	1300	ug/L	2500		8260D	Total/NA
Trichloroethene - DL	210000		5000	4500	ug/L	5000		8260D	Total/NA

Client Sample ID: LC34-RW20C-20231221
Lab Sample ID: 670-32149-14

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	980		200	110	ug/L	200		8260D	Total/NA
Trichloroethene - DL	12000		200	180	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-RW21D-20231221
Lab Sample ID: 670-32149-15

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	3300		200	110	ug/L	200		8260D	Total/NA
Trichloroethene - DL	12000		200	180	ug/L	200		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Job ID: 670-32149-1
Project/Site: NASA KSC LC34 - Monthly

Client Sample ID: LC34-GAC-20231221
Lab Sample ID: 670-32149-1
Date Collected: 12/21/23 08:45
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/29/23 18:40	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/29/23 18:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/29/23 18:40	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/29/23 18:40	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/29/23 18:40	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/29/23 18:40	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/29/23 18:40	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/29/23 18:40	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/29/23 18:40	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/29/23 18:40	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/29/23 18:40	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/29/23 18:40	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/29/23 18:40	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/29/23 18:40	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/29/23 18:40	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/29/23 18:40	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/29/23 18:40	1
Acetone	25	U	50	25	ug/L			12/29/23 18:40	1
Benzene	0.71	U	1.0	0.71	ug/L			12/29/23 18:40	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/29/23 18:40	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/29/23 18:40	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/29/23 18:40	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/29/23 18:40	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/29/23 18:40	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/29/23 18:40	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/29/23 18:40	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/29/23 18:40	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/29/23 18:40	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/29/23 18:40	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/29/23 18:40	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/29/23 18:40	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/29/23 18:40	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/29/23 18:40	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/29/23 18:40	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/29/23 18:40	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/29/23 18:40	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/29/23 18:40	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/29/23 18:40	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/29/23 18:40	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/29/23 18:40	1
Styrene	0.61	U	1.0	0.61	ug/L			12/29/23 18:40	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/29/23 18:40	1
Toluene	0.72	U	1.0	0.72	ug/L			12/29/23 18:40	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/29/23 18:40	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/29/23 18:40	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/29/23 18:40	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/29/23 18:40	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/29/23 18:40	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/29/23 18:40	1

Client Sample ID: LC34-GAC-20231221
Lab Sample ID: 670-32149-1

Date Collected: 12/21/23 08:45
Matrix: Water
Date Received: 12/22/23 10:19

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*12/29/23 18:40*	*1*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*12/29/23 18:40*	*1*
Toluene-d8 (Surr)	*107*		*40 - 146*		*12/29/23 18:40*	*1*

Client Sample ID: LC34-AS1-20231221
Lab Sample ID: 670-32149-2

Date Collected: 12/21/23 08:50
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/29/23 18:57	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/29/23 18:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/29/23 18:57	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/29/23 18:57	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/29/23 18:57	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/29/23 18:57	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/29/23 18:57	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/29/23 18:57	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/29/23 18:57	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/29/23 18:57	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/29/23 18:57	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/29/23 18:57	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/29/23 18:57	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/29/23 18:57	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/29/23 18:57	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/29/23 18:57	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/29/23 18:57	1
Acetone	25	U	50	25	ug/L			12/29/23 18:57	1
Benzene	0.71	U	1.0	0.71	ug/L			12/29/23 18:57	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/29/23 18:57	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/29/23 18:57	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/29/23 18:57	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/29/23 18:57	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/29/23 18:57	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/29/23 18:57	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/29/23 18:57	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/29/23 18:57	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/29/23 18:57	1
cis-1,2-Dichloroethene	**0.99**	**I**	1.0	0.53	ug/L			12/29/23 18:57	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/29/23 18:57	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/29/23 18:57	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/29/23 18:57	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/29/23 18:57	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/29/23 18:57	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/29/23 18:57	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/29/23 18:57	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/29/23 18:57	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/29/23 18:57	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/29/23 18:57	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/29/23 18:57	1

Client Sample ID: LC34-AS1-20231221
Lab Sample ID: 670-32149-2

Date Collected: 12/21/23 08:50
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			12/29/23 18:57	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/29/23 18:57	1
Toluene	0.72	U	1.0	0.72	ug/L			12/29/23 18:57	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/29/23 18:57	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/29/23 18:57	1
Trichloroethene	**0.93**	**I**	1.0	0.89	ug/L			12/29/23 18:57	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/29/23 18:57	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/29/23 18:57	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/29/23 18:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*12/29/23 18:57*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/29/23 18:57*	*1*
Toluene-d8 (Surr)	*108*		*40 - 146*		*12/29/23 18:57*	*1*

Client Sample ID: LC34-AS2-20231221
Lab Sample ID: 670-32149-3

Date Collected: 12/21/23 08:55
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/29/23 19:14	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/29/23 19:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/29/23 19:14	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/29/23 19:14	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/29/23 19:14	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/29/23 19:14	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/29/23 19:14	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/29/23 19:14	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/29/23 19:14	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/29/23 19:14	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/29/23 19:14	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/29/23 19:14	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/29/23 19:14	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/29/23 19:14	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/29/23 19:14	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/29/23 19:14	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/29/23 19:14	1
Acetone	25	U	50	25	ug/L			12/29/23 19:14	1
Benzene	0.71	U	1.0	0.71	ug/L			12/29/23 19:14	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/29/23 19:14	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/29/23 19:14	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/29/23 19:14	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/29/23 19:14	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/29/23 19:14	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/29/23 19:14	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/29/23 19:14	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/29/23 19:14	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/29/23 19:14	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/29/23 19:14	1

Client Sample ID: LC34-AS2-20231221
Lab Sample ID: 670-32149-3

Date Collected: 12/21/23 08:55
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/29/23 19:14	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/29/23 19:14	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/29/23 19:14	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/29/23 19:14	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/29/23 19:14	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/29/23 19:14	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/29/23 19:14	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/29/23 19:14	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/29/23 19:14	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/29/23 19:14	1
Styrene	0.61	U	1.0	0.61	ug/L			12/29/23 19:14	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/29/23 19:14	1
Toluene	0.72	U	1.0	0.72	ug/L			12/29/23 19:14	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/29/23 19:14	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/29/23 19:14	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/29/23 19:14	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/29/23 19:14	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/29/23 19:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*12/29/23 19:14*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/29/23 19:14*	*1*
Toluene-d8 (Surr)	*102*		*40 - 146*		*12/29/23 19:14*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**120**		5.0	2.7	ug/L			01/02/24 14:52	5
Trichloroethene	**210**		5.0	4.5	ug/L			01/02/24 14:52	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/02/24 14:52*	*5*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*01/02/24 14:52*	*5*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/02/24 14:52*	*5*

Client Sample ID: LC34-INFLUENT-20231221
Lab Sample ID: 670-32149-4

Date Collected: 12/21/23 09:00
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	160	U	200	160	ug/L			12/29/23 20:22	200
1,1,2,2-Tetrachloroethane	110	U	200	110	ug/L			12/29/23 20:22	200
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	400	150	ug/L			12/29/23 20:22	200
1,1,2-Trichloroethane	150	U	400	150	ug/L			12/29/23 20:22	200
1,1-Dichloroethane	120	U	200	120	ug/L			12/29/23 20:22	200
1,1-Dichloroethene	190	U	200	190	ug/L			12/29/23 20:22	200
1,2,4-Trichlorobenzene	140	U	400	140	ug/L			12/29/23 20:22	200
1,2-Dibromo-3-Chloropropane	190	U	2000	190	ug/L			12/29/23 20:22	200
1,2-Dibromoethane (EDB)	160	U	2400	160	ug/L			12/29/23 20:22	200
1,2-Dichlorobenzene	150	U	200	150	ug/L			12/29/23 20:22	200
1,2-Dichloroethane	130	U	200	130	ug/L			12/29/23 20:22	200

Client: Tetra Tech, Inc.
Job ID: 670-32149-1
Project/Site: NASA KSC LC34 - Monthly

Client Sample ID: LC34-INFLUENT-20231221
Lab Sample ID: 670-32149-4
Date Collected: 12/21/23 09:00
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	160	U	200	160	ug/L			12/29/23 20:22	200
1,3-Dichlorobenzene	150	U	200	150	ug/L			12/29/23 20:22	200
1,4-Dichlorobenzene	150	U	200	150	ug/L			12/29/23 20:22	200
2-Butanone (MEK)	900	U	2000	900	ug/L			12/29/23 20:22	200
2-Hexanone	500	U	4000	500	ug/L			12/29/23 20:22	200
4-Methyl-2-pentanone	1000	U	4000	1000	ug/L			12/29/23 20:22	200
Acetone	5000	U	10000	5000	ug/L			12/29/23 20:22	200
Benzene	140	U	200	140	ug/L			12/29/23 20:22	200
Bromodichloromethane	100	U	200	100	ug/L			12/29/23 20:22	200
Bromoform	150	U	200	150	ug/L			12/29/23 20:22	200
Bromomethane	190	U	400	190	ug/L			12/29/23 20:22	200
Carbon disulfide	500	U	1000	500	ug/L			12/29/23 20:22	200
Carbon tetrachloride	190	U	200	190	ug/L			12/29/23 20:22	200
Chlorobenzene	140	U	200	140	ug/L			12/29/23 20:22	200
Chloroethane	200	U	400	200	ug/L			12/29/23 20:22	200
Chloroform	160	U	1000	160	ug/L			12/29/23 20:22	200
Chloromethane	160	U	400	160	ug/L			12/29/23 20:22	200
cis-1,2-Dichloroethene	**3800**		200	110	ug/L			12/29/23 20:22	200
cis-1,3-Dichloropropene	120	U	200	120	ug/L			12/29/23 20:22	200
Cyclohexane	190	U	1000	190	ug/L			12/29/23 20:22	200
Dibromochloromethane	100	U	200	100	ug/L			12/29/23 20:22	200
Dichlorodifluoromethane	150	U	200	150	ug/L			12/29/23 20:22	200
Ethylbenzene	140	U	200	140	ug/L			12/29/23 20:22	200
Isopropylbenzene	130	U	400	130	ug/L			12/29/23 20:22	200
m,p-Xylenes	260	U	400	260	ug/L			12/29/23 20:22	200
Methyl acetate	190	U	2000	190	ug/L			12/29/23 20:22	200
Methyl tert-butyl ether	120	U	400	120	ug/L			12/29/23 20:22	200
Methylene Chloride	1000	U	2000	1000	ug/L			12/29/23 20:22	200
o-Xylene	110	U	200	110	ug/L			12/29/23 20:22	200
Styrene	120	U	200	120	ug/L			12/29/23 20:22	200
Tetrachloroethene	150	U	200	150	ug/L			12/29/23 20:22	200
Toluene	140	U	200	140	ug/L			12/29/23 20:22	200
trans-1,2-Dichloroethene	150	U	200	150	ug/L			12/29/23 20:22	200
trans-1,3-Dichloropropene	150	U	200	150	ug/L			12/29/23 20:22	200
Trichloroethene	**24000**		500	450	ug/L			01/02/24 19:33	500
Trichlorofluoromethane	190	U	200	190	ug/L			12/29/23 20:22	200
Vinyl chloride	**290**		200	140	ug/L			12/29/23 20:22	200
Xylenes, Total	260	U	400	260	ug/L			12/29/23 20:22	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*12/29/23 20:22*	*200*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/02/24 19:33*	*500*
Dibromofluoromethane (Surr)	*110*		*53 - 146*		*12/29/23 20:22*	*200*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*01/02/24 19:33*	*500*
Toluene-d8 (Surr)	*104*		*40 - 146*		*12/29/23 20:22*	*200*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/02/24 19:33*	*500*

Client: Tetra Tech, Inc.
Job ID: 670-32149-1
Project/Site: NASA KSC LC34 - Monthly

Client Sample ID: LC34-RW1A-20231221
Lab Sample ID: 670-32149-5
Date Collected: 12/21/23 09:05
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			12/29/23 19:31	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			12/29/23 19:31	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			12/29/23 19:31	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			12/29/23 19:31	100
1,1-Dichloroethane	62	U	100	62	ug/L			12/29/23 19:31	100
1,1-Dichloroethene	94	U	100	94	ug/L			12/29/23 19:31	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			12/29/23 19:31	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			12/29/23 19:31	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			12/29/23 19:31	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			12/29/23 19:31	100
1,2-Dichloroethane	63	U	100	63	ug/L			12/29/23 19:31	100
1,2-Dichloropropane	80	U	100	80	ug/L			12/29/23 19:31	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			12/29/23 19:31	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			12/29/23 19:31	100
2-Butanone (MEK)	450	U	1000	450	ug/L			12/29/23 19:31	100
2-Hexanone	250	U	2000	250	ug/L			12/29/23 19:31	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			12/29/23 19:31	100
Acetone	2500	U	5000	2500	ug/L			12/29/23 19:31	100
Benzene	71	U	100	71	ug/L			12/29/23 19:31	100
Bromodichloromethane	52	U	100	52	ug/L			12/29/23 19:31	100
Bromoform	75	U	100	75	ug/L			12/29/23 19:31	100
Bromomethane	95	U	200	95	ug/L			12/29/23 19:31	100
Carbon disulfide	250	U	500	250	ug/L			12/29/23 19:31	100
Carbon tetrachloride	94	U	100	94	ug/L			12/29/23 19:31	100
Chlorobenzene	72	U	100	72	ug/L			12/29/23 19:31	100
Chloroethane	98	U	200	98	ug/L			12/29/23 19:31	100
Chloroform	80	U	500	80	ug/L			12/29/23 19:31	100
Chloromethane	82	U	200	82	ug/L			12/29/23 19:31	100
cis-1,2-Dichloroethene	**9400**		500	270	ug/L			01/02/24 18:15	500
cis-1,3-Dichloropropene	59	U	100	59	ug/L			12/29/23 19:31	100
Cyclohexane	93	U	500	93	ug/L			12/29/23 19:31	100
Dibromochloromethane	50	U	100	50	ug/L			12/29/23 19:31	100
Dichlorodifluoromethane	74	U	100	74	ug/L			12/29/23 19:31	100
Ethylbenzene	69	U	100	69	ug/L			12/29/23 19:31	100
Isopropylbenzene	67	U	200	67	ug/L			12/29/23 19:31	100
m,p-Xylenes	130	U	200	130	ug/L			12/29/23 19:31	100
Methyl acetate	95	U	1000	95	ug/L			12/29/23 19:31	100
Methyl tert-butyl ether	60	U	200	60	ug/L			12/29/23 19:31	100
Methylene Chloride	500	U	1000	500	ug/L			12/29/23 19:31	100
o-Xylene	53	U	100	53	ug/L			12/29/23 19:31	100
Styrene	61	U	100	61	ug/L			12/29/23 19:31	100
Tetrachloroethene	76	U	100	76	ug/L			12/29/23 19:31	100
Toluene	72	U	100	72	ug/L			12/29/23 19:31	100
trans-1,2-Dichloroethene	**210**		100	73	ug/L			12/29/23 19:31	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			12/29/23 19:31	100
Trichloroethene	**17000**		500	450	ug/L			01/02/24 18:15	500
Trichlorofluoromethane	94	U	100	94	ug/L			12/29/23 19:31	100
Vinyl chloride	**1100**		100	71	ug/L			12/29/23 19:31	100
Xylenes, Total	130	U	200	130	ug/L			12/29/23 19:31	100

Client Sample ID: LC34-RW1A-20231221
Lab Sample ID: 670-32149-5

Date Collected: 12/21/23 09:05
Matrix: Water
Date Received: 12/22/23 10:19

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*12/29/23 19:31*	*100*
4-Bromofluorobenzene (Surr)	*121*		*41 - 142*		*01/02/24 18:15*	*500*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*12/29/23 19:31*	*100*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*01/02/24 18:15*	*500*
Toluene-d8 (Surr)	*103*		*40 - 146*		*12/29/23 19:31*	*100*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/02/24 18:15*	*500*

Client Sample ID: LC34-RW1B-20231221
Lab Sample ID: 670-32149-6

Date Collected: 12/21/23 09:10
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			12/29/23 19:48	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			12/29/23 19:48	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			12/29/23 19:48	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			12/29/23 19:48	100
1,1-Dichloroethane	62	U	100	62	ug/L			12/29/23 19:48	100
1,1-Dichloroethene	94	U	100	94	ug/L			12/29/23 19:48	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			12/29/23 19:48	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			12/29/23 19:48	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			12/29/23 19:48	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			12/29/23 19:48	100
1,2-Dichloroethane	63	U	100	63	ug/L			12/29/23 19:48	100
1,2-Dichloropropane	80	U	100	80	ug/L			12/29/23 19:48	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			12/29/23 19:48	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			12/29/23 19:48	100
2-Butanone (MEK)	450	U	1000	450	ug/L			12/29/23 19:48	100
2-Hexanone	250	U	2000	250	ug/L			12/29/23 19:48	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			12/29/23 19:48	100
Acetone	2500	U	5000	2500	ug/L			12/29/23 19:48	100
Benzene	71	U	100	71	ug/L			12/29/23 19:48	100
Bromodichloromethane	52	U	100	52	ug/L			12/29/23 19:48	100
Bromoform	75	U	100	75	ug/L			12/29/23 19:48	100
Bromomethane	95	U	200	95	ug/L			12/29/23 19:48	100
Carbon disulfide	250	U	500	250	ug/L			12/29/23 19:48	100
Carbon tetrachloride	94	U	100	94	ug/L			12/29/23 19:48	100
Chlorobenzene	72	U	100	72	ug/L			12/29/23 19:48	100
Chloroethane	98	U	200	98	ug/L			12/29/23 19:48	100
Chloroform	80	U	500	80	ug/L			12/29/23 19:48	100
Chloromethane	82	U	200	82	ug/L			12/29/23 19:48	100
cis-1,2-Dichloroethene	**5100**		100	53	ug/L			12/29/23 19:48	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			12/29/23 19:48	100
Cyclohexane	93	U	500	93	ug/L			12/29/23 19:48	100
Dibromochloromethane	50	U	100	50	ug/L			12/29/23 19:48	100
Dichlorodifluoromethane	74	U	100	74	ug/L			12/29/23 19:48	100
Ethylbenzene	69	U	100	69	ug/L			12/29/23 19:48	100
Isopropylbenzene	67	U	200	67	ug/L			12/29/23 19:48	100
m,p-Xylenes	130	U	200	130	ug/L			12/29/23 19:48	100
Methyl acetate	95	U	1000	95	ug/L			12/29/23 19:48	100

Client Sample ID: LC34-RW1B-20231221
Lab Sample ID: 670-32149-6

Date Collected: 12/21/23 09:10
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	60	U	200	60	ug/L			12/29/23 19:48	100
Methylene Chloride	500	U	1000	500	ug/L			12/29/23 19:48	100
o-Xylene	53	U	100	53	ug/L			12/29/23 19:48	100
Styrene	61	U	100	61	ug/L			12/29/23 19:48	100
Tetrachloroethene	76	U	100	76	ug/L			12/29/23 19:48	100
Toluene	72	U	100	72	ug/L			12/29/23 19:48	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			12/29/23 19:48	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			12/29/23 19:48	100
Trichloroethene	**13000**		200	180	ug/L			01/02/24 17:57	200
Trichlorofluoromethane	94	U	100	94	ug/L			12/29/23 19:48	100
Vinyl chloride	**260**		100	71	ug/L			12/29/23 19:48	100
Xylenes, Total	130	U	200	130	ug/L			12/29/23 19:48	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*12/29/23 19:48*	*100*
4-Bromofluorobenzene (Surr)	*114*		*41 - 142*		*01/02/24 17:57*	*200*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*12/29/23 19:48*	*100*
Dibromofluoromethane (Surr)	*110*		*53 - 146*		*01/02/24 17:57*	*200*
Toluene-d8 (Surr)	*103*		*40 - 146*		*12/29/23 19:48*	*100*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/02/24 17:57*	*200*

Client Sample ID: LC34-RW2A-20231221
Lab Sample ID: 670-32149-7

Date Collected: 12/21/23 09:15
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			12/29/23 20:05	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			12/29/23 20:05	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			12/29/23 20:05	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			12/29/23 20:05	100
1,1-Dichloroethane	62	U	100	62	ug/L			12/29/23 20:05	100
1,1-Dichloroethene	94	U	100	94	ug/L			12/29/23 20:05	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			12/29/23 20:05	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			12/29/23 20:05	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			12/29/23 20:05	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			12/29/23 20:05	100
1,2-Dichloroethane	63	U	100	63	ug/L			12/29/23 20:05	100
1,2-Dichloropropane	80	U	100	80	ug/L			12/29/23 20:05	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			12/29/23 20:05	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			12/29/23 20:05	100
2-Butanone (MEK)	450	U	1000	450	ug/L			12/29/23 20:05	100
2-Hexanone	250	U	2000	250	ug/L			12/29/23 20:05	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			12/29/23 20:05	100
Acetone	2500	U	5000	2500	ug/L			12/29/23 20:05	100
Benzene	71	U	100	71	ug/L			12/29/23 20:05	100
Bromodichloromethane	52	U	100	52	ug/L			12/29/23 20:05	100
Bromoform	75	U	100	75	ug/L			12/29/23 20:05	100
Bromomethane	95	U	200	95	ug/L			12/29/23 20:05	100
Carbon disulfide	250	U	500	250	ug/L			12/29/23 20:05	100

Client: Tetra Tech, Inc.
Job ID: 670-32149-1
Project/Site: NASA KSC LC34 - Monthly

Client Sample ID: LC34-RW2A-20231221
Lab Sample ID: 670-32149-7
Date Collected: 12/21/23 09:15
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	94	U	100	94	ug/L			12/29/23 20:05	100
Chlorobenzene	72	U	100	72	ug/L			12/29/23 20:05	100
Chloroethane	98	U	200	98	ug/L			12/29/23 20:05	100
Chloroform	80	U	500	80	ug/L			12/29/23 20:05	100
Chloromethane	82	U	200	82	ug/L			12/29/23 20:05	100
cis-1,2-Dichloroethene	**2600**		100	53	ug/L			12/29/23 20:05	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			12/29/23 20:05	100
Cyclohexane	93	U	500	93	ug/L			12/29/23 20:05	100
Dibromochloromethane	50	U	100	50	ug/L			12/29/23 20:05	100
Dichlorodifluoromethane	74	U	100	74	ug/L			12/29/23 20:05	100
Ethylbenzene	69	U	100	69	ug/L			12/29/23 20:05	100
Isopropylbenzene	67	U	200	67	ug/L			12/29/23 20:05	100
m,p-Xylenes	130	U	200	130	ug/L			12/29/23 20:05	100
Methyl acetate	95	U	1000	95	ug/L			12/29/23 20:05	100
Methyl tert-butyl ether	60	U	200	60	ug/L			12/29/23 20:05	100
Methylene Chloride	500	U	1000	500	ug/L			12/29/23 20:05	100
o-Xylene	53	U	100	53	ug/L			12/29/23 20:05	100
Styrene	61	U	100	61	ug/L			12/29/23 20:05	100
Tetrachloroethene	76	U	100	76	ug/L			12/29/23 20:05	100
Toluene	72	U	100	72	ug/L			12/29/23 20:05	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			12/29/23 20:05	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			12/29/23 20:05	100
Trichloroethene	**9300**		100	89	ug/L			12/29/23 20:05	100
Trichlorofluoromethane	94	U	100	94	ug/L			12/29/23 20:05	100
Vinyl chloride	**430**		100	71	ug/L			12/29/23 20:05	100
Xylenes, Total	130	U	200	130	ug/L			12/29/23 20:05	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*12/29/23 20:05*	*100*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*12/29/23 20:05*	*100*
Toluene-d8 (Surr)	*104*		*40 - 146*		*12/29/23 20:05*	*100*

Client Sample ID: LC34-RW2B-20231221
Lab Sample ID: 670-32149-8
Date Collected: 12/21/23 09:20
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			01/02/24 19:54	500
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			01/02/24 19:54	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			01/02/24 19:54	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			01/02/24 19:54	500
1,1-Dichloroethane	310	U	500	310	ug/L			01/02/24 19:54	500
1,1-Dichloroethene	470	U	500	470	ug/L			01/02/24 19:54	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			01/02/24 19:54	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			01/02/24 19:54	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			01/02/24 19:54	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			01/02/24 19:54	500
1,2-Dichloroethane	320	U	500	320	ug/L			01/02/24 19:54	500
1,2-Dichloropropane	400	U	500	400	ug/L			01/02/24 19:54	500

Client Sample ID: LC34-RW2B-20231221
Lab Sample ID: 670-32149-8

Date Collected: 12/21/23 09:20
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	390	U	500	390	ug/L			01/02/24 19:54	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			01/02/24 19:54	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			01/02/24 19:54	500
2-Hexanone	1300	U	10000	1300	ug/L			01/02/24 19:54	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			01/02/24 19:54	500
Acetone	13000	U	25000	13000	ug/L			01/02/24 19:54	500
Benzene	360	U	500	360	ug/L			01/02/24 19:54	500
Bromodichloromethane	260	U	500	260	ug/L			01/02/24 19:54	500
Bromoform	380	U	500	380	ug/L			01/02/24 19:54	500
Bromomethane	480	U	1000	480	ug/L			01/02/24 19:54	500
Carbon disulfide	1300	U	2500	1300	ug/L			01/02/24 19:54	500
Carbon tetrachloride	470	U	500	470	ug/L			01/02/24 19:54	500
Chlorobenzene	360	U	500	360	ug/L			01/02/24 19:54	500
Chloroethane	490	U	1000	490	ug/L			01/02/24 19:54	500
Chloroform	400	U	2500	400	ug/L			01/02/24 19:54	500
Chloromethane	410	U	1000	410	ug/L			01/02/24 19:54	500
cis-1,2-Dichloroethene	**4100**		500	270	ug/L			01/02/24 19:54	500
cis-1,3-Dichloropropene	300	U	500	300	ug/L			01/02/24 19:54	500
Cyclohexane	470	U	2500	470	ug/L			01/02/24 19:54	500
Dibromochloromethane	250	U	500	250	ug/L			01/02/24 19:54	500
Dichlorodifluoromethane	370	U	500	370	ug/L			01/02/24 19:54	500
Ethylbenzene	350	U	500	350	ug/L			01/02/24 19:54	500
Isopropylbenzene	340	U	1000	340	ug/L			01/02/24 19:54	500
m,p-Xylenes	650	U	1000	650	ug/L			01/02/24 19:54	500
Methyl acetate	480	U	5000	480	ug/L			01/02/24 19:54	500
Methyl tert-butyl ether	300	U	1000	300	ug/L			01/02/24 19:54	500
Methylene Chloride	2500	U	5000	2500	ug/L			01/02/24 19:54	500
o-Xylene	270	U	500	270	ug/L			01/02/24 19:54	500
Styrene	310	U	500	310	ug/L			01/02/24 19:54	500
Tetrachloroethene	380	U	500	380	ug/L			01/02/24 19:54	500
Toluene	360	U	500	360	ug/L			01/02/24 19:54	500
trans-1,2-Dichloroethene	370	U	500	370	ug/L			01/02/24 19:54	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			01/02/24 19:54	500
Trichloroethene	**27000**		500	450	ug/L			01/02/24 19:54	500
Trichlorofluoromethane	470	U	500	470	ug/L			01/02/24 19:54	500
Vinyl chloride	**790**		500	360	ug/L			01/02/24 19:54	500
Xylenes, Total	650	U	1000	650	ug/L			01/02/24 19:54	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/02/24 19:54*	*500*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*01/02/24 19:54*	*500*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/02/24 19:54*	*500*

Client Sample ID: LC34-RW3A-20231221
Lab Sample ID: 670-32149-9

Date Collected: 12/21/23 09:25
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	40	U	50	40	ug/L			01/02/24 20:15	50

Client: Tetra Tech, Inc.
Job ID: 670-32149-1
Project/Site: NASA KSC LC34 - Monthly

Client Sample ID: LC34-RW3A-20231221
Lab Sample ID: 670-32149-9
Date Collected: 12/21/23 09:25
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	27	U	50	27	ug/L			01/02/24 20:15	50
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	100	37	ug/L			01/02/24 20:15	50
1,1,2-Trichloroethane	38	U	100	38	ug/L			01/02/24 20:15	50
1,1-Dichloroethane	31	U	50	31	ug/L			01/02/24 20:15	50
1,1-Dichloroethene	47	U	50	47	ug/L			01/02/24 20:15	50
1,2,4-Trichlorobenzene	35	U	100	35	ug/L			01/02/24 20:15	50
1,2-Dibromo-3-Chloropropane	48	U	500	48	ug/L			01/02/24 20:15	50
1,2-Dibromoethane (EDB)	39	U	600	39	ug/L			01/02/24 20:15	50
1,2-Dichlorobenzene	37	U	50	37	ug/L			01/02/24 20:15	50
1,2-Dichloroethane	32	U	50	32	ug/L			01/02/24 20:15	50
1,2-Dichloropropane	40	U	50	40	ug/L			01/02/24 20:15	50
1,3-Dichlorobenzene	39	U	50	39	ug/L			01/02/24 20:15	50
1,4-Dichlorobenzene	38	U	50	38	ug/L			01/02/24 20:15	50
2-Butanone (MEK)	230	U	500	230	ug/L			01/02/24 20:15	50
2-Hexanone	130	U	1000	130	ug/L			01/02/24 20:15	50
4-Methyl-2-pentanone	250	U	1000	250	ug/L			01/02/24 20:15	50
Acetone	1300	U	2500	1300	ug/L			01/02/24 20:15	50
Benzene	36	U	50	36	ug/L			01/02/24 20:15	50
Bromodichloromethane	26	U	50	26	ug/L			01/02/24 20:15	50
Bromoform	38	U	50	38	ug/L			01/02/24 20:15	50
Bromomethane	48	U	100	48	ug/L			01/02/24 20:15	50
Carbon disulfide	130	U	250	130	ug/L			01/02/24 20:15	50
Carbon tetrachloride	47	U	50	47	ug/L			01/02/24 20:15	50
Chlorobenzene	36	U	50	36	ug/L			01/02/24 20:15	50
Chloroethane	49	U	100	49	ug/L			01/02/24 20:15	50
Chloroform	40	U	250	40	ug/L			01/02/24 20:15	50
Chloromethane	41	U	100	41	ug/L			01/02/24 20:15	50
cis-1,2-Dichloroethene	**2100**		50	27	ug/L			01/02/24 20:15	50
cis-1,3-Dichloropropene	30	U	50	30	ug/L			01/02/24 20:15	50
Cyclohexane	47	U	250	47	ug/L			01/02/24 20:15	50
Dibromochloromethane	25	U	50	25	ug/L			01/02/24 20:15	50
Dichlorodifluoromethane	37	U	50	37	ug/L			01/02/24 20:15	50
Ethylbenzene	35	U	50	35	ug/L			01/02/24 20:15	50
Isopropylbenzene	34	U	100	34	ug/L			01/02/24 20:15	50
m,p-Xylenes	65	U	100	65	ug/L			01/02/24 20:15	50
Methyl acetate	48	U	500	48	ug/L			01/02/24 20:15	50
Methyl tert-butyl ether	30	U	100	30	ug/L			01/02/24 20:15	50
Methylene Chloride	250	U	500	250	ug/L			01/02/24 20:15	50
o-Xylene	27	U	50	27	ug/L			01/02/24 20:15	50
Styrene	31	U	50	31	ug/L			01/02/24 20:15	50
Tetrachloroethene	38	U	50	38	ug/L			01/02/24 20:15	50
Toluene	36	U	50	36	ug/L			01/02/24 20:15	50
trans-1,2-Dichloroethene	**41**	**I**	50	37	ug/L			01/02/24 20:15	50
trans-1,3-Dichloropropene	37	U	50	37	ug/L			01/02/24 20:15	50
Trichloroethene	**2300**		50	45	ug/L			01/02/24 20:15	50
Trichlorofluoromethane	47	U	50	47	ug/L			01/02/24 20:15	50
Vinyl chloride	**410**		50	36	ug/L			01/02/24 20:15	50
Xylenes, Total	65	U	100	65	ug/L			01/02/24 20:15	50

Client: Tetra Tech, Inc.
Job ID: 670-32149-1
Project/Site: NASA KSC LC34 - Monthly

Client Sample ID: LC34-RW3A-20231221
Lab Sample ID: 670-32149-9
Date Collected: 12/21/23 09:25
Matrix: Water
Date Received: 12/22/23 10:19

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		41 - 142		01/02/24 20:15	50
Dibromofluoromethane (Surr)	111		53 - 146		01/02/24 20:15	50
Toluene-d8 (Surr)	101		40 - 146		01/02/24 20:15	50

Client Sample ID: LC34-RW9A-20231221
Lab Sample ID: 670-32149-10
Date Collected: 12/21/23 09:30
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			01/02/24 19:11	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			01/02/24 19:11	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			01/02/24 19:11	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			01/02/24 19:11	25
1,1-Dichloroethane	16	U	25	16	ug/L			01/02/24 19:11	25
1,1-Dichloroethene	24	U	25	24	ug/L			01/02/24 19:11	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			01/02/24 19:11	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			01/02/24 19:11	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			01/02/24 19:11	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			01/02/24 19:11	25
1,2-Dichloroethane	16	U	25	16	ug/L			01/02/24 19:11	25
1,2-Dichloropropane	20	U	25	20	ug/L			01/02/24 19:11	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			01/02/24 19:11	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			01/02/24 19:11	25
2-Butanone (MEK)	110	U	250	110	ug/L			01/02/24 19:11	25
2-Hexanone	63	U	500	63	ug/L			01/02/24 19:11	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			01/02/24 19:11	25
Acetone	630	U	1300	630	ug/L			01/02/24 19:11	25
Benzene	18	U	25	18	ug/L			01/02/24 19:11	25
Bromodichloromethane	13	U	25	13	ug/L			01/02/24 19:11	25
Bromoform	19	U	25	19	ug/L			01/02/24 19:11	25
Bromomethane	24	U	50	24	ug/L			01/02/24 19:11	25
Carbon disulfide	63	U	130	63	ug/L			01/02/24 19:11	25
Carbon tetrachloride	24	U	25	24	ug/L			01/02/24 19:11	25
Chlorobenzene	18	U	25	18	ug/L			01/02/24 19:11	25
Chloroethane	25	U	50	25	ug/L			01/02/24 19:11	25
Chloroform	20	U	130	20	ug/L			01/02/24 19:11	25
Chloromethane	21	U	50	21	ug/L			01/02/24 19:11	25
cis-1,2-Dichloroethene	**2200**		50	27	ug/L			01/03/24 11:32	50
cis-1,3-Dichloropropene	15	U	25	15	ug/L			01/02/24 19:11	25
Cyclohexane	23	U	130	23	ug/L			01/02/24 19:11	25
Dibromochloromethane	13	U	25	13	ug/L			01/02/24 19:11	25
Dichlorodifluoromethane	19	U	25	19	ug/L			01/02/24 19:11	25
Ethylbenzene	17	U	25	17	ug/L			01/02/24 19:11	25
Isopropylbenzene	17	U	50	17	ug/L			01/02/24 19:11	25
m,p-Xylenes	33	U	50	33	ug/L			01/02/24 19:11	25
Methyl acetate	24	U	250	24	ug/L			01/02/24 19:11	25
Methyl tert-butyl ether	15	U	50	15	ug/L			01/02/24 19:11	25
Methylene Chloride	130	U	250	130	ug/L			01/02/24 19:11	25
o-Xylene	13	U	25	13	ug/L			01/02/24 19:11	25

Client Sample ID: LC34-RW9A-20231221
Lab Sample ID: 670-32149-10

Date Collected: 12/21/23 09:30
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	15	U	25	15	ug/L			01/02/24 19:11	25
Tetrachloroethene	19	U	25	19	ug/L			01/02/24 19:11	25
Toluene	18	U	25	18	ug/L			01/02/24 19:11	25
trans-1,2-Dichloroethene	**72**		25	18	ug/L			01/02/24 19:11	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			01/02/24 19:11	25
Trichloroethene	22	U	25	22	ug/L			01/02/24 19:11	25
Trichlorofluoromethane	24	U	25	24	ug/L			01/02/24 19:11	25
Vinyl chloride	**2200**		25	18	ug/L			01/02/24 19:11	25
Xylenes, Total	33	U	50	33	ug/L			01/02/24 19:11	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*01/02/24 19:11*	*25*
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*		*01/03/24 11:32*	*50*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*01/02/24 19:11*	*25*
Dibromofluoromethane (Surr)	*111*		*53 - 146*		*01/03/24 11:32*	*50*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/02/24 19:11*	*25*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/03/24 11:32*	*50*

Client Sample ID: LC34-RW17C-20231221
Lab Sample ID: 670-32149-11

Date Collected: 12/21/23 09:35
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1600	U	2000	1600	ug/L			01/02/24 21:40	2000
1,1,2,2-Tetrachloroethane	1100	U	2000	1100	ug/L			01/02/24 21:40	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U	4000	1500	ug/L			01/02/24 21:40	2000
1,1,2-Trichloroethane	1500	U	4000	1500	ug/L			01/02/24 21:40	2000
1,1-Dichloroethane	1200	U	2000	1200	ug/L			01/02/24 21:40	2000
1,1-Dichloroethene	1900	U	2000	1900	ug/L			01/02/24 21:40	2000
1,2,4-Trichlorobenzene	1400	U	4000	1400	ug/L			01/02/24 21:40	2000
1,2-Dibromo-3-Chloropropane	1900	U	20000	1900	ug/L			01/02/24 21:40	2000
1,2-Dibromoethane (EDB)	1600	U	24000	1600	ug/L			01/02/24 21:40	2000
1,2-Dichlorobenzene	1500	U	2000	1500	ug/L			01/02/24 21:40	2000
1,2-Dichloroethane	1300	U	2000	1300	ug/L			01/02/24 21:40	2000
1,2-Dichloropropane	1600	U	2000	1600	ug/L			01/02/24 21:40	2000
1,3-Dichlorobenzene	1500	U	2000	1500	ug/L			01/02/24 21:40	2000
1,4-Dichlorobenzene	1500	U	2000	1500	ug/L			01/02/24 21:40	2000
2-Butanone (MEK)	9000	U	20000	9000	ug/L			01/02/24 21:40	2000
2-Hexanone	5000	U	40000	5000	ug/L			01/02/24 21:40	2000
4-Methyl-2-pentanone	10000	U	40000	10000	ug/L			01/02/24 21:40	2000
Acetone	50000	U	100000	50000	ug/L			01/02/24 21:40	2000
Benzene	1400	U	2000	1400	ug/L			01/02/24 21:40	2000
Bromodichloromethane	1000	U	2000	1000	ug/L			01/02/24 21:40	2000
Bromoform	1500	U	2000	1500	ug/L			01/02/24 21:40	2000
Bromomethane	1900	U	4000	1900	ug/L			01/02/24 21:40	2000
Carbon disulfide	5000	U	10000	5000	ug/L			01/02/24 21:40	2000
Carbon tetrachloride	1900	U	2000	1900	ug/L			01/02/24 21:40	2000
Chlorobenzene	1400	U	2000	1400	ug/L			01/02/24 21:40	2000
Chloroethane	2000	U	4000	2000	ug/L			01/02/24 21:40	2000

Client Sample ID: LC34-RW17C-20231221
Lab Sample ID: 670-32149-11

Date Collected: 12/21/23 09:35
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	1600	U	10000	1600	ug/L			01/02/24 21:40	2000
Chloromethane	1600	U	4000	1600	ug/L			01/02/24 21:40	2000
cis-1,2-Dichloroethene	**4600**		2000	1100	ug/L			01/02/24 21:40	2000
cis-1,3-Dichloropropene	1200	U	2000	1200	ug/L			01/02/24 21:40	2000
Cyclohexane	1900	U	10000	1900	ug/L			01/02/24 21:40	2000
Dibromochloromethane	1000	U	2000	1000	ug/L			01/02/24 21:40	2000
Dichlorodifluoromethane	1500	U	2000	1500	ug/L			01/02/24 21:40	2000
Ethylbenzene	1400	U	2000	1400	ug/L			01/02/24 21:40	2000
Isopropylbenzene	1300	U	4000	1300	ug/L			01/02/24 21:40	2000
m,p-Xylenes	2600	U	4000	2600	ug/L			01/02/24 21:40	2000
Methyl acetate	1900	U	20000	1900	ug/L			01/02/24 21:40	2000
Methyl tert-butyl ether	1200	U	4000	1200	ug/L			01/02/24 21:40	2000
Methylene Chloride	10000	U	20000	10000	ug/L			01/02/24 21:40	2000
o-Xylene	1100	U	2000	1100	ug/L			01/02/24 21:40	2000
Styrene	1200	U	2000	1200	ug/L			01/02/24 21:40	2000
Tetrachloroethene	1500	U	2000	1500	ug/L			01/02/24 21:40	2000
Toluene	1400	U	2000	1400	ug/L			01/02/24 21:40	2000
trans-1,2-Dichloroethene	1500	U	2000	1500	ug/L			01/02/24 21:40	2000
trans-1,3-Dichloropropene	1500	U	2000	1500	ug/L			01/02/24 21:40	2000
Trichloroethene	**160000**		2000	1800	ug/L			01/02/24 21:40	2000
Trichlorofluoromethane	1900	U	2000	1900	ug/L			01/02/24 21:40	2000
Vinyl chloride	1400	U	2000	1400	ug/L			01/02/24 21:40	2000
Xylenes, Total	2600	U	4000	2600	ug/L			01/02/24 21:40	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*01/02/24 21:40*	*2000*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*01/02/24 21:40*	*2000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/02/24 21:40*	*2000*

Client Sample ID: LC34-RW18C-20231221
Lab Sample ID: 670-32149-12

Date Collected: 12/21/23 09:40
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/02/24 21:18	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/02/24 21:18	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/02/24 21:18	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/02/24 21:18	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/02/24 21:18	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/02/24 21:18	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/02/24 21:18	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/02/24 21:18	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/02/24 21:18	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/02/24 21:18	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/02/24 21:18	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/02/24 21:18	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/02/24 21:18	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/02/24 21:18	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/02/24 21:18	1000

Client Sample ID: LC34-RW18C-20231221

Lab Sample ID: 670-32149-12

Date Collected: 12/21/23 09:40

Matrix: Water

Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	2500	U	20000	2500	ug/L			01/02/24 21:18	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/02/24 21:18	1000
Acetone	25000	U	50000	25000	ug/L			01/02/24 21:18	1000
Benzene	710	U	1000	710	ug/L			01/02/24 21:18	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/02/24 21:18	1000
Bromoform	750	U	1000	750	ug/L			01/02/24 21:18	1000
Bromomethane	950	U	2000	950	ug/L			01/02/24 21:18	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/02/24 21:18	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/02/24 21:18	1000
Chlorobenzene	720	U	1000	720	ug/L			01/02/24 21:18	1000
Chloroethane	980	U	2000	980	ug/L			01/02/24 21:18	1000
Chloroform	800	U	5000	800	ug/L			01/02/24 21:18	1000
Chloromethane	820	U	2000	820	ug/L			01/02/24 21:18	1000
cis-1,2-Dichloroethene	**5300**		1000	530	ug/L			01/02/24 21:18	1000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/02/24 21:18	1000
Cyclohexane	930	U	5000	930	ug/L			01/02/24 21:18	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/02/24 21:18	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/02/24 21:18	1000
Ethylbenzene	690	U	1000	690	ug/L			01/02/24 21:18	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/02/24 21:18	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/02/24 21:18	1000
Methyl acetate	950	U	10000	950	ug/L			01/02/24 21:18	1000
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/02/24 21:18	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/02/24 21:18	1000
o-Xylene	530	U	1000	530	ug/L			01/02/24 21:18	1000
Styrene	610	U	1000	610	ug/L			01/02/24 21:18	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/02/24 21:18	1000
Toluene	720	U	1000	720	ug/L			01/02/24 21:18	1000
trans-1,2-Dichloroethene	730	U	1000	730	ug/L			01/02/24 21:18	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/02/24 21:18	1000
Trichloroethene	**73000**		1000	890	ug/L			01/02/24 21:18	1000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/02/24 21:18	1000
Vinyl chloride	710	U	1000	710	ug/L			01/02/24 21:18	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/02/24 21:18	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/02/24 21:18*	*1000*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*01/02/24 21:18*	*1000*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/02/24 21:18*	*1000*

Client Sample ID: LC34-RW19C-20231221

Lab Sample ID: 670-32149-13

Date Collected: 12/21/23 09:45

Matrix: Water

Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	2000	U	2500	2000	ug/L			01/02/24 22:01	2500
1,1,2,2-Tetrachloroethane	1400	U	2500	1400	ug/L			01/02/24 22:01	2500
1,1,2-Trichloro-1,2,2-trifluoroethane	1800	U	5000	1800	ug/L			01/02/24 22:01	2500
1,1,2-Trichloroethane	1900	U	5000	1900	ug/L			01/02/24 22:01	2500

Client Sample ID: LC34-RW19C-20231221
Lab Sample ID: 670-32149-13
Date Collected: 12/21/23 09:45
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	1600	U	2500	1600	ug/L			01/02/24 22:01	2500
1,1-Dichloroethene	2400	U	2500	2400	ug/L			01/02/24 22:01	2500
1,2,4-Trichlorobenzene	1800	U	5000	1800	ug/L			01/02/24 22:01	2500
1,2-Dibromo-3-Chloropropane	2400	U	25000	2400	ug/L			01/02/24 22:01	2500
1,2-Dibromoethane (EDB)	2000	U	30000	2000	ug/L			01/02/24 22:01	2500
1,2-Dichlorobenzene	1800	U	2500	1800	ug/L			01/02/24 22:01	2500
1,2-Dichloroethane	1600	U	2500	1600	ug/L			01/02/24 22:01	2500
1,2-Dichloropropane	2000	U	2500	2000	ug/L			01/02/24 22:01	2500
1,3-Dichlorobenzene	1900	U	2500	1900	ug/L			01/02/24 22:01	2500
1,4-Dichlorobenzene	1900	U	2500	1900	ug/L			01/02/24 22:01	2500
2-Butanone (MEK)	11000	U	25000	11000	ug/L			01/02/24 22:01	2500
2-Hexanone	6300	U	50000	6300	ug/L			01/02/24 22:01	2500
4-Methyl-2-pentanone	13000	U	50000	13000	ug/L			01/02/24 22:01	2500
Acetone	63000	U	130000	63000	ug/L			01/02/24 22:01	2500
Benzene	1800	U	2500	1800	ug/L			01/02/24 22:01	2500
Bromodichloromethane	1300	U	2500	1300	ug/L			01/02/24 22:01	2500
Bromoform	1900	U	2500	1900	ug/L			01/02/24 22:01	2500
Bromomethane	2400	U	5000	2400	ug/L			01/02/24 22:01	2500
Carbon disulfide	6300	U	13000	6300	ug/L			01/02/24 22:01	2500
Carbon tetrachloride	2400	U	2500	2400	ug/L			01/02/24 22:01	2500
Chlorobenzene	1800	U	2500	1800	ug/L			01/02/24 22:01	2500
Chloroethane	2500	U	5000	2500	ug/L			01/02/24 22:01	2500
Chloroform	2000	U	13000	2000	ug/L			01/02/24 22:01	2500
Chloromethane	2100	U	5000	2100	ug/L			01/02/24 22:01	2500
cis-1,2-Dichloroethene	**3900**		2500	1300	ug/L			01/02/24 22:01	2500
cis-1,3-Dichloropropene	1500	U	2500	1500	ug/L			01/02/24 22:01	2500
Cyclohexane	2300	U	13000	2300	ug/L			01/02/24 22:01	2500
Dibromochloromethane	1300	U	2500	1300	ug/L			01/02/24 22:01	2500
Dichlorodifluoromethane	1900	U	2500	1900	ug/L			01/02/24 22:01	2500
Ethylbenzene	1700	U	2500	1700	ug/L			01/02/24 22:01	2500
Isopropylbenzene	1700	U	5000	1700	ug/L			01/02/24 22:01	2500
m,p-Xylenes	3300	U	5000	3300	ug/L			01/02/24 22:01	2500
Methyl acetate	2400	U	25000	2400	ug/L			01/02/24 22:01	2500
Methyl tert-butyl ether	1500	U	5000	1500	ug/L			01/02/24 22:01	2500
Methylene Chloride	13000	U	25000	13000	ug/L			01/02/24 22:01	2500
o-Xylene	1300	U	2500	1300	ug/L			01/02/24 22:01	2500
Styrene	1500	U	2500	1500	ug/L			01/02/24 22:01	2500
Tetrachloroethene	1900	U	2500	1900	ug/L			01/02/24 22:01	2500
Toluene	1800	U	2500	1800	ug/L			01/02/24 22:01	2500
trans-1,2-Dichloroethene	1800	U	2500	1800	ug/L			01/02/24 22:01	2500
trans-1,3-Dichloropropene	1800	U	2500	1800	ug/L			01/02/24 22:01	2500
Trichloroethene	**210000**		5000	4500	ug/L			01/03/24 19:39	5000
Trichlorofluoromethane	2400	U	2500	2400	ug/L			01/02/24 22:01	2500
Vinyl chloride	1800	U	2500	1800	ug/L			01/02/24 22:01	2500
Xylenes, Total	3300	U	5000	3300	ug/L			01/02/24 22:01	2500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/02/24 22:01*	*2500*
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*		*01/03/24 19:39*	*5000*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/02/24 22:01*	*2500*

Client Sample ID: LC34-RW19C-20231221

Lab Sample ID: 670-32149-13

Date Collected: 12/21/23 09:45

Matrix: Water

Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*112*		*53 - 146*		*01/03/24 19:39*	*5000*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/02/24 22:01*	*2500*
Toluene-d8 (Surr)	*105*		*40 - 146*		*01/03/24 19:39*	*5000*

Client Sample ID: LC34-RW20C-20231221

Lab Sample ID: 670-32149-14

Date Collected: 12/21/23 09:50

Matrix: Water

Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	160	U	200	160	ug/L			01/02/24 20:57	200
1,1,2,2-Tetrachloroethane	110	U	200	110	ug/L			01/02/24 20:57	200
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	400	150	ug/L			01/02/24 20:57	200
1,1,2-Trichloroethane	150	U	400	150	ug/L			01/02/24 20:57	200
1,1-Dichloroethane	120	U	200	120	ug/L			01/02/24 20:57	200
1,1-Dichloroethene	190	U	200	190	ug/L			01/02/24 20:57	200
1,2,4-Trichlorobenzene	140	U	400	140	ug/L			01/02/24 20:57	200
1,2-Dibromo-3-Chloropropane	190	U	2000	190	ug/L			01/02/24 20:57	200
1,2-Dibromoethane (EDB)	160	U	2400	160	ug/L			01/02/24 20:57	200
1,2-Dichlorobenzene	150	U	200	150	ug/L			01/02/24 20:57	200
1,2-Dichloroethane	130	U	200	130	ug/L			01/02/24 20:57	200
1,2-Dichloropropane	160	U	200	160	ug/L			01/02/24 20:57	200
1,3-Dichlorobenzene	150	U	200	150	ug/L			01/02/24 20:57	200
1,4-Dichlorobenzene	150	U	200	150	ug/L			01/02/24 20:57	200
2-Butanone (MEK)	900	U	2000	900	ug/L			01/02/24 20:57	200
2-Hexanone	500	U	4000	500	ug/L			01/02/24 20:57	200
4-Methyl-2-pentanone	1000	U	4000	1000	ug/L			01/02/24 20:57	200
Acetone	5000	U	10000	5000	ug/L			01/02/24 20:57	200
Benzene	140	U	200	140	ug/L			01/02/24 20:57	200
Bromodichloromethane	100	U	200	100	ug/L			01/02/24 20:57	200
Bromoform	150	U	200	150	ug/L			01/02/24 20:57	200
Bromomethane	190	U	400	190	ug/L			01/02/24 20:57	200
Carbon disulfide	500	U	1000	500	ug/L			01/02/24 20:57	200
Carbon tetrachloride	190	U	200	190	ug/L			01/02/24 20:57	200
Chlorobenzene	140	U	200	140	ug/L			01/02/24 20:57	200
Chloroethane	200	U	400	200	ug/L			01/02/24 20:57	200
Chloroform	160	U	1000	160	ug/L			01/02/24 20:57	200
Chloromethane	160	U	400	160	ug/L			01/02/24 20:57	200
cis-1,2-Dichloroethene	**980**		200	110	ug/L			01/02/24 20:57	200
cis-1,3-Dichloropropene	120	U	200	120	ug/L			01/02/24 20:57	200
Cyclohexane	190	U	1000	190	ug/L			01/02/24 20:57	200
Dibromochloromethane	100	U	200	100	ug/L			01/02/24 20:57	200
Dichlorodifluoromethane	150	U	200	150	ug/L			01/02/24 20:57	200
Ethylbenzene	140	U	200	140	ug/L			01/02/24 20:57	200
Isopropylbenzene	130	U	400	130	ug/L			01/02/24 20:57	200
m,p-Xylenes	260	U	400	260	ug/L			01/02/24 20:57	200
Methyl acetate	190	U	2000	190	ug/L			01/02/24 20:57	200
Methyl tert-butyl ether	120	U	400	120	ug/L			01/02/24 20:57	200
Methylene Chloride	1000	U	2000	1000	ug/L			01/02/24 20:57	200

Client Sample ID: LC34-RW20C-20231221

Lab Sample ID: 670-32149-14

Date Collected: 12/21/23 09:50

Matrix: Water

Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	110	U	200	110	ug/L			01/02/24 20:57	200
Styrene	120	U	200	120	ug/L			01/02/24 20:57	200
Tetrachloroethene	150	U	200	150	ug/L			01/02/24 20:57	200
Toluene	140	U	200	140	ug/L			01/02/24 20:57	200
trans-1,2-Dichloroethene	150	U	200	150	ug/L			01/02/24 20:57	200
trans-1,3-Dichloropropene	150	U	200	150	ug/L			01/02/24 20:57	200
Trichloroethene	**12000**		200	180	ug/L			01/02/24 20:57	200
Trichlorofluoromethane	190	U	200	190	ug/L			01/02/24 20:57	200
Vinyl chloride	140	U	200	140	ug/L			01/02/24 20:57	200
Xylenes, Total	260	U	400	260	ug/L			01/02/24 20:57	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/02/24 20:57*	*200*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*01/02/24 20:57*	*200*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/02/24 20:57*	*200*

Client Sample ID: LC34-RW21D-20231221

Lab Sample ID: 670-32149-15

Date Collected: 12/21/23 09:55

Matrix: Water

Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	160	U	200	160	ug/L			01/02/24 20:36	200
1,1,2,2-Tetrachloroethane	110	U	200	110	ug/L			01/02/24 20:36	200
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	400	150	ug/L			01/02/24 20:36	200
1,1,2-Trichloroethane	150	U	400	150	ug/L			01/02/24 20:36	200
1,1-Dichloroethane	120	U	200	120	ug/L			01/02/24 20:36	200
1,1-Dichloroethene	190	U	200	190	ug/L			01/02/24 20:36	200
1,2,4-Trichlorobenzene	140	U	400	140	ug/L			01/02/24 20:36	200
1,2-Dibromo-3-Chloropropane	190	U	2000	190	ug/L			01/02/24 20:36	200
1,2-Dibromoethane (EDB)	160	U	2400	160	ug/L			01/02/24 20:36	200
1,2-Dichlorobenzene	150	U	200	150	ug/L			01/02/24 20:36	200
1,2-Dichloroethane	130	U	200	130	ug/L			01/02/24 20:36	200
1,2-Dichloropropane	160	U	200	160	ug/L			01/02/24 20:36	200
1,3-Dichlorobenzene	150	U	200	150	ug/L			01/02/24 20:36	200
1,4-Dichlorobenzene	150	U	200	150	ug/L			01/02/24 20:36	200
2-Butanone (MEK)	900	U	2000	900	ug/L			01/02/24 20:36	200
2-Hexanone	500	U	4000	500	ug/L			01/02/24 20:36	200
4-Methyl-2-pentanone	1000	U	4000	1000	ug/L			01/02/24 20:36	200
Acetone	5000	U	10000	5000	ug/L			01/02/24 20:36	200
Benzene	140	U	200	140	ug/L			01/02/24 20:36	200
Bromodichloromethane	100	U	200	100	ug/L			01/02/24 20:36	200
Bromoform	150	U	200	150	ug/L			01/02/24 20:36	200
Bromomethane	190	U	400	190	ug/L			01/02/24 20:36	200
Carbon disulfide	500	U	1000	500	ug/L			01/02/24 20:36	200
Carbon tetrachloride	190	U	200	190	ug/L			01/02/24 20:36	200
Chlorobenzene	140	U	200	140	ug/L			01/02/24 20:36	200
Chloroethane	200	U	400	200	ug/L			01/02/24 20:36	200
Chloroform	160	U	1000	160	ug/L			01/02/24 20:36	200
Chloromethane	160	U	400	160	ug/L			01/02/24 20:36	200

Client: Tetra Tech, Inc.
Job ID: 670-32149-1
Project/Site: NASA KSC LC34 - Monthly

Client Sample ID: LC34-RW21D-20231221
Lab Sample ID: 670-32149-15
Date Collected: 12/21/23 09:55
Matrix: Water
Date Received: 12/22/23 10:19

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**3300**		200	110	ug/L			01/02/24 20:36	200
cis-1,3-Dichloropropene	120	U	200	120	ug/L			01/02/24 20:36	200
Cyclohexane	190	U	1000	190	ug/L			01/02/24 20:36	200
Dibromochloromethane	100	U	200	100	ug/L			01/02/24 20:36	200
Dichlorodifluoromethane	150	U	200	150	ug/L			01/02/24 20:36	200
Ethylbenzene	140	U	200	140	ug/L			01/02/24 20:36	200
Isopropylbenzene	130	U	400	130	ug/L			01/02/24 20:36	200
m,p-Xylenes	260	U	400	260	ug/L			01/02/24 20:36	200
Methyl acetate	190	U	2000	190	ug/L			01/02/24 20:36	200
Methyl tert-butyl ether	120	U	400	120	ug/L			01/02/24 20:36	200
Methylene Chloride	1000	U	2000	1000	ug/L			01/02/24 20:36	200
o-Xylene	110	U	200	110	ug/L			01/02/24 20:36	200
Styrene	120	U	200	120	ug/L			01/02/24 20:36	200
Tetrachloroethene	150	U	200	150	ug/L			01/02/24 20:36	200
Toluene	140	U	200	140	ug/L			01/02/24 20:36	200
trans-1,2-Dichloroethene	150	U	200	150	ug/L			01/02/24 20:36	200
trans-1,3-Dichloropropene	150	U	200	150	ug/L			01/02/24 20:36	200
Trichloroethene	**12000**		200	180	ug/L			01/02/24 20:36	200
Trichlorofluoromethane	190	U	200	190	ug/L			01/02/24 20:36	200
Vinyl chloride	140	U	200	140	ug/L			01/02/24 20:36	200
Xylenes, Total	260	U	400	260	ug/L			01/02/24 20:36	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/02/24 20:36*	*200*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*01/02/24 20:36*	*200*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/02/24 20:36*	*200*

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-32149-1
Project/Site: NASA KSC LC34 - Monthly

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
		BFB	DBFM	TOL						
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)						
660-133679-B-4 MS	Matrix Spike	101	102	99						
660-133679-B-4 MSD	Matrix Spike Duplicate	103	104	98						
670-32131-F-1 MS	Matrix Spike	98	102	102						
670-32131-F-1 MSD	Matrix Spike Duplicate	96	101	103						
670-32149-1	LC34-GAC-20231221	102	109	107						
670-32149-2	LC34-AS1-20231221	101	108	108						
670-32149-3	LC34-AS2-20231221	104	108	102						
670-32149-3 - DL	LC34-AS2-20231221	98	108	100						
670-32149-4 - DL	LC34-INFLUENT-20231221	99	110	104						
670-32149-4 - DL	LC34-INFLUENT-20231221	99	109	98						
670-32149-5 - DL	LC34-RW1A-20231221	103	107	103						
670-32149-5 - DL	LC34-RW1A-20231221	121	109	102						
670-32149-6 - DL	LC34-RW1B-20231221	101	106	103						
670-32149-6 - DL	LC34-RW1B-20231221	114	110	102						
670-32149-7 - DL	LC34-RW2A-20231221	103	107	104						
670-32149-8 - DL	LC34-RW2B-20231221	99	107	99						
670-32149-9 - DL	LC34-RW3A-20231221	98	111	101						
670-32149-10 - DL	LC34-RW9A-20231221	97	106	99						
670-32149-10 - DL	LC34-RW9A-20231221	93	111	102						
670-32149-10 MS - DL	LC34-RW9A-20231221	92	113	105						
670-32149-10 MSD - DL	LC34-RW9A-20231221	95	110	102						
670-32149-11 - DL	LC34-RW17C-20231221	96	109	100						
670-32149-12 - DL	LC34-RW18C-20231221	100	109	99						
670-32149-13 - DL	LC34-RW19C-20231221	101	103	101						
670-32149-13 - DL	LC34-RW19C-20231221	93	112	105						
670-32149-14 - DL	LC34-RW20C-20231221	99	108	101						
670-32149-15 - DL	LC34-RW21D-20231221	100	109	100						
670-32388-C-19 MS	Matrix Spike	98	101	100						
670-32388-C-19 MSD	Matrix Spike Duplicate	98	100	98						
LCS 670-69581/5	Lab Control Sample	97	99	101						
LCS 670-69688/5	Lab Control Sample	102	101	100						
LCS 670-69710/4	Lab Control Sample	102	105	98						
LCS 670-69900/5	Lab Control Sample	91	112	105						
MB 670-69581/8	Method Blank	101	108	108						
MB 670-69688/8	Method Blank	102	108	97						
MB 670-69710/7	Method Blank	101	103	99						
MB 670-69900/8	Method Blank	91	110	104						

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-69581/8
Matrix: Water
Analysis Batch: 69581

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/29/23 13:49	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/29/23 13:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/29/23 13:49	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/29/23 13:49	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/29/23 13:49	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/29/23 13:49	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/29/23 13:49	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/29/23 13:49	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/29/23 13:49	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/29/23 13:49	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/29/23 13:49	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/29/23 13:49	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/29/23 13:49	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/29/23 13:49	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/29/23 13:49	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/29/23 13:49	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/29/23 13:49	1
Acetone	25	U	50	25	ug/L			12/29/23 13:49	1
Benzene	0.71	U	1.0	0.71	ug/L			12/29/23 13:49	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/29/23 13:49	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/29/23 13:49	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/29/23 13:49	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/29/23 13:49	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/29/23 13:49	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/29/23 13:49	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/29/23 13:49	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/29/23 13:49	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/29/23 13:49	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/29/23 13:49	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/29/23 13:49	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/29/23 13:49	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/29/23 13:49	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/29/23 13:49	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/29/23 13:49	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/29/23 13:49	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/29/23 13:49	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/29/23 13:49	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/29/23 13:49	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/29/23 13:49	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/29/23 13:49	1
Styrene	0.61	U	1.0	0.61	ug/L			12/29/23 13:49	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/29/23 13:49	1
Toluene	0.72	U	1.0	0.72	ug/L			12/29/23 13:49	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/29/23 13:49	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/29/23 13:49	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/29/23 13:49	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/29/23 13:49	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/29/23 13:49	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-69581/8
Matrix: Water
Analysis Batch: 69581

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/29/23 13:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*12/29/23 13:49*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/29/23 13:49*	*1*
Toluene-d8 (Surr)	*108*		*40 - 146*		*12/29/23 13:49*	*1*

Lab Sample ID: LCS 670-69581/5
Matrix: Water
Analysis Batch: 69581

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	21.7		ug/L		109	57 - 148
1,1,2,2-Tetrachloroethane	20.0	15.4		ug/L		77	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	22.5		ug/L		113	47 - 173
1,1,2-Trichloroethane	20.0	17.8		ug/L		89	57 - 141
1,1-Dichloroethane	20.0	20.7		ug/L		104	57 - 142
1,1-Dichloroethene	20.0	19.3		ug/L		96	47 - 139
1,2,4-Trichlorobenzene	20.0	21.4		ug/L		107	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	13.9		ug/L		70	48 - 150
1,2-Dibromoethane (EDB)	20.0	18.1		ug/L		91	57 - 140
1,2-Dichlorobenzene	20.0	20.1		ug/L		101	63 - 131
1,2-Dichloroethane	20.0	19.2		ug/L		96	50 - 156
1,2-Dichloropropane	20.0	20.0		ug/L		100	61 - 133
1,3-Dichlorobenzene	20.0	20.4		ug/L		102	66 - 129
1,4-Dichlorobenzene	20.0	20.4		ug/L		102	65 - 133
2-Butanone (MEK)	200	151		ug/L		75	10 - 180
2-Hexanone	200	147		ug/L		73	12 - 180
4-Methyl-2-pentanone	200	143		ug/L		72	19 - 180
Acetone	200	138		ug/L		69	10 - 180
Benzene	20.0	20.7		ug/L		103	56 - 136
Bromodichloromethane	20.0	19.5		ug/L		97	58 - 135
Bromoform	20.0	16.6		ug/L		83	46 - 148
Bromomethane	20.0	16.0		ug/L		80	10 - 173
Carbon disulfide	20.0	17.5		ug/L		88	43 - 153
Carbon tetrachloride	20.0	19.4		ug/L		97	54 - 156
Chlorobenzene	20.0	20.4		ug/L		102	51 - 139
Chloroethane	20.0	22.3		ug/L		112	27 - 180
Chloroform	20.0	20.3		ug/L		101	58 - 139
Chloromethane	20.0	18.4		ug/L		92	33 - 154
cis-1,2-Dichloroethene	20.0	18.9		ug/L		94	56 - 128
cis-1,3-Dichloropropene	20.0	17.8		ug/L		89	64 - 128
Cyclohexane	20.0	24.1		ug/L		120	14 - 151
Dibromochloromethane	20.0	18.8		ug/L		94	50 - 140
Dichlorodifluoromethane	20.0	18.6		ug/L		93	10 - 180
Ethylbenzene	20.0	20.6		ug/L		103	63 - 133
Isopropylbenzene	20.0	20.8		ug/L		104	60 - 132
m,p-Xylenes	20.0	21.4		ug/L		107	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-69581/5
Matrix: Water
Analysis Batch: 69581

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	38.9		ug/L		97	70 - 130
Methyl tert-butyl ether	20.0	15.4		ug/L		77	51 - 145
Methylene Chloride	20.0	22.6		ug/L		113	43 - 142
o-Xylene	20.0	20.9		ug/L		105	61 - 129
Styrene	20.0	20.9		ug/L		105	59 - 136
Tetrachloroethene	20.0	21.2		ug/L		106	60 - 147
Toluene	20.0	19.9		ug/L		100	64 - 131
trans-1,2-Dichloroethene	20.0	17.7		ug/L		89	54 - 134
trans-1,3-Dichloropropene	20.0	18.3		ug/L		91	65 - 149
Trichloroethene	20.0	20.6		ug/L		103	62 - 135
Trichlorofluoromethane	20.0	19.6		ug/L		98	56 - 155
Vinyl chloride	20.0	20.2		ug/L		101	20 - 167
Xylenes, Total	40.0	42.3		ug/L		106	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Lab Sample ID: 670-32131-F-1 MS
Matrix: Water
Analysis Batch: 69581

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	19.8		ug/L		99	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	16.8		ug/L		84	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U J3	20.0	16.8		ug/L		84	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	19.9		ug/L		99	57 - 141
1,1-Dichloroethane	0.62	U	20.0	20.1		ug/L		100	57 - 142
1,1-Dichloroethene	0.94	U	20.0	21.0		ug/L		105	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	22.4		ug/L		112	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	16.9		ug/L		84	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	17.3		ug/L		86	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	18.7		ug/L		93	63 - 131
1,2-Dichloroethane	0.63	U	20.0	18.5		ug/L		93	50 - 156
1,2-Dichloropropane	0.80	U	20.0	18.0		ug/L		90	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	18.7		ug/L		94	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	19.6		ug/L		98	65 - 133
2-Butanone (MEK)	4.5	U	200	155		ug/L		78	10 - 180
2-Hexanone	2.5	U	200	158		ug/L		79	12 - 180
4-Methyl-2-pentanone	5.0	U	200	158		ug/L		79	19 - 180
Acetone	25	U	200	152		ug/L		76	10 - 180
Benzene	0.71	U	20.0	19.0		ug/L		95	56 - 136
Bromodichloromethane	0.52	U	20.0	18.8		ug/L		94	58 - 135
Bromoform	0.75	U	20.0	16.3		ug/L		81	46 - 148
Bromomethane	0.95	U	20.0	12.3		ug/L		61	10 - 173
Carbon disulfide	2.5	U J3	20.0	22.1		ug/L		110	43 - 153
Carbon tetrachloride	0.94	U J3	20.0	26.8		ug/L		134	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-32131-F-1 MS
Matrix: Water
Analysis Batch: 69581

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	19.1		ug/L		95	51 - 139
Chloroethane	0.98	U J3	20.0	31.7		ug/L		159	27 - 180
Chloroform	0.80	U	20.0	19.6		ug/L		98	59 - 139
Chloromethane	0.82	U	20.0	21.0		ug/L		105	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	17.2		ug/L		86	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	16.8		ug/L		84	64 - 128
Cyclohexane	1.4	I	20.0	24.6		ug/L		116	14 - 141
Dibromochloromethane	0.50	U	20.0	17.6		ug/L		88	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	19.8		ug/L		99	10 - 180
Ethylbenzene	29		20.0	44.9		ug/L		79	63 - 133
Isopropylbenzene	7.1		20.0	26.4		ug/L		97	60 - 132
m,p-Xylenes	9.4		20.0	24.1		ug/L		74	64 - 133
Methyl acetate	0.95	U	40.0	40.2		ug/L		101	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	12.7		ug/L		63	50 - 150
Methylene Chloride	5.0	U	20.0	19.7		ug/L		98	43 - 142
o-Xylene	10		20.0	24.4		ug/L		70	61 - 129
Styrene	0.61	U	20.0	18.3		ug/L		92	59 - 136
Tetrachloroethene	0.76	U	20.0	20.0		ug/L		100	60 - 147
Toluene	0.84	I	20.0	18.9		ug/L		91	64 - 131
trans-1,2-Dichloroethene	0.73	U J3	20.0	18.3		ug/L		92	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	17.4		ug/L		87	65 - 149
Trichloroethene	0.89	U	20.0	19.7		ug/L		99	62 - 135
Trichlorofluoromethane	0.94	U	20.0	20.5		ug/L		103	56 - 155
Vinyl chloride	0.71	U	20.0	22.0		ug/L		110	20 - 167
Xylenes, Total	19		40.0	48.5		ug/L		73	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Lab Sample ID: 670-32131-F-1 MSD
Matrix: Water
Analysis Batch: 69581

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	18.7		ug/L		93	57 - 148	6	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	15.5		ug/L		77	60 - 139	8	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U J3	20.0	23.3	J3	ug/L		116	50 - 150	33	30
1,1,2-Trichloroethane	0.76	U	20.0	19.4		ug/L		97	57 - 141	2	16
1,1-Dichloroethane	0.62	U	20.0	18.9		ug/L		95	57 - 142	6	24
1,1-Dichloroethene	0.94	U	20.0	20.7		ug/L		104	49 - 139	1	16
1,2,4-Trichlorobenzene	0.70	U	20.0	22.2		ug/L		111	52 - 159	1	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	15.4		ug/L		77	48 - 150	9	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	16.6		ug/L		83	50 - 150	4	16
1,2-Dichlorobenzene	0.73	U	20.0	18.4		ug/L		92	63 - 131	2	25
1,2-Dichloroethane	0.63	U	20.0	17.6		ug/L		88	50 - 156	5	18
1,2-Dichloropropane	0.80	U	20.0	17.2		ug/L		86	61 - 133	5	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-32131-F-1 MSD
Matrix: Water
Analysis Batch: 69581

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U	20.0	18.6		ug/L		93	66 - 129	1	23
1,4-Dichlorobenzene	0.76	U	20.0	18.8		ug/L		94	65 - 133	4	23
2-Butanone (MEK)	4.5	U	200	143		ug/L		71	10 - 180	9	29
2-Hexanone	2.5	U	200	149		ug/L		75	12 - 180	6	28
4-Methyl-2-pentanone	5.0	U	200	150		ug/L		75	19 - 180	5	24
Acetone	25	U	200	157		ug/L		78	10 - 180	3	19
Benzene	0.71	U	20.0	17.7		ug/L		88	56 - 136	7	14
Bromodichloromethane	0.52	U	20.0	17.4		ug/L		87	58 - 135	8	19
Bromoform	0.75	U	20.0	15.4		ug/L		77	46 - 148	5	18
Bromomethane	0.95	U	20.0	12.7		ug/L		63	10 - 173	3	29
Carbon disulfide	2.5	U J3	20.0	15.5	J3	ug/L		77	43 - 153	35	26
Carbon tetrachloride	0.94	U J3	20.0	19.4	J3	ug/L		97	54 - 156	32	27
Chlorobenzene	0.72	U	20.0	18.2		ug/L		91	51 - 139	5	13
Chloroethane	0.98	U J3	20.0	23.3	J3	ug/L		116	27 - 180	31	22
Chloroform	0.80	U	20.0	18.3		ug/L		91	59 - 139	7	17
Chloromethane	0.82	U	20.0	20.2		ug/L		101	33 - 154	4	31
cis-1,2-Dichloroethene	0.53	U	20.0	17.0		ug/L		85	56 - 128	1	17
cis-1,3-Dichloropropene	0.59	U	20.0	15.9		ug/L		79	64 - 128	6	20
Cyclohexane	1.4	I	20.0	22.9		ug/L		108	14 - 141	7	30
Dibromochloromethane	0.50	U	20.0	16.6		ug/L		83	50 - 150	5	18
Dichlorodifluoromethane	0.74	U	20.0	19.2		ug/L		96	10 - 180	3	26
Ethylbenzene	29		20.0	43.1		ug/L		70	63 - 133	4	18
Isopropylbenzene	7.1		20.0	24.9		ug/L		89	60 - 132	6	23
m,p-Xylenes	9.4		20.0	24.2		ug/L		74	64 - 133	1	18
Methyl acetate	0.95	U	40.0	35.8		ug/L		89	50 - 150	12	30
Methyl tert-butyl ether	0.60	U	20.0	14.0		ug/L		70	50 - 150	10	22
Methylene Chloride	5.0	U	20.0	21.2		ug/L		106	43 - 142	7	23
o-Xylene	10		20.0	23.9		ug/L		68	61 - 129	2	16
Styrene	0.61	U	20.0	18.1		ug/L		90	59 - 136	1	32
Tetrachloroethene	0.76	U	20.0	19.2		ug/L		96	60 - 147	4	21
Toluene	0.84	I	20.0	18.5		ug/L		88	64 - 131	2	16
trans-1,2-Dichloroethene	0.73	U J3	20.0	22.7	J3	ug/L		113	54 - 134	21	20
trans-1,3-Dichloropropene	0.73	U	20.0	16.7		ug/L		84	65 - 149	4	17
Trichloroethene	0.89	U	20.0	18.5		ug/L		93	62 - 135	6	20
Trichlorofluoromethane	0.94	U	20.0	19.4		ug/L		97	56 - 155	6	22
Vinyl chloride	0.71	U	20.0	20.5		ug/L		102	20 - 167	7	24
Xylenes, Total	19		40.0	48.1		ug/L		72	50 - 150	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*103*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-69688/8
Matrix: Water
Analysis Batch: 69688

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/02/24 11:27	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/02/24 11:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/02/24 11:27	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/02/24 11:27	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/02/24 11:27	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/02/24 11:27	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/02/24 11:27	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/02/24 11:27	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/02/24 11:27	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/02/24 11:27	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/02/24 11:27	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/02/24 11:27	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/02/24 11:27	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/02/24 11:27	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/02/24 11:27	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/02/24 11:27	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/02/24 11:27	1
Acetone	25	U	50	25	ug/L			01/02/24 11:27	1
Benzene	0.71	U	1.0	0.71	ug/L			01/02/24 11:27	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/02/24 11:27	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/02/24 11:27	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/02/24 11:27	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/02/24 11:27	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/02/24 11:27	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/02/24 11:27	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/02/24 11:27	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/02/24 11:27	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/02/24 11:27	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/02/24 11:27	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/02/24 11:27	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/02/24 11:27	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/02/24 11:27	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/02/24 11:27	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/02/24 11:27	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/02/24 11:27	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/02/24 11:27	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/02/24 11:27	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/02/24 11:27	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/02/24 11:27	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/02/24 11:27	1
Styrene	0.61	U	1.0	0.61	ug/L			01/02/24 11:27	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/02/24 11:27	1
Toluene	0.72	U	1.0	0.72	ug/L			01/02/24 11:27	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/02/24 11:27	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/02/24 11:27	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/02/24 11:27	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/02/24 11:27	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/02/24 11:27	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-69688/8
Matrix: Water
Analysis Batch: 69688

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/02/24 11:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/02/24 11:27*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*01/02/24 11:27*	*1*
Toluene-d8 (Surr)	*97*		*40 - 146*		*01/02/24 11:27*	*1*

Lab Sample ID: LCS 670-69688/5
Matrix: Water
Analysis Batch: 69688

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.4		ug/L		102	57 - 148
1,1,2,2-Tetrachloroethane	20.0	21.1		ug/L		106	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	19.9		ug/L		100	47 - 173
1,1,2-Trichloroethane	20.0	22.0		ug/L		110	57 - 141
1,1-Dichloroethane	20.0	22.1		ug/L		110	57 - 142
1,1-Dichloroethene	20.0	21.6		ug/L		108	47 - 139
1,2,4-Trichlorobenzene	20.0	17.8		ug/L		89	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	18.4		ug/L		92	48 - 150
1,2-Dibromoethane (EDB)	20.0	19.4		ug/L		97	57 - 140
1,2-Dichlorobenzene	20.0	20.2		ug/L		101	63 - 131
1,2-Dichloroethane	20.0	20.7		ug/L		104	50 - 156
1,2-Dichloropropane	20.0	22.5		ug/L		112	61 - 133
1,3-Dichlorobenzene	20.0	20.0		ug/L		100	66 - 129
1,4-Dichlorobenzene	20.0	20.2		ug/L		101	65 - 133
2-Butanone (MEK)	200	192		ug/L		96	10 - 180
2-Hexanone	200	206		ug/L		103	12 - 180
4-Methyl-2-pentanone	200	204		ug/L		102	19 - 180
Acetone	200	192		ug/L		96	10 - 180
Benzene	20.0	21.4		ug/L		107	56 - 136
Bromodichloromethane	20.0	21.6		ug/L		108	58 - 135
Bromoform	20.0	19.8		ug/L		99	46 - 148
Bromomethane	20.0	21.4		ug/L		107	10 - 173
Carbon disulfide	20.0	22.0		ug/L		110	43 - 153
Carbon tetrachloride	20.0	19.9		ug/L		99	54 - 156
Chlorobenzene	20.0	20.7		ug/L		104	51 - 139
Chloroethane	20.0	22.6		ug/L		113	27 - 180
Chloroform	20.0	20.6		ug/L		103	58 - 139
Chloromethane	20.0	20.5		ug/L		103	33 - 154
cis-1,2-Dichloroethene	20.0	21.7		ug/L		109	56 - 128
cis-1,3-Dichloropropene	20.0	20.3		ug/L		101	64 - 128
Cyclohexane	20.0	21.3		ug/L		106	14 - 151
Dibromochloromethane	20.0	19.6		ug/L		98	50 - 140
Dichlorodifluoromethane	20.0	19.5		ug/L		98	10 - 180
Ethylbenzene	20.0	20.3		ug/L		102	63 - 133
Isopropylbenzene	20.0	19.8		ug/L		99	60 - 132
m,p-Xylenes	20.0	19.0		ug/L		95	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-69688/5
Matrix: Water
Analysis Batch: 69688

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	44.8		ug/L		112	70 - 130
Methyl tert-butyl ether	20.0	20.2		ug/L		101	51 - 145
Methylene Chloride	20.0	20.9		ug/L		104	43 - 142
o-Xylene	20.0	18.0		ug/L		90	61 - 129
Styrene	20.0	18.2		ug/L		91	59 - 136
Tetrachloroethene	20.0	21.0		ug/L		105	60 - 147
Toluene	20.0	20.0		ug/L		100	64 - 131
trans-1,2-Dichloroethene	20.0	20.6		ug/L		103	54 - 134
trans-1,3-Dichloropropene	20.0	22.9		ug/L		115	65 - 149
Trichloroethene	20.0	20.2		ug/L		101	62 - 135
Trichlorofluoromethane	20.0	23.3		ug/L		117	56 - 155
Vinyl chloride	20.0	25.1		ug/L		125	20 - 167
Xylenes, Total	40.0	37.0		ug/L		93	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-32388-C-19 MS
Matrix: Water
Analysis Batch: 69688

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	1600	U	40000	44100		ug/L		110	57 - 148
1,1,2,2-Tetrachloroethane	1100	U	40000	43300		ug/L		108	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U	40000	42300		ug/L		106	50 - 150
1,1,2-Trichloroethane	1500	U	40000	45900		ug/L		115	57 - 141
1,1-Dichloroethane	1200	U	40000	46300		ug/L		116	57 - 142
1,1-Dichloroethene	1900	U	40000	44100		ug/L		110	49 - 139
1,2,4-Trichlorobenzene	1400	U	40000	35200		ug/L		88	52 - 159
1,2-Dibromo-3-Chloropropane	1900	U	40000	38300		ug/L		96	48 - 150
1,2-Dibromoethane (EDB)	1600	U	40000	40000		ug/L		100	50 - 150
1,2-Dichlorobenzene	1500	U	40000	40800		ug/L		102	63 - 131
1,2-Dichloroethane	1300	U	40000	41800		ug/L		105	50 - 156
1,2-Dichloropropane	1600	U	40000	45700		ug/L		114	61 - 133
1,3-Dichlorobenzene	1500	U	40000	40300		ug/L		101	66 - 129
1,4-Dichlorobenzene	1500	U	40000	40700		ug/L		102	65 - 133
2-Butanone (MEK)	9000	U	400000	415000		ug/L		104	10 - 180
2-Hexanone	5000	U	400000	449000		ug/L		112	12 - 180
4-Methyl-2-pentanone	10000	U	400000	446000		ug/L		112	19 - 180
Acetone	50000	U	400000	397000		ug/L		99	10 - 180
Benzene	1400	U	40000	45200		ug/L		113	56 - 136
Bromodichloromethane	1000	U	40000	43100		ug/L		108	58 - 135
Bromoform	1500	U	40000	39700		ug/L		99	46 - 148
Bromomethane	1900	U	40000	40900		ug/L		102	10 - 173
Carbon disulfide	5000	U	40000	46600		ug/L		116	43 - 153
Carbon tetrachloride	1900	U	40000	43100		ug/L		108	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-32388-C-19 MS
Matrix: Water
Analysis Batch: 69688

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorobenzene	1400	U	40000	41500		ug/L		104	51 - 139		
Chloroethane	2000	U	40000	44200		ug/L		111	27 - 180		
Chloroform	1600	U	40000	42700		ug/L		107	59 - 139		
Chloromethane	1600	U	40000	37800		ug/L		95	33 - 154		
cis-1,2-Dichloroethene	1800	I	40000	47900		ug/L		115	56 - 128		
cis-1,3-Dichloropropene	1200	U	40000	40900		ug/L		102	64 - 128		
Cyclohexane	1900	U	40000	45000		ug/L		113	14 - 141		
Dibromochloromethane	1000	U	40000	41200		ug/L		103	50 - 150		
Dichlorodifluoromethane	1500	U	40000	37200		ug/L		93	10 - 180		
Ethylbenzene	1400	U	40000	41800		ug/L		105	63 - 133		
Isopropylbenzene	1300	U	40000	41000		ug/L		103	60 - 132		
m,p-Xylenes	2600	U	40000	39600		ug/L		99	64 - 133		
Methyl acetate	1900	U	80000	95400		ug/L		119	50 - 150		
Methyl tert-butyl ether	1200	U	40000	41000		ug/L		103	50 - 150		
Methylene Chloride	10000	U	40000	40400		ug/L		101	43 - 142		
o-Xylene	1100	U	40000	36900		ug/L		92	61 - 129		
Styrene	1200	U	40000	36200		ug/L		90	59 - 136		
Tetrachloroethene	1500	U	40000	44600		ug/L		112	60 - 147		
Toluene	1400	U	40000	41900		ug/L		105	64 - 131		
trans-1,2-Dichloroethene	1500	U	40000	43700		ug/L		109	54 - 134		
trans-1,3-Dichloropropene	1500	U	40000	47000		ug/L		117	65 - 149		
Trichloroethene	1800	U	40000	42700		ug/L		107	62 - 135		
Trichlorofluoromethane	1900	U	40000	47200		ug/L		118	56 - 155		
Vinyl chloride	37000		40000	83700		ug/L		117	20 - 167		
Xylenes, Total	2600	U	80000	76500		ug/L		96	50 - 150		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-32388-C-19 MSD
Matrix: Water
Analysis Batch: 69688

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	1600	U	40000	40400		ug/L		101	57 - 148	9	25
1,1,2,2-Tetrachloroethane	1100	U	40000	44000		ug/L		110	60 - 139	2	17
1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U	40000	39400		ug/L		98	50 - 150	7	30
1,1,2-Trichloroethane	1500	U	40000	43200		ug/L		108	57 - 141	6	16
1,1-Dichloroethane	1200	U	40000	42800		ug/L		107	57 - 142	8	24
1,1-Dichloroethene	1900	U	40000	42100		ug/L		105	49 - 139	5	16
1,2,4-Trichlorobenzene	1400	U	40000	34600		ug/L		86	52 - 159	2	24
1,2-Dibromo-3-Chloropropane	1900	U	40000	37200		ug/L		93	48 - 150	3	21
1,2-Dibromoethane (EDB)	1600	U	40000	39100		ug/L		98	50 - 150	2	16
1,2-Dichlorobenzene	1500	U	40000	38900		ug/L		97	63 - 131	5	25
1,2-Dichloroethane	1300	U	40000	39400		ug/L		98	50 - 156	6	18
1,2-Dichloropropane	1600	U	40000	41800		ug/L		104	61 - 133	9	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-32388-C-19 MSD
Matrix: Water
Analysis Batch: 69688

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	1500	U	40000	38800		ug/L		97	66 - 129	4	23
1,4-Dichlorobenzene	1500	U	40000	37600		ug/L		94	65 - 133	8	23
2-Butanone (MEK)	9000	U	400000	413000		ug/L		103	10 - 180	0	29
2-Hexanone	5000	U	400000	447000		ug/L		112	12 - 180	0	28
4-Methyl-2-pentanone	10000	U	400000	460000		ug/L		115	19 - 180	3	24
Acetone	50000	U	400000	420000		ug/L		105	10 - 180	6	19
Benzene	1400	U	40000	41500		ug/L		104	56 - 136	8	14
Bromodichloromethane	1000	U	40000	39000		ug/L		98	58 - 135	10	19
Bromoform	1500	U	40000	38400		ug/L		96	46 - 148	3	18
Bromomethane	1900	U	40000	44300		ug/L		111	10 - 173	8	29
Carbon disulfide	5000	U	40000	42800		ug/L		107	43 - 153	8	26
Carbon tetrachloride	1900	U	40000	40300		ug/L		101	54 - 156	7	27
Chlorobenzene	1400	U	40000	39500		ug/L		99	51 - 139	5	13
Chloroethane	2000	U	40000	45000		ug/L		112	27 - 180	2	22
Chloroform	1600	U	40000	38900		ug/L		97	59 - 139	9	17
Chloromethane	1600	U	40000	40100		ug/L		100	33 - 154	6	31
cis-1,2-Dichloroethene	1800	I	40000	43200		ug/L		104	56 - 128	10	17
cis-1,3-Dichloropropene	1200	U	40000	36400		ug/L		91	64 - 128	12	20
Cyclohexane	1900	U	40000	41400		ug/L		104	14 - 141	8	30
Dibromochloromethane	1000	U	40000	37800		ug/L		94	50 - 150	9	18
Dichlorodifluoromethane	1500	U	40000	34700		ug/L		87	10 - 180	7	26
Ethylbenzene	1400	U	40000	40100		ug/L		100	63 - 133	4	18
Isopropylbenzene	1300	U	40000	37900		ug/L		95	60 - 132	8	23
m,p-Xylenes	2600	U	40000	36400		ug/L		91	64 - 133	8	18
Methyl acetate	1900	U	80000	98700		ug/L		123	50 - 150	3	30
Methyl tert-butyl ether	1200	U	40000	40100		ug/L		100	50 - 150	2	22
Methylene Chloride	10000	U	40000	40000		ug/L		100	43 - 142	1	23
o-Xylene	1100	U	40000	34800		ug/L		87	61 - 129	6	16
Styrene	1200	U	40000	34300		ug/L		86	59 - 136	5	32
Tetrachloroethene	1500	U	40000	42000		ug/L		105	60 - 147	6	21
Toluene	1400	U	40000	38700		ug/L		97	64 - 131	8	16
trans-1,2-Dichloroethene	1500	U	40000	39900		ug/L		100	54 - 134	9	20
trans-1,3-Dichloropropene	1500	U	40000	43900		ug/L		110	65 - 149	7	17
Trichloroethene	1800	U	40000	39600		ug/L		99	62 - 135	8	20
Trichlorofluoromethane	1900	U	40000	45900		ug/L		115	56 - 155	3	22
Vinyl chloride	37000		40000	85400		ug/L		121	20 - 167	2	24
Xylenes, Total	2600	U	80000	71200		ug/L		89	50 - 150	7	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-69710/7
Matrix: Water
Analysis Batch: 69710

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/02/24 12:50	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/02/24 12:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/02/24 12:50	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/02/24 12:50	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/02/24 12:50	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/02/24 12:50	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/02/24 12:50	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/02/24 12:50	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/02/24 12:50	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/02/24 12:50	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/02/24 12:50	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/02/24 12:50	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/02/24 12:50	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/02/24 12:50	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/02/24 12:50	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/02/24 12:50	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/02/24 12:50	1
Acetone	25	U	50	25	ug/L			01/02/24 12:50	1
Benzene	0.71	U	1.0	0.71	ug/L			01/02/24 12:50	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/02/24 12:50	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/02/24 12:50	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/02/24 12:50	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/02/24 12:50	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/02/24 12:50	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/02/24 12:50	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/02/24 12:50	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/02/24 12:50	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/02/24 12:50	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/02/24 12:50	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/02/24 12:50	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/02/24 12:50	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/02/24 12:50	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/02/24 12:50	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/02/24 12:50	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/02/24 12:50	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/02/24 12:50	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/02/24 12:50	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/02/24 12:50	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/02/24 12:50	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/02/24 12:50	1
Styrene	0.61	U	1.0	0.61	ug/L			01/02/24 12:50	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/02/24 12:50	1
Toluene	0.72	U	1.0	0.72	ug/L			01/02/24 12:50	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/02/24 12:50	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/02/24 12:50	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/02/24 12:50	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/02/24 12:50	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/02/24 12:50	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-69710/7
Matrix: Water
Analysis Batch: 69710

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/02/24 12:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/02/24 12:50*	*1*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/02/24 12:50*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/02/24 12:50*	*1*

Lab Sample ID: LCS 670-69710/4
Matrix: Water
Analysis Batch: 69710

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	22.4		ug/L		112	57 - 148
1,1,2,2-Tetrachloroethane	20.0	18.2		ug/L		91	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	22.5		ug/L		113	47 - 173
1,1,2-Trichloroethane	20.0	18.3		ug/L		91	57 - 141
1,1-Dichloroethane	20.0	23.4		ug/L		117	57 - 142
1,1-Dichloroethene	20.0	18.5		ug/L		93	47 - 139
1,2,4-Trichlorobenzene	20.0	25.0		ug/L		125	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	21.4		ug/L		107	48 - 150
1,2-Dibromoethane (EDB)	20.0	20.8		ug/L		104	57 - 140
1,2-Dichlorobenzene	20.0	23.7		ug/L		118	63 - 131
1,2-Dichloroethane	20.0	20.0		ug/L		100	50 - 156
1,2-Dichloropropane	20.0	23.0		ug/L		115	61 - 133
1,3-Dichlorobenzene	20.0	24.4		ug/L		122	66 - 129
1,4-Dichlorobenzene	20.0	22.7		ug/L		113	65 - 133
2-Butanone (MEK)	200	179		ug/L		89	10 - 180
2-Hexanone	200	167		ug/L		83	12 - 180
4-Methyl-2-pentanone	200	164		ug/L		82	19 - 180
Acetone	200	145		ug/L		72	10 - 180
Benzene	20.0	21.4		ug/L		107	56 - 136
Bromodichloromethane	20.0	19.8		ug/L		99	58 - 135
Bromoform	20.0	22.7		ug/L		113	46 - 148
Bromomethane	20.0	17.2		ug/L		86	10 - 173
Carbon disulfide	20.0	16.2		ug/L		81	43 - 153
Carbon tetrachloride	20.0	25.3		ug/L		126	54 - 156
Chlorobenzene	20.0	21.1		ug/L		105	51 - 139
Chloroethane	20.0	14.4		ug/L		72	27 - 180
Chloroform	20.0	20.2		ug/L		101	58 - 139
Chloromethane	20.0	21.9		ug/L		110	33 - 154
cis-1,2-Dichloroethene	20.0	24.9		ug/L		124	56 - 128
cis-1,3-Dichloropropene	20.0	20.4		ug/L		102	64 - 128
Cyclohexane	20.0	27.0		ug/L		135	14 - 151
Dibromochloromethane	20.0	23.1		ug/L		115	50 - 140
Dichlorodifluoromethane	20.0	17.4		ug/L		87	10 - 180
Ethylbenzene	20.0	20.8		ug/L		104	63 - 133
Isopropylbenzene	20.0	23.5		ug/L		117	60 - 132
m,p-Xylenes	20.0	20.2		ug/L		101	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-69710/4
Matrix: Water
Analysis Batch: 69710

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	41.0		ug/L		102	70 - 130
Methyl tert-butyl ether	20.0	19.1		ug/L		96	51 - 145
Methylene Chloride	20.0	20.4		ug/L		102	43 - 142
o-Xylene	20.0	20.5		ug/L		103	61 - 129
Styrene	20.0	21.4		ug/L		107	59 - 136
Tetrachloroethene	20.0	27.6		ug/L		138	60 - 147
Toluene	20.0	21.3		ug/L		107	64 - 131
trans-1,2-Dichloroethene	20.0	23.1		ug/L		115	54 - 134
trans-1,3-Dichloropropene	20.0	20.4		ug/L		102	65 - 149
Trichloroethene	20.0	24.6		ug/L		123	62 - 135
Trichlorofluoromethane	20.0	16.6		ug/L		83	56 - 155
Vinyl chloride	20.0	25.6		ug/L		128	20 - 167
Xylenes, Total	40.0	40.7		ug/L		102	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*105*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: 660-133679-B-4 MS
Matrix: Water
Analysis Batch: 69710

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	22.1		ug/L		111	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	17.7		ug/L		89	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	21.0		ug/L		105	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	19.8		ug/L		99	57 - 141
1,1-Dichloroethane	0.62	U	20.0	23.5		ug/L		118	57 - 142
1,1-Dichloroethene	0.94	U	20.0	18.5		ug/L		92	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	21.9		ug/L		109	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	19.9		ug/L		100	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	21.1		ug/L		106	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	22.3		ug/L		111	63 - 131
1,2-Dichloroethane	0.63	U	20.0	19.0		ug/L		95	50 - 156
1,2-Dichloropropane	0.80	U	20.0	23.8		ug/L		119	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	22.9		ug/L		115	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	21.1		ug/L		106	65 - 133
2-Butanone (MEK)	4.5	U	200	167		ug/L		83	10 - 180
2-Hexanone	2.5	U	200	168		ug/L		84	12 - 180
4-Methyl-2-pentanone	5.0	U	200	173		ug/L		86	19 - 180
Acetone	25	U	200	144		ug/L		72	10 - 180
Benzene	0.71	U	20.0	21.8		ug/L		109	56 - 136
Bromodichloromethane	0.52	U	20.0	19.6		ug/L		98	58 - 135
Bromoform	0.75	U	20.0	21.9		ug/L		109	46 - 148
Bromomethane	0.95	U	20.0	17.0		ug/L		85	10 - 173
Carbon disulfide	2.5	U	20.0	16.6		ug/L		83	43 - 153
Carbon tetrachloride	0.94	U	20.0	25.0		ug/L		125	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-133679-B-4 MS
Matrix: Water
Analysis Batch: 69710

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	20.5		ug/L		103	51 - 139
Chloroethane	0.98	U	20.0	15.4		ug/L		77	27 - 180
Chloroform	0.80	U	20.0	19.8		ug/L		99	59 - 139
Chloromethane	0.82	U	20.0	26.2		ug/L		131	33 - 154
cis-1,2-Dichloroethene	0.53	U J3	20.0	23.2		ug/L		116	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	20.6		ug/L		103	64 - 128
Cyclohexane	0.93	U	20.0	27.4		ug/L		137	14 - 141
Dibromochloromethane	0.50	U	20.0	23.0		ug/L		115	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	17.0		ug/L		85	10 - 180
Ethylbenzene	0.69	U	20.0	21.2		ug/L		106	63 - 133
Isopropylbenzene	0.67	U	20.0	23.9		ug/L		120	60 - 132
m,p-Xylenes	1.3	U	20.0	20.6		ug/L		103	64 - 133
Methyl acetate	0.95	U	40.0	35.0		ug/L		88	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	18.0		ug/L		90	50 - 150
Methylene Chloride	5.0	U	20.0	20.5		ug/L		103	43 - 142
o-Xylene	0.53	U	20.0	21.0		ug/L		105	61 - 129
Styrene	0.61	U	20.0	21.4		ug/L		107	59 - 136
Tetrachloroethene	0.76	U	20.0	26.7		ug/L		134	60 - 147
Toluene	0.72	U	20.0	21.8		ug/L		109	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	22.6		ug/L		113	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	20.1		ug/L		101	65 - 149
Trichloroethene	0.89	U	20.0	24.8		ug/L		124	62 - 135
Trichlorofluoromethane	0.94	U	20.0	16.9		ug/L		85	56 - 155
Vinyl chloride	0.71	U	20.0	28.3		ug/L		141	20 - 167
Xylenes, Total	1.3	U	40.0	41.6		ug/L		104	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: 660-133679-B-4 MSD
Matrix: Water
Analysis Batch: 69710

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	22.6		ug/L		113	57 - 148	2	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	18.6		ug/L		93	60 - 139	5	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	22.0		ug/L		110	50 - 150	4	30
1,1,2-Trichloroethane	0.76	U	20.0	19.4		ug/L		97	57 - 141	2	16
1,1-Dichloroethane	0.62	U	20.0	25.1		ug/L		125	57 - 142	6	24
1,1-Dichloroethene	0.94	U	20.0	19.9		ug/L		100	49 - 139	8	16
1,2,4-Trichlorobenzene	0.70	U	20.0	24.8		ug/L		124	52 - 159	13	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	19.9		ug/L		100	48 - 150	0	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	21.6		ug/L		108	50 - 150	2	16
1,2-Dichlorobenzene	0.73	U	20.0	23.0		ug/L		115	63 - 131	3	25
1,2-Dichloroethane	0.63	U	20.0	20.4		ug/L		102	50 - 156	7	18
1,2-Dichloropropane	0.80	U	20.0	24.2		ug/L		121	61 - 133	1	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-133679-B-4 MSD
Matrix: Water
Analysis Batch: 69710

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U	20.0	24.5		ug/L		123	66 - 129	7	23
1,4-Dichlorobenzene	0.76	U	20.0	22.4		ug/L		112	65 - 133	6	23
2-Butanone (MEK)	4.5	U	200	176		ug/L		88	10 - 180	5	29
2-Hexanone	2.5	U	200	180		ug/L		90	12 - 180	7	28
4-Methyl-2-pentanone	5.0	U	200	177		ug/L		88	19 - 180	2	24
Acetone	25	U	200	145		ug/L		73	10 - 180	1	19
Benzene	0.71	U	20.0	22.2		ug/L		111	56 - 136	2	14
Bromodichloromethane	0.52	U	20.0	20.4		ug/L		102	58 - 135	4	19
Bromoform	0.75	U	20.0	22.7		ug/L		114	46 - 148	4	18
Bromomethane	0.95	U	20.0	18.3		ug/L		92	10 - 173	8	29
Carbon disulfide	2.5	U	20.0	17.7		ug/L		88	43 - 153	6	26
Carbon tetrachloride	0.94	U	20.0	25.9		ug/L		130	54 - 156	4	27
Chlorobenzene	0.72	U	20.0	21.0		ug/L		105	51 - 139	2	13
Chloroethane	0.98	U	20.0	15.3		ug/L		77	27 - 180	1	22
Chloroform	0.80	U	20.0	21.2		ug/L		106	59 - 139	7	17
Chloromethane	0.82	U	20.0	25.6		ug/L		128	33 - 154	2	31
cis-1,2-Dichloroethene	0.53	U J3	20.0	26.1	J3	ug/L		130	56 - 128	12	17
cis-1,3-Dichloropropene	0.59	U	20.0	20.6		ug/L		103	64 - 128	0	20
Cyclohexane	0.93	U	20.0	27.4		ug/L		137	14 - 141	0	30
Dibromochloromethane	0.50	U	20.0	23.3		ug/L		117	50 - 150	1	18
Dichlorodifluoromethane	0.74	U	20.0	16.9		ug/L		85	10 - 180	1	26
Ethylbenzene	0.69	U	20.0	21.7		ug/L		108	63 - 133	2	18
Isopropylbenzene	0.67	U	20.0	25.1		ug/L		125	60 - 132	5	23
m,p-Xylenes	1.3	U	20.0	21.4		ug/L		107	64 - 133	4	18
Methyl acetate	0.95	U	40.0	36.5		ug/L		91	50 - 150	4	30
Methyl tert-butyl ether	0.60	U	20.0	18.7		ug/L		93	50 - 150	3	22
Methylene Chloride	5.0	U	20.0	21.1		ug/L		105	43 - 142	3	23
o-Xylene	0.53	U	20.0	21.5		ug/L		108	61 - 129	3	16
Styrene	0.61	U	20.0	21.8		ug/L		109	59 - 136	2	32
Tetrachloroethene	0.76	U	20.0	27.1		ug/L		136	60 - 147	2	21
Toluene	0.72	U	20.0	22.2		ug/L		111	64 - 131	1	16
trans-1,2-Dichloroethene	0.73	U	20.0	24.5		ug/L		122	54 - 134	8	20
trans-1,3-Dichloropropene	0.73	U	20.0	20.3		ug/L		101	65 - 149	1	17
Trichloroethene	0.89	U	20.0	25.6		ug/L		128	62 - 135	3	20
Trichlorofluoromethane	0.94	U	20.0	17.6		ug/L		88	56 - 155	4	22
Vinyl chloride	0.71	U	20.0	29.3		ug/L		147	20 - 167	4	24
Xylenes, Total	1.3	U	40.0	42.9		ug/L		107	50 - 150	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*
Dibromofluoromethane (Surr)	*104*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-69900/8
Matrix: Water
Analysis Batch: 69900

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/03/24 11:09	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/03/24 11:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/03/24 11:09	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/03/24 11:09	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/03/24 11:09	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/03/24 11:09	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/03/24 11:09	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/03/24 11:09	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/03/24 11:09	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/03/24 11:09	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/03/24 11:09	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/03/24 11:09	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/03/24 11:09	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/03/24 11:09	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/03/24 11:09	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/03/24 11:09	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/03/24 11:09	1
Acetone	25	U	50	25	ug/L			01/03/24 11:09	1
Benzene	0.71	U	1.0	0.71	ug/L			01/03/24 11:09	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/03/24 11:09	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/03/24 11:09	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/03/24 11:09	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/03/24 11:09	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/03/24 11:09	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/03/24 11:09	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/03/24 11:09	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/03/24 11:09	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/03/24 11:09	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/03/24 11:09	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/03/24 11:09	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/03/24 11:09	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/03/24 11:09	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/03/24 11:09	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/03/24 11:09	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/03/24 11:09	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/03/24 11:09	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/03/24 11:09	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/03/24 11:09	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/03/24 11:09	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/03/24 11:09	1
Styrene	0.61	U	1.0	0.61	ug/L			01/03/24 11:09	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/03/24 11:09	1
Toluene	0.72	U	1.0	0.72	ug/L			01/03/24 11:09	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/03/24 11:09	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/03/24 11:09	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/03/24 11:09	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/03/24 11:09	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/03/24 11:09	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-69900/8
Matrix: Water
Analysis Batch: 69900

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/03/24 11:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*41 - 142*		*01/03/24 11:09*	*1*
Dibromofluoromethane (Surr)	*110*		*53 - 146*		*01/03/24 11:09*	*1*
Toluene-d8 (Surr)	*104*		*40 - 146*		*01/03/24 11:09*	*1*

Lab Sample ID: LCS 670-69900/5
Matrix: Water
Analysis Batch: 69900

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	23.1		ug/L		115	57 - 148
1,1,2,2-Tetrachloroethane	20.0	15.7		ug/L		78	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	22.2		ug/L		111	47 - 173
1,1,2-Trichloroethane	20.0	18.4		ug/L		92	57 - 141
1,1-Dichloroethane	20.0	18.7		ug/L		94	57 - 142
1,1-Dichloroethene	20.0	20.2		ug/L		101	47 - 139
1,2,4-Trichlorobenzene	20.0	20.6		ug/L		103	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	18.4		ug/L		92	48 - 150
1,2-Dibromoethane (EDB)	20.0	20.1		ug/L		100	57 - 140
1,2-Dichlorobenzene	20.0	19.1		ug/L		95	63 - 131
1,2-Dichloroethane	20.0	22.3		ug/L		112	50 - 156
1,2-Dichloropropane	20.0	19.8		ug/L		99	61 - 133
1,3-Dichlorobenzene	20.0	18.4		ug/L		92	66 - 129
1,4-Dichlorobenzene	20.0	18.4		ug/L		92	65 - 133
2-Butanone (MEK)	200	167		ug/L		83	10 - 180
2-Hexanone	200	166		ug/L		83	12 - 180
4-Methyl-2-pentanone	200	151		ug/L		76	19 - 180
Acetone	200	183		ug/L		91	10 - 180
Benzene	20.0	18.8		ug/L		94	56 - 136
Bromodichloromethane	20.0	24.6		ug/L		123	58 - 135
Bromoform	20.0	19.5		ug/L		97	46 - 148
Bromomethane	20.0	19.8		ug/L		99	10 - 173
Carbon disulfide	20.0	21.0		ug/L		105	43 - 153
Carbon tetrachloride	20.0	22.1		ug/L		110	54 - 156
Chlorobenzene	20.0	19.6		ug/L		98	51 - 139
Chloroethane	20.0	18.3		ug/L		92	27 - 180
Chloroform	20.0	23.1		ug/L		116	58 - 139
Chloromethane	20.0	16.1		ug/L		80	33 - 154
cis-1,2-Dichloroethene	20.0	21.1		ug/L		106	56 - 128
cis-1,3-Dichloropropene	20.0	18.0		ug/L		90	64 - 128
Cyclohexane	20.0	17.5		ug/L		87	14 - 151
Dibromochloromethane	20.0	21.1		ug/L		105	50 - 140
Dichlorodifluoromethane	20.0	21.6		ug/L		108	10 - 180
Ethylbenzene	20.0	18.4		ug/L		92	63 - 133
Isopropylbenzene	20.0	17.4		ug/L		87	60 - 132
m,p-Xylenes	20.0	18.5		ug/L		93	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-69900/5
Matrix: Water
Analysis Batch: 69900

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	36.8		ug/L		92	70 - 130
Methyl tert-butyl ether	20.0	20.4		ug/L		102	51 - 145
Methylene Chloride	20.0	21.9		ug/L		110	43 - 142
o-Xylene	20.0	18.7		ug/L		93	61 - 129
Styrene	20.0	21.0		ug/L		105	59 - 136
Tetrachloroethene	20.0	20.9		ug/L		105	60 - 147
Toluene	20.0	20.7		ug/L		103	64 - 131
trans-1,2-Dichloroethene	20.0	20.0		ug/L		100	54 - 134
trans-1,3-Dichloropropene	20.0	19.3		ug/L		97	65 - 149
Trichloroethene	20.0	21.3		ug/L		107	62 - 135
Trichlorofluoromethane	20.0	24.2		ug/L		121	56 - 155
Vinyl chloride	20.0	20.3		ug/L		101	20 - 167
Xylenes, Total	40.0	37.2		ug/L		93	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*41 - 142*
Dibromofluoromethane (Surr)	*112*		*53 - 146*
Toluene-d8 (Surr)	*105*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Lab Sample ID: 670-32149-10 MS
Matrix: Water
Analysis Batch: 69900

Client Sample ID: LC34-RW9A-20231221
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane - DL	40	U	1000	1160		ug/L		116	57 - 148
1,1,2,2-Tetrachloroethane - DL	27	U	1000	778		ug/L		78	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	37	U	1000	1190		ug/L		119	50 - 150
1,1,2-Trichloroethane - DL	38	U	1000	955		ug/L		96	57 - 141
1,1-Dichloroethane - DL	31	U	1000	914		ug/L		91	57 - 142
1,1-Dichloroethene - DL	47	U	1000	1080		ug/L		108	49 - 139
1,2,4-Trichlorobenzene - DL	35	U	1000	872		ug/L		87	52 - 159
1,2-Dibromo-3-Chloropropane - DL	48	U	1000	963		ug/L		96	48 - 150
1,2-Dibromoethane (EDB) - DL	39	U	1000	1040		ug/L		104	50 - 150
1,2-Dichlorobenzene - DL	37	U	1000	873		ug/L		87	63 - 131
1,2-Dichloroethane - DL	32	U	1000	1040		ug/L		104	50 - 156
1,2-Dichloropropane - DL	40	U	1000	989		ug/L		99	61 - 133
1,3-Dichlorobenzene - DL	39	U	1000	913		ug/L		91	66 - 129
1,4-Dichlorobenzene - DL	38	U	1000	867		ug/L		87	65 - 133
2-Butanone (MEK) - DL	230	U	10000	8550		ug/L		85	10 - 180
2-Hexanone - DL	130	U	10000	9170		ug/L		92	12 - 180
4-Methyl-2-pentanone - DL	250	U	10000	8500		ug/L		85	19 - 180
Acetone - DL	1300	U J3	10000	8580		ug/L		86	10 - 180
Benzene - DL	36	U	1000	922		ug/L		92	56 - 136
Bromodichloromethane - DL	26	U	1000	1180		ug/L		118	58 - 135
Bromoform - DL	38	U	1000	920		ug/L		92	46 - 148

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-32149-10 MS
Client Sample ID: LC34-RW9A-20231221
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 69900

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Bromomethane - DL	48	U	1000	987		ug/L		99	10 - 173
Carbon disulfide - DL	130	U	1000	1050		ug/L		105	43 - 153
Carbon tetrachloride - DL	47	U	1000	1130		ug/L		113	54 - 156
Chlorobenzene - DL	36	U	1000	934		ug/L		93	51 - 139
Chloroethane - DL	49	U	1000	912		ug/L		91	27 - 180
Chloroform - DL	40	U	1000	1160		ug/L		116	59 - 139
Chloromethane - DL	41	U	1000	821		ug/L		82	33 - 154
cis-1,2-Dichloroethene - DL	2200		1000	3280		ug/L		106	56 - 128
cis-1,3-Dichloropropene - DL	30	U	1000	875		ug/L		88	64 - 128
Cyclohexane - DL	47	U	1000	930		ug/L		93	14 - 141
Dibromochloromethane - DL	25	U	1000	1100		ug/L		110	50 - 150
Dichlorodifluoromethane - DL	37	U	1000	1140		ug/L		114	10 - 180
Ethylbenzene - DL	35	U	1000	893		ug/L		89	63 - 133
Isopropylbenzene - DL	34	U	1000	871		ug/L		87	60 - 132
m,p-Xylenes - DL	65	U	1000	902		ug/L		90	64 - 133
Methyl acetate - DL	48	U	2000	1930		ug/L		97	50 - 150
Methyl tert-butyl ether - DL	30	U	1000	984		ug/L		98	50 - 150
Methylene Chloride - DL	250	U	1000	1080		ug/L		108	43 - 142
o-Xylene - DL	27	U	1000	866		ug/L		87	61 - 129
Styrene - DL	31	U	1000	955		ug/L		95	59 - 136
Tetrachloroethene - DL	38	U	1000	1160		ug/L		116	60 - 147
Toluene - DL	36	U	1000	979		ug/L		98	64 - 131
trans-1,2-Dichloroethene - DL	55		1000	1090		ug/L		103	54 - 134
trans-1,3-Dichloropropene - DL	37	U	1000	1000		ug/L		100	65 - 149
Trichloroethene - DL	45	U	1000	1090		ug/L		109	62 - 135
Trichlorofluoromethane - DL	47	U	1000	1240		ug/L		124	56 - 155
Vinyl chloride - DL	1500		1000	2500		ug/L		102	20 - 167
Xylenes, Total - DL	65	U	2000	1770		ug/L		88	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*92*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*113*		*53 - 146*
Toluene-d8 (Surr) - DL	*105*		*40 - 146*

Lab Sample ID: 670-32149-10 MSD
Client Sample ID: LC34-RW9A-20231221
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 69900

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane - DL	40	U	1000	1040		ug/L		104	57 - 148	11	25
1,1,2,2-Tetrachloroethane - DL	27	U	1000	753		ug/L		75	60 - 139	3	17
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	37	U	1000	1080		ug/L		108	50 - 150	9	30
1,1,2-Trichloroethane - DL	38	U	1000	891		ug/L		89	57 - 141	7	16
1,1-Dichloroethane - DL	31	U	1000	835		ug/L		83	57 - 142	9	24
1,1-Dichloroethene - DL	47	U	1000	956		ug/L		96	49 - 139	12	16
1,2,4-Trichlorobenzene - DL	35	U	1000	860		ug/L		86	52 - 159	1	24

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-32149-10 MSD
Client Sample ID: LC34-RW9A-20231221
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 69900

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane - DL	48	U	1000	887		ug/L		89	48 - 150	8	21
1,2-Dibromoethane (EDB) - DL	39	U	1000	947		ug/L		95	50 - 150	10	16
1,2-Dichlorobenzene - DL	37	U	1000	844		ug/L		84	63 - 131	3	25
1,2-Dichloroethane - DL	32	U	1000	986		ug/L		99	50 - 156	5	18
1,2-Dichloropropane - DL	40	U	1000	916		ug/L		92	61 - 133	8	26
1,3-Dichlorobenzene - DL	39	U	1000	884		ug/L		88	66 - 129	3	23
1,4-Dichlorobenzene - DL	38	U	1000	814		ug/L		81	65 - 133	6	23
2-Butanone (MEK) - DL	230	U	10000	7290		ug/L		73	10 - 180	16	29
2-Hexanone - DL	130	U	10000	7790		ug/L		78	12 - 180	16	28
4-Methyl-2-pentanone - DL	250	U	10000	7350		ug/L		73	19 - 180	15	24
Acetone - DL	1300	U J3	10000	7020	J3	ug/L		70	10 - 180	20	19
Benzene - DL	36	U	1000	860		ug/L		86	56 - 136	7	14
Bromodichloromethane - DL	26	U	1000	1060		ug/L		106	58 - 135	10	19
Bromoform - DL	38	U	1000	871		ug/L		87	46 - 148	6	18
Bromomethane - DL	48	U	1000	1050		ug/L		105	10 - 173	6	29
Carbon disulfide - DL	130	U	1000	977		ug/L		98	43 - 153	7	26
Carbon tetrachloride - DL	47	U	1000	1010		ug/L		101	54 - 156	11	27
Chlorobenzene - DL	36	U	1000	890		ug/L		89	51 - 139	5	13
Chloroethane - DL	49	U	1000	852		ug/L		85	27 - 180	7	22
Chloroform - DL	40	U	1000	1060		ug/L		106	59 - 139	9	17
Chloromethane - DL	41	U	1000	725		ug/L		72	33 - 154	12	31
cis-1,2-Dichloroethene - DL	2200		1000	3070		ug/L		85	56 - 128	6	17
cis-1,3-Dichloropropene - DL	30	U	1000	832		ug/L		83	64 - 128	5	20
Cyclohexane - DL	47	U	1000	848		ug/L		85	14 - 141	9	30
Dibromochloromethane - DL	25	U	1000	1010		ug/L		101	50 - 150	9	18
Dichlorodifluoromethane - DL	37	U	1000	967		ug/L		97	10 - 180	17	26
Ethylbenzene - DL	35	U	1000	847		ug/L		85	63 - 133	5	18
Isopropylbenzene - DL	34	U	1000	851		ug/L		85	60 - 132	2	23
m,p-Xylenes - DL	65	U	1000	847		ug/L		85	64 - 133	6	18
Methyl acetate - DL	48	U	2000	1720		ug/L		86	50 - 150	11	30
Methyl tert-butyl ether - DL	30	U	1000	875		ug/L		87	50 - 150	12	22
Methylene Chloride - DL	250	U	1000	987		ug/L		99	43 - 142	9	23
o-Xylene - DL	27	U	1000	847		ug/L		85	61 - 129	2	16
Styrene - DL	31	U	1000	924		ug/L		92	59 - 136	3	32
Tetrachloroethene - DL	38	U	1000	1050		ug/L		105	60 - 147	10	21
Toluene - DL	36	U	1000	851		ug/L		85	64 - 131	14	16
trans-1,2-Dichloroethene - DL	55		1000	958		ug/L		90	54 - 134	13	20
trans-1,3-Dichloropropene - DL	37	U	1000	896		ug/L		90	65 - 149	11	17
Trichloroethene - DL	45	U	1000	996		ug/L		100	62 - 135	9	20
Trichlorofluoromethane - DL	47	U	1000	1140		ug/L		114	56 - 155	8	22
Vinyl chloride - DL	1500		1000	2210		ug/L		73	20 - 167	12	24
Xylenes, Total - DL	65	U	2000	1690		ug/L		85	50 - 150	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*95*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*110*		*53 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-32149-10 MSD
Client Sample ID: LC34-RW9A-20231221
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 69900

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr) - DL	102		40 - 146

QC Association Summary

Client: Tetra Tech, Inc.
Job ID: 670-32149-1
Project/Site: NASA KSC LC34 - Monthly

GC/MS VOA

Analysis Batch: 69581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-32149-1	LC34-GAC-20231221	Total/NA	Water	8260D	
670-32149-2	LC34-AS1-20231221	Total/NA	Water	8260D	
670-32149-3	LC34-AS2-20231221	Total/NA	Water	8260D	
670-32149-4 - DL	LC34-INFLUENT-20231221	Total/NA	Water	8260D	
670-32149-5 - DL	LC34-RW1A-20231221	Total/NA	Water	8260D	
670-32149-6 - DL	LC34-RW1B-20231221	Total/NA	Water	8260D	
670-32149-7 - DL	LC34-RW2A-20231221	Total/NA	Water	8260D	
MB 670-69581/8	Method Blank	Total/NA	Water	8260D	
LCS 670-69581/5	Lab Control Sample	Total/NA	Water	8260D	
670-32131-F-1 MS	Matrix Spike	Total/NA	Water	8260D	
670-32131-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 69688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-32149-3 - DL	LC34-AS2-20231221	Total/NA	Water	8260D	
670-32149-5 - DL	LC34-RW1A-20231221	Total/NA	Water	8260D	
670-32149-6 - DL	LC34-RW1B-20231221	Total/NA	Water	8260D	
MB 670-69688/8	Method Blank	Total/NA	Water	8260D	
LCS 670-69688/5	Lab Control Sample	Total/NA	Water	8260D	
670-32388-C-19 MS	Matrix Spike	Total/NA	Water	8260D	
670-32388-C-19 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 69710

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-32149-4 - DL	LC34-INFLUENT-20231221	Total/NA	Water	8260D	
670-32149-8 - DL	LC34-RW2B-20231221	Total/NA	Water	8260D	
670-32149-9 - DL	LC34-RW3A-20231221	Total/NA	Water	8260D	
670-32149-10 - DL	LC34-RW9A-20231221	Total/NA	Water	8260D	
670-32149-11 - DL	LC34-RW17C-20231221	Total/NA	Water	8260D	
670-32149-12 - DL	LC34-RW18C-20231221	Total/NA	Water	8260D	
670-32149-13 - DL	LC34-RW19C-20231221	Total/NA	Water	8260D	
670-32149-14 - DL	LC34-RW20C-20231221	Total/NA	Water	8260D	
670-32149-15 - DL	LC34-RW21D-20231221	Total/NA	Water	8260D	
MB 670-69710/7	Method Blank	Total/NA	Water	8260D	
LCS 670-69710/4	Lab Control Sample	Total/NA	Water	8260D	
660-133679-B-4 MS	Matrix Spike	Total/NA	Water	8260D	
660-133679-B-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 69900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-32149-10 - DL	LC34-RW9A-20231221	Total/NA	Water	8260D	
670-32149-13 - DL	LC34-RW19C-20231221	Total/NA	Water	8260D	
MB 670-69900/8	Method Blank	Total/NA	Water	8260D	
LCS 670-69900/5	Lab Control Sample	Total/NA	Water	8260D	
670-32149-10 MS - DL	LC34-RW9A-20231221	Total/NA	Water	8260D	
670-32149-10 MSD - DL	LC34-RW9A-20231221	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-32149-1
Project/Site: NASA KSC LC34 - Monthly

Client Sample ID: LC34-GAC-20231221
Lab Sample ID: 670-32149-1
Date Collected: 12/21/23 08:45
Matrix: Water
Date Received: 12/22/23 10:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	69581	ES	EET ORL	12/29/23 18:40

Client Sample ID: LC34-AS1-20231221
Lab Sample ID: 670-32149-2
Date Collected: 12/21/23 08:50
Matrix: Water
Date Received: 12/22/23 10:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	69581	ES	EET ORL	12/29/23 18:57

Client Sample ID: LC34-AS2-20231221
Lab Sample ID: 670-32149-3
Date Collected: 12/21/23 08:55
Matrix: Water
Date Received: 12/22/23 10:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	69688	KG	EET ORL	01/02/24 14:52
Total/NA	Analysis	8260D		1	69581	ES	EET ORL	12/29/23 19:14

Client Sample ID: LC34-INFLUENT-20231221
Lab Sample ID: 670-32149-4
Date Collected: 12/21/23 09:00
Matrix: Water
Date Received: 12/22/23 10:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	69581	ES	EET ORL	12/29/23 20:22
Total/NA	Analysis	8260D	DL	500	69710	T1Y	EET ORL	01/02/24 19:33

Client Sample ID: LC34-RW1A-20231221
Lab Sample ID: 670-32149-5
Date Collected: 12/21/23 09:05
Matrix: Water
Date Received: 12/22/23 10:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	69688	KG	EET ORL	01/02/24 18:15
Total/NA	Analysis	8260D	DL	100	69581	ES	EET ORL	12/29/23 19:31

Client Sample ID: LC34-RW1B-20231221
Lab Sample ID: 670-32149-6
Date Collected: 12/21/23 09:10
Matrix: Water
Date Received: 12/22/23 10:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	69688	KG	EET ORL	01/02/24 17:57
Total/NA	Analysis	8260D	DL	100	69581	ES	EET ORL	12/29/23 19:48

Client Sample ID: LC34-RW2A-20231221
Lab Sample ID: 670-32149-7
Date Collected: 12/21/23 09:15
Matrix: Water
Date Received: 12/22/23 10:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	69581	ES	EET ORL	12/29/23 20:05

Client Sample ID: LC34-RW2B-20231221
Lab Sample ID: 670-32149-8
Date Collected: 12/21/23 09:20
Matrix: Water
Date Received: 12/22/23 10:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	69710	T1Y	EET ORL	01/02/24 19:54

Client Sample ID: LC34-RW3A-20231221
Lab Sample ID: 670-32149-9
Date Collected: 12/21/23 09:25
Matrix: Water
Date Received: 12/22/23 10:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	50	69710	T1Y	EET ORL	01/02/24 20:15

Client Sample ID: LC34-RW9A-20231221
Lab Sample ID: 670-32149-10
Date Collected: 12/21/23 09:30
Matrix: Water
Date Received: 12/22/23 10:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	50	69900	KG	EET ORL	01/03/24 11:32
Total/NA	Analysis	8260D	DL	25	69710	T1Y	EET ORL	01/02/24 19:11

Client Sample ID: LC34-RW17C-20231221
Lab Sample ID: 670-32149-11
Date Collected: 12/21/23 09:35
Matrix: Water
Date Received: 12/22/23 10:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2000	69710	T1Y	EET ORL	01/02/24 21:40

Client Sample ID: LC34-RW18C-20231221
Lab Sample ID: 670-32149-12
Date Collected: 12/21/23 09:40
Matrix: Water
Date Received: 12/22/23 10:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	69710	T1Y	EET ORL	01/02/24 21:18

Client Sample ID: LC34-RW19C-20231221
Lab Sample ID: 670-32149-13
Date Collected: 12/21/23 09:45
Matrix: Water
Date Received: 12/22/23 10:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5000	69900	KG	EET ORL	01/03/24 19:39
Total/NA	Analysis	8260D	DL	2500	69710	T1Y	EET ORL	01/02/24 22:01

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-32149-1
Project/Site: NASA KSC LC34 - Monthly

Client Sample ID: LC34-RW20C-20231221
Lab Sample ID: 670-32149-14
Date Collected: 12/21/23 09:50
Matrix: Water
Date Received: 12/22/23 10:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	69710	T1Y	EET ORL	01/02/24 20:57

Client Sample ID: LC34-RW21D-20231221
Lab Sample ID: 670-32149-15
Date Collected: 12/21/23 09:55
Matrix: Water
Date Received: 12/22/23 10:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	69710	T1Y	EET ORL	01/02/24 20:36

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-32149-1
Project/Site: NASA KSC LC34 - Monthly

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-32149-1
Project/Site: NASA KSC LC34 - Monthly

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-32149-1
Project/Site: NASA KSC LC34 - Monthly

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-32149-1	LC34-GAC-20231221	Water	12/21/23 08:45	12/22/23 10:19
670-32149-2	LC34-AS1-20231221	Water	12/21/23 08:50	12/22/23 10:19
670-32149-3	LC34-AS2-20231221	Water	12/21/23 08:55	12/22/23 10:19
670-32149-4	LC34-INFLUENT-20231221	Water	12/21/23 09:00	12/22/23 10:19
670-32149-5	LC34-RW1A-20231221	Water	12/21/23 09:05	12/22/23 10:19
670-32149-6	LC34-RW1B-20231221	Water	12/21/23 09:10	12/22/23 10:19
670-32149-7	LC34-RW2A-20231221	Water	12/21/23 09:15	12/22/23 10:19
670-32149-8	LC34-RW2B-20231221	Water	12/21/23 09:20	12/22/23 10:19
670-32149-9	LC34-RW3A-20231221	Water	12/21/23 09:25	12/22/23 10:19
670-32149-10	LC34-RW9A-20231221	Water	12/21/23 09:30	12/22/23 10:19
670-32149-11	LC34-RW17C-20231221	Water	12/21/23 09:35	12/22/23 10:19
670-32149-12	LC34-RW18C-20231221	Water	12/21/23 09:40	12/22/23 10:19
670-32149-13	LC34-RW19C-20231221	Water	12/21/23 09:45	12/22/23 10:19
670-32149-14	LC34-RW20C-20231221	Water	12/21/23 09:50	12/22/23 10:19
670-32149-15	LC34-RW21D-20231221	Water	12/21/23 09:55	12/22/23 10:19

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

Client Contact Info

Name:
Chuck Sorden
Address :
1353 N Courtenay Pkwy, Suite S
Address 2:
City, State Zip: Merritt Island, Florida 32953
Phone:
Deliverables:
Special Instructions:

Client Contact Info

Company: Tetra Tech, Inc.
Purchase Order: 1179322
Work Order: 112G08985
Email: Chuck.Sorden@tetratech.com
Proposed Due Date:
Project Manager Dylnicki, Kaitlin
Project Reference:
Site Name: NASA KSC LC34
Sampler: Chuck Sorden
Description: LC34 202312 Monthly System Samples

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-GAC-20231221	Grab	Water	12/21/2023 08:45	FL			X	3	3
2	LC34-AS1-20231221	Grab	Water	12/21/2023 08:50	FL			X	3	3
3	LC34-AS2-20231221	Grab	Water	12/21/2023 08:55	FL			X	3	3
4	LC34-INFLUENT-20231221	Grab	Water	12/21/2023 09:00	FL			X	3	3
5	LC34-RW1A-20231221	Grab	Water	12/21/2023 09:05	FL			X	3	3
6	LC34-RW1B-20231221	Grab	Water	12/21/2023 09:10	FL			X	3	3
7	LC34-RW2A-20231221	Grab	Water	12/21/2023 09:15	FL			X	3	3
8	LC34-RW2B-20231221	Grab	Water	12/21/2023 09:20	FL			X	3	3
9	LC34-RW3A-20231221	Grab	Water	12/21/2023 09:25	FL			X	3	3
10	LC34-RW9A-20231221	Grab	Water	12/21/2023 09:30	FL			X	3	3

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

Client Contact Info

Name:
Chuck Sorden
Address :
1353 N Courtenay Pkwy, Suite S
Address 2:
City, State Zip: Merritt Island, Florida 32953
Phone:
Deliverables:
Special Instructions:

Client Contact Info

Company: Tetra Tech, Inc.
Purchase Order: 1179322
Work Order: 112G08985
Email: Chuck.Sorden@tetratech.com
Proposed Due Date:
Project Manager Dylnicki, Kaitlin
Project Reference:
Site Name: NASA KSC LC34
Sampler: Chuck Sorden
Description: LC34 202312 Monthly System Samples

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
11	LC34-RW17C-20231221	Grab	Water	12/21/2023 09:35	FL			X	3	3
12	LC34-RW18C-20231221	Grab	Water	12/21/2023 09:40	FL			X	3	3
13	LC34-RW19C-20231221	Grab	Water	12/21/2023 09:45	FL			X	3	3
14	LC34-RW20C-20231221	Grab	Water	12/21/2023 09:50	FL			X	3	3
15	LC34-RW21D-20231221	Grab	Water	12/21/2023 09:55	FL			X	3	3

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	12/21/23 14:42	Chuck Sorden	12/21/23 15:32	Clerisier, Meline	12/22/23 10:19

Chain of Custody Sample Data

LC34-GAC-20231221

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]**:** 12/21/2023 08:45 **Time Zone:** Eastern

[1] All collection times displayed in 24 hour format.

Chain of Custody Number: **239577** Page 59 of 63 Page 2 of 3 1/12/2024

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ☐ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name:
Chuck Sorden
Address :
1353 N Courtenay Pkwy, Suite S
Address 2:
City, State Zip:
Merritt Island,
Florida 32953
Phone:
Deliverables:
Special Instructions:

Client Contact Info

Company:
Tetra Tech, Inc.
Purchase Order:
1179322
Work Order:
112G08985
Email:
Chuck.Sorden@tetratech.com
Proposed Due Date:
Project Manager
Dylnicki, Kaitlin
Project Reference:
Site Name:
NASA KSC LC34
Sampler:
Chuck Sorden
Description:
LC34 202312 Monthly System Samples

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	670-32149 Chain of Custody	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-GAC-20231221	Grab	Water	12/21/2023 08:45	FL			X		3	3
2	LC34-AS1-20231221	Grab	Water	12/21/2023 08:50	FL			X		3	3
3	LC34-AS2-20231221	Grab	Water	12/21/2023 08:55	FL			X		3	3
4	LC34-INFLUENT-20231221	Grab	Water	12/21/2023 09:00	FL			X		3	3
5	LC34-RW1A-20231221	Grab	Water	12/21/2023 09:05	FL			X		3	3
6	LC34-RW1B-20231221	Grab	Water	12/21/2023 09:10	FL			X		3	3
7	LC34-RW2A-20231221	Grab	Water	12/21/2023 09:15	FL			X		3	3
8	LC34-RW2B-20231221	Grab	Water	12/21/2023 09:20	FL			X		3	3
9	LC34-RW3A-20231221	Grab	Water	12/21/2023 09:25	FL			X		3	3
10	LC34-RW9A-20231221	Grab	Water	12/21/2023 09:30	FL			X		3	3

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ☐ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name: Chuck Sorden
Address : 1353 N Courtenay Pkwy, Suite S
Address 2:
City, State Zip: Merritt Island, Florida 32953
Phone:
Deliverables:
Special Instructions:

Client Contact Info

Company: Tetra Tech, Inc.
Project Manager Dylnicki, Kaitlin
Purchase Order: 1179322
Project Reference:
Work Order: 112G08985
Site Name: NASA KSC LC34
Email: Chuck.Sorden@tetratech.com
Sampler: Chuck Sorden
Proposed Due Date:
Description: LC34 202312 Monthly System Samples

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
11	LC34-RW17C-20231221	Grab	Water	12/21/2023 09:35	FL			X	3	3
12	LC34-RW18C-20231221	Grab	Water	12/21/2023 09:40	FL			X	3	3
13	LC34-RW19C-20231221	Grab	Water	12/21/2023 09:45	FL			X	3	3
14	LC34-RW20C-20231221	Grab	Water	12/21/2023 09:50	FL			X	3	3
15	LC34-RW21D-20231221	Grab	Water	12/21/2023 09:55	FL			X	3	3

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:	
Chuck Sorden	12/21/23 14:42	Chuck Sorden	12/21/23 15:32	Clerisier, Meline	12/22/23 10:19	0.6 / 0.4

596

Chain of Custody Sample Data

LC34-GAC-20231221

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]: 12/21/2023 08:45 **Time Zone:** Eastern

[1] All collection times displayed in 24 hour format.

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-32149-1

Login Number: 32149

List Number: 1

Creator: Clerisier, Meline

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34 - AMB Airs
Air Toxics - 2312558

JOB NUMBER

670-32313-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

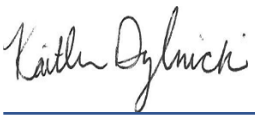
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

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Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-32313-1 Eurofins Orlando

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-32313-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/28/2023 1:38 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice.

Subcontract Work
Method LC34 TO15: This method was subcontracted to Eurofins Air Toxics, Inc. The subcontract laboratory certification is different from that of the facility issuing the final report. The subcontract report is appended in its entirety.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 - AMB Airs

Job ID: 670-32313-1
SDG: Air Toxics - 2312558

Client Sample ID: LC34-AMB0002-20231221 — Lab Sample ID: 670-32313-1

No Detections.

Client Sample ID: LC34-AMB0001-20231221 — Lab Sample ID: 670-32313-2

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 - AMB Airs

Job ID: 670-32313-1
SDG: Air Toxics - 2312558

Method	Method Description	Protocol	Laboratory
Subcontract	LC34 TO15	None	Eurofins

Protocol References:

None = None

Laboratory References:

Eurofins = Eurofins Air Toxics, 180 Blue Ravine Road, Suite B, Folsom, CA 95630

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 - AMB Airs

Job ID: 670-32313-1
SDG: Air Toxics - 2312558

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-32313-1	LC34-AMB0002-20231221	Air	12/21/23 07:45	12/28/23 13:38
670-32313-2	LC34-AMB0001-20231221	Air	12/21/23 07:50	12/28/23 13:38

1/3/2024
Ms. Kaitlin Dylnicki
Eurofins Environment Testing
481 Newburyport Ave

Altamonte Springs FL 32701

Project Name: NASA KSC LC34
Project #: 112G08985
Workorder #: 2312558

Dear Ms. Kaitlin Dylnicki

The following report includes the data for the above referenced project for sample(s) received on 12/22/2023 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics LLC. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Brian Whittaker at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Brian Whittaker

Project Manager

WORK ORDER #: 2312558

Work Order Summary

CLIENT:	Ms. Kaitlin Dylnicki Eurofins Environment Testing 481 Newburyport Ave Altamonte Springs, FL 32701	**BILL TO:**	Ms. Kaitlin Dylnicki Eurofins Environment Testing 481 Newburyport Ave Altamonte Springs, FL 32701
PHONE:		**P.O. #**	
FAX:		**PROJECT #**	112G08985 NASA KSC LC34
DATE RECEIVED:	12/22/2023	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	01/03/2024		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	LC34-AMB0002-20231221	TO-15	3.7 "Hg	2 psi
02A	LC34-AMB0001-20231221	TO-15	1.8 "Hg	2 psi
02AA	LC34-AMB0001-20231221 Lab Duplicate	TO-15	1.8 "Hg	2 psi
03A	Lab Blank	TO-15	NA	NA
04A	CCV	TO-15	NA	NA
05A	LCS	TO-15	NA	NA
05AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 01/03/24

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA ELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-017
Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, LLC.

LABORATORY NARRATIVE
EPA Method TO-15
Eurofins Environment Testing
Workorder# 2312558

Two 6 Liter Summa Canister (100% Certified) samples were received on December 22, 2023. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

Receiving Notes

Eurofins Air Toxics LIMS currently does not accommodate for specific Florida flagging data qualifiers. Results will therefore be qualified as applicable using laboratory flags. Data qualifier flags are defined in the case narrative of the final report.

Analytical Notes

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified may be false positives.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

Client ID:	LC34-AMB0002-20231221		
Lab ID:	2312558-01A	**Date/Time Analyzed:**	1/3/24 11:18 AM
Date/Time Collected:	12/21/23 03:25 PM	**Dilution Factor:**	1.30
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd91.i / 91010307

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.86	3.2	3.5	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.5	4.0	4.5	Not Detected
1,1,2-Trichloroethane	79-00-5	1.2	3.2	3.5	Not Detected
1,1-Dichloroethane	75-34-3	0.58	2.4	2.6	Not Detected
1,1-Dichloroethene	75-35-4	1.3	2.3	2.6	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.6	14	19	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.6	4.5	5.0	Not Detected
1,2-Dichlorobenzene	95-50-1	1.0	3.5	3.9	Not Detected
1,2-Dichloroethane	107-06-2	0.90	2.4	2.6	Not Detected
1,2-Dichloropropane	78-87-5	0.82	2.7	3.0	Not Detected
1,3-Dichlorobenzene	541-73-1	0.91	3.5	3.9	Not Detected
1,4-Dichlorobenzene	106-46-7	1.3	3.5	3.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.3	5.8	7.7	Not Detected
2-Hexanone	591-78-6	3.0	8.0	11	Not Detected
4-Methyl-2-pentanone	108-10-1	1.0	2.4	2.7	Not Detected
Acetone	67-64-1	4.3	12	15	6.1 J
Benzene	71-43-2	0.49	1.9	2.1	Not Detected
Bromodichloromethane	75-27-4	1.4	3.9	4.4	Not Detected
Bromoform	75-25-2	2.6	6.0	6.7	Not Detected
Bromomethane	74-83-9	4.5	7.6	25	Not Detected
Carbon Disulfide	75-15-0	1.5	6.1	8.1	Not Detected
Carbon Tetrachloride	56-23-5	1.3	3.7	4.1	Not Detected
Chlorobenzene	108-90-7	0.63	2.7	3.0	Not Detected
Chloroethane	75-00-3	2.4	5.1	6.9	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

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Client ID:	LC34-AMB0002-20231221		
Lab ID:	2312558-01A	**Date/Time Analyzed:**	1/3/24 11:18 AM
Date/Time Collected:	12/21/23 03:25 PM	**Dilution Factor:**	1.30
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd91.i / 91010307

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	67-66-3	0.72	2.8	3.2	Not Detected
Chloromethane	74-87-3	2.3	4.0	13	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.56	2.3	2.6	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.72	2.6	3.0	Not Detected
Cyclohexane	110-82-7	0.82	2.0	2.2	Not Detected
Dibromochloromethane	124-48-1	1.6	5.0	5.5	Not Detected
Ethyl Benzene	100-41-4	0.67	2.5	2.8	Not Detected
Freon 11	75-69-4	1.2	3.3	3.6	1.5 J
Freon 113	76-13-1	1.1	4.5	5.0	Not Detected
Freon 12	75-71-8	1.5	2.9	3.2	3.2
m,p-Xylene	108-38-3	0.40	2.5	5.6	Not Detected
Methyl tert-butyl ether	1634-04-4	1.7	7.0	9.4	Not Detected
Methylene Chloride	75-09-2	1.9	6.8	22	Not Detected
o-Xylene	95-47-6	0.68	2.5	2.8	Not Detected
Styrene	100-42-5	0.49	2.5	2.8	Not Detected
Tetrachloroethene	127-18-4	1.1	4.0	4.4	Not Detected
Toluene	108-88-3	0.61	2.2	4.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.2	2.3	2.6	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.45	2.6	3.0	Not Detected
Trichloroethene	79-01-6	1.0	3.1	3.5	Not Detected
Vinyl Chloride	75-01-4	1.4	1.5	1.7	Not Detected

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

Client ID:	LC34-AMB0002-20231221		
Lab ID:	2312558-01A	**Date/Time Analyzed:**	1/3/24 11:18 AM
Date/Time Collected:	12/21/23 03:25 PM	**Dilution Factor:**	1.30
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd91.i / 91010307

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	112
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	98

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

Client ID:	LC34-AMB0001-20231221		
Lab ID:	2312558-02A	**Date/Time Analyzed:**	1/3/24 11:43 AM
Date/Time Collected:	12/21/23 03:20 PM	**Dilution Factor:**	1.21
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd91.i / 91010308

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.80	3.0	3.3	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.4	3.7	4.2	Not Detected
1,1,2-Trichloroethane	79-00-5	1.1	3.0	3.3	Not Detected
1,1-Dichloroethane	75-34-3	0.54	2.2	2.4	Not Detected
1,1-Dichloroethene	75-35-4	1.2	2.2	2.4	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.3	13	18	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.5	4.2	4.6	Not Detected
1,2-Dichlorobenzene	95-50-1	0.98	3.3	3.6	Not Detected
1,2-Dichloroethane	107-06-2	0.84	2.2	2.4	Not Detected
1,2-Dichloropropane	78-87-5	0.76	2.5	2.8	Not Detected
1,3-Dichlorobenzene	541-73-1	0.85	3.3	3.6	Not Detected
1,4-Dichlorobenzene	106-46-7	1.2	3.3	3.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.2	5.4	7.1	Not Detected
2-Hexanone	591-78-6	2.8	7.4	9.9	Not Detected
4-Methyl-2-pentanone	108-10-1	0.96	2.2	2.5	Not Detected
Acetone	67-64-1	4.0	11	14	5.9 J
Benzene	71-43-2	0.46	1.7	1.9	Not Detected
Bromodichloromethane	75-27-4	1.3	3.6	4.0	Not Detected
Bromoform	75-25-2	2.5	5.6	6.2	Not Detected
Bromomethane	74-83-9	4.2	7.0	23	Not Detected
Carbon Disulfide	75-15-0	1.4	5.6	7.5	Not Detected
Carbon Tetrachloride	56-23-5	1.2	3.4	3.8	Not Detected
Chlorobenzene	108-90-7	0.59	2.5	2.8	Not Detected
Chloroethane	75-00-3	2.2	4.8	6.4	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

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Client ID:	LC34-AMB0001-20231221		
Lab ID:	2312558-02A	**Date/Time Analyzed:**	1/3/24 11:43 AM
Date/Time Collected:	12/21/23 03:20 PM	**Dilution Factor:**	1.21
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd91.i / 91010308

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	67-66-3	0.67	2.6	3.0	Not Detected
Chloromethane	74-87-3	2.1	3.7	12	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.52	2.2	2.4	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.67	2.5	2.7	Not Detected
Cyclohexane	110-82-7	0.77	1.9	2.1	Not Detected
Dibromochloromethane	124-48-1	1.5	4.6	5.2	Not Detected
Ethyl Benzene	100-41-4	0.62	2.4	2.6	Not Detected
Freon 11	75-69-4	1.1	3.0	3.4	1.2 J
Freon 113	76-13-1	1.0	4.2	4.6	Not Detected
Freon 12	75-71-8	1.4	2.7	3.0	2.3 J
m,p-Xylene	108-38-3	0.38	2.4	5.2	Not Detected
Methyl tert-butyl ether	1634-04-4	1.6	6.5	8.7	Not Detected
Methylene Chloride	75-09-2	1.8	6.3	21	Not Detected
o-Xylene	95-47-6	0.63	2.4	2.6	Not Detected
Styrene	100-42-5	0.46	2.3	2.6	Not Detected
Tetrachloroethene	127-18-4	1.0	3.7	4.1	Not Detected
Toluene	108-88-3	0.57	2.0	4.6	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.1	2.2	2.4	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.42	2.5	2.7	Not Detected
Trichloroethene	79-01-6	0.97	2.9	3.2	Not Detected
Vinyl Chloride	75-01-4	1.3	1.4	1.5	Not Detected

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

Client ID:	LC34-AMB0001-20231221		
Lab ID:	2312558-02A	**Date/Time Analyzed:**	1/3/24 11:43 AM
Date/Time Collected:	12/21/23 03:20 PM	**Dilution Factor:**	1.21
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd91.i / 91010308

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	114
4-Bromofluorobenzene	460-00-4	70-130	100
Toluene-d8	2037-26-5	70-130	99

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

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Client ID:	LC34-AMB0001-20231221 Lab Duplicate		
Lab ID:	2312558-02AA	**Date/Time Analyzed:**	1/3/24 12:08 PM
Date/Time Collected:	12/21/23 03:20 PM	**Dilution Factor:**	1.21
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd91.i / 91010309

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.80	3.0	3.3	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.4	3.7	4.2	Not Detected
1,1,2-Trichloroethane	79-00-5	1.1	3.0	3.3	Not Detected
1,1-Dichloroethane	75-34-3	0.54	2.2	2.4	Not Detected
1,1-Dichloroethene	75-35-4	1.2	2.2	2.4	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.3	13	18	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.5	4.2	4.6	Not Detected
1,2-Dichlorobenzene	95-50-1	0.98	3.3	3.6	Not Detected
1,2-Dichloroethane	107-06-2	0.84	2.2	2.4	Not Detected
1,2-Dichloropropane	78-87-5	0.76	2.5	2.8	Not Detected
1,3-Dichlorobenzene	541-73-1	0.85	3.3	3.6	Not Detected
1,4-Dichlorobenzene	106-46-7	1.2	3.3	3.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.2	5.4	7.1	Not Detected
2-Hexanone	591-78-6	2.8	7.4	9.9	Not Detected
4-Methyl-2-pentanone	108-10-1	0.96	2.2	2.5	Not Detected
Acetone	67-64-1	4.0	11	14	6.0 J
Benzene	71-43-2	0.46	1.7	1.9	Not Detected
Bromodichloromethane	75-27-4	1.3	3.6	4.0	Not Detected
Bromoform	75-25-2	2.5	5.6	6.2	Not Detected
Bromomethane	74-83-9	4.2	7.0	23	Not Detected
Carbon Disulfide	75-15-0	1.4	5.6	7.5	Not Detected
Carbon Tetrachloride	56-23-5	1.2	3.4	3.8	Not Detected
Chlorobenzene	108-90-7	0.59	2.5	2.8	Not Detected
Chloroethane	75-00-3	2.2	4.8	6.4	Not Detected

Client ID:	LC34-AMB0001-20231221 Lab Duplicate		
Lab ID:	2312558-02AA	**Date/Time Analyzed:**	1/3/24 12:08 PM
Date/Time Collected:	12/21/23 03:20 PM	**Dilution Factor:**	1.21
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd91.i / 91010309

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	67-66-3	0.67	2.6	3.0	Not Detected
Chloromethane	74-87-3	2.1	3.7	12	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.52	2.2	2.4	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.67	2.5	2.7	Not Detected
Cyclohexane	110-82-7	0.77	1.9	2.1	Not Detected
Dibromochloromethane	124-48-1	1.5	4.6	5.2	Not Detected
Ethyl Benzene	100-41-4	0.62	2.4	2.6	Not Detected
Freon 11	75-69-4	1.1	3.0	3.4	1.1 J
Freon 113	76-13-1	1.0	4.2	4.6	Not Detected
Freon 12	75-71-8	1.4	2.7	3.0	2.5 J
m,p-Xylene	108-38-3	0.38	2.4	5.2	Not Detected
Methyl tert-butyl ether	1634-04-4	1.6	6.5	8.7	Not Detected
Methylene Chloride	75-09-2	1.8	6.3	21	Not Detected
o-Xylene	95-47-6	0.63	2.4	2.6	Not Detected
Styrene	100-42-5	0.46	2.3	2.6	Not Detected
Tetrachloroethene	127-18-4	1.0	3.7	4.1	Not Detected
Toluene	108-88-3	0.57	2.0	4.6	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.1	2.2	2.4	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.42	2.5	2.7	Not Detected
Trichloroethene	79-01-6	0.97	2.9	3.2	Not Detected
Vinyl Chloride	75-01-4	1.3	1.4	1.5	Not Detected

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

Client ID:	LC34-AMB0001-20231221 Lab Duplicate		
Lab ID:	2312558-02AA	**Date/Time Analyzed:**	1/3/24 12:08 PM
Date/Time Collected:	12/21/23 03:20 PM	**Dilution Factor:**	1.21
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd91.i / 91010309

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	113
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	100

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

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Client ID:	Lab Blank		
Lab ID:	2312558-03A	**Date/Time Analyzed:**	1/3/24 10:24 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd91.i / 91010306c

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.66	2.4	2.7	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.2	3.1	3.4	Not Detected
1,1,2-Trichloroethane	79-00-5	0.90	2.4	2.7	Not Detected
1,1-Dichloroethane	75-34-3	0.44	1.8	2.0	Not Detected
1,1-Dichloroethene	75-35-4	1.0	1.8	2.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.7	11	15	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.2	3.4	3.8	Not Detected
1,2-Dichlorobenzene	95-50-1	0.81	2.7	3.0	Not Detected
1,2-Dichloroethane	107-06-2	0.70	1.8	2.0	Not Detected
1,2-Dichloropropane	78-87-5	0.63	2.1	2.3	Not Detected
1,3-Dichlorobenzene	541-73-1	0.70	2.7	3.0	Not Detected
1,4-Dichlorobenzene	106-46-7	1.0	2.7	3.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	0.99	4.4	5.9	Not Detected
2-Hexanone	591-78-6	2.3	6.1	8.2	Not Detected
4-Methyl-2-pentanone	108-10-1	0.79	1.8	2.0	Not Detected
Acetone	67-64-1	3.3	9.5	12	Not Detected
Benzene	71-43-2	0.38	1.4	1.6	Not Detected
Bromodichloromethane	75-27-4	1.0	3.0	3.4	Not Detected
Bromoform	75-25-2	2.0	4.6	5.2	Not Detected
Bromomethane	74-83-9	3.4	5.8	19	Not Detected
Carbon Disulfide	75-15-0	1.2	4.7	6.2	Not Detected
Carbon Tetrachloride	56-23-5	1.0	2.8	3.1	Not Detected
Chlorobenzene	108-90-7	0.48	2.1	2.3	Not Detected
Chloroethane	75-00-3	1.8	4.0	5.3	Not Detected

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Client ID:	Lab Blank		
Lab ID:	2312558-03A	**Date/Time Analyzed:**	1/3/24 10:24 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd91.i / 91010306c

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	67-66-3	0.56	2.2	2.4	Not Detected
Chloromethane	74-87-3	1.8	3.1	10	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.43	1.8	2.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.55	2.0	2.3	Not Detected
Cyclohexane	110-82-7	0.63	1.5	1.7	Not Detected
Dibromochloromethane	124-48-1	1.3	3.8	4.2	Not Detected
Ethyl Benzene	100-41-4	0.52	2.0	2.2	Not Detected
Freon 11	75-69-4	0.91	2.5	2.8	Not Detected
Freon 113	76-13-1	0.83	3.4	3.8	Not Detected
Freon 12	75-71-8	1.2	2.2	2.5	Not Detected
m,p-Xylene	108-38-3	0.31	2.0	4.3	Not Detected
Methyl tert-butyl ether	1634-04-4	1.3	5.4	7.2	Not Detected
Methylene Chloride	75-09-2	1.4	5.2	17	Not Detected
o-Xylene	95-47-6	0.52	2.0	2.2	Not Detected
Styrene	100-42-5	0.38	1.9	2.1	Not Detected
Tetrachloroethene	127-18-4	0.87	3.0	3.4	Not Detected
Toluene	108-88-3	0.47	1.7	3.8	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.91	1.8	2.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.35	2.0	2.3	Not Detected
Trichloroethene	79-01-6	0.80	2.4	2.7	Not Detected
Vinyl Chloride	75-01-4	1.1	1.2	1.3	Not Detected

D: Analyte not within the DoD scope of accreditation.

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

Client ID:	Lab Blank		
Lab ID:	2312558-03A	**Date/Time Analyzed:**	1/3/24 10:24 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd91.i / 91010306c

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	75-127	112
4-Bromofluorobenzene	460-00-4	80-122	100
Toluene-d8	2037-26-5	84-115	100

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

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Client ID:	CCV		
Lab ID:	2312558-04A	**Date/Time Analyzed:**	1/3/24 09:13 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd91.i / 91010303

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	115
1,1,2,2-Tetrachloroethane	79-34-5	106
1,1,2-Trichloroethane	79-00-5	109
1,1-Dichloroethane	75-34-3	114
1,1-Dichloroethene	75-35-4	120
1,2,4-Trichlorobenzene	120-82-1	111
1,2-Dibromoethane (EDB)	106-93-4	106
1,2-Dichlorobenzene	95-50-1	104
1,2-Dichloroethane	107-06-2	110
1,2-Dichloropropane	78-87-5	103
1,3-Dichlorobenzene	541-73-1	106
1,4-Dichlorobenzene	106-46-7	102
2-Butanone (Methyl Ethyl Ketone)	78-93-3	107
2-Hexanone	591-78-6	99
4-Methyl-2-pentanone	108-10-1	96
Acetone	67-64-1	109
Benzene	71-43-2	106
Bromodichloromethane	75-27-4	113
Bromoform	75-25-2	104
Bromomethane	74-83-9	116
Carbon Disulfide	75-15-0	119
Carbon Tetrachloride	56-23-5	112
Chlorobenzene	108-90-7	100
Chloroethane	75-00-3	122

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Client ID:	CCV		
Lab ID:	2312558-04A	**Date/Time Analyzed:**	1/3/24 09:13 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd91.i / 91010303

Compound	CAS#	%Recovery
Chloroform	67-66-3	107
Chloromethane	74-87-3	118
cis-1,2-Dichloroethene	156-59-2	115
cis-1,3-Dichloropropene	10061-01-5	109
Cyclohexane	110-82-7	106
Dibromochloromethane	124-48-1	108
Ethyl Benzene	100-41-4	104
Freon 11	75-69-4	116
Freon 113	76-13-1	108
Freon 12	75-71-8	121
m,p-Xylene	108-38-3	100
Methyl tert-butyl ether	1634-04-4	107
Methylene Chloride	75-09-2	110
o-Xylene	95-47-6	99
Styrene	100-42-5	107
Tetrachloroethene	127-18-4	102
Toluene	108-88-3	99
trans-1,2-Dichloroethene	156-60-5	121
trans-1,3-Dichloropropene	10061-02-6	110
Trichloroethene	79-01-6	103
Vinyl Chloride	75-01-4	128

D: Analyte not within the DoD scope of accreditation.

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

Client ID:	CCV		
Lab ID:	2312558-04A	**Date/Time Analyzed:**	1/3/24 09:13 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd91.i / 91010303

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	105
4-Bromofluorobenzene	460-00-4	70-130	97
Toluene-d8	2037-26-5	70-130	103

Client ID:	LCS		
Lab ID:	2312558-05A	**Date/Time Analyzed:**	1/3/24 09:36 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd91.i / 91010304

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	108
1,1,2,2-Tetrachloroethane	79-34-5	104
1,1,2-Trichloroethane	79-00-5	105
1,1-Dichloroethane	75-34-3	106
1,1-Dichloroethene	75-35-4	102
1,2,4-Trichlorobenzene	120-82-1	101
1,2-Dibromoethane (EDB)	106-93-4	103
1,2-Dichlorobenzene	95-50-1	101
1,2-Dichloroethane	107-06-2	111
1,2-Dichloropropane	78-87-5	103
1,3-Dichlorobenzene	541-73-1	102
1,4-Dichlorobenzene	106-46-7	99
2-Butanone (Methyl Ethyl Ketone)	78-93-3	109
2-Hexanone	591-78-6	103
4-Methyl-2-pentanone	108-10-1	102
Acetone	67-64-1	103
Benzene	71-43-2	106
Bromodichloromethane	75-27-4	104
Bromoform	75-25-2	100
Bromomethane	74-83-9	96
Carbon Disulfide	75-15-0	106
Carbon Tetrachloride	56-23-5	105
Chlorobenzene	108-90-7	104
Chloroethane	75-00-3	106

* % Recovery is calculated using unrounded analytical results.

Client ID:	LCS		
Lab ID:	2312558-05A	**Date/Time Analyzed:**	1/3/24 09:36 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd91.i / 91010304

Compound	CAS#	%Recovery
Chloroform	67-66-3	106
Chloromethane	74-87-3	106
cis-1,2-Dichloroethene	156-59-2	105
cis-1,3-Dichloropropene	10061-01-5	105
Cyclohexane	110-82-7	109
Dibromochloromethane	124-48-1	101
Ethyl Benzene	100-41-4	110
Freon 11	75-69-4	102
Freon 113	76-13-1	97
Freon 12	75-71-8	104
m,p-Xylene	108-38-3	104
Methyl tert-butyl ether	1634-04-4	106
Methylene Chloride	75-09-2	102
o-Xylene	95-47-6	104
Styrene	100-42-5	104
Tetrachloroethene	127-18-4	105
Toluene	108-88-3	103
trans-1,2-Dichloroethene	156-60-5	107
trans-1,3-Dichloropropene	10061-02-6	106
Trichloroethene	79-01-6	105
Vinyl Chloride	75-01-4	112

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

Client ID:	LCS		
Lab ID:	2312558-05A	**Date/Time Analyzed:**	1/3/24 09:36 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd91.i / 91010304

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	106
4-Bromofluorobenzene	460-00-4	70-130	96
Toluene-d8	2037-26-5	70-130	104

* % Recovery is calculated using unrounded analytical results.

Client ID:	LCSD		
Lab ID:	2312558-05AA	**Date/Time Analyzed:**	1/3/24 10:00 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd91.i / 91010305

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	108
1,1,2,2-Tetrachloroethane	79-34-5	107
1,1,2-Trichloroethane	79-00-5	107
1,1-Dichloroethane	75-34-3	106
1,1-Dichloroethene	75-35-4	103
1,2,4-Trichlorobenzene	120-82-1	102
1,2-Dibromoethane (EDB)	106-93-4	103
1,2-Dichlorobenzene	95-50-1	101
1,2-Dichloroethane	107-06-2	110
1,2-Dichloropropane	78-87-5	104
1,3-Dichlorobenzene	541-73-1	104
1,4-Dichlorobenzene	106-46-7	100
2-Butanone (Methyl Ethyl Ketone)	78-93-3	108
2-Hexanone	591-78-6	104
4-Methyl-2-pentanone	108-10-1	102
Acetone	67-64-1	102
Benzene	71-43-2	105
Bromodichloromethane	75-27-4	105
Bromoform	75-25-2	100
Bromomethane	74-83-9	98
Carbon Disulfide	75-15-0	106
Carbon Tetrachloride	56-23-5	105
Chlorobenzene	108-90-7	105
Chloroethane	75-00-3	104

* % Recovery is calculated using unrounded analytical results.

Client ID:	LCSD		
Lab ID:	2312558-05AA	**Date/Time Analyzed:**	1/3/24 10:00 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd91.i / 91010305

Compound	CAS#	%Recovery
Chloroform	67-66-3	106
Chloromethane	74-87-3	104
cis-1,2-Dichloroethene	156-59-2	106
cis-1,3-Dichloropropene	10061-01-5	105
Cyclohexane	110-82-7	109
Dibromochloromethane	124-48-1	103
Ethyl Benzene	100-41-4	110
Freon 11	75-69-4	103
Freon 113	76-13-1	98
Freon 12	75-71-8	107
m,p-Xylene	108-38-3	105
Methyl tert-butyl ether	1634-04-4	106
Methylene Chloride	75-09-2	103
o-Xylene	95-47-6	104
Styrene	100-42-5	105
Tetrachloroethene	127-18-4	105
Toluene	108-88-3	104
trans-1,2-Dichloroethene	156-60-5	108
trans-1,3-Dichloropropene	10061-02-6	107
Trichloroethene	79-01-6	105
Vinyl Chloride	75-01-4	113

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

Client ID:	LCSD		
Lab ID:	2312558-05AA	**Date/Time Analyzed:**	1/3/24 10:00 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd91.i / 91010305

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	105
4-Bromofluorobenzene	460-00-4	70-130	99
Toluene-d8	2037-26-5	70-130	104

* % Recovery is calculated using unrounded analytical results.

Analysis Request / Canister Chain of Custody

eurofins | Air Toxics
Eurofins Environment Testing Northern California, LLC
180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

Workorder #: 2312558

Instructions

1/17/2024

Client: TT
Site Name: LC34
Project Manager: Mark Jannet
Sampler: Chuck Sorden

Project Name: NASA IKSC LC34
Project #: 112G089E5
PO#:

Turnaround Time (Specify Below)
Standard X Rush _____ (Surcharges will apply, per availability)
Samples received after 3PM PST are considered to be received on the following workday.
Requested Date (mm/dd/yy):
OR Number of Days:

Lab ID	Field Sample Identification (Location)	Canister Barcode #	Flow Controller Barcode #	Start Sampling Information		Stop Sampling Information		Requested Analyses				Canister Vacuum/Pressure			
				Date	Time	Date	Time	TO-15 VOCs				Initial (in "Hg)	Final (in "Hg)	Lab Use Only: Receipt (in "Hg)	Lab Use Only: Final (in psi) Gas: N2 / He
01A	LC34-AMB0002-20231221	N2479	22177	21 DEC 23	0745	12/21/23	1525	X				29	3.5		
02A	LC34-AMB0001-20231221	00349	25613	21 DEC 23	0750	12/21/23	1520	X				30	-0.5		

Special Instructions/Notes:

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
	12/21/23	1600	Armin D. SATL	12/22/23	1030
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time

Lab Use Only

Shipper Name: Fedex | Custody Seals Intact? Yes No None | Condition:

Sample Transportation Notice: Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-32313-1
SDG Number: Air Toxics - 2312558

Login Number: 32313
List Number: 1
Creator: Hartley, Tyler

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.		
The cooler's custody seal, if present, is intact.		
Sample custody seals, if present, are intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the containers received and the COC.		
Samples are received within Holding Time (excluding tests with immediate HTs)		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified.		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34
112G08985

JOB NUMBER

670-32317-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

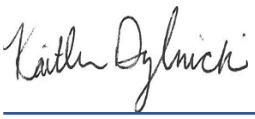
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-32317-1
SDG: 112G08985

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-32317-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/28/2023 2:13 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice.

Subcontract Work
Method LC34 TO15: This method was subcontracted to Eurofins Air Toxics, Inc. The subcontract laboratory certification is different from that of the facility issuing the final report. The subcontract report is appended in its entirety.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-32317-1
SDG: 112G08985

Client Sample ID: LC34-Influent Air-20231221 — Lab Sample ID: 670-32317-1

No Detections.

Client Sample ID: LC34-Effluent Air-20231221 — Lab Sample ID: 670-32317-2

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-32317-1
SDG: 112G08985

Method	Method Description	Protocol	Laboratory
Subcontract	LC34 TO15	None	Eurofins

Protocol References:

None = None

Laboratory References:

Eurofins = Eurofins Air Toxics, 180 Blue Ravine Road, Suite B, Folsom, CA 95630

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-32317-1
SDG: 112G08985

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-32317-1	LC34-Influent Air-20231221	Air	12/21/23 08:35	12/28/23 14:13
670-32317-2	LC34-Effluent Air-20231221	Air	12/21/23 08:50	12/28/23 14:13

1/3/2024
Ms. Kaitlin Dylnicki
Eurofins Environment Testing
481 Newburyport Ave

Altamonte Springs FL 32701

Project Name: NASA KSC LC34
Project #: 112G08985
Workorder #: 2312565

Dear Ms. Kaitlin Dylnicki

The following report includes the data for the above referenced project for sample(s) received on 12/22/2023 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics LLC. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Brian Whittaker at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Brian Whittaker

Project Manager

WORK ORDER #: 2312565

Work Order Summary

CLIENT:	Ms. Kaitlin Dylnicki Eurofins Environment Testing 481 Newburyport Ave Altamonte Springs, FL 32701	**BILL TO:**	Ms. Kaitlin Dylnicki Eurofins Environment Testing 481 Newburyport Ave Altamonte Springs, FL 32701
PHONE:		**P.O. #**	
FAX:		**PROJECT #**	112G08985 NASA KSC LC34
DATE RECEIVED:	12/22/2023	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	01/03/2024		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	LC34 - INFLUENT AIR 20231221	TO-15	5.3 "Hg	1.7 psi
02A	LC34 - EFFLUENT AIR 20231221	TO-15	4.3 "Hg	1.6 psi
02AA	LC34 - EFFLUENT AIR 20231221 Lab Du	TO-15	4.3 "Hg	1.6 psi
03A	Lab Blank	TO-15	NA	NA
04A	CCV	TO-15	NA	NA
05A	LCS	TO-15	NA	NA
05AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Rayos DATE: 01/03/24

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA ELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-017
Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

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LABORATORY NARRATIVE
EPA Method TO-15
Eurofins Environment Testing
Workorder# 2312565

Two 6 Liter Summa Canister (100% Certified) samples were received on December 22, 2023. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

Receiving Notes

Eurofins Air Toxics LIMS currently does not accommodate for specific Florida flagging data qualifiers. Results will therefore be qualified as applicable using laboratory flags. Data qualifier flags are defined in the case narrative of the final report.

Analytical Notes

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified may be false positives.

Dilution was performed on sample LC34 - INFLUENT AIR 20231221 due to the presence of high level target species.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

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Client ID:	LC34 - INFLUENT AIR 20231221		
Lab ID:	2312565-01A	**Date/Time Analyzed:**	1/3/24 02:04 PM
Date/Time Collected:	12/21/23 08:35 AM	**Dilution Factor:**	301
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msda.i / a010310

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	200	740	820	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	360	930	1000	Not Detected
1,1,2-Trichloroethane	79-00-5	270	740	820	Not Detected
1,1-Dichloroethane	75-34-3	130	550	610	Not Detected
1,1-Dichloroethene	75-35-4	310	540	600	Not Detected
1,2,4-Trichlorobenzene	120-82-1	830	3400	4500	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	380	1000	1200	Not Detected
1,2-Dichlorobenzene	95-50-1	240	810	900	Not Detected
1,2-Dichloroethane	107-06-2	210	550	610	Not Detected
1,2-Dichloropropane	78-87-5	190	620	700	Not Detected
1,3-Dichlorobenzene	541-73-1	210	810	900	Not Detected
1,4-Dichlorobenzene	106-46-7	300	810	900	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	300	1300	1800	Not Detected
2-Hexanone	591-78-6	700	1800	2500	Not Detected
4-Methyl-2-pentanone	108-10-1	240	550	620	Not Detected
Acetone	67-64-1	990	2900	3600	1200 J
Benzene	71-43-2	110	430	480	Not Detected
Bromodichloromethane	75-27-4	310	910	1000	Not Detected
Bromoform	75-25-2	610	1400	1600	Not Detected
Bromomethane	74-83-9	1000	1800	5800	Not Detected
Carbon Disulfide	75-15-0	360	1400	1900	Not Detected
Carbon Tetrachloride	56-23-5	300	850	950	Not Detected
Chlorobenzene	108-90-7	140	620	690	210 J
Chloroethane	75-00-3	550	1200	1600	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

Client ID:	LC34 - INFLUENT AIR 20231221		
Lab ID:	2312565-01A	**Date/Time Analyzed:**	1/3/24 02:04 PM
Date/Time Collected:	12/21/23 08:35 AM	**Dilution Factor:**	301
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msda.i / a010310

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	67-66-3	170	660	730	Not Detected
Chloromethane	74-87-3	530	930	3100	Not Detected
cis-1,2-Dichloroethene	156-59-2	130	540	600	38000
cis-1,3-Dichloropropene	10061-01-5	170	610	680	Not Detected
Cyclohexane	110-82-7	190	470	520	Not Detected
Dibromochloromethane	124-48-1	380	1200	1300	Not Detected
Ethyl Benzene	100-41-4	160	590	650	Not Detected
Freon 11	75-69-4	270	760	840	Not Detected
Freon 113	76-13-1	250	1000	1200	Not Detected
Freon 12	75-71-8	360	670	740	Not Detected
m,p-Xylene	108-38-3	94	590	1300	100 J
Methyl tert-butyl ether	1634-04-4	400	1600	2200	Not Detected
Methylene Chloride	75-09-2	440	1600	5200	Not Detected
o-Xylene	95-47-6	160	590	650	Not Detected
Styrene	100-42-5	110	580	640	Not Detected
Tetrachloroethene	127-18-4	260	920	1000	Not Detected
Toluene	108-88-3	140	510	1100	1800
trans-1,2-Dichloroethene	156-60-5	270	540	600	360 J
trans-1,3-Dichloropropene	10061-02-6	100	610	680	Not Detected
Trichloroethene	79-01-6	240	730	810	230000
Vinyl Chloride	75-01-4	320	350	380	2500

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

Client ID:	LC34 - INFLUENT AIR 20231221		
Lab ID:	2312565-01A	**Date/Time Analyzed:**	1/3/24 02:04 PM
Date/Time Collected:	12/21/23 08:35 AM	**Dilution Factor:**	301
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msda.i / a010310

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	84
4-Bromofluorobenzene	460-00-4	70-130	114
Toluene-d8	2037-26-5	70-130	97

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

Client ID:	LC34 - EFFLUENT AIR 20231221		
Lab ID:	2312565-02A	**Date/Time Analyzed:**	1/3/24 12:52 PM
Date/Time Collected:	12/21/23 08:50 AM	**Dilution Factor:**	1.29
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msda.i / a010308

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.86	3.2	3.5	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.5	4.0	4.4	Not Detected
1,1,2-Trichloroethane	79-00-5	1.2	3.2	3.5	Not Detected
1,1-Dichloroethane	75-34-3	0.57	2.3	2.6	Not Detected
1,1-Dichloroethene	75-35-4	1.3	2.3	2.6	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.5	14	19	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.6	4.5	5.0	Not Detected
1,2-Dichlorobenzene	95-50-1	1.0	3.5	3.9	Not Detected
1,2-Dichloroethane	107-06-2	0.90	2.3	2.6	Not Detected
1,2-Dichloropropane	78-87-5	0.81	2.7	3.0	Not Detected
1,3-Dichlorobenzene	541-73-1	0.91	3.5	3.9	Not Detected
1,4-Dichlorobenzene	106-46-7	1.3	3.5	3.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.3	5.7	7.6	Not Detected
2-Hexanone	591-78-6	3.0	7.9	10	Not Detected
4-Methyl-2-pentanone	108-10-1	1.0	2.4	2.6	Not Detected
Acetone	67-64-1	4.3	12	15	Not Detected
Benzene	71-43-2	0.49	1.8	2.1	Not Detected
Bromodichloromethane	75-27-4	1.3	3.9	4.3	Not Detected
Bromoform	75-25-2	2.6	6.0	6.7	Not Detected
Bromomethane	74-83-9	4.4	7.5	25	Not Detected
Carbon Disulfide	75-15-0	1.5	6.0	8.0	Not Detected
Carbon Tetrachloride	56-23-5	1.3	3.6	4.0	Not Detected
Chlorobenzene	108-90-7	0.62	2.7	3.0	Not Detected
Chloroethane	75-00-3	2.4	5.1	6.8	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

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Client ID:	LC34 - EFFLUENT AIR 20231221		
Lab ID:	2312565-02A	**Date/Time Analyzed:**	1/3/24 12:52 PM
Date/Time Collected:	12/21/23 08:50 AM	**Dilution Factor:**	1.29
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msda.i / a010308

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	67-66-3	0.72	2.8	3.1	Not Detected
Chloromethane	74-87-3	2.3	4.0	13	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.56	2.3	2.6	12
cis-1,3-Dichloropropene	10061-01-5	0.71	2.6	2.9	Not Detected
Cyclohexane	110-82-7	0.82	2.0	2.2	3.3
Dibromochloromethane	124-48-1	1.6	4.9	5.5	Not Detected
Ethyl Benzene	100-41-4	0.67	2.5	2.8	Not Detected
Freon 11	75-69-4	1.2	3.3	3.6	Not Detected
Freon 113	76-13-1	1.1	4.4	4.9	Not Detected
Freon 12	75-71-8	1.5	2.9	3.2	2.0 J
m,p-Xylene	108-38-3	0.40	2.5	5.6	Not Detected
Methyl tert-butyl ether	1634-04-4	1.7	7.0	9.3	Not Detected
Methylene Chloride	75-09-2	1.9	6.7	22	Not Detected
o-Xylene	95-47-6	0.67	2.5	2.8	Not Detected
Styrene	100-42-5	0.49	2.5	2.7	Not Detected
Tetrachloroethene	127-18-4	1.1	3.9	4.4	Not Detected
Toluene	108-88-3	0.61	2.2	4.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.2	2.3	2.6	3.0
trans-1,3-Dichloropropene	10061-02-6	0.45	2.6	2.9	Not Detected
Trichloroethene	79-01-6	1.0	3.1	3.5	93
Vinyl Chloride	75-01-4	1.4	1.5	1.6	Not Detected

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

Client ID:	LC34 - EFFLUENT AIR 20231221		
Lab ID:	2312565-02A	**Date/Time Analyzed:**	1/3/24 12:52 PM
Date/Time Collected:	12/21/23 08:50 AM	**Dilution Factor:**	1.29
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msda.i / a010308

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	89
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	98

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

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Client ID:	LC34 - EFFLUENT AIR 20231221 Lab Dup		
Lab ID:	2312565-02AA	**Date/Time Analyzed:**	1/3/24 01:29 PM
Date/Time Collected:	12/21/23 08:50 AM	**Dilution Factor:**	1.29
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msda.i / a010309

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.86	3.2	3.5	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.5	4.0	4.4	Not Detected
1,1,2-Trichloroethane	79-00-5	1.2	3.2	3.5	Not Detected
1,1-Dichloroethane	75-34-3	0.57	2.3	2.6	Not Detected
1,1-Dichloroethene	75-35-4	1.3	2.3	2.6	Not Detected
1,2,4-Trichlorobenzene	120-82-1	3.5	14	19	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.6	4.5	5.0	Not Detected
1,2-Dichlorobenzene	95-50-1	1.0	3.5	3.9	Not Detected
1,2-Dichloroethane	107-06-2	0.90	2.3	2.6	Not Detected
1,2-Dichloropropane	78-87-5	0.81	2.7	3.0	Not Detected
1,3-Dichlorobenzene	541-73-1	0.91	3.5	3.9	Not Detected
1,4-Dichlorobenzene	106-46-7	1.3	3.5	3.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	1.3	5.7	7.6	Not Detected
2-Hexanone	591-78-6	3.0	7.9	10	Not Detected
4-Methyl-2-pentanone	108-10-1	1.0	2.4	2.6	Not Detected
Acetone	67-64-1	4.3	12	15	4.3 J
Benzene	71-43-2	0.49	1.8	2.1	Not Detected
Bromodichloromethane	75-27-4	1.3	3.9	4.3	Not Detected
Bromoform	75-25-2	2.6	6.0	6.7	Not Detected
Bromomethane	74-83-9	4.4	7.5	25	Not Detected
Carbon Disulfide	75-15-0	1.5	6.0	8.0	Not Detected
Carbon Tetrachloride	56-23-5	1.3	3.6	4.0	Not Detected
Chlorobenzene	108-90-7	0.62	2.7	3.0	Not Detected
Chloroethane	75-00-3	2.4	5.1	6.8	Not Detected

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

Client ID:	LC34 - EFFLUENT AIR 20231221 Lab Dup		
Lab ID:	2312565-02AA	**Date/Time Analyzed:**	1/3/24 01:29 PM
Date/Time Collected:	12/21/23 08:50 AM	**Dilution Factor:**	1.29
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msda.i / a010309

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	67-66-3	0.72	2.8	3.1	Not Detected
Chloromethane	74-87-3	2.3	4.0	13	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.56	2.3	2.6	12
cis-1,3-Dichloropropene	10061-01-5	0.71	2.6	2.9	Not Detected
Cyclohexane	110-82-7	0.82	2.0	2.2	3.4
Dibromochloromethane	124-48-1	1.6	4.9	5.5	Not Detected
Ethyl Benzene	100-41-4	0.67	2.5	2.8	Not Detected
Freon 11	75-69-4	1.2	3.3	3.6	Not Detected
Freon 113	76-13-1	1.1	4.4	4.9	Not Detected
Freon 12	75-71-8	1.5	2.9	3.2	2.2 J
m,p-Xylene	108-38-3	0.40	2.5	5.6	Not Detected
Methyl tert-butyl ether	1634-04-4	1.7	7.0	9.3	Not Detected
Methylene Chloride	75-09-2	1.9	6.7	22	Not Detected
o-Xylene	95-47-6	0.67	2.5	2.8	Not Detected
Styrene	100-42-5	0.49	2.5	2.7	Not Detected
Tetrachloroethene	127-18-4	1.1	3.9	4.4	Not Detected
Toluene	108-88-3	0.61	2.2	4.9	Not Detected
trans-1,2-Dichloroethene	156-60-5	1.2	2.3	2.6	2.8
trans-1,3-Dichloropropene	10061-02-6	0.45	2.6	2.9	Not Detected
Trichloroethene	79-01-6	1.0	3.1	3.5	94
Vinyl Chloride	75-01-4	1.4	1.5	1.6	Not Detected

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

Client ID:	LC34 - EFFLUENT AIR 20231221 Lab Dup		
Lab ID:	2312565-02AA	**Date/Time Analyzed:**	1/3/24 01:29 PM
Date/Time Collected:	12/21/23 08:50 AM	**Dilution Factor:**	1.29
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msda.i / a010309

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	88
4-Bromofluorobenzene	460-00-4	70-130	103
Toluene-d8	2037-26-5	70-130	99

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

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Client ID:	Lab Blank		
Lab ID:	2312565-03A	**Date/Time Analyzed:**	1/3/24 11:30 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msda.i / a010306e

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	71-55-6	0.66	2.4	2.7	Not Detected
1,1,2,2-Tetrachloroethane	79-34-5	1.2	3.1	3.4	Not Detected
1,1,2-Trichloroethane	79-00-5	0.90	2.4	2.7	Not Detected
1,1-Dichloroethane	75-34-3	0.44	1.8	2.0	Not Detected
1,1-Dichloroethene	75-35-4	1.0	1.8	2.0	Not Detected
1,2,4-Trichlorobenzene	120-82-1	2.7	11	15	Not Detected
1,2-Dibromoethane (EDB)	106-93-4	1.2	3.4	3.8	Not Detected
1,2-Dichlorobenzene	95-50-1	0.81	2.7	3.0	Not Detected
1,2-Dichloroethane	107-06-2	0.70	1.8	2.0	Not Detected
1,2-Dichloropropane	78-87-5	0.63	2.1	2.3	Not Detected
1,3-Dichlorobenzene	541-73-1	0.70	2.7	3.0	Not Detected
1,4-Dichlorobenzene	106-46-7	1.0	2.7	3.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	78-93-3	0.99	4.4	5.9	Not Detected
2-Hexanone	591-78-6	2.3	6.1	8.2	Not Detected
4-Methyl-2-pentanone	108-10-1	0.79	1.8	2.0	Not Detected
Acetone	67-64-1	3.3	9.5	12	Not Detected
Benzene	71-43-2	0.38	1.4	1.6	Not Detected
Bromodichloromethane	75-27-4	1.0	3.0	3.4	Not Detected
Bromoform	75-25-2	2.0	4.6	5.2	Not Detected
Bromomethane	74-83-9	3.4	5.8	19	Not Detected
Carbon Disulfide	75-15-0	1.2	4.7	6.2	Not Detected
Carbon Tetrachloride	56-23-5	1.0	2.8	3.1	Not Detected
Chlorobenzene	108-90-7	0.48	2.1	2.3	Not Detected
Chloroethane	75-00-3	1.8	4.0	5.3	Not Detected

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Client ID:	Lab Blank		
Lab ID:	2312565-03A	**Date/Time Analyzed:**	1/3/24 11:30 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msda.i / a010306e

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroform	67-66-3	0.56	2.2	2.4	Not Detected
Chloromethane	74-87-3	1.8	3.1	10	Not Detected
cis-1,2-Dichloroethene	156-59-2	0.43	1.8	2.0	Not Detected
cis-1,3-Dichloropropene	10061-01-5	0.55	2.0	2.3	Not Detected
Cyclohexane	110-82-7	0.63	1.5	1.7	Not Detected
Dibromochloromethane	124-48-1	1.3	3.8	4.2	Not Detected
Ethyl Benzene	100-41-4	0.52	2.0	2.2	Not Detected
Freon 11	75-69-4	0.91	2.5	2.8	Not Detected
Freon 113	76-13-1	0.83	3.4	3.8	Not Detected
Freon 12	75-71-8	1.2	2.2	2.5	Not Detected
m,p-Xylene	108-38-3	0.31	2.0	4.3	Not Detected
Methyl tert-butyl ether	1634-04-4	1.3	5.4	7.2	Not Detected
Methylene Chloride	75-09-2	1.4	5.2	17	Not Detected
o-Xylene	95-47-6	0.52	2.0	2.2	Not Detected
Styrene	100-42-5	0.38	1.9	2.1	Not Detected
Tetrachloroethene	127-18-4	0.87	3.0	3.4	Not Detected
Toluene	108-88-3	0.47	1.7	3.8	Not Detected
trans-1,2-Dichloroethene	156-60-5	0.91	1.8	2.0	Not Detected
trans-1,3-Dichloropropene	10061-02-6	0.35	2.0	2.3	Not Detected
Trichloroethene	79-01-6	0.80	2.4	2.7	Not Detected
Vinyl Chloride	75-01-4	1.1	1.2	1.3	Not Detected

D: Analyte not within the DoD scope of accreditation.

Client ID:	Lab Blank		
Lab ID:	2312565-03A	**Date/Time Analyzed:**	1/3/24 11:30 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msda.i / a010306e

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	87
4-Bromofluorobenzene	460-00-4	70-130	102
Toluene-d8	2037-26-5	70-130	98

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Client ID:	CCV		
Lab ID:	2312565-04A	**Date/Time Analyzed:**	1/3/24 09:45 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msda.i / a010303

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	90
1,1,2,2-Tetrachloroethane	79-34-5	95
1,1,2-Trichloroethane	79-00-5	97
1,1-Dichloroethane	75-34-3	87
1,1-Dichloroethene	75-35-4	96
1,2,4-Trichlorobenzene	120-82-1	98
1,2-Dibromoethane (EDB)	106-93-4	101
1,2-Dichlorobenzene	95-50-1	100
1,2-Dichloroethane	107-06-2	89
1,2-Dichloropropane	78-87-5	90
1,3-Dichlorobenzene	541-73-1	101
1,4-Dichlorobenzene	106-46-7	99
2-Butanone (Methyl Ethyl Ketone)	78-93-3	87
2-Hexanone	591-78-6	87
4-Methyl-2-pentanone	108-10-1	85
Acetone	67-64-1	83
Benzene	71-43-2	89
Bromodichloromethane	75-27-4	95
Bromoform	75-25-2	111
Bromomethane	74-83-9	96
Carbon Disulfide	75-15-0	91
Carbon Tetrachloride	56-23-5	94
Chlorobenzene	108-90-7	97
Chloroethane	75-00-3	76

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Client ID:	CCV		
Lab ID:	2312565-04A	**Date/Time Analyzed:**	1/3/24 09:45 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msda.i / a010303

Compound	CAS#	%Recovery
Chloroform	67-66-3	88
Chloromethane	74-87-3	75
cis-1,2-Dichloroethene	156-59-2	94
cis-1,3-Dichloropropene	10061-01-5	94
Cyclohexane	110-82-7	89
Dibromochloromethane	124-48-1	104
Ethyl Benzene	100-41-4	97
Freon 11	75-69-4	90
Freon 113	76-13-1	95
Freon 12	75-71-8	90
m,p-Xylene	108-38-3	97
Methyl tert-butyl ether	1634-04-4	85
Methylene Chloride	75-09-2	80
o-Xylene	95-47-6	96
Styrene	100-42-5	98
Tetrachloroethene	127-18-4	102
Toluene	108-88-3	94
trans-1,2-Dichloroethene	156-60-5	94
trans-1,3-Dichloropropene	10061-02-6	93
Trichloroethene	79-01-6	97
Vinyl Chloride	75-01-4	87

D: Analyte not within the DoD scope of accreditation.

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

Client ID:	CCV		
Lab ID:	2312565-04A	**Date/Time Analyzed:**	1/3/24 09:45 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msda.i / a010303

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	87
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	100

Client ID:	LCS		
Lab ID:	2312565-05A	**Date/Time Analyzed:**	1/3/24 10:19 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msda.i / a010304

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	91
1,1,2,2-Tetrachloroethane	79-34-5	96
1,1,2-Trichloroethane	79-00-5	96
1,1-Dichloroethane	75-34-3	87
1,1-Dichloroethene	75-35-4	93
1,2,4-Trichlorobenzene	120-82-1	99
1,2-Dibromoethane (EDB)	106-93-4	100
1,2-Dichlorobenzene	95-50-1	99
1,2-Dichloroethane	107-06-2	91
1,2-Dichloropropane	78-87-5	89
1,3-Dichlorobenzene	541-73-1	100
1,4-Dichlorobenzene	106-46-7	99
2-Butanone (Methyl Ethyl Ketone)	78-93-3	86
2-Hexanone	591-78-6	88
4-Methyl-2-pentanone	108-10-1	86
Acetone	67-64-1	86
Benzene	71-43-2	91
Bromodichloromethane	75-27-4	96
Bromoform	75-25-2	110
Bromomethane	74-83-9	96
Carbon Disulfide	75-15-0	93
Carbon Tetrachloride	56-23-5	95
Chlorobenzene	108-90-7	97
Chloroethane	75-00-3	76

* % Recovery is calculated using unrounded analytical results.

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Client ID:	LCS		
Lab ID:	2312565-05A	**Date/Time Analyzed:**	1/3/24 10:19 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msda.i / a010304

Compound	CAS#	%Recovery
Chloroform	67-66-3	88
Chloromethane	74-87-3	84
cis-1,2-Dichloroethene	156-59-2	95
cis-1,3-Dichloropropene	10061-01-5	96
Cyclohexane	110-82-7	90
Dibromochloromethane	124-48-1	103
Ethyl Benzene	100-41-4	99
Freon 11	75-69-4	92
Freon 113	76-13-1	95
Freon 12	75-71-8	90
m,p-Xylene	108-38-3	95
Methyl tert-butyl ether	1634-04-4	86
Methylene Chloride	75-09-2	79
o-Xylene	95-47-6	95
Styrene	100-42-5	98
Tetrachloroethene	127-18-4	101
Toluene	108-88-3	93
trans-1,2-Dichloroethene	156-60-5	95
trans-1,3-Dichloropropene	10061-02-6	94
Trichloroethene	79-01-6	97
Vinyl Chloride	75-01-4	89

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

Client ID:	LCS		
Lab ID:	2312565-05A	**Date/Time Analyzed:**	1/3/24 10:19 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msda.i / a010304

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	88
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	100

* % Recovery is calculated using unrounded analytical results.

Client ID:	LCSD		
Lab ID:	2312565-05AA	**Date/Time Analyzed:**	1/3/24 10:53 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msda.i / a010305

Compound	CAS#	%Recovery
1,1,1-Trichloroethane	71-55-6	92
1,1,2,2-Tetrachloroethane	79-34-5	96
1,1,2-Trichloroethane	79-00-5	96
1,1-Dichloroethane	75-34-3	88
1,1-Dichloroethene	75-35-4	93
1,2,4-Trichlorobenzene	120-82-1	100
1,2-Dibromoethane (EDB)	106-93-4	100
1,2-Dichlorobenzene	95-50-1	98
1,2-Dichloroethane	107-06-2	91
1,2-Dichloropropane	78-87-5	88
1,3-Dichlorobenzene	541-73-1	99
1,4-Dichlorobenzene	106-46-7	98
2-Butanone (Methyl Ethyl Ketone)	78-93-3	89
2-Hexanone	591-78-6	87
4-Methyl-2-pentanone	108-10-1	85
Acetone	67-64-1	86
Benzene	71-43-2	90
Bromodichloromethane	75-27-4	94
Bromoform	75-25-2	109
Bromomethane	74-83-9	97
Carbon Disulfide	75-15-0	93
Carbon Tetrachloride	56-23-5	94
Chlorobenzene	108-90-7	97
Chloroethane	75-00-3	75

* % Recovery is calculated using unrounded analytical results.

Client ID:	LCSD		
Lab ID:	2312565-05AA	**Date/Time Analyzed:**	1/3/24 10:53 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msda.i / a010305

Compound	CAS#	%Recovery
Chloroform	67-66-3	88
Chloromethane	74-87-3	80
cis-1,2-Dichloroethene	156-59-2	95
cis-1,3-Dichloropropene	10061-01-5	96
Cyclohexane	110-82-7	91
Dibromochloromethane	124-48-1	102
Ethyl Benzene	100-41-4	99
Freon 11	75-69-4	92
Freon 113	76-13-1	95
Freon 12	75-71-8	90
m,p-Xylene	108-38-3	95
Methyl tert-butyl ether	1634-04-4	86
Methylene Chloride	75-09-2	80
o-Xylene	95-47-6	95
Styrene	100-42-5	98
Tetrachloroethene	127-18-4	101
Toluene	108-88-3	92
trans-1,2-Dichloroethene	156-60-5	94
trans-1,3-Dichloropropene	10061-02-6	93
Trichloroethene	79-01-6	97
Vinyl Chloride	75-01-4	87

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

EPA METHOD TO-15 GC/MS FULL SCAN
NASA KSC LC34

Client ID:	LCSD		
Lab ID:	2312565-05AA	**Date/Time Analyzed:**	1/3/24 10:53 AM
Date/Time Collected:	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msda.i / a010305

Surrogates	CAS#	Limits	%Recovery
1,2-Dichloroethane-d4	17060-07-0	70-130	88
4-Bromofluorobenzene	460-00-4	70-130	104
Toluene-d8	2037-26-5	70-130	99

* % Recovery is calculated using unrounded analytical results.

Analysis Request / Canister Chain of Custody

eurofins | Air Toxics

Eurofins Environment Testing Northern California, LLC
180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

Workorder #: 2312565

Instructions

Client: TT

Site Name: LC34

Project Manager: MARK SOMMER

Sampler: DAN FORSTER

Project Name: NASA KSC LC34

Project #: 112G08985

PO#:

Turnaround Time (Specify Below)

Standard X Rush _____ (Surcharges will apply, per availability)

Samples received after 3PM PST are considered to be received on the following workday.

Requested Date (mm/dd/yy):

OR Number of Days:

Lab ID	Field Sample Identification (Location)	Canister Barcode #	Flow Controller Barcode #	Start Sampling Information		Stop Sampling Information		Requested Analyses				Canister Vacuum/Pressure		Lab Use Only	
				Date	Time	Date	Time	USC ETO				Initial (in "Hg)	Final (in "Hg)	Receipt (in "Hg)	Final (in psi) Gas: N2 / He
01A	LC34 - INFLUENT AZC 20231214	00559	G0335	21DEC23	0830	21DEC23	0835	X				30	5		
02A	LC34 - EFFLUENT AZC 20231214	N2532	G0326	21DEC23	3845	21DEC23	0850	X				30	5		

670-32317 Chain of Custody

Special Instructions/Notes:

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
	21DEC23	2000	Armin D. SATT	12/22/23	1030
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time

Lab Use Only

Shipper Name: Fedex | Custody Seals Intact? Yes No (None) | Condition:

Sample Transportation Notice: Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-32317-1
SDG Number: 112G08985

Login Number: 32317
List Number: 1
Creator: Lavardera, Angelina

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.		
The cooler's custody seal, if present, is intact.		
Sample custody seals, if present, are intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the containers received and the COC.		
Samples are received within Holding Time (excluding tests with immediate HTs)		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified.		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 1/10/2024 6:00:41 PM

JOB DESCRIPTION

NASA KSC LC34 - BiWeekly

JOB NUMBER

670-32729-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

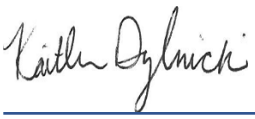
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
Kaitlin Dylnicki, Project Manager
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Definitions/Glossary

Client: Tetra Tech, Inc. Job ID: 670-32729-1
Project/Site: NASA KSC LC34 - BiWeekly

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-32729-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/6/2024 7:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-70503 recovered outside acceptance criteria, low biased, for Bromomethane and Chloromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-70503 recovered above the upper control limit for 2-Hexanone, 4-Methyl-2-pentanone, Acetone and Methyl acetate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-70503/3).

Method 8260D: The control sample duplicate (LCSD) for analytical batch 670-70503 recovered outside control limits for the following analytes: Methyl acetate. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 670-70503 were outside control limits. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0044D2-110.0-20240105 (670-32729-1). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-70694 recovered outside acceptance criteria, low biased, for 2-Butanone (MEK), 2-Hexanone, 4-Methyl-2-pentanone, Acetone and Chloroethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Job ID: 670-32729-1
Project/Site: NASA KSC LC34 - BiWeekly

Client Sample ID: LC34-IW0044D2-110.0-20240105 — Lab Sample ID: 670-32729-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL2	260		5.0	2.7	ug/L	5		8260D	Total/NA
Trichloroethene - DL2	330		5.0	4.5	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0162-110.0-20240105 — Lab Sample ID: 670-32729-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.1		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	2.3		1.0	0.89	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Job ID: 670-32729-1
Project/Site: NASA KSC LC34 - BiWeekly

Client Sample ID: LC34-IW0044D2-110.0-20240105
Lab Sample ID: 670-32729-1
Date Collected: 01/05/24 09:35
Matrix: Water
Date Received: 01/06/24 07:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL2

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			01/09/24 20:00	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			01/09/24 20:00	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			01/09/24 20:00	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			01/09/24 20:00	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			01/09/24 20:00	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			01/09/24 20:00	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			01/09/24 20:00	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			01/09/24 20:00	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			01/09/24 20:00	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			01/09/24 20:00	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			01/09/24 20:00	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			01/09/24 20:00	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			01/09/24 20:00	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			01/09/24 20:00	5
2-Butanone (MEK)	23	U	50	23	ug/L			01/09/24 20:00	5
2-Hexanone	13	U	100	13	ug/L			01/09/24 20:00	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			01/09/24 20:00	5
Acetone	130	U	250	130	ug/L			01/09/24 20:00	5
Benzene	3.6	U	5.0	3.6	ug/L			01/09/24 20:00	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			01/09/24 20:00	5
Bromoform	3.8	U	5.0	3.8	ug/L			01/09/24 20:00	5
Bromomethane	4.8	U	10	4.8	ug/L			01/09/24 20:00	5
Carbon disulfide	13	U	25	13	ug/L			01/09/24 20:00	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			01/09/24 20:00	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			01/09/24 20:00	5
Chloroethane	4.9	U	10	4.9	ug/L			01/09/24 20:00	5
Chloroform	4.0	U	25	4.0	ug/L			01/09/24 20:00	5
Chloromethane	4.1	U	10	4.1	ug/L			01/09/24 20:00	5
cis-1,2-Dichloroethene	**260**		5.0	2.7	ug/L			01/09/24 20:00	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			01/09/24 20:00	5
Cyclohexane	4.7	U	25	4.7	ug/L			01/09/24 20:00	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			01/09/24 20:00	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			01/09/24 20:00	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			01/09/24 20:00	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			01/09/24 20:00	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			01/09/24 20:00	5
Methyl acetate	4.8	U	50	4.8	ug/L			01/09/24 20:00	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			01/09/24 20:00	5
Methylene Chloride	25	U	50	25	ug/L			01/09/24 20:00	5
o-Xylene	2.7	U	5.0	2.7	ug/L			01/09/24 20:00	5
Styrene	3.1	U	5.0	3.1	ug/L			01/09/24 20:00	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			01/09/24 20:00	5
Toluene	3.6	U	5.0	3.6	ug/L			01/09/24 20:00	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			01/09/24 20:00	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			01/09/24 20:00	5
Trichloroethene	**330**		5.0	4.5	ug/L			01/09/24 20:00	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			01/09/24 20:00	5
Vinyl chloride	3.6	U	5.0	3.6	ug/L			01/09/24 20:00	5
Xylenes, Total	6.5	U	10	6.5	ug/L			01/09/24 20:00	5

Client Sample ID: LC34-IW0044D2-110.0-20240105
Lab Sample ID: 670-32729-1

Date Collected: 01/05/24 09:35
Matrix: Water
Date Received: 01/06/24 07:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/09/24 20:00*	*5*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*01/09/24 20:00*	*5*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/09/24 20:00*	*5*

Client Sample ID: LC34-IW0162-110.0-20240105
Lab Sample ID: 670-32729-2

Date Collected: 01/05/24 10:10
Matrix: Water
Date Received: 01/06/24 07:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/08/24 15:46	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/08/24 15:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/08/24 15:46	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/08/24 15:46	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/08/24 15:46	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/08/24 15:46	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/08/24 15:46	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/08/24 15:46	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/08/24 15:46	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/08/24 15:46	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/08/24 15:46	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/08/24 15:46	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/08/24 15:46	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/08/24 15:46	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/08/24 15:46	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/08/24 15:46	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/08/24 15:46	1
Acetone	25	U	50	25	ug/L			01/08/24 15:46	1
Benzene	0.71	U	1.0	0.71	ug/L			01/08/24 15:46	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/08/24 15:46	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/08/24 15:46	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/08/24 15:46	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/08/24 15:46	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/08/24 15:46	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/08/24 15:46	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/08/24 15:46	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/08/24 15:46	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/08/24 15:46	1
cis-1,2-Dichloroethene	**1.1**		1.0	0.53	ug/L			01/08/24 15:46	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/08/24 15:46	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/08/24 15:46	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/08/24 15:46	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/08/24 15:46	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/08/24 15:46	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/08/24 15:46	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/08/24 15:46	1
Methyl acetate	0.95	U J3	10	0.95	ug/L			01/08/24 15:46	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/08/24 15:46	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/08/24 15:46	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/08/24 15:46	1

Client: Tetra Tech, Inc.
Job ID: 670-32729-1
Project/Site: NASA KSC LC34 - BiWeekly

Client Sample ID: LC34-IW0162-110.0-20240105
Lab Sample ID: 670-32729-2
Date Collected: 01/05/24 10:10
Matrix: Water
Date Received: 01/06/24 07:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			01/08/24 15:46	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/08/24 15:46	1
Toluene	0.72	U	1.0	0.72	ug/L			01/08/24 15:46	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/08/24 15:46	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/08/24 15:46	1
Trichloroethene	**2.3**		1.0	0.89	ug/L			01/08/24 15:46	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/08/24 15:46	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/08/24 15:46	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/08/24 15:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/08/24 15:46*	*1*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*01/08/24 15:46*	*1*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/08/24 15:46*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-32729-1
Project/Site: NASA KSC LC34 - BiWeekly

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
		BFB	DBFM	TOL						
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)						
660-133798-C-14 MS - DL	Matrix Spike	102	99	100						
660-133798-C-14 MSD - DL	Matrix Spike Duplicate	102	102	102						
670-32729-1 - DL2	LC34-IW0044D2-110.0-20240105	99	108	102						
670-32729-2	LC34-IW0162-110.0-20240105	102	106	102						
820-11568-B-1 MS	Matrix Spike	97	104	103						
820-11568-B-1 MSD	Matrix Spike Duplicate	97	106	102						
LCS 670-70503/4	Lab Control Sample	99	104	101						
LCS 670-70694/4	Lab Control Sample	101	102	102						
LCSD 670-70503/5	Lab Control Sample Dup	100	104	103						
MB 670-70503/8	Method Blank	101	103	102						
MB 670-70694/7	Method Blank	100	106	106						

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-70503/8
Matrix: Water
Analysis Batch: 70503

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/08/24 13:05	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/08/24 13:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/08/24 13:05	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/08/24 13:05	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/08/24 13:05	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/08/24 13:05	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/08/24 13:05	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/08/24 13:05	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/08/24 13:05	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/08/24 13:05	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/08/24 13:05	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/08/24 13:05	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/08/24 13:05	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/08/24 13:05	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/08/24 13:05	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/08/24 13:05	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/08/24 13:05	1
Acetone	25	U	50	25	ug/L			01/08/24 13:05	1
Benzene	0.71	U	1.0	0.71	ug/L			01/08/24 13:05	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/08/24 13:05	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/08/24 13:05	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/08/24 13:05	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/08/24 13:05	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/08/24 13:05	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/08/24 13:05	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/08/24 13:05	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/08/24 13:05	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/08/24 13:05	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/08/24 13:05	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/08/24 13:05	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/08/24 13:05	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/08/24 13:05	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/08/24 13:05	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/08/24 13:05	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/08/24 13:05	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/08/24 13:05	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/08/24 13:05	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/08/24 13:05	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/08/24 13:05	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/08/24 13:05	1
Styrene	0.61	U	1.0	0.61	ug/L			01/08/24 13:05	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/08/24 13:05	1
Toluene	0.72	U	1.0	0.72	ug/L			01/08/24 13:05	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/08/24 13:05	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/08/24 13:05	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/08/24 13:05	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/08/24 13:05	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/08/24 13:05	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-70503/8
Matrix: Water
Analysis Batch: 70503

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/08/24 13:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/08/24 13:05*	*1*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/08/24 13:05*	*1*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/08/24 13:05*	*1*

Lab Sample ID: LCS 670-70503/4
Matrix: Water
Analysis Batch: 70503

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	5.00	5.11		ug/L		102	57 - 148
1,1,2,2-Tetrachloroethane	5.00	5.05		ug/L		101	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	6.01		ug/L		120	47 - 173
1,1,2-Trichloroethane	5.00	4.60		ug/L		92	57 - 141
1,1-Dichloroethane	5.00	5.13		ug/L		103	57 - 142
1,1-Dichloroethene	5.00	5.70		ug/L		114	47 - 139
1,2,4-Trichlorobenzene	5.00	5.19		ug/L		104	52 - 159
1,2-Dibromo-3-Chloropropane	5.00	4.64	I	ug/L		93	48 - 150
1,2-Dibromoethane (EDB)	5.00	4.70	I	ug/L		94	57 - 140
1,2-Dichlorobenzene	5.00	5.04		ug/L		101	63 - 131
1,2-Dichloroethane	5.00	4.80		ug/L		96	50 - 156
1,2-Dichloropropane	5.00	4.55		ug/L		91	61 - 133
1,3-Dichlorobenzene	5.00	5.08		ug/L		102	66 - 129
1,4-Dichlorobenzene	5.00	5.10		ug/L		102	65 - 133
2-Butanone (MEK)	50.0	52.7		ug/L		105	10 - 180
2-Hexanone	50.0	55.6		ug/L		111	12 - 180
4-Methyl-2-pentanone	50.0	56.0		ug/L		112	19 - 180
Acetone	50.0	61.4		ug/L		123	10 - 180
Benzene	5.00	5.00		ug/L		100	56 - 136
Bromodichloromethane	5.00	4.95		ug/L		99	58 - 135
Bromoform	5.00	4.81		ug/L		96	46 - 148
Bromomethane	5.00	3.46		ug/L		69	10 - 173
Carbon disulfide	5.00	5.24		ug/L		105	43 - 153
Carbon tetrachloride	5.00	5.87		ug/L		117	54 - 156
Chlorobenzene	5.00	4.97		ug/L		99	51 - 139
Chloroethane	5.00	4.90		ug/L		98	27 - 180
Chloroform	5.00	4.68	I	ug/L		94	58 - 139
Chloromethane	5.00	3.46		ug/L		69	33 - 154
cis-1,2-Dichloroethene	5.00	4.72		ug/L		94	56 - 128
cis-1,3-Dichloropropene	5.00	4.74		ug/L		95	64 - 128
Cyclohexane	5.00	5.65		ug/L		113	14 - 151
Dibromochloromethane	5.00	4.95		ug/L		99	50 - 140
Dichlorodifluoromethane	5.00	2.89		ug/L		58	10 - 180
Ethylbenzene	5.00	5.07		ug/L		101	63 - 133
Isopropylbenzene	5.00	5.28		ug/L		106	60 - 132
m,p-Xylenes	5.00	5.18		ug/L		104	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-70503/4
Matrix: Water
Analysis Batch: 70503

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Methyl acetate			10.0	12.0		ug/L		120	70 - 130		
Methyl tert-butyl ether			5.00	5.13		ug/L		103	51 - 145		
Methylene Chloride			5.00	5.0	U	ug/L		82	43 - 142		
o-Xylene			5.00	4.91		ug/L		98	61 - 129		
Styrene			5.00	4.82		ug/L		96	59 - 136		
Tetrachloroethene			5.00	5.51		ug/L		110	60 - 147		
Toluene			5.00	5.02		ug/L		100	64 - 131		
trans-1,2-Dichloroethene			5.00	4.99		ug/L		100	54 - 134		
trans-1,3-Dichloropropene			5.00	4.76		ug/L		95	65 - 149		
Trichloroethene			5.00	5.16		ug/L		103	62 - 135		
Trichlorofluoromethane			5.00	6.06		ug/L		121	56 - 155		
Vinyl chloride			5.00	4.78		ug/L		96	20 - 167		
Xylenes, Total			10.0	10.1		ug/L		101	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*
Dibromofluoromethane (Surr)	*104*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Lab Sample ID: LCSD 670-70503/5
Matrix: Water
Analysis Batch: 70503

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			5.00	5.23		ug/L		105	57 - 148	2	25
1,1,2,2-Tetrachloroethane			5.00	5.21		ug/L		104	60 - 139	3	17
1,1,2-Trichloro-1,2,2-trifluoroetha ne			5.00	5.93		ug/L		119	47 - 173	1	30
1,1,2-Trichloroethane			5.00	5.17		ug/L		103	57 - 141	12	16
1,1-Dichloroethane			5.00	4.97		ug/L		99	57 - 142	3	24
1,1-Dichloroethene			5.00	5.75		ug/L		115	47 - 139	1	16
1,2,4-Trichlorobenzene			5.00	5.28		ug/L		106	52 - 159	2	24
1,2-Dibromo-3-Chloropropane			5.00	4.87	I	ug/L		97	48 - 150	5	21
1,2-Dibromoethane (EDB)			5.00	4.58	I	ug/L		92	57 - 140	3	16
1,2-Dichlorobenzene			5.00	4.91		ug/L		98	63 - 131	3	25
1,2-Dichloroethane			5.00	4.84		ug/L		97	50 - 156	1	18
1,2-Dichloropropane			5.00	4.56		ug/L		91	61 - 133	0	26
1,3-Dichlorobenzene			5.00	4.71		ug/L		94	66 - 129	8	23
1,4-Dichlorobenzene			5.00	4.97		ug/L		99	65 - 133	2	23
2-Butanone (MEK)			50.0	58.0		ug/L		116	10 - 180	10	29
2-Hexanone			50.0	58.7		ug/L		117	12 - 180	6	28
4-Methyl-2-pentanone			50.0	58.9		ug/L		118	19 - 180	5	24
Acetone			50.0	61.2		ug/L		122	10 - 180	0	19
Benzene			5.00	4.89		ug/L		98	56 - 136	2	14
Bromodichloromethane			5.00	4.83		ug/L		97	58 - 135	3	19
Bromoform			5.00	5.03		ug/L		101	46 - 148	4	18
Bromomethane			5.00	3.31		ug/L		66	10 - 173	4	29
Carbon disulfide			5.00	5.11		ug/L		102	43 - 153	2	26
Carbon tetrachloride			5.00	5.52		ug/L		110	54 - 156	6	27

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 670-70503/5
Matrix: Water
Analysis Batch: 70503

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chlorobenzene			5.00	4.98		ug/L		100	51 - 139	0	13
Chloroethane			5.00	4.77		ug/L		95	27 - 180	3	22
Chloroform			5.00	4.50	I	ug/L		90	58 - 139	4	17
Chloromethane			5.00	3.32		ug/L		66	33 - 154	4	31
cis-1,2-Dichloroethene			5.00	4.79		ug/L		96	56 - 128	2	17
cis-1,3-Dichloropropene			5.00	4.58		ug/L		92	64 - 128	3	20
Cyclohexane			5.00	5.35		ug/L		107	14 - 151	6	30
Dibromochloromethane			5.00	4.87		ug/L		97	50 - 140	2	18
Dichlorodifluoromethane			5.00	2.50		ug/L		50	10 - 180	14	26
Ethylbenzene			5.00	5.27		ug/L		105	63 - 133	4	18
Isopropylbenzene			5.00	5.09		ug/L		102	60 - 132	4	23
m,p-Xylenes			5.00	5.08		ug/L		102	64 - 133	2	18
Methyl acetate			10.0	13.4	J3	ug/L		134	70 - 130	11	30
Methyl tert-butyl ether			5.00	5.26		ug/L		105	51 - 145	2	22
Methylene Chloride			5.00	5.0	U	ug/L		82	43 - 142	0	23
o-Xylene			5.00	4.88		ug/L		98	61 - 129	1	16
Styrene			5.00	4.95		ug/L		99	59 - 136	3	32
Tetrachloroethene			5.00	5.39		ug/L		108	60 - 147	2	21
Toluene			5.00	4.82		ug/L		96	64 - 131	4	16
trans-1,2-Dichloroethene			5.00	4.62		ug/L		92	54 - 134	8	20
trans-1,3-Dichloropropene			5.00	4.81		ug/L		96	65 - 149	1	17
Trichloroethene			5.00	4.85		ug/L		97	62 - 135	6	20
Trichlorofluoromethane			5.00	5.59		ug/L		112	56 - 155	8	22
Vinyl chloride			5.00	4.71		ug/L		94	20 - 167	1	24
Xylenes, Total			10.0	9.96		ug/L		100	50 - 150	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*
Dibromofluoromethane (Surr)	*104*		*53 - 146*
Toluene-d8 (Surr)	*103*		*40 - 146*

Lab Sample ID: 820-11568-B-1 MS
Matrix: Water
Analysis Batch: 70503

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	23.4		ug/L		117	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	23.0		ug/L		115	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	26.6		ug/L		133	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	22.0		ug/L		110	57 - 141
1,1-Dichloroethane	0.62	U	20.0	21.7		ug/L		108	57 - 142
1,1-Dichloroethene	0.94	U	20.0	25.9		ug/L		129	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	22.6		ug/L		113	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	21.9		ug/L		110	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	21.3		ug/L		106	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	21.9		ug/L		110	63 - 131
1,2-Dichloroethane	0.63	U	20.0	20.1		ug/L		101	50 - 156
1,2-Dichloropropane	0.80	U	20.0	20.0		ug/L		100	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 820-11568-B-1 MS
Matrix: Water
Analysis Batch: 70503

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	0.77	U	20.0	21.7		ug/L		108	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	21.3		ug/L		107	65 - 133
2-Butanone (MEK)	4.5	U	200	238		ug/L		119	10 - 180
2-Hexanone	2.5	U	200	253		ug/L		127	12 - 180
4-Methyl-2-pentanone	5.0	U	200	256		ug/L		128	19 - 180
Acetone	25	U	200	247		ug/L		124	10 - 180
Benzene	0.71	U	20.0	21.5		ug/L		108	56 - 136
Bromodichloromethane	0.52	U	20.0	21.6		ug/L		108	58 - 135
Bromoform	0.75	U	20.0	20.1		ug/L		101	46 - 148
Bromomethane	0.95	U	20.0	13.6		ug/L		68	10 - 173
Carbon disulfide	2.5	U	20.0	23.2		ug/L		116	43 - 153
Carbon tetrachloride	0.94	U	20.0	24.6		ug/L		123	54 - 156
Chlorobenzene	0.72	U	20.0	22.0		ug/L		110	51 - 139
Chloroethane	0.98	U	20.0	21.1		ug/L		105	27 - 180
Chloroform	0.80	U	20.0	21.0		ug/L		105	59 - 139
Chloromethane	0.82	U	20.0	13.4		ug/L		67	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	20.4		ug/L		102	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	20.2		ug/L		101	64 - 128
Cyclohexane	0.93	U	20.0	24.8		ug/L		124	14 - 141
Dibromochloromethane	0.50	U	20.0	21.6		ug/L		108	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	11.5		ug/L		58	10 - 180
Ethylbenzene	0.69	U	20.0	22.3		ug/L		112	63 - 133
Isopropylbenzene	0.67	U	20.0	23.1		ug/L		116	60 - 132
m,p-Xylenes	1.3	U	20.0	22.4		ug/L		112	64 - 133
Methyl acetate	0.95	U J3	40.0	61.3	J3	ug/L		153	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	22.3		ug/L		111	50 - 150
Methylene Chloride	5.0	U	20.0	22.0		ug/L		110	43 - 142
o-Xylene	0.53	U	20.0	21.7		ug/L		108	61 - 129
Styrene	0.61	U	20.0	22.2		ug/L		111	59 - 136
Tetrachloroethene	0.76	U	20.0	22.8		ug/L		114	60 - 147
Toluene	0.72	U	20.0	21.9		ug/L		109	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	22.2		ug/L		111	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	21.4		ug/L		107	65 - 149
Trichloroethene	0.89	U	20.0	22.1		ug/L		110	62 - 135
Trichlorofluoromethane	0.94	U	20.0	25.4		ug/L		127	56 - 155
Vinyl chloride	0.71	U	20.0	20.8		ug/L		104	20 - 167
Xylenes, Total	1.3	U	40.0	44.1		ug/L		110	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*
Dibromofluoromethane (Surr)	*104*		*53 - 146*
Toluene-d8 (Surr)	*103*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 820-11568-B-1 MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 70503

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	23.3		ug/L		116	57 - 148	0	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	22.9		ug/L		115	60 - 139	0	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	26.1		ug/L		130	50 - 150	2	30
1,1,2-Trichloroethane	0.76	U	20.0	22.6		ug/L		113	57 - 141	3	16
1,1-Dichloroethane	0.62	U	20.0	21.8		ug/L		109	57 - 142	1	24
1,1-Dichloroethene	0.94	U	20.0	25.7		ug/L		129	49 - 139	1	16
1,2,4-Trichlorobenzene	0.70	U	20.0	22.9		ug/L		115	52 - 159	1	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	21.6		ug/L		108	48 - 150	1	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	21.4		ug/L		107	50 - 150	0	16
1,2-Dichlorobenzene	0.73	U	20.0	21.7		ug/L		109	63 - 131	1	25
1,2-Dichloroethane	0.63	U	20.0	20.7		ug/L		104	50 - 156	3	18
1,2-Dichloropropane	0.80	U	20.0	20.0		ug/L		100	61 - 133	0	26
1,3-Dichlorobenzene	0.77	U	20.0	21.5		ug/L		108	66 - 129	1	23
1,4-Dichlorobenzene	0.76	U	20.0	21.1		ug/L		106	65 - 133	1	23
2-Butanone (MEK)	4.5	U	200	240		ug/L		120	10 - 180	1	29
2-Hexanone	2.5	U	200	260		ug/L		130	12 - 180	3	28
4-Methyl-2-pentanone	5.0	U	200	261		ug/L		131	19 - 180	2	24
Acetone	25	U	200	258		ug/L		129	10 - 180	4	19
Benzene	0.71	U	20.0	21.2		ug/L		106	56 - 136	2	14
Bromodichloromethane	0.52	U	20.0	21.3		ug/L		106	58 - 135	2	19
Bromoform	0.75	U	20.0	19.6		ug/L		98	46 - 148	3	18
Bromomethane	0.95	U	20.0	14.4		ug/L		72	10 - 173	6	29
Carbon disulfide	2.5	U	20.0	23.2		ug/L		116	43 - 153	0	26
Carbon tetrachloride	0.94	U	20.0	24.3		ug/L		122	54 - 156	1	27
Chlorobenzene	0.72	U	20.0	21.5		ug/L		107	51 - 139	2	13
Chloroethane	0.98	U	20.0	20.6		ug/L		103	27 - 180	2	22
Chloroform	0.80	U	20.0	20.2		ug/L		101	59 - 139	4	17
Chloromethane	0.82	U	20.0	14.0		ug/L		70	33 - 154	4	31
cis-1,2-Dichloroethene	0.53	U	20.0	20.6		ug/L		103	56 - 128	1	17
cis-1,3-Dichloropropene	0.59	U	20.0	20.5		ug/L		102	64 - 128	1	20
Cyclohexane	0.93	U	20.0	24.3		ug/L		122	14 - 141	2	30
Dibromochloromethane	0.50	U	20.0	21.8		ug/L		109	50 - 150	1	18
Dichlorodifluoromethane	0.74	U	20.0	10.9		ug/L		54	10 - 180	6	26
Ethylbenzene	0.69	U	20.0	23.0		ug/L		115	63 - 133	3	18
Isopropylbenzene	0.67	U	20.0	23.0		ug/L		115	60 - 132	1	23
m,p-Xylenes	1.3	U	20.0	23.0		ug/L		115	64 - 133	3	18
Methyl acetate	0.95	U J3	40.0	61.9	J3	ug/L		155	50 - 150	1	30
Methyl tert-butyl ether	0.60	U	20.0	21.8		ug/L		109	50 - 150	2	22
Methylene Chloride	5.0	U	20.0	21.5		ug/L		108	43 - 142	2	23
o-Xylene	0.53	U	20.0	21.9		ug/L		110	61 - 129	1	16
Styrene	0.61	U	20.0	22.4		ug/L		112	59 - 136	1	32
Tetrachloroethene	0.76	U	20.0	22.6		ug/L		113	60 - 147	1	21
Toluene	0.72	U	20.0	21.9		ug/L		109	64 - 131	0	16
trans-1,2-Dichloroethene	0.73	U	20.0	22.0		ug/L		110	54 - 134	1	20
trans-1,3-Dichloropropene	0.73	U	20.0	21.2		ug/L		106	65 - 149	1	17
Trichloroethene	0.89	U	20.0	21.6		ug/L		108	62 - 135	2	20
Trichlorofluoromethane	0.94	U	20.0	24.8		ug/L		124	56 - 155	2	22
Vinyl chloride	0.71	U	20.0	21.4		ug/L		107	20 - 167	3	24

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 820-11568-B-1 MSD
Matrix: Water
Analysis Batch: 70503

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	1.3	U	40.0	44.9		ug/L		112	50 - 150	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*
Dibromofluoromethane (Surr)	*106*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Lab Sample ID: MB 670-70694/7
Matrix: Water
Analysis Batch: 70694

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/09/24 12:33	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/09/24 12:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/09/24 12:33	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/09/24 12:33	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/09/24 12:33	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/09/24 12:33	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/09/24 12:33	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/09/24 12:33	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/09/24 12:33	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/09/24 12:33	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/09/24 12:33	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/09/24 12:33	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/09/24 12:33	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/09/24 12:33	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/09/24 12:33	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/09/24 12:33	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/09/24 12:33	1
Acetone	25	U	50	25	ug/L			01/09/24 12:33	1
Benzene	0.71	U	1.0	0.71	ug/L			01/09/24 12:33	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/09/24 12:33	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/09/24 12:33	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/09/24 12:33	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/09/24 12:33	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/09/24 12:33	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/09/24 12:33	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/09/24 12:33	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/09/24 12:33	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/09/24 12:33	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/09/24 12:33	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/09/24 12:33	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/09/24 12:33	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/09/24 12:33	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/09/24 12:33	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/09/24 12:33	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/09/24 12:33	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/09/24 12:33	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-70694/7
Matrix: Water
Analysis Batch: 70694

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	0.95	U	10	0.95	ug/L			01/09/24 12:33	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/09/24 12:33	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/09/24 12:33	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/09/24 12:33	1
Styrene	0.61	U	1.0	0.61	ug/L			01/09/24 12:33	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/09/24 12:33	1
Toluene	0.72	U	1.0	0.72	ug/L			01/09/24 12:33	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/09/24 12:33	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/09/24 12:33	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/09/24 12:33	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/09/24 12:33	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/09/24 12:33	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/09/24 12:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/09/24 12:33*	*1*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*01/09/24 12:33*	*1*
Toluene-d8 (Surr)	*106*		*40 - 146*		*01/09/24 12:33*	*1*

Lab Sample ID: LCS 670-70694/4
Matrix: Water
Analysis Batch: 70694

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	19.9		ug/L		100	57 - 148
1,1,2,2-Tetrachloroethane	20.0	18.2		ug/L		91	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	23.5		ug/L		118	47 - 173
1,1,2-Trichloroethane	20.0	18.6		ug/L		93	57 - 141
1,1-Dichloroethane	20.0	18.5		ug/L		93	57 - 142
1,1-Dichloroethene	20.0	22.3		ug/L		112	47 - 139
1,2,4-Trichlorobenzene	20.0	20.6		ug/L		103	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	15.3		ug/L		77	48 - 150
1,2-Dibromoethane (EDB)	20.0	18.4		ug/L		92	57 - 140
1,2-Dichlorobenzene	20.0	21.0		ug/L		105	63 - 131
1,2-Dichloroethane	20.0	18.0		ug/L		90	50 - 156
1,2-Dichloropropane	20.0	19.2		ug/L		96	61 - 133
1,3-Dichlorobenzene	20.0	21.0		ug/L		105	66 - 129
1,4-Dichlorobenzene	20.0	20.4		ug/L		102	65 - 133
2-Butanone (MEK)	200	155		ug/L		77	10 - 180
2-Hexanone	200	147		ug/L		74	12 - 180
4-Methyl-2-pentanone	200	150		ug/L		75	19 - 180
Acetone	200	126		ug/L		63	10 - 180
Benzene	20.0	19.6		ug/L		98	56 - 136
Bromodichloromethane	20.0	19.5		ug/L		98	58 - 135
Bromoform	20.0	18.4		ug/L		92	46 - 148
Bromomethane	20.0	18.6		ug/L		93	10 - 173
Carbon disulfide	20.0	17.4		ug/L		87	43 - 153
Carbon tetrachloride	20.0	20.2		ug/L		101	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-70694/4
Matrix: Water
Analysis Batch: 70694

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	20.0	20.4		ug/L		102	51 - 139
Chloroethane	20.0	16.7		ug/L		84	27 - 180
Chloroform	20.0	20.3		ug/L		101	58 - 139
Chloromethane	20.0	12.3		ug/L		62	33 - 154
cis-1,2-Dichloroethene	20.0	18.0		ug/L		90	56 - 128
cis-1,3-Dichloropropene	20.0	17.7		ug/L		89	64 - 128
Cyclohexane	20.0	18.2		ug/L		91	14 - 151
Dibromochloromethane	20.0	19.1		ug/L		96	50 - 140
Dichlorodifluoromethane	20.0	8.77		ug/L		44	10 - 180
Ethylbenzene	20.0	20.5		ug/L		102	63 - 133
Isopropylbenzene	20.0	21.3		ug/L		106	60 - 132
m,p-Xylenes	20.0	20.0		ug/L		100	64 - 133
Methyl acetate	40.0	37.1		ug/L		93	70 - 130
Methyl tert-butyl ether	20.0	18.0		ug/L		90	51 - 145
Methylene Chloride	20.0	20.8		ug/L		104	43 - 142
o-Xylene	20.0	19.7		ug/L		99	61 - 129
Styrene	20.0	19.5		ug/L		98	59 - 136
Tetrachloroethene	20.0	20.6		ug/L		103	60 - 147
Toluene	20.0	20.4		ug/L		102	64 - 131
trans-1,2-Dichloroethene	20.0	19.4		ug/L		97	54 - 134
trans-1,3-Dichloropropene	20.0	18.7		ug/L		94	65 - 149
Trichloroethene	20.0	20.4		ug/L		102	62 - 135
Trichlorofluoromethane	20.0	18.0		ug/L		90	56 - 155
Vinyl chloride	20.0	14.4		ug/L		72	20 - 167
Xylenes, Total	40.0	39.7		ug/L		99	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Lab Sample ID: 660-133798-C-14 MS
Matrix: Water
Analysis Batch: 70694

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane - DL	80	U	2000	1880		ug/L		94	57 - 148
1,1,2,2-Tetrachloroethane - DL	54	U	2000	1770		ug/L		88	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	73	U	2000	1840		ug/L		92	50 - 150
1,1,2-Trichloroethane - DL	76	U	2000	1770		ug/L		89	57 - 141
1,1-Dichloroethane - DL	62	U	2000	1870		ug/L		93	57 - 142
1,1-Dichloroethene - DL	94	U	2000	1940		ug/L		97	49 - 139
1,2,4-Trichlorobenzene - DL	70	U	2000	1840		ug/L		92	52 - 159
1,2-Dibromo-3-Chloropropane - DL	96	U	2000	1580		ug/L		79	48 - 150
1,2-Dibromoethane (EDB) - DL	78	U	2000	1770		ug/L		88	50 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 660-133798-C-14 MS
Matrix: Water
Analysis Batch: 70694

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichlorobenzene - DL	73	U	2000	1960		ug/L		98	63 - 131
1,2-Dichloroethane - DL	63	U	2000	1710		ug/L		86	50 - 156
1,2-Dichloropropane - DL	80	U	2000	1840		ug/L		92	61 - 133
1,3-Dichlorobenzene - DL	77	U	2000	1930		ug/L		96	66 - 129
1,4-Dichlorobenzene - DL	76	U	2000	1930		ug/L		96	65 - 133
2-Butanone (MEK) - DL	450	U	20000	14600		ug/L		73	10 - 180
2-Hexanone - DL	250	U	20000	14800		ug/L		74	12 - 180
4-Methyl-2-pentanone - DL	500	U	20000	15300		ug/L		77	19 - 180
Acetone - DL	2500	U	20000	13100		ug/L		65	10 - 180
Benzene - DL	71	U	2000	1890		ug/L		94	56 - 136
Bromodichloromethane - DL	52	U	2000	1840		ug/L		92	58 - 135
Bromoform - DL	75	U	2000	1820		ug/L		91	46 - 148
Bromomethane - DL	95	U	2000	1730		ug/L		87	10 - 173
Carbon disulfide - DL	250	U	2000	1440		ug/L		72	43 - 153
Carbon tetrachloride - DL	94	U	2000	1880		ug/L		94	54 - 156
Chlorobenzene - DL	72	U	2000	1940		ug/L		97	51 - 139
Chloroethane - DL	98	U	2000	1450		ug/L		73	27 - 180
Chloroform - DL	80	U	2000	1830		ug/L		91	59 - 139
Chloromethane - DL	82	U	2000	1290		ug/L		65	33 - 154
cis-1,2-Dichloroethene - DL	53	U	2000	1830		ug/L		91	56 - 128
cis-1,3-Dichloropropene - DL	59	U	2000	1740		ug/L		87	64 - 128
Cyclohexane - DL	93	U	2000	1700		ug/L		85	14 - 141
Dibromochloromethane - DL	50	U	2000	1830		ug/L		91	50 - 150
Dichlorodifluoromethane - DL	74	U	2000	917		ug/L		46	10 - 180
Ethylbenzene - DL	1800		2000	3630		ug/L		90	63 - 133
Isopropylbenzene - DL	130	I	2000	2190		ug/L		103	60 - 132
m,p-Xylenes - DL	3600		2000	5220		ug/L		81	64 - 133
Methyl acetate - DL	95	U	4000	3900		ug/L		97	50 - 150
Methyl tert-butyl ether - DL	60	U	2000	1720		ug/L		86	50 - 150
Methylene Chloride - DL	500	U	2000	1950		ug/L		97	43 - 142
o-Xylene - DL	1700		2000	3480		ug/L		90	61 - 129
Styrene - DL	61	U	2000	1880		ug/L		94	59 - 136
Tetrachloroethene - DL	76	U	2000	1900		ug/L		95	60 - 147
Toluene - DL	270		2000	2150		ug/L		94	64 - 131
trans-1,2-Dichloroethene - DL	73	U	2000	1820		ug/L		91	54 - 134
trans-1,3-Dichloropropene - DL	73	U	2000	1830		ug/L		92	65 - 149
Trichloroethene - DL	89	U	2000	1890		ug/L		94	62 - 135
Trichlorofluoromethane - DL	94	U	2000	1760		ug/L		88	56 - 155
Vinyl chloride - DL	71	U	2000	1420		ug/L		71	20 - 167
Xylenes, Total - DL	5300		4000	8700		ug/L		85	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*102*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*99*		*53 - 146*
Toluene-d8 (Surr) - DL	*100*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 660-133798-C-14 MSD
Matrix: Water
Analysis Batch: 70694

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane - DL	80	U	2000	1900		ug/L		95	57 - 148	1	25
1,1,2,2-Tetrachloroethane - DL	54	U	2000	1790		ug/L		89	60 - 139	1	17
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	73	U	2000	1970		ug/L		99	50 - 150	7	30
1,1,2-Trichloroethane - DL	76	U	2000	1840		ug/L		92	57 - 141	4	16
1,1-Dichloroethane - DL	62	U	2000	1930		ug/L		96	57 - 142	3	24
1,1-Dichloroethene - DL	94	U	2000	2010		ug/L		101	49 - 139	4	16
1,2,4-Trichlorobenzene - DL	70	U	2000	2000		ug/L		100	52 - 159	8	24
1,2-Dibromo-3-Chloropropane - DL	96	U	2000	1540		ug/L		77	48 - 150	3	21
1,2-Dibromoethane (EDB) - DL	78	U	2000	1860		ug/L		93	50 - 150	5	16
1,2-Dichlorobenzene - DL	73	U	2000	1990		ug/L		99	63 - 131	1	25
1,2-Dichloroethane - DL	63	U	2000	1790		ug/L		90	50 - 156	5	18
1,2-Dichloropropane - DL	80	U	2000	1890		ug/L		95	61 - 133	3	26
1,3-Dichlorobenzene - DL	77	U	2000	1980		ug/L		99	66 - 129	3	23
1,4-Dichlorobenzene - DL	76	U	2000	1950		ug/L		98	65 - 133	1	23
2-Butanone (MEK) - DL	450	U	20000	15100		ug/L		75	10 - 180	4	29
2-Hexanone - DL	250	U	20000	15400		ug/L		77	12 - 180	4	28
4-Methyl-2-pentanone - DL	500	U	20000	15700		ug/L		79	19 - 180	3	24
Acetone - DL	2500	U	20000	13600		ug/L		68	10 - 180	4	19
Benzene - DL	71	U	2000	1850		ug/L		93	56 - 136	2	14
Bromodichloromethane - DL	52	U	2000	1900		ug/L		95	58 - 135	3	19
Bromoform - DL	75	U	2000	1800		ug/L		90	46 - 148	1	18
Bromomethane - DL	95	U	2000	1800		ug/L		90	10 - 173	4	29
Carbon disulfide - DL	250	U	2000	1430		ug/L		71	43 - 153	1	26
Carbon tetrachloride - DL	94	U	2000	1970		ug/L		98	54 - 156	5	27
Chlorobenzene - DL	72	U	2000	1950		ug/L		97	51 - 139	1	13
Chloroethane - DL	98	U	2000	1600		ug/L		80	27 - 180	9	22
Chloroform - DL	80	U	2000	2030		ug/L		102	59 - 139	11	17
Chloromethane - DL	82	U	2000	1300		ug/L		65	33 - 154	1	31
cis-1,2-Dichloroethene - DL	53	U	2000	1880		ug/L		94	56 - 128	3	17
cis-1,3-Dichloropropene - DL	59	U	2000	1750		ug/L		87	64 - 128	0	20
Cyclohexane - DL	93	U	2000	1780		ug/L		89	14 - 141	4	30
Dibromochloromethane - DL	50	U	2000	1860		ug/L		93	50 - 150	2	18
Dichlorodifluoromethane - DL	74	U	2000	901		ug/L		45	10 - 180	2	26
Ethylbenzene - DL	1800		2000	3730		ug/L		95	63 - 133	3	18
Isopropylbenzene - DL	130	I	2000	2130		ug/L		100	60 - 132	2	23
m,p-Xylenes - DL	3600		2000	5240		ug/L		82	64 - 133	0	18
Methyl acetate - DL	95	U	4000	3930		ug/L		98	50 - 150	1	30
Methyl tert-butyl ether - DL	60	U	2000	1830		ug/L		92	50 - 150	6	22
Methylene Chloride - DL	500	U	2000	1890		ug/L		95	43 - 142	3	23
o-Xylene - DL	1700		2000	3520		ug/L		92	61 - 129	1	16
Styrene - DL	61	U	2000	1850		ug/L		92	59 - 136	2	32
Tetrachloroethene - DL	76	U	2000	1940		ug/L		97	60 - 147	2	21
Toluene - DL	270		2000	2200		ug/L		97	64 - 131	2	16
trans-1,2-Dichloroethene - DL	73	U	2000	1920		ug/L		96	54 - 134	6	20
trans-1,3-Dichloropropene - DL	73	U	2000	1880		ug/L		94	65 - 149	3	17
Trichloroethene - DL	89	U	2000	1940		ug/L		97	62 - 135	2	20
Trichlorofluoromethane - DL	94	U	2000	1760		ug/L		88	56 - 155	0	22

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 660-133798-C-14 MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 70694

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Vinyl chloride - DL	71	U	2000	1470		ug/L		73	20 - 167	3	24
Xylenes, Total - DL	5300		4000	8760		ug/L		87	50 - 150	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*102*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*102*		*53 - 146*
Toluene-d8 (Surr) - DL	*102*		*40 - 146*

QC Association Summary

Client: Tetra Tech, Inc.
Job ID: 670-32729-1
Project/Site: NASA KSC LC34 - BiWeekly

GC/MS VOA

Analysis Batch: 70503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-32729-2	LC34-IW0162-110.0-20240105	Total/NA	Water	8260D	
MB 670-70503/8	Method Blank	Total/NA	Water	8260D	
LCS 670-70503/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 670-70503/5	Lab Control Sample Dup	Total/NA	Water	8260D	
820-11568-B-1 MS	Matrix Spike	Total/NA	Water	8260D	
820-11568-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 70694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-32729-1 - DL2	LC34-IW0044D2-110.0-20240105	Total/NA	Water	8260D	
MB 670-70694/7	Method Blank	Total/NA	Water	8260D	
LCS 670-70694/4	Lab Control Sample	Total/NA	Water	8260D	
660-133798-C-14 MS - DL	Matrix Spike	Total/NA	Water	8260D	
660-133798-C-14 MSD - DL	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-32729-1
Project/Site: NASA KSC LC34 - BiWeekly

Client Sample ID: LC34-IW0044D2-110.0-20240105
Lab Sample ID: 670-32729-1
Date Collected: 01/05/24 09:35
Matrix: Water
Date Received: 01/06/24 07:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL2	5	70694	AAM	EET ORL	01/09/24 20:00

Client Sample ID: LC34-IW0162-110.0-20240105
Lab Sample ID: 670-32729-2
Date Collected: 01/05/24 10:10
Matrix: Water
Date Received: 01/06/24 07:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	70503	AAM	EET ORL	01/08/24 15:46

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-32729-1
Project/Site: NASA KSC LC34 - BiWeekly

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-32729-1
Project/Site: NASA KSC LC34 - BiWeekly

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-32729-1
Project/Site: NASA KSC LC34 - BiWeekly

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-32729-1	LC34-IW0044D2-110.0-20240105	Water	01/05/24 09:35	01/06/24 07:00
670-32729-2	LC34-IW0162-110.0-20240105	Water	01/05/24 10:10	01/06/24 07:00

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ☑ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name:
Chuck Sorden
Address :
1353 N Courtenay Pkwy, Suite S
Address 2:
City, State Zip: **Phone:**
Merritt Island,
Florida 32953
Deliverables:
Special Instructions:
3 DAY TAT Please

Client Contact Info

Company:
Tetra Tech, Inc.
Purchase Order:
1179322
Work Order:
112G08985
Email:
Chuck.Sorden@tetratech.com
Proposed Due Date:
Project Manager
Dylnicki, Kaitlin
Project Reference:
Site Name:
NASA KSC LC34
Sampler:
Chuck Sorden
Description:
LC34 Bi-Weekly Samples

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-IW0044D2-110.0-20240105	Grab	Water	1/5/2024 09:35	FL			X	3	3
2	LC34-IW0162-110.0-20240105	Grab	Water	1/5/2024 10:10	FL			X	3	3

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	1/5/24 13:59	Chuck Sorden	1/5/24 13:59	Bittle, David W	1/6/24 14:17

Chain of Custody Sample Data

LC34-IW0044D2-110.0-20240105

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]: 01/05/2024 09:35 **Time Zone:** Eastern

[1] All collection times displayed in 24 hour format.

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ☑ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name:
Chuck Sorden

Address :
1353 N Courtenay Pkwy, Suite S

Address 2:

City, State Zip: **Phone:**
Merritt Island,
Florida 32953

Deliverables:

Special Instructions:
3 DAY TAT Please

Client Contact Info

Company:
Tetra Tech, Inc.

Project Manager
Dylnicki, Kaitlin

Purchase Order:
1179322

Project Reference:

Work Order:
112G08985

Site Name:
NASA KSC LC34

Email:
Chuck.Sorden@tetratech.com

Sampler:
Chuck Sorden

Proposed Due Date:

Description:
LC34 Bi-Weekly Samples

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-IW0044D2-110.0-20240105	Grab	Water	1/5/2024 09:35	FL			X	3	3
2	LC34-IW0162-110.0-20240105	Grab	Water	1/5/2024 10:10	FL			X	3	3

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	1/5/24 13:59	Chuck Sorden	1/5/24 13:59	Bittle, David W	1/6/24 14:17

670-32729 Chain of Custody

Chain of Custody Number: **242653**

Chain of Custody Sample Data

LC34-IW0044D2-110.0-20240105

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]: 01/05/2024 09:35 **Time Zone:** Eastern

[1] All collection times displayed in 24 hour format.

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-32729-1

Login Number: 32729

List Source: Eurofins Orlando

List Number: 1

Creator: Bittle, David W

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34 Bi-Weekly

JOB NUMBER

670-33468-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

myEOL

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

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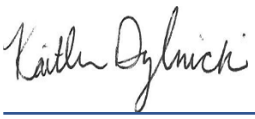

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Authorized for release by
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Definitions/Glossary

Client: Tetra Tech, Inc. Job ID: 670-33468-1
Project/Site: NASA KSC LC34 Bi-Weekly

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-33468-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/20/2024 11:46 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.5°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72903 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane and Chloromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0044D2-110.0-20240119 (670-33468-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Job ID: 670-33468-1
Project/Site: NASA KSC LC34 Bi-Weekly

Client Sample ID: LC34-IW0044D2-110.0-20240119 — Lab Sample ID: 670-33468-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	890		10	5.3	ug/L	10		8260D	Total/NA
trans-1,2-Dichloroethene - DL	12		10	7.3	ug/L	10		8260D	Total/NA
Trichloroethene - DL	640		10	8.9	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	94		10	7.1	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0162-110.0-20240119 — Lab Sample ID: 670-33468-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.0		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	2.0		1.0	0.89	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Job ID: 670-33468-1
Project/Site: NASA KSC LC34 Bi-Weekly

Client Sample ID: LC34-IW0044D2-110.0-20240119
Lab Sample ID: 670-33468-1
Date Collected: 01/19/24 10:44
Matrix: Water
Date Received: 01/20/24 11:46

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			01/24/24 15:45	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			01/24/24 15:45	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			01/24/24 15:45	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			01/24/24 15:45	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			01/24/24 15:45	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			01/24/24 15:45	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			01/24/24 15:45	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			01/24/24 15:45	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			01/24/24 15:45	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			01/24/24 15:45	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			01/24/24 15:45	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			01/24/24 15:45	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			01/24/24 15:45	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			01/24/24 15:45	10
2-Butanone (MEK)	45	U	100	45	ug/L			01/24/24 15:45	10
2-Hexanone	25	U	200	25	ug/L			01/24/24 15:45	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			01/24/24 15:45	10
Acetone	250	U	500	250	ug/L			01/24/24 15:45	10
Benzene	7.1	U	10	7.1	ug/L			01/24/24 15:45	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			01/24/24 15:45	10
Bromoform	7.5	U	10	7.5	ug/L			01/24/24 15:45	10
Bromomethane	9.5	U	20	9.5	ug/L			01/24/24 15:45	10
Carbon disulfide	25	U	50	25	ug/L			01/24/24 15:45	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			01/24/24 15:45	10
Chlorobenzene	7.2	U	10	7.2	ug/L			01/24/24 15:45	10
Chloroethane	9.8	U	20	9.8	ug/L			01/24/24 15:45	10
Chloroform	8.0	U	50	8.0	ug/L			01/24/24 15:45	10
Chloromethane	8.2	U	20	8.2	ug/L			01/24/24 15:45	10
cis-1,2-Dichloroethene	**890**		10	5.3	ug/L			01/24/24 15:45	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			01/24/24 15:45	10
Cyclohexane	9.3	U	50	9.3	ug/L			01/24/24 15:45	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			01/24/24 15:45	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			01/24/24 15:45	10
Ethylbenzene	6.9	U	10	6.9	ug/L			01/24/24 15:45	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			01/24/24 15:45	10
m,p-Xylenes	13	U	20	13	ug/L			01/24/24 15:45	10
Methyl acetate	9.5	U	100	9.5	ug/L			01/24/24 15:45	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			01/24/24 15:45	10
Methylene Chloride	50	U	100	50	ug/L			01/24/24 15:45	10
o-Xylene	5.3	U	10	5.3	ug/L			01/24/24 15:45	10
Styrene	6.1	U	10	6.1	ug/L			01/24/24 15:45	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			01/24/24 15:45	10
Toluene	7.2	U	10	7.2	ug/L			01/24/24 15:45	10
trans-1,2-Dichloroethene	**12**		10	7.3	ug/L			01/24/24 15:45	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			01/24/24 15:45	10
Trichloroethene	**640**		10	8.9	ug/L			01/24/24 15:45	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			01/24/24 15:45	10
Vinyl chloride	**94**		10	7.1	ug/L			01/24/24 15:45	10
Xylenes, Total	13	U	20	13	ug/L			01/24/24 15:45	10

Client: Tetra Tech, Inc.
Job ID: 670-33468-1
Project/Site: NASA KSC LC34 Bi-Weekly

Client Sample ID: LC34-IW0044D2-110.0-20240119
Lab Sample ID: 670-33468-1
Date Collected: 01/19/24 10:44
Matrix: Water
Date Received: 01/20/24 11:46

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/24/24 15:45*	*10*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/24/24 15:45*	*10*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 15:45*	*10*

Client Sample ID: LC34-IW0162-110.0-20240119
Lab Sample ID: 670-33468-2
Date Collected: 01/19/24 10:17
Matrix: Water
Date Received: 01/20/24 11:46

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/24/24 15:25	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/24/24 15:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/24/24 15:25	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/24/24 15:25	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/24/24 15:25	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/24/24 15:25	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/24/24 15:25	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/24/24 15:25	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/24/24 15:25	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/24/24 15:25	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/24/24 15:25	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/24/24 15:25	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/24/24 15:25	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/24/24 15:25	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/24/24 15:25	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/24/24 15:25	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/24/24 15:25	1
Acetone	25	U	50	25	ug/L			01/24/24 15:25	1
Benzene	0.71	U	1.0	0.71	ug/L			01/24/24 15:25	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/24/24 15:25	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/24/24 15:25	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/24/24 15:25	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/24/24 15:25	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/24/24 15:25	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/24/24 15:25	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/24/24 15:25	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/24/24 15:25	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/24/24 15:25	1
cis-1,2-Dichloroethene	**1.0**		1.0	0.53	ug/L			01/24/24 15:25	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/24/24 15:25	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/24/24 15:25	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/24/24 15:25	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/24/24 15:25	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/24/24 15:25	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/24/24 15:25	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/24/24 15:25	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/24/24 15:25	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/24/24 15:25	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/24/24 15:25	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/24/24 15:25	1

Client: Tetra Tech, Inc.
Job ID: 670-33468-1
Project/Site: NASA KSC LC34 Bi-Weekly

Client Sample ID: LC34-IW0162-110.0-20240119
Lab Sample ID: 670-33468-2
Date Collected: 01/19/24 10:17
Matrix: Water
Date Received: 01/20/24 11:46

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			01/24/24 15:25	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/24/24 15:25	1
Toluene	0.72	U	1.0	0.72	ug/L			01/24/24 15:25	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/24/24 15:25	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/24/24 15:25	1
Trichloroethene	**2.0**		1.0	0.89	ug/L			01/24/24 15:25	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/24/24 15:25	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/24/24 15:25	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/24/24 15:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/24/24 15:25*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/24/24 15:25*	*1*
Toluene-d8 (Surr)	*97*		*40 - 146*		*01/24/24 15:25*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-33468-1
Project/Site: NASA KSC LC34 Bi-Weekly

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-33468-1 - DL	LC34-IW0044D2-110.0-20240119	101	100	99
670-33468-2	LC34-IW0162-110.0-20240119	100	102	97
LCS 670-72903/5	Lab Control Sample	98	102	99
MB 670-72903/8	Method Blank	99	102	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-33334-A-1-A MS	Matrix Spike	95	100	100
670-33334-A-1-A MSD	Matrix Spike Duplicate	97	101	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-72903/8
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/24/24 13:55	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/24/24 13:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/24/24 13:55	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/24/24 13:55	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/24/24 13:55	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/24/24 13:55	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/24/24 13:55	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/24/24 13:55	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/24/24 13:55	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/24/24 13:55	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/24/24 13:55	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/24/24 13:55	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/24/24 13:55	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/24/24 13:55	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/24/24 13:55	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/24/24 13:55	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/24/24 13:55	1
Acetone	25	U	50	25	ug/L			01/24/24 13:55	1
Benzene	0.71	U	1.0	0.71	ug/L			01/24/24 13:55	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/24/24 13:55	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/24/24 13:55	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/24/24 13:55	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/24/24 13:55	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/24/24 13:55	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/24/24 13:55	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/24/24 13:55	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/24/24 13:55	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/24/24 13:55	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/24/24 13:55	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/24/24 13:55	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/24/24 13:55	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/24/24 13:55	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/24/24 13:55	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/24/24 13:55	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/24/24 13:55	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/24/24 13:55	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/24/24 13:55	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/24/24 13:55	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/24/24 13:55	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/24/24 13:55	1
Styrene	0.61	U	1.0	0.61	ug/L			01/24/24 13:55	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/24/24 13:55	1
Toluene	0.72	U	1.0	0.72	ug/L			01/24/24 13:55	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/24/24 13:55	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/24/24 13:55	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/24/24 13:55	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/24/24 13:55	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/24/24 13:55	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72903/8
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/24/24 13:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/24/24 13:55*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/24/24 13:55*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 13:55*	*1*

Lab Sample ID: LCS 670-72903/5
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	21.6		ug/L		108	57 - 148
1,1,2,2-Tetrachloroethane	20.0	18.4		ug/L		92	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	21.6		ug/L		108	47 - 173
1,1,2-Trichloroethane	20.0	19.3		ug/L		97	57 - 141
1,1-Dichloroethane	20.0	19.6		ug/L		98	57 - 142
1,1-Dichloroethene	20.0	19.2		ug/L		96	47 - 139
1,2,4-Trichlorobenzene	20.0	20.9		ug/L		105	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	15.8		ug/L		79	48 - 150
1,2-Dibromoethane (EDB)	20.0	18.1		ug/L		91	57 - 140
1,2-Dichlorobenzene	20.0	19.6		ug/L		98	63 - 131
1,2-Dichloroethane	20.0	18.8		ug/L		94	50 - 156
1,2-Dichloropropane	20.0	18.9		ug/L		95	61 - 133
1,3-Dichlorobenzene	20.0	19.9		ug/L		99	66 - 129
1,4-Dichlorobenzene	20.0	20.1		ug/L		100	65 - 133
2-Butanone (MEK)	200	164		ug/L		82	10 - 180
2-Hexanone	200	173		ug/L		87	12 - 180
4-Methyl-2-pentanone	200	183		ug/L		91	19 - 180
Acetone	200	156		ug/L		78	10 - 180
Benzene	20.0	19.1		ug/L		96	56 - 136
Bromodichloromethane	20.0	20.2		ug/L		101	58 - 135
Bromoform	20.0	17.7		ug/L		88	46 - 148
Bromomethane	20.0	12.8		ug/L		64	10 - 173
Carbon disulfide	20.0	16.0		ug/L		80	43 - 153
Carbon tetrachloride	20.0	22.8		ug/L		114	54 - 156
Chlorobenzene	20.0	19.3		ug/L		97	51 - 139
Chloroethane	20.0	18.7		ug/L		94	27 - 180
Chloroform	20.0	19.0		ug/L		95	58 - 139
Chloromethane	20.0	10.5		ug/L		53	33 - 154
cis-1,2-Dichloroethene	20.0	18.7		ug/L		94	56 - 128
cis-1,3-Dichloropropene	20.0	17.7		ug/L		88	64 - 128
Cyclohexane	20.0	21.0		ug/L		105	14 - 151
Dibromochloromethane	20.0	19.7		ug/L		98	50 - 140
Dichlorodifluoromethane	20.0	15.1		ug/L		75	10 - 180
Ethylbenzene	20.0	20.3		ug/L		102	63 - 133
Isopropylbenzene	20.0	20.6		ug/L		103	60 - 132
m,p-Xylenes	20.0	19.7		ug/L		98	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72903/5
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	33.3		ug/L		83	70 - 130
Methyl tert-butyl ether	20.0	18.5		ug/L		92	51 - 145
Methylene Chloride	20.0	17.6		ug/L		88	43 - 142
o-Xylene	20.0	19.1		ug/L		96	61 - 129
Styrene	20.0	19.7		ug/L		98	59 - 136
Tetrachloroethene	20.0	20.7		ug/L		103	60 - 147
Toluene	20.0	19.5		ug/L		97	64 - 131
trans-1,2-Dichloroethene	20.0	18.8		ug/L		94	54 - 134
trans-1,3-Dichloropropene	20.0	18.5		ug/L		92	65 - 149
Trichloroethene	20.0	19.7		ug/L		98	62 - 135
Trichlorofluoromethane	20.0	20.0		ug/L		100	56 - 155
Vinyl chloride	20.0	16.2		ug/L		81	20 - 167
Xylenes, Total	40.0	38.8		ug/L		97	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: 670-33334-A-1-A MS
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	80	U	2000	1960		ug/L		98	57 - 148
1,1,2,2-Tetrachloroethane	54	U	2000	1880		ug/L		94	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	2020		ug/L		101	50 - 150
1,1,2-Trichloroethane	76	U	2000	2000		ug/L		100	57 - 141
1,1-Dichloroethane	62	U	2000	1930		ug/L		97	57 - 142
1,1-Dichloroethene	94	U	2000	1870		ug/L		93	49 - 139
1,2,4-Trichlorobenzene	70	U	2000	2070		ug/L		104	52 - 159
1,2-Dibromo-3-Chloropropane	96	U	2000	1810		ug/L		91	48 - 150
1,2-Dibromoethane (EDB)	78	U	2000	1800		ug/L		90	50 - 150
1,2-Dichlorobenzene	73	U	2000	2000		ug/L		100	63 - 131
1,2-Dichloroethane	63	U	2000	1820		ug/L		91	50 - 156
1,2-Dichloropropane	80	U	2000	1800		ug/L		90	61 - 133
1,3-Dichlorobenzene	77	U	2000	1870		ug/L		94	66 - 129
1,4-Dichlorobenzene	76	U	2000	1910		ug/L		95	65 - 133
2-Butanone (MEK)	450	U	20000	17300		ug/L		86	10 - 180
2-Hexanone	250	U	20000	19200		ug/L		96	12 - 180
4-Methyl-2-pentanone	500	U	20000	20100		ug/L		101	19 - 180
Acetone	2500	U	20000	16600		ug/L		83	10 - 180
Benzene	71	U	2000	1840		ug/L		92	56 - 136
Bromodichloromethane	52	U	2000	1990		ug/L		99	58 - 135
Bromoform	75	U	2000	1820		ug/L		91	46 - 148
Bromomethane	95	U	2000	1300		ug/L		65	10 - 173
Carbon disulfide	250	U	2000	1540		ug/L		77	43 - 153
Carbon tetrachloride	94	U	2000	2090		ug/L		104	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33334-A-1-A MS
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	72	U	2000	1910		ug/L		95	51 - 139
Chloroethane	98	U	2000	1740		ug/L		87	27 - 180
Chloroform	80	U	2000	1850		ug/L		93	59 - 139
Chloromethane	82	U	2000	1060		ug/L		53	33 - 154
cis-1,2-Dichloroethene	53	U	2000	1760		ug/L		88	56 - 128
cis-1,3-Dichloropropene	59	U	2000	1770		ug/L		89	64 - 128
Cyclohexane	93	U	2000	1950		ug/L		97	14 - 141
Dibromochloromethane	50	U	2000	2000		ug/L		100	50 - 150
Dichlorodifluoromethane	74	U	2000	1520		ug/L		76	10 - 180
Ethylbenzene	69	U	2000	1950		ug/L		98	63 - 133
Isopropylbenzene	67	U	2000	1920		ug/L		96	60 - 132
m,p-Xylenes	130	U	2000	1950		ug/L		97	64 - 133
Methyl acetate	95	U	4000	3880		ug/L		97	50 - 150
Methyl tert-butyl ether	60	U	2000	1850		ug/L		93	50 - 150
Methylene Chloride	500	U	2000	1660		ug/L		83	43 - 142
o-Xylene	53	U	2000	1860		ug/L		93	61 - 129
Styrene	61	U	2000	1950		ug/L		97	59 - 136
Tetrachloroethene	76	U	2000	1950		ug/L		97	60 - 147
Toluene	72	U	2000	1840		ug/L		92	64 - 131
trans-1,2-Dichloroethene	73	U	2000	1770		ug/L		89	54 - 134
trans-1,3-Dichloropropene	73	U	2000	1860		ug/L		93	65 - 149
Trichloroethene	89	U	2000	1900		ug/L		95	62 - 135
Trichlorofluoromethane	94	U	2000	1920		ug/L		96	56 - 155
Vinyl chloride	71	U	2000	1620		ug/L		81	20 - 167
Xylenes, Total	130	U	4000	3810		ug/L		95	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-33334-A-1-A MSD
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	80	U	2000	1970		ug/L		99	57 - 148	1	25
1,1,2,2-Tetrachloroethane	54	U	2000	1950		ug/L		98	60 - 139	4	17
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	2010		ug/L		101	50 - 150	0	30
1,1,2-Trichloroethane	76	U	2000	1980		ug/L		99	57 - 141	1	16
1,1-Dichloroethane	62	U	2000	1870		ug/L		93	57 - 142	3	24
1,1-Dichloroethene	94	U	2000	1800		ug/L		90	49 - 139	4	16
1,2,4-Trichlorobenzene	70	U	2000	1870		ug/L		93	52 - 159	10	24
1,2-Dibromo-3-Chloropropane	96	U	2000	1720		ug/L		86	48 - 150	5	21
1,2-Dibromoethane (EDB)	78	U	2000	1810		ug/L		91	50 - 150	0	16
1,2-Dichlorobenzene	73	U	2000	1960		ug/L		98	63 - 131	2	25
1,2-Dichloroethane	63	U	2000	1770		ug/L		89	50 - 156	3	18
1,2-Dichloropropane	80	U	2000	1780		ug/L		89	61 - 133	1	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33334-A-1-A MSD
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	77	U	2000	1880		ug/L		94	66 - 129	0	23
1,4-Dichlorobenzene	76	U	2000	1930		ug/L		96	65 - 133	1	23
2-Butanone (MEK)	450	U	20000	17300		ug/L		86	10 - 180	0	29
2-Hexanone	250	U	20000	18800		ug/L		94	12 - 180	2	28
4-Methyl-2-pentanone	500	U	20000	19700		ug/L		99	19 - 180	2	24
Acetone	2500	U	20000	17100		ug/L		86	10 - 180	3	19
Benzene	71	U	2000	1800		ug/L		90	56 - 136	3	14
Bromodichloromethane	52	U	2000	1950		ug/L		97	58 - 135	2	19
Bromoform	75	U	2000	1770		ug/L		88	46 - 148	3	18
Bromomethane	95	U	2000	1320		ug/L		66	10 - 173	2	29
Carbon disulfide	250	U	2000	1470		ug/L		73	43 - 153	5	26
Carbon tetrachloride	94	U	2000	2120		ug/L		106	54 - 156	2	27
Chlorobenzene	72	U	2000	1920		ug/L		96	51 - 139	0	13
Chloroethane	98	U	2000	1740		ug/L		87	27 - 180	0	22
Chloroform	80	U	2000	1820		ug/L		91	59 - 139	2	17
Chloromethane	82	U	2000	1040		ug/L		52	33 - 154	2	31
cis-1,2-Dichloroethene	53	U	2000	1780		ug/L		89	56 - 128	1	17
cis-1,3-Dichloropropene	59	U	2000	1710		ug/L		85	64 - 128	4	20
Cyclohexane	93	U	2000	1870		ug/L		93	14 - 141	4	30
Dibromochloromethane	50	U	2000	1940		ug/L		97	50 - 150	3	18
Dichlorodifluoromethane	74	U	2000	1500		ug/L		75	10 - 180	2	26
Ethylbenzene	69	U	2000	1920		ug/L		96	63 - 133	1	18
Isopropylbenzene	67	U	2000	1970		ug/L		98	60 - 132	2	23
m,p-Xylenes	130	U	2000	1900		ug/L		95	64 - 133	3	18
Methyl acetate	95	U	4000	3780		ug/L		95	50 - 150	2	30
Methyl tert-butyl ether	60	U	2000	1820		ug/L		91	50 - 150	2	22
Methylene Chloride	500	U	2000	1620		ug/L		81	43 - 142	2	23
o-Xylene	53	U	2000	1850		ug/L		93	61 - 129	0	16
Styrene	61	U	2000	1910		ug/L		95	59 - 136	2	32
Tetrachloroethene	76	U	2000	1860		ug/L		93	60 - 147	5	21
Toluene	72	U	2000	1830		ug/L		92	64 - 131	0	16
trans-1,2-Dichloroethene	73	U	2000	1770		ug/L		89	54 - 134	0	20
trans-1,3-Dichloropropene	73	U	2000	1790		ug/L		90	65 - 149	4	17
Trichloroethene	89	U	2000	1880		ug/L		94	62 - 135	1	20
Trichlorofluoromethane	94	U	2000	1850		ug/L		92	56 - 155	4	22
Vinyl chloride	71	U	2000	1570		ug/L		78	20 - 167	3	24
Xylenes, Total	130	U	4000	3750		ug/L		94	50 - 150	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

QC Association Summary

Client: Tetra Tech, Inc.
Job ID: 670-33468-1
Project/Site: NASA KSC LC34 Bi-Weekly

GC/MS VOA

Leach Batch: 72408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33334-A-1-A MS	Matrix Spike	TCLP	Water	1311	
670-33334-A-1-A MSD	Matrix Spike Duplicate	TCLP	Water	1311	

Analysis Batch: 72903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33468-1 - DL	LC34-IW0044D2-110.0-20240119	Total/NA	Water	8260D	
670-33468-2	LC34-IW0162-110.0-20240119	Total/NA	Water	8260D	
MB 670-72903/8	Method Blank	Total/NA	Water	8260D	
LCS 670-72903/5	Lab Control Sample	Total/NA	Water	8260D	
670-33334-A-1-A MS	Matrix Spike	TCLP	Water	8260D	72408
670-33334-A-1-A MSD	Matrix Spike Duplicate	TCLP	Water	8260D	72408

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33468-1
Project/Site: NASA KSC LC34 Bi-Weekly

Client Sample ID: LC34-IW0044D2-110.0-20240119
Lab Sample ID: 670-33468-1
Date Collected: 01/19/24 10:44
Matrix: Water
Date Received: 01/20/24 11:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	72903	AAM	EET ORL	01/24/24 15:45

Client Sample ID: LC34-IW0162-110.0-20240119
Lab Sample ID: 670-33468-2
Date Collected: 01/19/24 10:17
Matrix: Water
Date Received: 01/20/24 11:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72903	AAM	EET ORL	01/24/24 15:25

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-33468-1
Project/Site: NASA KSC LC34 Bi-Weekly

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-33468-1
Project/Site: NASA KSC LC34 Bi-Weekly

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-33468-1
Project/Site: NASA KSC LC34 Bi-Weekly

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-33468-1	LC34-IW0044D2-110.0-20240119	Water	01/19/24 10:44	01/20/24 11:46
670-33468-2	LC34-IW0162-110.0-20240119	Water	01/19/24 10:17	01/20/24 11:46

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ☐ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name:

Address :

Address 2:

City, State Zip: Merritt Island, Florida 32953

Phone:

Deliverables:

Special Instructions:

Client Contact Info

Company: Tetra Tech, Inc.

Project Manager Dylnicki, Kaitlin

Purchase Order: 1179322

Project Reference:

Work Order: 112G08985

Site Name: NASA KSC LC34

Email:

Sampler: Cory O'Brien

Proposed Due Date:

Description: LC34 Bi-Weekly Sampling

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-IW0044D2-110.0-20240119	Grab	Water	1/19/2024 10:44	FL			X	H	3	3
2	LC34-IW0162-110.0-20240119	Grab	Water	1/19/2024 10:17	FL			X	X	3	3

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Samples Accepted By:	Date/Time:	Samples Relinquished By:	Date/Time:
Chuck Sorden	1/19/24 11:07	Chuck Sorden	1/19/24 11:11	Chuck Sorden	1/19/24 11:11	Chuck Sorden	1/19/24 14:39
Lab Accepted By:	**Date/Time:**						
Clerisier, Meline	1/20/24 11:46						

Chain of Custody Sample Data

LC34-IW0044D2-110.0-20240119

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]: 01/19/2024 10:44 **Time Zone:** Eastern

[1] All collection times displayed in 24 hour format.

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-33468-1

Login Number: 33468

List Source: Eurofins Orlando

List Number: 1

Creator: Clerisier, Meline

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34 - Monthly

JOB NUMBER

670-33842-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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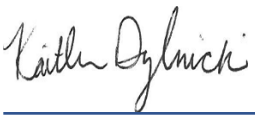

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Authorized for release by
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Definitions/Glossary

Client: Tetra Tech, Inc. Job ID: 670-33842-1
Project/Site: NASA KSC LC34 - Monthly

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-33842-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/30/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-73942 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane, Carbon disulfide and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 670-73942 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-RW17C-20240129 (670-33842-4), LC34-RW19C-20240129 (670-33842-5), LC34-RW20C-20240129 (670-33842-6) and LC34-RW21D-20240129 (670-33842-7). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-73942 recovered above the upper control limit for Cyclohexane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-73942/3).

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-74113 recovered outside acceptance criteria, low biased, for Bromomethane, Carbon disulfide, Chloromethane and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The laboratory control sample (LCS) for analytical batch 670-74113 recovered outside control limits for the following analytes: Bromomethane. A low-level RL spiked at the reporting limit, was prepared with this batch. The affected target analytes recovered within acceptance limits; therefore, the RL demonstrates the analytical system had sufficient sensitivity to detect the compounds had they been present. Since the affected target compounds were not detected in the samples, the data have been reported and qualified.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-AS2-20240129 (670-33842-1) and LC34-RW19C-20240129 (670-33842-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Job ID: 670-33842-1
Project/Site: NASA KSC LC34 - Monthly

Client Sample ID: LC34-AS2-20240129 — Lab Sample ID: 670-33842-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.9		1.0	0.71	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene - DL	210		5.0	2.7	ug/L	5		8260D	Total/NA
Trichloroethene - DL	320		5.0	4.5	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-GAC-20240129 — Lab Sample ID: 670-33842-2

No Detections.

Client Sample ID: LC34-AS1-20240129 — Lab Sample ID: 670-33842-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	7.7		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	5.9		1.0	0.89	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-RW17C-20240129 — Lab Sample ID: 670-33842-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	2500	J3	500	270	ug/L	500		8260D	Total/NA
Trichloroethene - DL	21000		500	450	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-RW19C-20240129 — Lab Sample ID: 670-33842-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	6100		400	210	ug/L	400		8260D	Total/NA
Trichloroethene - DL	290000		5000	4500	ug/L	5000		8260D	Total/NA

Client Sample ID: LC34-RW20C-20240129 — Lab Sample ID: 670-33842-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1600		400	210	ug/L	400		8260D	Total/NA
Trichloroethene - DL	11000		400	360	ug/L	400		8260D	Total/NA

Client Sample ID: LC34-RW21D-20240129 — Lab Sample ID: 670-33842-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	4000		200	110	ug/L	200		8260D	Total/NA
Trichloroethene - DL	4700		200	180	ug/L	200		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Job ID: 670-33842-1
Project/Site: NASA KSC LC34 - Monthly

Client Sample ID: LC34-AS2-20240129
Lab Sample ID: 670-33842-1
Date Collected: 01/29/24 09:05
Matrix: Water
Date Received: 01/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/31/24 19:40	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/31/24 19:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/31/24 19:40	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/31/24 19:40	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/31/24 19:40	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/31/24 19:40	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/31/24 19:40	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/31/24 19:40	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/31/24 19:40	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/31/24 19:40	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/31/24 19:40	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/31/24 19:40	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/31/24 19:40	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/31/24 19:40	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/31/24 19:40	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/31/24 19:40	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/31/24 19:40	1
Acetone	25	U	50	25	ug/L			01/31/24 19:40	1
Benzene	0.71	U	1.0	0.71	ug/L			01/31/24 19:40	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/31/24 19:40	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/31/24 19:40	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/31/24 19:40	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/31/24 19:40	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/31/24 19:40	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/31/24 19:40	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/31/24 19:40	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/31/24 19:40	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/31/24 19:40	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/31/24 19:40	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/31/24 19:40	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/31/24 19:40	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/31/24 19:40	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/31/24 19:40	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/31/24 19:40	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/31/24 19:40	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/31/24 19:40	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/31/24 19:40	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/31/24 19:40	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/31/24 19:40	1
Styrene	0.61	U	1.0	0.61	ug/L			01/31/24 19:40	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/31/24 19:40	1
Toluene	0.72	U	1.0	0.72	ug/L			01/31/24 19:40	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/31/24 19:40	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/31/24 19:40	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/31/24 19:40	1
Vinyl chloride	**1.9**		1.0	0.71	ug/L			01/31/24 19:40	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/31/24 19:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/31/24 19:40*	*1*

Client Sample ID: LC34-AS2-20240129
Lab Sample ID: 670-33842-1

Date Collected: 01/29/24 09:05
Matrix: Water
Date Received: 01/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/31/24 19:40*	*1*
Toluene-d8 (Surr)	*105*		*40 - 146*		*01/31/24 19:40*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**210**		5.0	2.7	ug/L			02/01/24 20:56	5
Trichloroethene	**320**		5.0	4.5	ug/L			02/01/24 20:56	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*41 - 142*		*02/01/24 20:56*	*5*
Dibromofluoromethane (Surr)	*92*		*53 - 146*		*02/01/24 20:56*	*5*
Toluene-d8 (Surr)	*95*		*40 - 146*		*02/01/24 20:56*	*5*

Client Sample ID: LC34-GAC-20240129
Lab Sample ID: 670-33842-2

Date Collected: 01/29/24 09:10
Matrix: Water
Date Received: 01/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/31/24 19:57	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/31/24 19:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/31/24 19:57	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/31/24 19:57	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/31/24 19:57	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/31/24 19:57	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/31/24 19:57	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/31/24 19:57	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/31/24 19:57	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/31/24 19:57	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/31/24 19:57	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/31/24 19:57	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/31/24 19:57	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/31/24 19:57	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/31/24 19:57	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/31/24 19:57	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/31/24 19:57	1
Acetone	25	U	50	25	ug/L			01/31/24 19:57	1
Benzene	0.71	U	1.0	0.71	ug/L			01/31/24 19:57	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/31/24 19:57	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/31/24 19:57	1
Bromomethane Carbon	0.95	U	2.0	0.95	ug/L			01/31/24 19:57	1
disulfide Carbon	2.5	U	5.0	2.5	ug/L			01/31/24 19:57	1
tetrachloride	0.94	U	1.0	0.94	ug/L			01/31/24 19:57	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/31/24 19:57	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/31/24 19:57	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/31/24 19:57	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/31/24 19:57	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			02/01/24 20:19	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/31/24 19:57	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/31/24 19:57	1

Client Sample ID: LC34-GAC-20240129
Lab Sample ID: 670-33842-2

Date Collected: 01/29/24 09:10
Matrix: Water
Date Received: 01/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/31/24 19:57	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/31/24 19:57	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/31/24 19:57	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/31/24 19:57	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/31/24 19:57	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/31/24 19:57	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/31/24 19:57	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/31/24 19:57	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/31/24 19:57	1
Styrene	0.61	U	1.0	0.61	ug/L			01/31/24 19:57	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/31/24 19:57	1
Toluene	0.72	U	1.0	0.72	ug/L			01/31/24 19:57	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/31/24 19:57	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/31/24 19:57	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			02/01/24 20:19	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/31/24 19:57	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/31/24 19:57	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/31/24 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*01/31/24 19:57*	*1*
4-Bromofluorobenzene (Surr)	*107*		*41 - 142*		*02/01/24 20:19*	*1*
Dibromofluoromethane (Surr)	*112*		*53 - 146*		*01/31/24 19:57*	*1*
Dibromofluoromethane (Surr)	*95*		*53 - 146*		*02/01/24 20:19*	*1*
Toluene-d8 (Surr)	*107*		*40 - 146*		*01/31/24 19:57*	*1*
Toluene-d8 (Surr)	*96*		*40 - 146*		*02/01/24 20:19*	*1*

Client Sample ID: LC34-AS1-20240129
Lab Sample ID: 670-33842-3

Date Collected: 01/29/24 09:00
Matrix: Water
Date Received: 01/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/31/24 20:14	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/31/24 20:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/31/24 20:14	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/31/24 20:14	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/31/24 20:14	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/31/24 20:14	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/31/24 20:14	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/31/24 20:14	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/31/24 20:14	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/31/24 20:14	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/31/24 20:14	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/31/24 20:14	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/31/24 20:14	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/31/24 20:14	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/31/24 20:14	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/31/24 20:14	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/31/24 20:14	1

Client Sample ID: LC34-AS1-20240129
Lab Sample ID: 670-33842-3

Date Collected: 01/29/24 09:00
Matrix: Water
Date Received: 01/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	25	U	50	25	ug/L			01/31/24 20:14	1
Benzene	0.71	U	1.0	0.71	ug/L			01/31/24 20:14	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/31/24 20:14	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/31/24 20:14	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/31/24 20:14	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/31/24 20:14	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/31/24 20:14	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/31/24 20:14	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/31/24 20:14	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/31/24 20:14	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/31/24 20:14	1
cis-1,2-Dichloroethene	**7.7**		1.0	0.53	ug/L			02/01/24 20:38	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/31/24 20:14	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/31/24 20:14	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/31/24 20:14	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/31/24 20:14	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/31/24 20:14	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/31/24 20:14	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/31/24 20:14	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/31/24 20:14	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/31/24 20:14	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/31/24 20:14	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/31/24 20:14	1
Styrene	0.61	U	1.0	0.61	ug/L			01/31/24 20:14	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/31/24 20:14	1
Toluene	0.72	U	1.0	0.72	ug/L			01/31/24 20:14	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/31/24 20:14	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/31/24 20:14	1
Trichloroethene	**5.9**		1.0	0.89	ug/L			02/01/24 20:38	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/31/24 20:14	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/31/24 20:14	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/31/24 20:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*01/31/24 20:14*	*1*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*02/01/24 20:38*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*01/31/24 20:14*	*1*
Dibromofluoromethane (Surr)	*95*		*53 - 146*		*02/01/24 20:38*	*1*
Toluene-d8 (Surr)	*110*		*40 - 146*		*01/31/24 20:14*	*1*
Toluene-d8 (Surr)	*96*		*40 - 146*		*02/01/24 20:38*	*1*

Client Sample ID: LC34-RW17C-20240129
Lab Sample ID: 670-33842-4

Date Collected: 01/29/24 09:15
Matrix: Water
Date Received: 01/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			01/31/24 17:07	500
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			01/31/24 17:07	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			01/31/24 17:07	500

Client: Tetra Tech, Inc.
Job ID: 670-33842-1
Project/Site: NASA KSC LC34 - Monthly

Client Sample ID: LC34-RW17C-20240129
Lab Sample ID: 670-33842-4
Date Collected: 01/29/24 09:15
Matrix: Water
Date Received: 01/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	380	U	1000	380	ug/L			01/31/24 17:07	500
1,1-Dichloroethane	310	U	500	310	ug/L			01/31/24 17:07	500
1,1-Dichloroethene	470	U J3	500	470	ug/L			01/31/24 17:07	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			01/31/24 17:07	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			01/31/24 17:07	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			01/31/24 17:07	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			01/31/24 17:07	500
1,2-Dichloroethane	320	U	500	320	ug/L			01/31/24 17:07	500
1,2-Dichloropropane	400	U	500	400	ug/L			01/31/24 17:07	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			01/31/24 17:07	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			01/31/24 17:07	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			01/31/24 17:07	500
2-Hexanone	1300	U	10000	1300	ug/L			01/31/24 17:07	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			01/31/24 17:07	500
Acetone	13000	U	25000	13000	ug/L			01/31/24 17:07	500
Benzene	360	U	500	360	ug/L			01/31/24 17:07	500
Bromodichloromethane	260	U	500	260	ug/L			01/31/24 17:07	500
Bromoform	380	U	500	380	ug/L			01/31/24 17:07	500
Bromomethane	480	U	1000	480	ug/L			01/31/24 17:07	500
Carbon disulfide	1300	U	2500	1300	ug/L			01/31/24 17:07	500
Carbon tetrachloride	470	U	500	470	ug/L			01/31/24 17:07	500
Chlorobenzene	360	U	500	360	ug/L			01/31/24 17:07	500
Chloroethane	490	U	1000	490	ug/L			01/31/24 17:07	500
Chloroform	400	U J3	2500	400	ug/L			01/31/24 17:07	500
Chloromethane	410	U	1000	410	ug/L			01/31/24 17:07	500
cis-1,2-Dichloroethene	**2500**	**J3**	500	270	ug/L			01/31/24 17:07	500
cis-1,3-Dichloropropene	300	U	500	300	ug/L			01/31/24 17:07	500
Cyclohexane	470	U	2500	470	ug/L			01/31/24 17:07	500
Dibromochloromethane	250	U	500	250	ug/L			01/31/24 17:07	500
Dichlorodifluoromethane	370	U	500	370	ug/L			01/31/24 17:07	500
Ethylbenzene	350	U	500	350	ug/L			01/31/24 17:07	500
Isopropylbenzene	340	U	1000	340	ug/L			01/31/24 17:07	500
m,p-Xylenes	650	U	1000	650	ug/L			01/31/24 17:07	500
Methyl acetate	480	U	5000	480	ug/L			01/31/24 17:07	500
Methyl tert-butyl ether	300	U	1000	300	ug/L			01/31/24 17:07	500
Methylene Chloride	2500	U	5000	2500	ug/L			01/31/24 17:07	500
o-Xylene	270	U	500	270	ug/L			01/31/24 17:07	500
Styrene	310	U	500	310	ug/L			01/31/24 17:07	500
Tetrachloroethene	380	U	500	380	ug/L			01/31/24 17:07	500
Toluene	360	U	500	360	ug/L			01/31/24 17:07	500
trans-1,2-Dichloroethene	370	U	500	370	ug/L			01/31/24 17:07	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			01/31/24 17:07	500
Trichloroethene	**21000**		500	450	ug/L			01/31/24 17:07	500
Trichlorofluoromethane	470	U	500	470	ug/L			01/31/24 17:07	500
Vinyl chloride	360	U	500	360	ug/L			01/31/24 17:07	500
Xylenes, Total	650	U	1000	650	ug/L			01/31/24 17:07	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/31/24 17:07*	*500*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*01/31/24 17:07*	*500*

Client Sample ID: LC34-RW17C-20240129
Lab Sample ID: 670-33842-4

Date Collected: 01/29/24 09:15
Matrix: Water
Date Received: 01/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	109		40 - 146		01/31/24 17:07	500

Client Sample ID: LC34-RW19C-20240129
Lab Sample ID: 670-33842-5

Date Collected: 01/29/24 09:25
Matrix: Water
Date Received: 01/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	320	U	400	320	ug/L			01/31/24 22:43	400
1,1,2,2-Tetrachloroethane	220	U	400	220	ug/L			01/31/24 22:43	400
1,1,2-Trichloro-1,2,2-trifluoroethane	290	U	800	290	ug/L			01/31/24 22:43	400
1,1,2-Trichloroethane	300	U	800	300	ug/L			01/31/24 22:43	400
1,1-Dichloroethane	250	U	400	250	ug/L			01/31/24 22:43	400
1,1-Dichloroethene	380	U	400	380	ug/L			01/31/24 22:43	400
1,2,4-Trichlorobenzene	280	U	800	280	ug/L			01/31/24 22:43	400
1,2-Dibromo-3-Chloropropane	380	U	4000	380	ug/L			01/31/24 22:43	400
1,2-Dibromoethane (EDB)	310	U	4800	310	ug/L			01/31/24 22:43	400
1,2-Dichlorobenzene	290	U	400	290	ug/L			01/31/24 22:43	400
1,2-Dichloroethane	250	U	400	250	ug/L			01/31/24 22:43	400
1,2-Dichloropropane	320	U	400	320	ug/L			01/31/24 22:43	400
1,3-Dichlorobenzene	310	U	400	310	ug/L			01/31/24 22:43	400
1,4-Dichlorobenzene	300	U	400	300	ug/L			01/31/24 22:43	400
2-Butanone (MEK)	1800	U	4000	1800	ug/L			01/31/24 22:43	400
2-Hexanone	1000	U	8000	1000	ug/L			01/31/24 22:43	400
4-Methyl-2-pentanone	2000	U	8000	2000	ug/L			01/31/24 22:43	400
Acetone	10000	U	20000	10000	ug/L			01/31/24 22:43	400
Benzene	280	U	400	280	ug/L			01/31/24 22:43	400
Bromodichloromethane	210	U	400	210	ug/L			01/31/24 22:43	400
Bromoform	300	U	400	300	ug/L			01/31/24 22:43	400
Bromomethane	380	U	800	380	ug/L			01/31/24 22:43	400
Carbon disulfide	1000	U	2000	1000	ug/L			01/31/24 22:43	400
Carbon tetrachloride	380	U	400	380	ug/L			01/31/24 22:43	400
Chlorobenzene	290	U	400	290	ug/L			01/31/24 22:43	400
Chloroethane	390	U	800	390	ug/L			01/31/24 22:43	400
Chloroform	320	U	2000	320	ug/L			01/31/24 22:43	400
Chloromethane	330	U	800	330	ug/L			01/31/24 22:43	400
cis-1,2-Dichloroethene	**6100**		400	210	ug/L			01/31/24 22:43	400
cis-1,3-Dichloropropene	240	U	400	240	ug/L			01/31/24 22:43	400
Cyclohexane	370	U	2000	370	ug/L			01/31/24 22:43	400
Dibromochloromethane	200	U	400	200	ug/L			01/31/24 22:43	400
Dichlorodifluoromethane	300	U	400	300	ug/L			01/31/24 22:43	400
Ethylbenzene	280	U	400	280	ug/L			01/31/24 22:43	400
Isopropylbenzene	270	U	800	270	ug/L			01/31/24 22:43	400
m,p-Xylenes	520	U	800	520	ug/L			01/31/24 22:43	400
Methyl acetate	380	U	4000	380	ug/L			01/31/24 22:43	400
Methyl tert-butyl ether	240	U	800	240	ug/L			01/31/24 22:43	400
Methylene Chloride	2000	U	4000	2000	ug/L			01/31/24 22:43	400
o-Xylene	210	U	400	210	ug/L			01/31/24 22:43	400
Styrene	240	U	400	240	ug/L			01/31/24 22:43	400

Client Sample ID: LC34-RW19C-20240129
Lab Sample ID: 670-33842-5

Date Collected: 01/29/24 09:25
Matrix: Water
Date Received: 01/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	300	U	400	300	ug/L			01/31/24 22:43	400
Toluene	290	U	400	290	ug/L			01/31/24 22:43	400
trans-1,2-Dichloroethene	290	U	400	290	ug/L			01/31/24 22:43	400
trans-1,3-Dichloropropene	290	U	400	290	ug/L			01/31/24 22:43	400
Trichloroethene	**290000**		5000	4500	ug/L			02/01/24 20:38	5000
Trichlorofluoromethane	380	U	400	380	ug/L			01/31/24 22:43	400
Vinyl chloride	280	U	400	280	ug/L			01/31/24 22:43	400
Xylenes, Total	520	U	800	520	ug/L			01/31/24 22:43	400

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/31/24 22:43*	*400*
4-Bromofluorobenzene (Surr)	*106*		*41 - 142*		*02/01/24 20:38*	*5000*
Dibromofluoromethane (Surr)	*96*		*53 - 146*		*01/31/24 22:43*	*400*
Dibromofluoromethane (Surr)	*95*		*53 - 146*		*02/01/24 20:38*	*5000*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/31/24 22:43*	*400*
Toluene-d8 (Surr)	*96*		*40 - 146*		*02/01/24 20:38*	*5000*

Client Sample ID: LC34-RW20C-20240129
Lab Sample ID: 670-33842-6

Date Collected: 01/29/24 09:30
Matrix: Water
Date Received: 01/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	320	U	400	320	ug/L			01/31/24 23:00	400
1,1,2,2-Tetrachloroethane	220	U	400	220	ug/L			01/31/24 23:00	400
1,1,2-Trichloro-1,2,2-trifluoroethane	290	U	800	290	ug/L			01/31/24 23:00	400
1,1,2-Trichloroethane	300	U	800	300	ug/L			01/31/24 23:00	400
1,1-Dichloroethane	250	U	400	250	ug/L			01/31/24 23:00	400
1,1-Dichloroethene	380	U	400	380	ug/L			01/31/24 23:00	400
1,2,4-Trichlorobenzene	280	U	800	280	ug/L			01/31/24 23:00	400
1,2-Dibromo-3-Chloropropane	380	U	4000	380	ug/L			01/31/24 23:00	400
1,2-Dibromoethane (EDB)	310	U	4800	310	ug/L			01/31/24 23:00	400
1,2-Dichlorobenzene	290	U	400	290	ug/L			01/31/24 23:00	400
1,2-Dichloroethane	250	U	400	250	ug/L			01/31/24 23:00	400
1,2-Dichloropropane	320	U	400	320	ug/L			01/31/24 23:00	400
1,3-Dichlorobenzene	310	U	400	310	ug/L			01/31/24 23:00	400
1,4-Dichlorobenzene	300	U	400	300	ug/L			01/31/24 23:00	400
2-Butanone (MEK)	1800	U	4000	1800	ug/L			01/31/24 23:00	400
2-Hexanone	1000	U	8000	1000	ug/L			01/31/24 23:00	400
4-Methyl-2-pentanone	2000	U	8000	2000	ug/L			01/31/24 23:00	400
Acetone	10000	U	20000	10000	ug/L			01/31/24 23:00	400
Benzene	280	U	400	280	ug/L			01/31/24 23:00	400
Bromodichloromethane	210	U	400	210	ug/L			01/31/24 23:00	400
Bromoform	300	U	400	300	ug/L			01/31/24 23:00	400
Bromomethane	380	U	800	380	ug/L			01/31/24 23:00	400
Carbon disulfide	1000	U	2000	1000	ug/L			01/31/24 23:00	400
Carbon tetrachloride	380	U	400	380	ug/L			01/31/24 23:00	400
Chlorobenzene	290	U	400	290	ug/L			01/31/24 23:00	400
Chloroethane	390	U	800	390	ug/L			01/31/24 23:00	400
Chloroform	320	U	2000	320	ug/L			01/31/24 23:00	400

Client Sample ID: LC34-RW20C-20240129
Lab Sample ID: 670-33842-6

Date Collected: 01/29/24 09:30
Matrix: Water
Date Received: 01/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	330	U	800	330	ug/L			01/31/24 23:00	400
cis-1,2-Dichloroethene	**1600**		400	210	ug/L			01/31/24 23:00	400
cis-1,3-Dichloropropene	240	U	400	240	ug/L			01/31/24 23:00	400
Cyclohexane	370	U	2000	370	ug/L			01/31/24 23:00	400
Dibromochloromethane	200	U	400	200	ug/L			01/31/24 23:00	400
Dichlorodifluoromethane	300	U	400	300	ug/L			01/31/24 23:00	400
Ethylbenzene	280	U	400	280	ug/L			01/31/24 23:00	400
Isopropylbenzene	270	U	800	270	ug/L			01/31/24 23:00	400
m,p-Xylenes	520	U	800	520	ug/L			01/31/24 23:00	400
Methyl acetate	380	U	4000	380	ug/L			01/31/24 23:00	400
Methyl tert-butyl ether	240	U	800	240	ug/L			01/31/24 23:00	400
Methylene Chloride	2000	U	4000	2000	ug/L			01/31/24 23:00	400
o-Xylene	210	U	400	210	ug/L			01/31/24 23:00	400
Styrene	240	U	400	240	ug/L			01/31/24 23:00	400
Tetrachloroethene	300	U	400	300	ug/L			01/31/24 23:00	400
Toluene	290	U	400	290	ug/L			01/31/24 23:00	400
trans-1,2-Dichloroethene	290	U	400	290	ug/L			01/31/24 23:00	400
trans-1,3-Dichloropropene	290	U	400	290	ug/L			01/31/24 23:00	400
Trichloroethene	**11000**		400	360	ug/L			01/31/24 23:00	400
Trichlorofluoromethane	380	U	400	380	ug/L			01/31/24 23:00	400
Vinyl chloride	280	U	400	280	ug/L			01/31/24 23:00	400
Xylenes, Total	520	U	800	520	ug/L			01/31/24 23:00	400

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/31/24 23:00*	*400*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*01/31/24 23:00*	*400*
Toluene-d8 (Surr)	*107*		*40 - 146*		*01/31/24 23:00*	*400*

Client Sample ID: LC34-RW21D-20240129
Lab Sample ID: 670-33842-7

Date Collected: 01/29/24 09:35
Matrix: Water
Date Received: 01/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	160	U	200	160	ug/L			01/31/24 22:26	200
1,1,2,2-Tetrachloroethane	110	U	200	110	ug/L			01/31/24 22:26	200
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	400	150	ug/L			01/31/24 22:26	200
1,1,2-Trichloroethane	150	U	400	150	ug/L			01/31/24 22:26	200
1,1-Dichloroethane	120	U	200	120	ug/L			01/31/24 22:26	200
1,1-Dichloroethene	190	U	200	190	ug/L			01/31/24 22:26	200
1,2,4-Trichlorobenzene	140	U	400	140	ug/L			01/31/24 22:26	200
1,2-Dibromo-3-Chloropropane	190	U	2000	190	ug/L			01/31/24 22:26	200
1,2-Dibromoethane (EDB)	160	U	2400	160	ug/L			01/31/24 22:26	200
1,2-Dichlorobenzene	150	U	200	150	ug/L			01/31/24 22:26	200
1,2-Dichloroethane	130	U	200	130	ug/L			01/31/24 22:26	200
1,2-Dichloropropane	160	U	200	160	ug/L			01/31/24 22:26	200
1,3-Dichlorobenzene	150	U	200	150	ug/L			01/31/24 22:26	200
1,4-Dichlorobenzene	150	U	200	150	ug/L			01/31/24 22:26	200
2-Butanone (MEK)	900	U	2000	900	ug/L			01/31/24 22:26	200
2-Hexanone	500	U	4000	500	ug/L			01/31/24 22:26	200

Client Sample ID: LC34-RW21D-20240129
Lab Sample ID: 670-33842-7
Date Collected: 01/29/24 09:35
Matrix: Water
Date Received: 01/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	1000	U	4000	1000	ug/L			01/31/24 22:26	200
Acetone	5000	U	10000	5000	ug/L			01/31/24 22:26	200
Benzene	140	U	200	140	ug/L			01/31/24 22:26	200
Bromodichloromethane	100	U	200	100	ug/L			01/31/24 22:26	200
Bromoform	150	U	200	150	ug/L			01/31/24 22:26	200
Bromomethane	190	U	400	190	ug/L			01/31/24 22:26	200
Carbon disulfide	500	U	1000	500	ug/L			01/31/24 22:26	200
Carbon tetrachloride	190	U	200	190	ug/L			01/31/24 22:26	200
Chlorobenzene	140	U	200	140	ug/L			01/31/24 22:26	200
Chloroethane	200	U	400	200	ug/L			01/31/24 22:26	200
Chloroform	160	U	1000	160	ug/L			01/31/24 22:26	200
Chloromethane	160	U	400	160	ug/L			01/31/24 22:26	200
cis-1,2-Dichloroethene	**4000**		200	110	ug/L			01/31/24 22:26	200
cis-1,3-Dichloropropene	120	U	200	120	ug/L			01/31/24 22:26	200
Cyclohexane	190	U	1000	190	ug/L			01/31/24 22:26	200
Dibromochloromethane	100	U	200	100	ug/L			01/31/24 22:26	200
Dichlorodifluoromethane	150	U	200	150	ug/L			01/31/24 22:26	200
Ethylbenzene	140	U	200	140	ug/L			01/31/24 22:26	200
Isopropylbenzene	130	U	400	130	ug/L			01/31/24 22:26	200
m,p-Xylenes	260	U	400	260	ug/L			01/31/24 22:26	200
Methyl acetate	190	U	2000	190	ug/L			01/31/24 22:26	200
Methyl tert-butyl ether	120	U	400	120	ug/L			01/31/24 22:26	200
Methylene Chloride	1000	U	2000	1000	ug/L			01/31/24 22:26	200
o-Xylene	110	U	200	110	ug/L			01/31/24 22:26	200
Styrene	120	U	200	120	ug/L			01/31/24 22:26	200
Tetrachloroethene	150	U	200	150	ug/L			01/31/24 22:26	200
Toluene	140	U	200	140	ug/L			01/31/24 22:26	200
trans-1,2-Dichloroethene	150	U	200	150	ug/L			01/31/24 22:26	200
trans-1,3-Dichloropropene	150	U	200	150	ug/L			01/31/24 22:26	200
Trichloroethene	**4700**		200	180	ug/L			01/31/24 22:26	200
Trichlorofluoromethane	190	U	200	190	ug/L			01/31/24 22:26	200
Vinyl chloride	140	U	200	140	ug/L			01/31/24 22:26	200
Xylenes, Total	260	U	400	260	ug/L			01/31/24 22:26	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/31/24 22:26*	*200*
Dibromofluoromethane (Surr)	*110*		*53 - 146*		*01/31/24 22:26*	*200*
Toluene-d8 (Surr)	*108*		*40 - 146*		*01/31/24 22:26*	*200*

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-33842-1
Project/Site: NASA KSC LC34 - Monthly

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
		BFB	DBFM	TOL						
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)						
670-33842-1	LC34-AS2-20240129	101	102	105						
670-33842-1 - DL	LC34-AS2-20240129	106	92	95						
670-33842-2	LC34-GAC-20240129	105	112	107						
670-33842-2	LC34-GAC-20240129	107	95	96						
670-33842-3	LC34-AS1-20240129	105	108	110						
670-33842-3	LC34-AS1-20240129	105	95	96						
670-33842-4 - DL	LC34-RW17C-20240129	104	108	109						
670-33842-4 MS	LC34-RW17C-20240129	99	87	103						
670-33842-4 MSD	LC34-RW17C-20240129	100	97	100						
670-33842-5 - DL	LC34-RW19C-20240129	104	96	102						
670-33842-5 - DL	LC34-RW19C-20240129	106	95	96						
670-33842-6 - DL	LC34-RW20C-20240129	102	109	107						
670-33842-7 - DL	LC34-RW21D-20240129	101	110	108						
670-33897-C-1 MS	Matrix Spike	105	95	98						
670-33897-C-1 MSD	Matrix Spike Duplicate	106	93	97						
LCS 670-73942/4	Lab Control Sample	98	91	99						
LCS 670-74113/4	Lab Control Sample	106	93	96						
LCSD 670-74113/5	Lab Control Sample Dup	105	95	95						
MB 670-73942/7	Method Blank	103	104	109						
MB 670-74113/8	Method Blank	107	91	97						

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-73942/7
Matrix: Water
Analysis Batch: 73942

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/31/24 14:54	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/31/24 14:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/31/24 14:54	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/31/24 14:54	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/31/24 14:54	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/31/24 14:54	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/31/24 14:54	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/31/24 14:54	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/31/24 14:54	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/31/24 14:54	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/31/24 14:54	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/31/24 14:54	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/31/24 14:54	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/31/24 14:54	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/31/24 14:54	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/31/24 14:54	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/31/24 14:54	1
Acetone	25	U	50	25	ug/L			01/31/24 14:54	1
Benzene	0.71	U	1.0	0.71	ug/L			01/31/24 14:54	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/31/24 14:54	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/31/24 14:54	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/31/24 14:54	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/31/24 14:54	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/31/24 14:54	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/31/24 14:54	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/31/24 14:54	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/31/24 14:54	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/31/24 14:54	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/31/24 14:54	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/31/24 14:54	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/31/24 14:54	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/31/24 14:54	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/31/24 14:54	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/31/24 14:54	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/31/24 14:54	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/31/24 14:54	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/31/24 14:54	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/31/24 14:54	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/31/24 14:54	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/31/24 14:54	1
Styrene	0.61	U	1.0	0.61	ug/L			01/31/24 14:54	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/31/24 14:54	1
Toluene	0.72	U	1.0	0.72	ug/L			01/31/24 14:54	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/31/24 14:54	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/31/24 14:54	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/31/24 14:54	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/31/24 14:54	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/31/24 14:54	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-73942/7
Matrix: Water
Analysis Batch: 73942

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/31/24 14:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/31/24 14:54*	*1*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/31/24 14:54*	*1*
Toluene-d8 (Surr)	*109*		*40 - 146*		*01/31/24 14:54*	*1*

Lab Sample ID: LCS 670-73942/4
Matrix: Water
Analysis Batch: 73942

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	21.5		ug/L		108	57 - 148
1,1,2,2-Tetrachloroethane	20.0	16.3		ug/L		81	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	16.3		ug/L		81	47 - 173
1,1,2-Trichloroethane	20.0	18.2		ug/L		91	57 - 141
1,1-Dichloroethane	20.0	20.1		ug/L		100	57 - 142
1,1-Dichloroethene	20.0	19.3		ug/L		97	47 - 139
1,2,4-Trichlorobenzene	20.0	17.2		ug/L		86	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	16.0		ug/L		80	48 - 150
1,2-Dibromoethane (EDB)	20.0	18.3		ug/L		92	57 - 140
1,2-Dichlorobenzene	20.0	19.6		ug/L		98	63 - 131
1,2-Dichloroethane	20.0	20.6		ug/L		103	50 - 156
1,2-Dichloropropane	20.0	21.0		ug/L		105	61 - 133
1,3-Dichlorobenzene	20.0	20.3		ug/L		102	66 - 129
1,4-Dichlorobenzene	20.0	20.1		ug/L		101	65 - 133
2-Butanone (MEK)	200	153		ug/L		76	10 - 180
2-Hexanone	200	179		ug/L		90	12 - 180
4-Methyl-2-pentanone	200	176		ug/L		88	19 - 180
Acetone	200	171		ug/L		85	10 - 180
Benzene	20.0	21.0		ug/L		105	56 - 136
Bromodichloromethane	20.0	20.7		ug/L		104	58 - 135
Bromoform	20.0	16.7		ug/L		84	46 - 148
Bromomethane	20.0	20.4		ug/L		102	10 - 173
Carbon disulfide	20.0	17.5		ug/L		88	43 - 153
Carbon tetrachloride	20.0	21.5		ug/L		107	54 - 156
Chlorobenzene	20.0	21.3		ug/L		106	51 - 139
Chloroethane	20.0	24.1		ug/L		120	27 - 180
Chloroform	20.0	19.4		ug/L		97	58 - 139
Chloromethane	20.0	26.2		ug/L		131	33 - 154
cis-1,2-Dichloroethene	20.0	17.2		ug/L		86	56 - 128
cis-1,3-Dichloropropene	20.0	18.7		ug/L		93	64 - 128
Cyclohexane	20.0	24.2		ug/L		121	14 - 151
Dibromochloromethane	20.0	19.3		ug/L		96	50 - 140
Dichlorodifluoromethane	20.0	21.7		ug/L		108	10 - 180
Ethylbenzene	20.0	21.3		ug/L		107	63 - 133
Isopropylbenzene	20.0	21.3		ug/L		106	60 - 132
m,p-Xylenes	20.0	21.6		ug/L		108	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-73942/4
Matrix: Water
Analysis Batch: 73942

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	43.5		ug/L		109	70 - 130
Methyl tert-butyl ether	20.0	12.9		ug/L		65	51 - 145
Methylene Chloride	20.0	23.2		ug/L		116	43 - 142
o-Xylene	20.0	21.2		ug/L		106	61 - 129
Styrene	20.0	21.1		ug/L		106	59 - 136
Tetrachloroethene	20.0	21.2		ug/L		106	60 - 147
Toluene	20.0	20.2		ug/L		101	64 - 131
trans-1,2-Dichloroethene	20.0	25.9		ug/L		129	54 - 134
trans-1,3-Dichloropropene	20.0	18.3		ug/L		92	65 - 149
Trichloroethene	20.0	20.8		ug/L		104	62 - 135
Trichlorofluoromethane	20.0	17.3		ug/L		86	56 - 155
Vinyl chloride	20.0	23.8		ug/L		119	20 - 167
Xylenes, Total	40.0	42.8		ug/L		107	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*91*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: 670-33842-4 MS
Matrix: Water
Analysis Batch: 73942

Client Sample ID: LC34-RW17C-20240129
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	400	U	10000	9120		ug/L		91	57 - 148
1,1,2,2-Tetrachloroethane	270	U	10000	7440		ug/L		74	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	10000	9550		ug/L		96	50 - 150
1,1,2-Trichloroethane	380	U	10000	8390		ug/L		84	57 - 141
1,1-Dichloroethane	310	U	10000	8850		ug/L		89	57 - 142
1,1-Dichloroethene	470	U J3	10000	7470		ug/L		75	49 - 139
1,2,4-Trichlorobenzene	350	U	10000	7890		ug/L		79	52 - 159
1,2-Dibromo-3-Chloropropane	480	U	10000	7750		ug/L		77	48 - 150
1,2-Dibromoethane (EDB)	390	U	10000	7990		ug/L		80	50 - 150
1,2-Dichlorobenzene	370	U	10000	9100		ug/L		91	63 - 131
1,2-Dichloroethane	320	U	10000	8580		ug/L		86	50 - 156
1,2-Dichloropropane	400	U	10000	9210		ug/L		92	61 - 133
1,3-Dichlorobenzene	390	U	10000	9440		ug/L		94	66 - 129
1,4-Dichlorobenzene	380	U	10000	9340		ug/L		93	65 - 133
2-Butanone (MEK)	2300	U	100000	71000		ug/L		71	10 - 180
2-Hexanone	1300	U	100000	92100		ug/L		92	12 - 180
4-Methyl-2-pentanone	2500	U	100000	86000		ug/L		86	19 - 180
Acetone	13000	U	100000	106000		ug/L		106	10 - 180
Benzene	360	U	10000	9360		ug/L		94	56 - 136
Bromodichloromethane	260	U	10000	9110		ug/L		91	58 - 135
Bromoform	380	U	10000	7690		ug/L		77	46 - 148
Bromomethane	480	U	10000	8310		ug/L		83	10 - 173
Carbon disulfide	1300	U	10000	8020		ug/L		80	43 - 153
Carbon tetrachloride	470	U	10000	8670		ug/L		87	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33842-4 MS
Client Sample ID: LC34-RW17C-20240129
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 73942

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	360	U	10000	9900		ug/L		99	51 - 139
Chloroethane	490	U	10000	12100		ug/L		121	27 - 180
Chloroform	400	U J3	10000	8140		ug/L		81	59 - 139
Chloromethane	410	U	10000	14100		ug/L		141	33 - 154
cis-1,2-Dichloroethene	2500	J3	10000	9480		ug/L		69	56 - 128
cis-1,3-Dichloropropene	300	U	10000	8020		ug/L		80	64 - 128
Cyclohexane	470	U	10000	10800		ug/L		108	14 - 141
Dibromochloromethane	250	U	10000	8500		ug/L		85	50 - 150
Dichlorodifluoromethane	370	U	10000	10200		ug/L		102	10 - 180
Ethylbenzene	350	U	10000	10100		ug/L		101	63 - 133
Isopropylbenzene	340	U	10000	9590		ug/L		96	60 - 132
m,p-Xylenes	650	U	10000	10300		ug/L		103	64 - 133
Methyl acetate	480	U	20000	18700		ug/L		93	50 - 150
Methyl tert-butyl ether	300	U	10000	7020		ug/L		70	50 - 150
Methylene Chloride	2500	U	10000	11200		ug/L		112	43 - 142
o-Xylene	270	U	10000	10000		ug/L		100	61 - 129
Styrene	310	U	10000	9990		ug/L		100	59 - 136
Tetrachloroethene	380	U	10000	9120		ug/L		91	60 - 147
Toluene	360	U	10000	9210		ug/L		92	64 - 131
trans-1,2-Dichloroethene	370	U	10000	9240		ug/L		92	54 - 134
trans-1,3-Dichloropropene	370	U	10000	8210		ug/L		82	65 - 149
Trichloroethene	21000		10000	29700		ug/L		91	62 - 135
Trichlorofluoromethane	470	U	10000	7430		ug/L		74	56 - 155
Vinyl chloride	360	U	10000	12400		ug/L		124	20 - 167
Xylenes, Total	650	U	20000	20300		ug/L		102	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*
Dibromofluoromethane (Surr)	*87*		*53 - 146*
Toluene-d8 (Surr)	*103*		*40 - 146*

Lab Sample ID: 670-33842-4 MSD
Client Sample ID: LC34-RW17C-20240129
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 73942

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	400	U	10000	9300		ug/L		93	57 - 148	2	25
1,1,2,2-Tetrachloroethane	270	U	10000	7650		ug/L		76	60 - 139	3	17
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	10000	10200		ug/L		102	50 - 150	6	30
1,1,2-Trichloroethane	380	U	10000	8640		ug/L		86	57 - 141	3	16
1,1-Dichloroethane	310	U	10000	10400		ug/L		104	57 - 142	16	24
1,1-Dichloroethene	470	U J3	10000	8930	J3	ug/L		89	49 - 139	18	16
1,2,4-Trichlorobenzene	350	U	10000	7670		ug/L		77	52 - 159	3	24
1,2-Dibromo-3-Chloropropane	480	U	10000	7490		ug/L		75	48 - 150	3	21
1,2-Dibromoethane (EDB)	390	U	10000	8700		ug/L		87	50 - 150	8	16
1,2-Dichlorobenzene	370	U	10000	8550		ug/L		85	63 - 131	6	25
1,2-Dichloroethane	320	U	10000	9980		ug/L		100	50 - 156	15	18
1,2-Dichloropropane	400	U	10000	9730		ug/L		97	61 - 133	5	26

Client: Tetra Tech, Inc.
Job ID: 670-33842-1
Project/Site: NASA KSC LC34 - Monthly

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33842-4 MSD
Client Sample ID: LC34-RW17C-20240129
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 73942

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	390	U	10000	8560		ug/L		86	66 - 129	10	23
1,4-Dichlorobenzene	380	U	10000	8670		ug/L		87	65 - 133	7	23
2-Butanone (MEK)	2300	U	100000	76400		ug/L		76	10 - 180	7	29
2-Hexanone	1300	U	100000	90500		ug/L		91	12 - 180	2	28
4-Methyl-2-pentanone	2500	U	100000	90100		ug/L		90	19 - 180	5	24
Acetone	13000	U	100000	92300		ug/L		92	10 - 180	14	19
Benzene	360	U	10000	9260		ug/L		93	56 - 136	1	14
Bromodichloromethane	260	U	10000	9830		ug/L		98	58 - 135	8	19
Bromoform	380	U	10000	8300		ug/L		83	46 - 148	8	18
Bromomethane	480	U	10000	9360		ug/L		94	10 - 173	12	29
Carbon disulfide	1300	U	10000	7790		ug/L		78	43 - 153	3	26
Carbon tetrachloride	470	U	10000	8800		ug/L		88	54 - 156	1	27
Chlorobenzene	360	U	10000	9180		ug/L		92	51 - 139	8	13
Chloroethane	490	U	10000	10700		ug/L		107	27 - 180	12	22
Chloroform	400	U J3	10000	9720	J3	ug/L		97	59 - 139	18	17
Chloromethane	410	U	10000	11900		ug/L		119	33 - 154	17	31
cis-1,2-Dichloroethene	2500	J3	10000	11900	J3	ug/L		93	56 - 128	22	17
cis-1,3-Dichloropropene	300	U	10000	8600		ug/L		86	64 - 128	7	20
Cyclohexane	470	U	10000	10900		ug/L		109	14 - 141	1	30
Dibromochloromethane	250	U	10000	9140		ug/L		91	50 - 150	7	18
Dichlorodifluoromethane	370	U	10000	9500		ug/L		95	10 - 180	7	26
Ethylbenzene	350	U	10000	9090		ug/L		91	63 - 133	10	18
Isopropylbenzene	340	U	10000	8880		ug/L		89	60 - 132	8	23
m,p-Xylenes	650	U	10000	9050		ug/L		91	64 - 133	13	18
Methyl acetate	480	U	20000	20100		ug/L		100	50 - 150	7	30
Methyl tert-butyl ether	300	U	10000	7730		ug/L		77	50 - 150	10	22
Methylene Chloride	2500	U	10000	10300		ug/L		103	43 - 142	9	23
o-Xylene	270	U	10000	9080		ug/L		91	61 - 129	10	16
Styrene	310	U	10000	8770		ug/L		88	59 - 136	13	32
Tetrachloroethene	380	U	10000	8920		ug/L		89	60 - 147	2	21
Toluene	360	U	10000	8870		ug/L		89	64 - 131	4	16
trans-1,2-Dichloroethene	370	U	10000	8670		ug/L		87	54 - 134	6	20
trans-1,3-Dichloropropene	370	U	10000	8900		ug/L		89	65 - 149	8	17
Trichloroethene	21000		10000	31900		ug/L		113	62 - 135	7	20
Trichlorofluoromethane	470	U	10000	8240		ug/L		82	56 - 155	10	22
Vinyl chloride	360	U	10000	10900		ug/L		109	20 - 167	13	24
Xylenes, Total	650	U	20000	18100		ug/L		91	50 - 150	11	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*
Dibromofluoromethane (Surr)	*97*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-74113/8
Matrix: Water
Analysis Batch: 74113

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			02/01/24 14:08	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			02/01/24 14:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			02/01/24 14:08	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			02/01/24 14:08	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			02/01/24 14:08	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			02/01/24 14:08	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			02/01/24 14:08	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			02/01/24 14:08	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			02/01/24 14:08	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			02/01/24 14:08	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			02/01/24 14:08	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			02/01/24 14:08	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			02/01/24 14:08	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			02/01/24 14:08	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			02/01/24 14:08	1
2-Hexanone	2.5	U	20	2.5	ug/L			02/01/24 14:08	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			02/01/24 14:08	1
Acetone	25	U	50	25	ug/L			02/01/24 14:08	1
Benzene	0.71	U	1.0	0.71	ug/L			02/01/24 14:08	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			02/01/24 14:08	1
Bromoform	0.75	U	1.0	0.75	ug/L			02/01/24 14:08	1
Bromomethane	0.95	U	2.0	0.95	ug/L			02/01/24 14:08	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			02/01/24 14:08	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			02/01/24 14:08	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			02/01/24 14:08	1
Chloroethane	0.98	U	2.0	0.98	ug/L			02/01/24 14:08	1
Chloroform	0.80	U	5.0	0.80	ug/L			02/01/24 14:08	1
Chloromethane	0.82	U	2.0	0.82	ug/L			02/01/24 14:08	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			02/01/24 14:08	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			02/01/24 14:08	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			02/01/24 14:08	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			02/01/24 14:08	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			02/01/24 14:08	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			02/01/24 14:08	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			02/01/24 14:08	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			02/01/24 14:08	1
Methyl acetate	0.95	U	10	0.95	ug/L			02/01/24 14:08	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			02/01/24 14:08	1
Methylene Chloride	5.0	U	10	5.0	ug/L			02/01/24 14:08	1
o-Xylene	0.53	U	1.0	0.53	ug/L			02/01/24 14:08	1
Styrene	0.61	U	1.0	0.61	ug/L			02/01/24 14:08	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			02/01/24 14:08	1
Toluene	0.72	U	1.0	0.72	ug/L			02/01/24 14:08	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			02/01/24 14:08	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			02/01/24 14:08	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			02/01/24 14:08	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			02/01/24 14:08	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			02/01/24 14:08	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-74113/8
Matrix: Water
Analysis Batch: 74113

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			02/01/24 14:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*41 - 142*		*02/01/24 14:08*	*1*
Dibromofluoromethane (Surr)	*91*		*53 - 146*		*02/01/24 14:08*	*1*
Toluene-d8 (Surr)	*97*		*40 - 146*		*02/01/24 14:08*	*1*

Lab Sample ID: LCS 670-74113/4
Matrix: Water
Analysis Batch: 74113

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	5.00	4.95		ug/L		99	57 - 148
1,1,2,2-Tetrachloroethane	5.00	5.41		ug/L		108	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	4.47		ug/L		89	47 - 173
1,1,2-Trichloroethane	5.00	5.51		ug/L		110	57 - 141
1,1-Dichloroethane	5.00	5.72		ug/L		114	57 - 142
1,1-Dichloroethene	5.00	4.93		ug/L		99	47 - 139
1,2,4-Trichlorobenzene	5.00	5.33		ug/L		107	52 - 159
1,2-Dibromo-3-Chloropropane	5.00	4.80	I	ug/L		96	48 - 150
1,2-Dibromoethane (EDB)	5.00	4.96	I	ug/L		99	57 - 140
1,2-Dichlorobenzene	5.00	5.41		ug/L		108	63 - 131
1,2-Dichloroethane	5.00	4.53		ug/L		91	50 - 156
1,2-Dichloropropane	5.00	5.77		ug/L		115	61 - 133
1,3-Dichlorobenzene	5.00	5.44		ug/L		109	66 - 129
1,4-Dichlorobenzene	5.00	5.41		ug/L		108	65 - 133
2-Butanone (MEK)	50.0	50.3		ug/L		101	10 - 180
2-Hexanone	50.0	53.6		ug/L		107	12 - 180
4-Methyl-2-pentanone	50.0	56.7		ug/L		113	19 - 180
Acetone	50.0	48.5	I	ug/L		97	10 - 180
Benzene	5.00	5.41		ug/L		108	56 - 136
Bromodichloromethane	5.00	5.07		ug/L		101	58 - 135
Bromoform	5.00	4.86		ug/L		97	46 - 148
Bromomethane	5.00	3.30		ug/L		66	10 - 173
Carbon disulfide	5.00	4.76	I	ug/L		95	43 - 153
Carbon tetrachloride	5.00	5.22		ug/L		104	54 - 156
Chlorobenzene	5.00	5.36		ug/L		107	51 - 139
Chloroethane	5.00	5.14		ug/L		103	27 - 180
Chloroform	5.00	4.69	I	ug/L		94	58 - 139
Chloromethane	5.00	2.58		ug/L		52	33 - 154
cis-1,2-Dichloroethene	5.00	5.31		ug/L		106	56 - 128
cis-1,3-Dichloropropene	5.00	5.11		ug/L		102	64 - 128
Cyclohexane	5.00	6.06		ug/L		121	14 - 151
Dibromochloromethane	5.00	4.76		ug/L		95	50 - 140
Dichlorodifluoromethane	5.00	1.53		ug/L		31	10 - 180
Ethylbenzene	5.00	5.74		ug/L		115	63 - 133
Isopropylbenzene	5.00	6.00		ug/L		120	60 - 132
m,p-Xylenes	5.00	5.56		ug/L		111	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-74113/4
Matrix: Water
Analysis Batch: 74113

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Methyl acetate			10.0	9.67	I	ug/L		97	70 - 130		
Methyl tert-butyl ether			5.00	4.75		ug/L		95	51 - 145		
Methylene Chloride			5.00	5.0	U	ug/L		77	43 - 142		
o-Xylene			5.00	5.49		ug/L		110	61 - 129		
Styrene			5.00	5.43		ug/L		109	59 - 136		
Tetrachloroethene			5.00	5.54		ug/L		111	60 - 147		
Toluene			5.00	5.57		ug/L		111	64 - 131		
trans-1,2-Dichloroethene			5.00	5.14		ug/L		103	54 - 134		
trans-1,3-Dichloropropene			5.00	5.19		ug/L		104	65 - 149		
Trichloroethene			5.00	5.32		ug/L		106	62 - 135		
Trichlorofluoromethane			5.00	3.98		ug/L		80	56 - 155		
Vinyl chloride			5.00	3.83		ug/L		77	20 - 167		
Xylenes, Total			10.0	11.1		ug/L		111	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*41 - 142*
Dibromofluoromethane (Surr)	*93*		*53 - 146*
Toluene-d8 (Surr)	*96*		*40 - 146*

Lab Sample ID: LCSD 670-74113/5
Matrix: Water
Analysis Batch: 74113

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			5.00	4.86		ug/L		97	57 - 148	2	25
1,1,2,2-Tetrachloroethane			5.00	6.27		ug/L		125	60 - 139	15	17
1,1,2-Trichloro-1,2,2-trifluoroetha ne			5.00	4.35		ug/L		87	47 - 173	3	30
1,1,2-Trichloroethane			5.00	5.68		ug/L		114	57 - 141	3	16
1,1-Dichloroethane			5.00	5.90		ug/L		118	57 - 142	3	24
1,1-Dichloroethene			5.00	4.83		ug/L		97	47 - 139	2	16
1,2,4-Trichlorobenzene			5.00	5.32		ug/L		106	52 - 159	0	24
1,2-Dibromo-3-Chloropropane			5.00	4.97	I	ug/L		99	48 - 150	3	21
1,2-Dibromoethane (EDB)			5.00	5.12	I	ug/L		102	57 - 140	3	16
1,2-Dichlorobenzene			5.00	5.32		ug/L		106	63 - 131	2	25
1,2-Dichloroethane			5.00	4.72		ug/L		94	50 - 156	4	18
1,2-Dichloropropane			5.00	5.90		ug/L		118	61 - 133	2	26
1,3-Dichlorobenzene			5.00	5.28		ug/L		106	66 - 129	3	23
1,4-Dichlorobenzene			5.00	5.24		ug/L		105	65 - 133	3	23
2-Butanone (MEK)			50.0	58.4		ug/L		117	10 - 180	15	29
2-Hexanone			50.0	59.7		ug/L		119	12 - 180	11	28
4-Methyl-2-pentanone			50.0	64.7		ug/L		129	19 - 180	13	24
Acetone			50.0	54.8		ug/L		110	10 - 180	12	19
Benzene			5.00	5.56		ug/L		111	56 - 136	3	14
Bromodichloromethane			5.00	5.16		ug/L		103	58 - 135	2	19
Bromoform			5.00	5.25		ug/L		105	46 - 148	8	18
Bromomethane			5.00	2.31	J3	ug/L		46	10 - 173	35	29
Carbon disulfide			5.00	4.52	I	ug/L		90	43 - 153	5	26
Carbon tetrachloride			5.00	5.17		ug/L		103	54 - 156	1	27

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 670-74113/5
Matrix: Water
Analysis Batch: 74113

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chlorobenzene			5.00	5.19		ug/L		104	51 - 139	3	13
Chloroethane			5.00	4.16		ug/L		83	27 - 180	21	22
Chloroform			5.00	4.92	I	ug/L		98	58 - 139	5	17
Chloromethane			5.00	2.37		ug/L		47	33 - 154	8	31
cis-1,2-Dichloroethene			5.00	5.32		ug/L		106	56 - 128	0	17
cis-1,3-Dichloropropene			5.00	5.30		ug/L		106	64 - 128	4	20
Cyclohexane			5.00	6.20		ug/L		124	14 - 151	2	30
Dibromochloromethane			5.00	5.11		ug/L		102	50 - 140	7	18
Dichlorodifluoromethane			5.00	1.48		ug/L		30	10 - 180	3	26
Ethylbenzene			5.00	5.52		ug/L		110	63 - 133	4	18
Isopropylbenzene			5.00	5.95		ug/L		119	60 - 132	1	23
m,p-Xylenes			5.00	5.25		ug/L		105	64 - 133	6	18
Methyl acetate			10.0	10.4		ug/L		104	70 - 130	7	30
Methyl tert-butyl ether			5.00	5.08		ug/L		102	51 - 145	7	22
Methylene Chloride			5.00	5.0	U	ug/L		69	43 - 142	11	23
o-Xylene			5.00	5.20		ug/L		104	61 - 129	5	16
Styrene			5.00	5.09		ug/L		102	59 - 136	6	32
Tetrachloroethene			5.00	5.65		ug/L		113	60 - 147	2	21
Toluene			5.00	5.71		ug/L		114	64 - 131	3	16
trans-1,2-Dichloroethene			5.00	5.29		ug/L		106	54 - 134	3	20
trans-1,3-Dichloropropene			5.00	5.34		ug/L		107	65 - 149	3	17
Trichloroethene			5.00	5.08		ug/L		102	62 - 135	5	20
Trichlorofluoromethane			5.00	3.72		ug/L		74	56 - 155	7	22
Vinyl chloride			5.00	3.51		ug/L		70	20 - 167	9	24
Xylenes, Total			10.0	10.5		ug/L		105	50 - 150	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*
Dibromofluoromethane (Surr)	*95*		*53 - 146*
Toluene-d8 (Surr)	*95*		*40 - 146*

Lab Sample ID: 670-33897-C-1 MS
Matrix: Water
Analysis Batch: 74113

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	20.6		ug/L		103	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	23.4		ug/L		117	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	21.0		ug/L		105	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	22.2		ug/L		111	57 - 141
1,1-Dichloroethane	0.62	U	20.0	22.4		ug/L		112	57 - 142
1,1-Dichloroethene	0.94	U	20.0	21.1		ug/L		106	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	21.0		ug/L		105	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	19.8		ug/L		99	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	20.3		ug/L		102	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	20.6		ug/L		103	63 - 131
1,2-Dichloroethane	0.63	U	20.0	18.1		ug/L		91	50 - 156
1,2-Dichloropropane	0.80	U	20.0	22.3		ug/L		111	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33897-C-1 MS
Matrix: Water
Analysis Batch: 74113

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	0.77	U	20.0	20.7		ug/L		104	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	20.4		ug/L		102	65 - 133
2-Butanone (MEK)	4.5	U	200	225		ug/L		113	10 - 180
2-Hexanone	2.5	U	200	229		ug/L		114	12 - 180
4-Methyl-2-pentanone	5.0	U	200	237		ug/L		119	19 - 180
Acetone	25	U	200	218		ug/L		109	10 - 180
Benzene	0.71	U	20.0	22.1		ug/L		111	56 - 136
Bromodichloromethane	17		20.0	36.6		ug/L		97	58 - 135
Bromoform	0.75	U	20.0	19.9		ug/L		99	46 - 148
Bromomethane	0.95	U J3	20.0	11.0		ug/L		55	10 - 173
Carbon disulfide	2.5	U	20.0	19.9		ug/L		100	43 - 153
Carbon tetrachloride	0.94	U	20.0	20.9		ug/L		104	54 - 156
Chlorobenzene	0.72	U	20.0	21.0		ug/L		105	51 - 139
Chloroethane	0.98	U	20.0	20.2		ug/L		101	27 - 180
Chloroform	68		20.0	86.6		ug/L		91	59 - 139
Chloromethane	0.82	U	20.0	14.1		ug/L		71	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	20.7		ug/L		103	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	20.6		ug/L		103	64 - 128
Cyclohexane	0.93	U	20.0	27.3		ug/L		136	14 - 141
Dibromochloromethane	3.3		20.0	23.3		ug/L		100	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	10.0		ug/L		50	10 - 180
Ethylbenzene	0.69	U	20.0	22.6		ug/L		113	63 - 133
Isopropylbenzene	0.67	U	20.0	24.5		ug/L		122	60 - 132
m,p-Xylenes	1.3	U	20.0	22.2		ug/L		111	64 - 133
Methyl acetate	0.95	U	40.0	46.2		ug/L		115	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	19.3		ug/L		96	50 - 150
Methylene Chloride	5.0	U	20.0	18.3		ug/L		91	43 - 142
o-Xylene	0.53	U	20.0	20.9		ug/L		104	61 - 129
Styrene	0.61	U	20.0	21.1		ug/L		105	59 - 136
Tetrachloroethene	0.76	U	20.0	23.0		ug/L		115	60 - 147
Toluene	0.72	U	20.0	22.3		ug/L		111	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	21.8		ug/L		109	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	20.2		ug/L		101	65 - 149
Trichloroethene	0.89	U	20.0	21.7		ug/L		108	62 - 135
Trichlorofluoromethane	0.94	U	20.0	20.2		ug/L		101	56 - 155
Vinyl chloride	0.71	U	20.0	22.0		ug/L		110	20 - 167
Xylenes, Total	1.3	U	40.0	43.1		ug/L		108	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*
Dibromofluoromethane (Surr)	*95*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33897-C-1 MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 74113

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	20.3		ug/L		101	57 - 148	2	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	23.7		ug/L		119	60 - 139	1	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	20.9		ug/L		104	50 - 150	0	30
1,1,2-Trichloroethane	0.76	U	20.0	22.1		ug/L		111	57 - 141	0	16
1,1-Dichloroethane	0.62	U	20.0	22.6		ug/L		113	57 - 142	1	24
1,1-Dichloroethene	0.94	U	20.0	20.3		ug/L		102	49 - 139	4	16
1,2,4-Trichlorobenzene	0.70	U	20.0	21.2		ug/L		106	52 - 159	1	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	20.1		ug/L		101	48 - 150	1	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	20.5		ug/L		103	50 - 150	1	16
1,2-Dichlorobenzene	0.73	U	20.0	20.5		ug/L		103	63 - 131	0	25
1,2-Dichloroethane	0.63	U	20.0	18.3		ug/L		91	50 - 156	1	18
1,2-Dichloropropane	0.80	U	20.0	22.4		ug/L		112	61 - 133	1	26
1,3-Dichlorobenzene	0.77	U	20.0	20.9		ug/L		105	66 - 129	1	23
1,4-Dichlorobenzene	0.76	U	20.0	20.4		ug/L		102	65 - 133	0	23
2-Butanone (MEK)	4.5	U	200	223		ug/L		112	10 - 180	1	29
2-Hexanone	2.5	U	200	229		ug/L		115	12 - 180	0	28
4-Methyl-2-pentanone	5.0	U	200	237		ug/L		119	19 - 180	0	24
Acetone	25	U	200	210		ug/L		105	10 - 180	3	19
Benzene	0.71	U	20.0	21.9		ug/L		109	56 - 136	1	14
Bromodichloromethane	17		20.0	37.2		ug/L		100	58 - 135	2	19
Bromoform	0.75	U	20.0	20.9		ug/L		104	46 - 148	5	18
Bromomethane	0.95	U J3	20.0	13.0		ug/L		65	10 - 173	17	29
Carbon disulfide	2.5	U	20.0	19.0		ug/L		95	43 - 153	5	26
Carbon tetrachloride	0.94	U	20.0	21.2		ug/L		106	54 - 156	1	27
Chlorobenzene	0.72	U	20.0	21.0		ug/L		105	51 - 139	0	13
Chloroethane	0.98	U	20.0	18.9		ug/L		95	27 - 180	7	22
Chloroform	68		20.0	85.9		ug/L		88	59 - 139	1	17
Chloromethane	0.82	U	20.0	13.6		ug/L		68	33 - 154	4	31
cis-1,2-Dichloroethene	0.53	U	20.0	20.7		ug/L		103	56 - 128	0	17
cis-1,3-Dichloropropene	0.59	U	20.0	20.7		ug/L		104	64 - 128	1	20
Cyclohexane	0.93	U	20.0	27.1		ug/L		136	14 - 141	1	30
Dibromochloromethane	3.3		20.0	22.8		ug/L		98	50 - 150	2	18
Dichlorodifluoromethane	0.74	U	20.0	9.98		ug/L		50	10 - 180	0	26
Ethylbenzene	0.69	U	20.0	22.5		ug/L		113	63 - 133	0	18
Isopropylbenzene	0.67	U	20.0	24.4		ug/L		122	60 - 132	0	23
m,p-Xylenes	1.3	U	20.0	21.3		ug/L		107	64 - 133	4	18
Methyl acetate	0.95	U	40.0	50.4		ug/L		126	50 - 150	9	30
Methyl tert-butyl ether	0.60	U	20.0	19.5		ug/L		98	50 - 150	1	22
Methylene Chloride	5.0	U	20.0	17.6		ug/L		88	43 - 142	4	23
o-Xylene	0.53	U	20.0	20.9		ug/L		105	61 - 129	0	16
Styrene	0.61	U	20.0	20.2		ug/L		101	59 - 136	4	32
Tetrachloroethene	0.76	U	20.0	22.4		ug/L		112	60 - 147	3	21
Toluene	0.72	U	20.0	22.2		ug/L		111	64 - 131	0	16
trans-1,2-Dichloroethene	0.73	U	20.0	21.2		ug/L		106	54 - 134	3	20
trans-1,3-Dichloropropene	0.73	U	20.0	20.9		ug/L		105	65 - 149	3	17
Trichloroethene	0.89	U	20.0	21.0		ug/L		105	62 - 135	3	20
Trichlorofluoromethane	0.94	U	20.0	19.6		ug/L		98	56 - 155	3	22
Vinyl chloride	0.71	U	20.0	20.7		ug/L		104	20 - 167	6	24

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33897-C-1 MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 74113

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	1.3	U	40.0	42.2		ug/L		106	50 - 150	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*41 - 142*
Dibromofluoromethane (Surr)	*93*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

QC Association Summary

Client: Tetra Tech, Inc.
Job ID: 670-33842-1
Project/Site: NASA KSC LC34 - Monthly

GC/MS VOA

Analysis Batch: 73942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33842-1	LC34-AS2-20240129	Total/NA	Water	8260D	
670-33842-2	LC34-GAC-20240129	Total/NA	Water	8260D	
670-33842-3	LC34-AS1-20240129	Total/NA	Water	8260D	
670-33842-4 - DL	LC34-RW17C-20240129	Total/NA	Water	8260D	
670-33842-5 - DL	LC34-RW19C-20240129	Total/NA	Water	8260D	
670-33842-6 - DL	LC34-RW20C-20240129	Total/NA	Water	8260D	
670-33842-7 - DL	LC34-RW21D-20240129	Total/NA	Water	8260D	
MB 670-73942/7	Method Blank	Total/NA	Water	8260D	
LCS 670-73942/4	Lab Control Sample	Total/NA	Water	8260D	
670-33842-4 MS	LC34-RW17C-20240129	Total/NA	Water	8260D	
670-33842-4 MSD	LC34-RW17C-20240129	Total/NA	Water	8260D	

Analysis Batch: 74113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33842-1 - DL	LC34-AS2-20240129	Total/NA	Water	8260D	
670-33842-2	LC34-GAC-20240129	Total/NA	Water	8260D	
670-33842-3	LC34-AS1-20240129	Total/NA	Water	8260D	
670-33842-5 - DL	LC34-RW19C-20240129	Total/NA	Water	8260D	
MB 670-74113/8	Method Blank	Total/NA	Water	8260D	
LCS 670-74113/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 670-74113/5	Lab Control Sample Dup	Total/NA	Water	8260D	
670-33897-C-1 MS	Matrix Spike	Total/NA	Water	8260D	
670-33897-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33842-1
Project/Site: NASA KSC LC34 - Monthly

Client Sample ID: LC34-AS2-20240129
Lab Sample ID: 670-33842-1
Date Collected: 01/29/24 09:05
Matrix: Water
Date Received: 01/30/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	73942	AAM	EET ORL	01/31/24 19:40
Total/NA	Analysis	8260D	DL	5	74113	P1K	EET ORL	02/01/24 20:56

Client Sample ID: LC34-GAC-20240129
Lab Sample ID: 670-33842-2
Date Collected: 01/29/24 09:10
Matrix: Water
Date Received: 01/30/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	73942	AAM	EET ORL	01/31/24 19:57
Total/NA	Analysis	8260D		1	74113	P1K	EET ORL	02/01/24 20:19

Client Sample ID: LC34-AS1-20240129
Lab Sample ID: 670-33842-3
Date Collected: 01/29/24 09:00
Matrix: Water
Date Received: 01/30/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	73942	AAM	EET ORL	01/31/24 20:14
Total/NA	Analysis	8260D		1	74113	P1K	EET ORL	02/01/24 20:38

Client Sample ID: LC34-RW17C-20240129
Lab Sample ID: 670-33842-4
Date Collected: 01/29/24 09:15
Matrix: Water
Date Received: 01/30/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	73942	AAM	EET ORL	01/31/24 17:07

Client Sample ID: LC34-RW19C-20240129
Lab Sample ID: 670-33842-5
Date Collected: 01/29/24 09:25
Matrix: Water
Date Received: 01/30/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	400	73942	AAM	EET ORL	01/31/24 22:43
Total/NA	Analysis	8260D	DL	5000	74113	P1K	EET ORL	02/01/24 20:38

Client Sample ID: LC34-RW20C-20240129
Lab Sample ID: 670-33842-6
Date Collected: 01/29/24 09:30
Matrix: Water
Date Received: 01/30/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	400	73942	AAM	EET ORL	01/31/24 23:00

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33842-1
Project/Site: NASA KSC LC34 - Monthly

Client Sample ID: LC34-RW21D-20240129
Lab Sample ID: 670-33842-7
Date Collected: 01/29/24 09:35
Matrix: Water
Date Received: 01/30/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	73942	AAM	EET ORL	01/31/24 22:26

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-33842-1
Project/Site: NASA KSC LC34 - Monthly

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-33842-1
Project/Site: NASA KSC LC34 - Monthly

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-33842-1
Project/Site: NASA KSC LC34 - Monthly

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-33842-1	LC34-AS2-20240129	Water	01/29/24 09:05	01/30/24 08:00
670-33842-2	LC34-GAC-20240129	Water	01/29/24 09:10	01/30/24 08:00
670-33842-3	LC34-AS1-20240129	Water	01/29/24 09:00	01/30/24 08:00
670-33842-4	LC34-RW17C-20240129	Water	01/29/24 09:15	01/30/24 08:00
670-33842-5	LC34-RW19C-20240129	Water	01/29/24 09:25	01/30/24 08:00
670-33842-6	LC34-RW20C-20240129	Water	01/29/24 09:30	01/30/24 08:00
670-33842-7	LC34-RW21D-20240129	Water	01/29/24 09:35	01/30/24 08:00

Chain of Custody Samples

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Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

Client Contact Info

Name:
Chuck Sorden

Address :
1353 N. Courtenay Pkwy. Suite S

Address 2:

City, State Zip:
Merritt Island, Florida 32953

Phone:
3215917580

Deliverables:

Special Instructions:

Client Contact Info

Company:
Tetra Tech, Inc.

Purchase Order:
1179322

Work Order:
112G08985

Email:
Chuck.Sorden@tetratech.com

Proposed Due Date:

Project Manager
Dylnicki, Kaitlin

Project Reference:

Site Name:
NASA KSC LC34

Sampler:
Chuck Sorden

Description:
LC34 202401 Monthly System Samples

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
3	LC34-AS2-20240129	Grab	Water	1/29/2024 09:05	FL			X	3	3
1	LC34-GAC-20240129	Grab	Water	1/29/2024 09:10	FL			X	3	3
2	LC34-AS1-20240129	Grab	Water	1/29/2024 09:00	FL			X	3	3
4	LC34-RW17C-20240129	Grab	Water	1/29/2024 09:15	FL			X	3	3
5	LC34-RW19C-20240129	Grab	Water	1/29/2024 09:25	FL			X	3	3
6	LC34-RW20C-20240129	Grab	Water	1/29/2024 09:30	FL			X	3	3
7	LC34-RW21D-20240129	Grab	Water	1/29/2024 09:35	FL			X	3	3

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Samples Accepted By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	1/29/24 14:44	Chuck Sorden	1/29/24 15:34	Hartley, Tyler	1/30/24 11:31	Hartley, Tyler	1/30/24 11:31

Chain of Custody Number: **249681**

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-33842-1

Login Number: 33842

List Source: Eurofins Orlando

List Number: 1

Creator: Lavardera, Angelina

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34 - BiWeekly

JOB NUMBER

670-34171-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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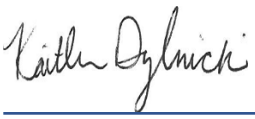

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Authorized for release by
Kaitlin Dylnicki, Project Manager
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Definitions/Glossary

Client: Tetra Tech, Inc. Job ID: 670-34171-1
Project/Site: NASA KSC LC34 - BiWeekly

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-34171-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 2/3/2024 7:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.6°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-74776 recovered outside acceptance criteria, low biased, for 1,2-Dichloroethane and Acetone. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-74776 recovered above the upper control limit for Dichlorodifluoromethane and Methyl acetate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-74776/5).

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0044D2-110.0-20240202 (670-34171-1). Elevated reporting limits (RLs) are provided.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 670-74776 were high outside control limits for Acetone, Chloroethane, Trichlorofluoromethane, and Vinyl Chloride. Associated client samples were non-detect for these analytes. The associated laboratory control sample (LCS) was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Job ID: 670-34171-1
Project/Site: NASA KSC LC34 - BiWeekly

Client Sample ID: LC34-IW0044D2-110.0-20240202 — Lab Sample ID: 670-34171-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1000		25	13	ug/L	25		8260D	Total/NA
Trichloroethene - DL	430		25	22	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	93		25	18	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-IW0162-110.0-20240202 — Lab Sample ID: 670-34171-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.3		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	2.9		1.0	0.89	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Job ID: 670-34171-1
Project/Site: NASA KSC LC34 - BiWeekly

Client Sample ID: LC34-IW0044D2-110.0-20240202
Lab Sample ID: 670-34171-1
Date Collected: 02/02/24 09:05
Matrix: Water
Date Received: 02/03/24 07:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			02/06/24 19:44	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			02/06/24 19:44	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			02/06/24 19:44	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			02/06/24 19:44	25
1,1-Dichloroethane	16	U	25	16	ug/L			02/06/24 19:44	25
1,1-Dichloroethene	24	U	25	24	ug/L			02/06/24 19:44	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			02/06/24 19:44	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			02/06/24 19:44	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			02/06/24 19:44	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			02/06/24 19:44	25
1,2-Dichloroethane	16	U	25	16	ug/L			02/06/24 19:44	25
1,2-Dichloropropane	20	U	25	20	ug/L			02/06/24 19:44	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			02/06/24 19:44	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			02/06/24 19:44	25
2-Butanone (MEK)	110	U	250	110	ug/L			02/06/24 19:44	25
2-Hexanone	63	U	500	63	ug/L			02/06/24 19:44	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			02/06/24 19:44	25
Acetone	630	U	1300	630	ug/L			02/06/24 19:44	25
Benzene	18	U	25	18	ug/L			02/06/24 19:44	25
Bromodichloromethane	13	U	25	13	ug/L			02/06/24 19:44	25
Bromoform	19	U	25	19	ug/L			02/06/24 19:44	25
Bromomethane	24	U	50	24	ug/L			02/06/24 19:44	25
Carbon disulfide	63	U	130	63	ug/L			02/06/24 19:44	25
Carbon tetrachloride	24	U	25	24	ug/L			02/06/24 19:44	25
Chlorobenzene	18	U	25	18	ug/L			02/06/24 19:44	25
Chloroethane	25	U	50	25	ug/L			02/06/24 19:44	25
Chloroform	20	U	130	20	ug/L			02/06/24 19:44	25
Chloromethane	21	U	50	21	ug/L			02/06/24 19:44	25
cis-1,2-Dichloroethene	**1000**		25	13	ug/L			02/06/24 19:44	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			02/06/24 19:44	25
Cyclohexane	23	U	130	23	ug/L			02/06/24 19:44	25
Dibromochloromethane	13	U	25	13	ug/L			02/06/24 19:44	25
Dichlorodifluoromethane	19	U	25	19	ug/L			02/06/24 19:44	25
Ethylbenzene	17	U	25	17	ug/L			02/06/24 19:44	25
Isopropylbenzene	17	U	50	17	ug/L			02/06/24 19:44	25
m,p-Xylenes	33	U	50	33	ug/L			02/06/24 19:44	25
Methyl acetate	24	U	250	24	ug/L			02/06/24 19:44	25
Methyl tert-butyl ether	15	U	50	15	ug/L			02/06/24 19:44	25
Methylene Chloride	130	U	250	130	ug/L			02/06/24 19:44	25
o-Xylene	13	U	25	13	ug/L			02/06/24 19:44	25
Styrene	15	U	25	15	ug/L			02/06/24 19:44	25
Tetrachloroethene	19	U	25	19	ug/L			02/06/24 19:44	25
Toluene	18	U	25	18	ug/L			02/06/24 19:44	25
trans-1,2-Dichloroethene	18	U	25	18	ug/L			02/06/24 19:44	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			02/06/24 19:44	25
Trichloroethene	**430**		25	22	ug/L			02/06/24 19:44	25
Trichlorofluoromethane	24	U	25	24	ug/L			02/06/24 19:44	25
Vinyl chloride	**93**		25	18	ug/L			02/06/24 19:44	25
Xylenes, Total	33	U	50	33	ug/L			02/06/24 19:44	25

Client Sample ID: LC34-IW0044D2-110.0-20240202
Lab Sample ID: 670-34171-1

Date Collected: 02/02/24 09:05
Matrix: Water
Date Received: 02/03/24 07:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*02/06/24 19:44*	*25*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*02/06/24 19:44*	*25*
Toluene-d8 (Surr)	*100*		*40 - 146*		*02/06/24 19:44*	*25*

Client Sample ID: LC34-IW0162-110.0-20240202
Lab Sample ID: 670-34171-2

Date Collected: 02/02/24 09:35
Matrix: Water
Date Received: 02/03/24 07:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			02/06/24 20:20	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			02/06/24 20:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			02/06/24 20:20	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			02/06/24 20:20	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			02/06/24 20:20	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			02/06/24 20:20	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			02/06/24 20:20	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			02/06/24 20:20	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			02/06/24 20:20	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			02/06/24 20:20	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			02/06/24 20:20	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			02/06/24 20:20	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			02/06/24 20:20	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			02/06/24 20:20	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			02/06/24 20:20	1
2-Hexanone	2.5	U	20	2.5	ug/L			02/06/24 20:20	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			02/06/24 20:20	1
Acetone	25	U	50	25	ug/L			02/06/24 20:20	1
Benzene	0.71	U	1.0	0.71	ug/L			02/06/24 20:20	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			02/06/24 20:20	1
Bromoform	0.75	U	1.0	0.75	ug/L			02/06/24 20:20	1
Bromomethane	0.95	U	2.0	0.95	ug/L			02/06/24 20:20	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			02/06/24 20:20	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			02/06/24 20:20	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			02/06/24 20:20	1
Chloroethane	0.98	U	2.0	0.98	ug/L			02/06/24 20:20	1
Chloroform	0.80	U	5.0	0.80	ug/L			02/06/24 20:20	1
Chloromethane	0.82	U	2.0	0.82	ug/L			02/06/24 20:20	1
cis-1,2-Dichloroethene	**1.3**		1.0	0.53	ug/L			02/06/24 20:20	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			02/06/24 20:20	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			02/06/24 20:20	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			02/06/24 20:20	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			02/06/24 20:20	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			02/06/24 20:20	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			02/06/24 20:20	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			02/06/24 20:20	1
Methyl acetate	0.95	U	10	0.95	ug/L			02/06/24 20:20	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			02/06/24 20:20	1
Methylene Chloride	5.0	U	10	5.0	ug/L			02/06/24 20:20	1
o-Xylene	0.53	U	1.0	0.53	ug/L			02/06/24 20:20	1

Client: Tetra Tech, Inc.
Job ID: 670-34171-1
Project/Site: NASA KSC LC34 - BiWeekly

Client Sample ID: LC34-IW0162-110.0-20240202
Lab Sample ID: 670-34171-2
Date Collected: 02/02/24 09:35
Matrix: Water
Date Received: 02/03/24 07:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			02/06/24 20:20	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			02/06/24 20:20	1
Toluene	0.72	U	1.0	0.72	ug/L			02/06/24 20:20	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			02/06/24 20:20	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			02/06/24 20:20	1
Trichloroethene	**2.9**		1.0	0.89	ug/L			02/06/24 20:20	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			02/06/24 20:20	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			02/06/24 20:20	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			02/06/24 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*02/06/24 20:20*	*1*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*02/06/24 20:20*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*02/06/24 20:20*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 - BiWeekly

Job ID: 670-34171-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-33840-E-1 MS	Matrix Spike	98	101	103
670-33840-E-1 MSD	Matrix Spike Duplicate	97	103	101
670-34171-1 - DL	LC34-IW0044D2-110.0-20240202	97	103	100
670-34171-2	LC34-IW0162-110.0-20240202	97	103	100
LCS 670-74776/6	Lab Control Sample	94	102	103
MB 670-74776/9	Method Blank	96	103	102

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-74776/9
Matrix: Water
Analysis Batch: 74776

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			02/06/24 17:01	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			02/06/24 17:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			02/06/24 17:01	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			02/06/24 17:01	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			02/06/24 17:01	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			02/06/24 17:01	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			02/06/24 17:01	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			02/06/24 17:01	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			02/06/24 17:01	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			02/06/24 17:01	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			02/06/24 17:01	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			02/06/24 17:01	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			02/06/24 17:01	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			02/06/24 17:01	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			02/06/24 17:01	1
2-Hexanone	2.5	U	20	2.5	ug/L			02/06/24 17:01	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			02/06/24 17:01	1
Acetone	25	U	50	25	ug/L			02/06/24 17:01	1
Benzene	0.71	U	1.0	0.71	ug/L			02/06/24 17:01	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			02/06/24 17:01	1
Bromoform	0.75	U	1.0	0.75	ug/L			02/06/24 17:01	1
Bromomethane	0.95	U	2.0	0.95	ug/L			02/06/24 17:01	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			02/06/24 17:01	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			02/06/24 17:01	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			02/06/24 17:01	1
Chloroethane	0.98	U	2.0	0.98	ug/L			02/06/24 17:01	1
Chloroform	0.80	U	5.0	0.80	ug/L			02/06/24 17:01	1
Chloromethane	0.82	U	2.0	0.82	ug/L			02/06/24 17:01	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			02/06/24 17:01	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			02/06/24 17:01	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			02/06/24 17:01	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			02/06/24 17:01	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			02/06/24 17:01	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			02/06/24 17:01	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			02/06/24 17:01	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			02/06/24 17:01	1
Methyl acetate	0.95	U	10	0.95	ug/L			02/06/24 17:01	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			02/06/24 17:01	1
Methylene Chloride	5.0	U	10	5.0	ug/L			02/06/24 17:01	1
o-Xylene	0.53	U	1.0	0.53	ug/L			02/06/24 17:01	1
Styrene	0.61	U	1.0	0.61	ug/L			02/06/24 17:01	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			02/06/24 17:01	1
Toluene	0.72	U	1.0	0.72	ug/L			02/06/24 17:01	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			02/06/24 17:01	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			02/06/24 17:01	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			02/06/24 17:01	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			02/06/24 17:01	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			02/06/24 17:01	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-74776/9
Matrix: Water
Analysis Batch: 74776

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			02/06/24 17:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*02/06/24 17:01*	*1*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*02/06/24 17:01*	*1*
Toluene-d8 (Surr)	*102*		*40 - 146*		*02/06/24 17:01*	*1*

Lab Sample ID: LCS 670-74776/6
Matrix: Water
Analysis Batch: 74776

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	19.7		ug/L		99	57 - 148
1,1,2,2-Tetrachloroethane	20.0	16.5		ug/L		82	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	23.4		ug/L		117	47 - 173
1,1,2-Trichloroethane	20.0	19.0		ug/L		95	57 - 141
1,1-Dichloroethane	20.0	19.0		ug/L		95	57 - 142
1,1-Dichloroethene	20.0	19.1		ug/L		96	47 - 139
1,2,4-Trichlorobenzene	20.0	19.6		ug/L		98	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	16.6		ug/L		83	48 - 150
1,2-Dibromoethane (EDB)	20.0	19.1		ug/L		95	57 - 140
1,2-Dichlorobenzene	20.0	19.7		ug/L		98	63 - 131
1,2-Dichloroethane	20.0	15.9		ug/L		79	50 - 156
1,2-Dichloropropane	20.0	18.4		ug/L		92	61 - 133
1,3-Dichlorobenzene	20.0	20.2		ug/L		101	66 - 129
1,4-Dichlorobenzene	20.0	17.5		ug/L		87	65 - 133
2-Butanone (MEK)	200	185		ug/L		93	10 - 180
2-Hexanone	200	146		ug/L		73	12 - 180
4-Methyl-2-pentanone	200	147		ug/L		74	19 - 180
Acetone	200	147		ug/L		74	10 - 180
Benzene	20.0	20.7		ug/L		103	56 - 136
Bromodichloromethane	20.0	19.2		ug/L		96	58 - 135
Bromoform	20.0	19.4		ug/L		97	46 - 148
Bromomethane	20.0	16.5		ug/L		83	10 - 173
Carbon disulfide	20.0	21.5		ug/L		107	43 - 153
Carbon tetrachloride	20.0	20.6		ug/L		103	54 - 156
Chlorobenzene	20.0	21.5		ug/L		107	51 - 139
Chloroethane	20.0	15.3		ug/L		76	27 - 180
Chloroform	20.0	20.8		ug/L		104	58 - 139
Chloromethane	20.0	21.4		ug/L		107	33 - 154
cis-1,2-Dichloroethene	20.0	17.9		ug/L		90	56 - 128
cis-1,3-Dichloropropene	20.0	20.0		ug/L		100	64 - 128
Cyclohexane	20.0	17.3		ug/L		86	14 - 151
Dibromochloromethane	20.0	19.3		ug/L		97	50 - 140
Dichlorodifluoromethane	20.0	26.0		ug/L		130	10 - 180
Ethylbenzene	20.0	21.0		ug/L		105	63 - 133
Isopropylbenzene	20.0	20.0		ug/L		100	60 - 132
m,p-Xylenes	20.0	18.4		ug/L		92	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-74776/6
Matrix: Water
Analysis Batch: 74776

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Methyl acetate			40.0	45.3		ug/L		113	70 - 130		
Methyl tert-butyl ether			20.0	19.5		ug/L		98	51 - 145		
Methylene Chloride			20.0	21.1		ug/L		106	43 - 142		
o-Xylene			20.0	20.2		ug/L		101	61 - 129		
Styrene			20.0	20.8		ug/L		104	59 - 136		
Tetrachloroethene			20.0	22.4		ug/L		112	60 - 147		
Toluene			20.0	18.9		ug/L		94	64 - 131		
trans-1,2-Dichloroethene			20.0	23.3		ug/L		116	54 - 134		
trans-1,3-Dichloropropene			20.0	19.1		ug/L		96	65 - 149		
Trichloroethene			20.0	22.3		ug/L		111	62 - 135		
Trichlorofluoromethane			20.0	18.1		ug/L		90	56 - 155		
Vinyl chloride			20.0	20.1		ug/L		101	20 - 167		
Xylenes, Total			40.0	38.6		ug/L		97	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*103*		*40 - 146*

Lab Sample ID: 670-33840-E-1 MS
Matrix: Water
Analysis Batch: 74776

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1,1-Trichloroethane	0.80	U	20.0	22.0		ug/L		110	57 - 148		
1,1,2,2-Tetrachloroethane	0.54	U	20.0	18.1		ug/L		91	60 - 139		
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	25.3		ug/L		126	50 - 150		
1,1,2-Trichloroethane	0.76	U	20.0	20.0		ug/L		100	57 - 141		
1,1-Dichloroethane	1.0		20.0	21.5		ug/L		102	57 - 142		
1,1-Dichloroethene	0.94	U	20.0	21.3		ug/L		107	49 - 139		
1,2,4-Trichlorobenzene	0.70	U	20.0	19.9		ug/L		99	52 - 159		
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	16.7		ug/L		84	48 - 150		
1,2-Dibromoethane (EDB)	0.78	U	20.0	19.5		ug/L		97	50 - 150		
1,2-Dichlorobenzene	0.73	U	20.0	21.0		ug/L		105	63 - 131		
1,2-Dichloroethane	0.63	U	20.0	16.3		ug/L		82	50 - 156		
1,2-Dichloropropane	0.80	U	20.0	19.9		ug/L		100	61 - 133		
1,3-Dichlorobenzene	0.77	U	20.0	21.7		ug/L		108	66 - 129		
1,4-Dichlorobenzene	0.76	U	20.0	18.6		ug/L		93	65 - 133		
2-Butanone (MEK)	4.5	U	200	183		ug/L		91	10 - 180		
2-Hexanone	2.5	U	200	151		ug/L		75	12 - 180		
4-Methyl-2-pentanone	5.0	U	200	157		ug/L		78	19 - 180		
Acetone	25	U J3	200	140		ug/L		70	10 - 180		
Benzene	0.71	U	20.0	21.9		ug/L		109	56 - 136		
Bromodichloromethane	0.52	U	20.0	20.0		ug/L		100	58 - 135		
Bromoform	0.75	U	20.0	19.5		ug/L		98	46 - 148		
Bromomethane	0.95	U	20.0	12.0		ug/L		60	10 - 173		
Carbon disulfide	2.5	U	20.0	23.7		ug/L		118	43 - 153		
Carbon tetrachloride	0.94	U	20.0	23.4		ug/L		117	54 - 156		

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33840-E-1 MS
Matrix: Water
Analysis Batch: 74776

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	22.6		ug/L		113	51 - 139
Chloroethane	0.98	U J3	20.0	16.7		ug/L		84	27 - 180
Chloroform	0.80	U	20.0	21.6		ug/L		108	59 - 139
Chloromethane	0.82	U	20.0	19.7		ug/L		98	33 - 154
cis-1,2-Dichloroethene	5.8		20.0	25.7		ug/L		100	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	20.5		ug/L		102	64 - 128
Cyclohexane	0.93	U	20.0	21.1		ug/L		106	14 - 141
Dibromochloromethane	0.50	U	20.0	19.8		ug/L		99	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	22.4		ug/L		112	10 - 180
Ethylbenzene	0.69	U	20.0	22.2		ug/L		111	63 - 133
Isopropylbenzene	0.67	U	20.0	22.7		ug/L		114	60 - 132
m,p-Xylenes	1.3	U	20.0	19.9		ug/L		99	64 - 133
Methyl acetate	0.95	U	40.0	41.9		ug/L		105	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	19.6		ug/L		98	50 - 150
Methylene Chloride	5.0	U	20.0	21.5		ug/L		107	43 - 142
o-Xylene	0.53	U	20.0	21.6		ug/L		108	61 - 129
Styrene	0.61	U	20.0	21.5		ug/L		107	59 - 136
Tetrachloroethene	1.1		20.0	24.7		ug/L		118	60 - 147
Toluene	0.72	U	20.0	20.8		ug/L		104	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	24.5		ug/L		122	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	19.6		ug/L		98	65 - 149
Trichloroethene	0.89	U	20.0	23.9		ug/L		119	62 - 135
Trichlorofluoromethane	0.94	U J3	20.0	15.6		ug/L		78	56 - 155
Vinyl chloride	0.71	U J3	20.0	17.6		ug/L		88	20 - 167
Xylenes, Total	1.3	U	40.0	41.5		ug/L		104	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*103*		*40 - 146*

Lab Sample ID: 670-33840-E-1 MSD
Matrix: Water
Analysis Batch: 74776

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	22.9		ug/L		115	57 - 148	4	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	20.8		ug/L		104	60 - 139	14	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	26.0		ug/L		130	50 - 150	3	30
1,1,2-Trichloroethane	0.76	U	20.0	22.1		ug/L		110	57 - 141	10	16
1,1-Dichloroethane	1.0		20.0	23.0		ug/L		110	57 - 142	7	24
1,1-Dichloroethene	0.94	U	20.0	22.7		ug/L		113	49 - 139	6	16
1,2,4-Trichlorobenzene	0.70	U	20.0	21.6		ug/L		108	52 - 159	8	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	19.8		ug/L		99	48 - 150	17	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	21.8		ug/L		109	50 - 150	11	16
1,2-Dichlorobenzene	0.73	U	20.0	21.7		ug/L		108	63 - 131	3	25
1,2-Dichloroethane	0.63	U	20.0	18.3		ug/L		92	50 - 156	12	18
1,2-Dichloropropane	0.80	U	20.0	20.8		ug/L		104	61 - 133	4	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33840-E-1 MSD
Matrix: Water
Analysis Batch: 74776

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U	20.0	22.0		ug/L		110	66 - 129	1	23
1,4-Dichlorobenzene	0.76	U	20.0	19.2		ug/L		96	65 - 133	3	23
2-Butanone (MEK)	4.5	U	200	232		ug/L		116	10 - 180	23	29
2-Hexanone	2.5	U	200	194		ug/L		97	12 - 180	25	28
4-Methyl-2-pentanone	5.0	U	200	198		ug/L		99	19 - 180	23	24
Acetone	25	U J3	200	177	J3	ug/L		89	10 - 180	24	19
Benzene	0.71	U	20.0	23.3		ug/L		116	56 - 136	6	14
Bromodichloromethane	0.52	U	20.0	21.2		ug/L		106	58 - 135	6	19
Bromoform	0.75	U	20.0	21.8		ug/L		109	46 - 148	11	18
Bromomethane	0.95	U	20.0	14.5		ug/L		73	10 - 173	19	29
Carbon disulfide	2.5	U	20.0	26.2		ug/L		131	43 - 153	10	26
Carbon tetrachloride	0.94	U	20.0	24.3		ug/L		122	54 - 156	4	27
Chlorobenzene	0.72	U	20.0	23.3		ug/L		117	51 - 139	3	13
Chloroethane	0.98	U J3	20.0	25.4	J3	ug/L		127	27 - 180	41	22
Chloroform	0.80	U	20.0	22.5		ug/L		112	59 - 139	4	17
Chloromethane	0.82	U	20.0	25.8		ug/L		129	33 - 154	27	31
cis-1,2-Dichloroethene	5.8		20.0	26.6		ug/L		104	56 - 128	3	17
cis-1,3-Dichloropropene	0.59	U	20.0	21.6		ug/L		108	64 - 128	5	20
Cyclohexane	0.93	U	20.0	22.3		ug/L		112	14 - 141	5	30
Dibromochloromethane	0.50	U	20.0	21.0		ug/L		105	50 - 150	6	18
Dichlorodifluoromethane	0.74	U	20.0	28.6		ug/L		143	10 - 180	24	26
Ethylbenzene	0.69	U	20.0	23.4		ug/L		117	63 - 133	5	18
Isopropylbenzene	0.67	U	20.0	22.6		ug/L		113	60 - 132	0	23
m,p-Xylenes	1.3	U	20.0	21.0		ug/L		105	64 - 133	5	18
Methyl acetate	0.95	U	40.0	50.9		ug/L		127	50 - 150	19	30
Methyl tert-butyl ether	0.60	U	20.0	22.8		ug/L		114	50 - 150	15	22
Methylene Chloride	5.0	U	20.0	22.1		ug/L		111	43 - 142	3	23
o-Xylene	0.53	U	20.0	22.3		ug/L		111	61 - 129	3	16
Styrene	0.61	U	20.0	22.4		ug/L		112	59 - 136	4	32
Tetrachloroethene	1.1		20.0	25.7		ug/L		123	60 - 147	4	21
Toluene	0.72	U	20.0	21.5		ug/L		108	64 - 131	3	16
trans-1,2-Dichloroethene	0.73	U	20.0	25.7		ug/L		128	54 - 134	5	20
trans-1,3-Dichloropropene	0.73	U	20.0	21.6		ug/L		108	65 - 149	10	17
Trichloroethene	0.89	U	20.0	24.9		ug/L		125	62 - 135	4	20
Trichlorofluoromethane	0.94	U J3	20.0	19.6	J3	ug/L		98	56 - 155	23	22
Vinyl chloride	0.71	U J3	20.0	23.0	J3	ug/L		115	20 - 167	27	24
Xylenes, Total	1.3	U	40.0	43.3		ug/L		108	50 - 150	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*
Dibromofluoromethane (Surr)	*103*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

QC Association Summary

Client: Tetra Tech, Inc.
Job ID: 670-34171-1
Project/Site: NASA KSC LC34 - BiWeekly

GC/MS VOA

Analysis Batch: 74776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-34171-1 - DL	LC34-IW0044D2-110.0-20240202	Total/NA	Water	8260D	
670-34171-2	LC34-IW0162-110.0-20240202	Total/NA	Water	8260D	
MB 670-74776/9	Method Blank	Total/NA	Water	8260D	
LCS 670-74776/6	Lab Control Sample	Total/NA	Water	8260D	
670-33840-E-1 MS	Matrix Spike	Total/NA	Water	8260D	
670-33840-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-34171-1
Project/Site: NASA KSC LC34 - BiWeekly

Client Sample ID: LC34-IW0044D2-110.0-20240202
Lab Sample ID: 670-34171-1

Date Collected: 02/02/24 09:05
Matrix: Water
Date Received: 02/03/24 07:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	74776	T1Y	EET ORL	02/06/24 19:44

Client Sample ID: LC34-IW0162-110.0-20240202
Lab Sample ID: 670-34171-2

Date Collected: 02/02/24 09:35
Matrix: Water
Date Received: 02/03/24 07:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	74776	T1Y	EET ORL	02/06/24 20:20

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-34171-1
Project/Site: NASA KSC LC34 - BiWeekly

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-34171-1
Project/Site: NASA KSC LC34 - BiWeekly

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-34171-1
Project/Site: NASA KSC LC34 - BiWeekly

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-34171-1	LC34-IW0044D2-110.0-20240202	Water	02/02/24 09:05	02/03/24 07:00
670-34171-2	LC34-IW0162-110.0-20240202	Water	02/02/24 09:35	02/03/24 07:00

Chain of Custody Samples

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Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

Client Contact Info

Name:
Chuck Sorden

Address :
1353 N. Courtenay Pkwy. Suite S

Address 2:

City, State Zip:
Merritt Island, Florida 32953

Phone:
3215917580

Deliverables:

Special Instructions:

Client Contact Info

Company:
Tetra Tech, Inc.

Purchase Order:
1179322

Work Order:
112G08985

Email:
Chuck.Sorden@tetratech.com

Proposed Due Date:

Project Manager
Dylnicki, Kaitlin

Project Reference:

Site Name:
NASA KSC LC34

Sampler:
Chuck Sorden

Description:
LC34 20240202 Bi-Weekly Samples

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C - (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-IW0044D2-110.0-20240202	Grab	Water	2/2/2024 09:05	FL			X	3	3
2	LC34-IW0162-110.0-20240202	Grab	Water	2/2/2024 09:35	FL			X	3	3

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	2/2/24 14:39	Chuck Sorden	2/2/24 14:39	Clerisier, Meline	2/3/24 11:49

Chain of Custody Sample Data

LC34-IW0044D2-110.0-20240202

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]: 02/02/2024 09:05 **Time Zone:** Eastern

[1] All collection times displayed in 24 hour format.

Chain of Custody Samples

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Contains Rush Work: ☐ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name: Chuck Sorden

Address : 1353 N. Courtenay Pkwy. Suite S

Address 2:

City, State Zip: Merritt Island, Florida 32953

Phone: 3215917580

Deliverables:

Special Instructions:

Client Contact Info

Company: Tetra Tech, Inc.

Purchase Order: 1179322

Work Order: 112G08985

Email: Chuck.Sorden@tetratech.com

Proposed Due Date:

Project Manager: Dylnicki, Kaitlin

Project Reference:

Site Name: NASA KSC LC34

Sampler: Chuck Sorden

Description: LC34 20240202 Bi-Weekly Samples

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C - (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-IW0044D2-110.0-20240202	Grab	Water	2/2/2024 09:05	FL			X	3	3
2	LC34-IW0162-110.0-20240202	Grab	Water	2/2/2024 09:35	FL			X	3	3

670-34171 Chain of Custody

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	2/2/24 14:39	Chuck Sorden	2/2/24 14:39	Clerisier, Meline	2/3/24 11:49

1.6 / 1.6

596°

Chain of Custody Number: **251510**

Chain of Custody Sample Data

LC34-IW0044D2-110.0-20240202

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]**:** 02/02/2024 09:05 **Time Zone:** Eastern

[1] All collection times displayed in 24 hour format.

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-34171-1

Login Number: 34171

List Source: Eurofins Orlando

List Number: 1

Creator: Clerisier, Meline

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34 - Bi-weekly

JOB NUMBER

670-34927-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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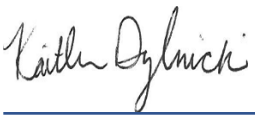

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Authorized for release by
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Definitions/Glossary

Client: Tetra Tech, Inc. Job ID: 670-34927-1
Project/Site: NASA KSC LC34 - Bi-weekly

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-34927-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 2/16/2024 12:24 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.9°C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-76773 recovered outside acceptance criteria, low biased, for 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1-Dichloroethene, Carbon disulfide, Chloromethane, Cyclohexane and Methylene Chloride. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-76773 recovered above the upper control limit for Bromomethane and Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-76773/3).

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 670-76773 were outside control limits for one or more analytes. See QC Sample Results for detail. The associated laboratory control sample (LCS) recovery is within acceptance limits

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0044D2-110.0-20240216 (670-34927-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Job ID: 670-34927-1
Project/Site: NASA KSC LC34 - Bi-weekly

Client Sample ID: LC34-IW0044D2-110.0-20240216
Lab Sample ID: 670-34927-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1200		25	13	ug/L	25		8260D	Total/NA
Trichloroethene - DL	440		25	22	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	87		25	18	ug/L	25		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Job ID: 670-34927-1
Project/Site: NASA KSC LC34 - Bi-weekly

Client Sample ID: LC34-IW0044D2-110.0-20240216
Lab Sample ID: 670-34927-1
Date Collected: 02/16/24 08:55
Matrix: Water
Date Received: 02/16/24 12:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	18	U	25	18	ug/L			02/20/24 14:24	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*02/20/24 14:24*	*25*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*02/20/24 14:24*	*25*
Toluene-d8 (Surr)	*98*		*40 - 146*		*02/20/24 14:24*	*25*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			02/19/24 21:38	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			02/19/24 21:38	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			02/19/24 21:38	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			02/19/24 21:38	25
1,1-Dichloroethane	16	U	25	16	ug/L			02/19/24 21:38	25
1,1-Dichloroethene	24	U	25	24	ug/L			02/19/24 21:38	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			02/19/24 21:38	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			02/19/24 21:38	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			02/19/24 21:38	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			02/19/24 21:38	25
1,2-Dichloroethane	16	U	25	16	ug/L			02/19/24 21:38	25
1,2-Dichloropropane	20	U	25	20	ug/L			02/19/24 21:38	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			02/19/24 21:38	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			02/19/24 21:38	25
2-Butanone (MEK)	110	U	250	110	ug/L			02/19/24 21:38	25
2-Hexanone	63	U	500	63	ug/L			02/19/24 21:38	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			02/19/24 21:38	25
Acetone	630	U	1300	630	ug/L			02/19/24 21:38	25
Benzene	18	U	25	18	ug/L			02/19/24 21:38	25
Bromodichloromethane	13	U	25	13	ug/L			02/19/24 21:38	25
Bromoform	19	U	25	19	ug/L			02/19/24 21:38	25
Bromomethane	24	U	50	24	ug/L			02/19/24 21:38	25
Carbon disulfide	63	U	130	63	ug/L			02/19/24 21:38	25
Carbon tetrachloride	24	U	25	24	ug/L			02/19/24 21:38	25
Chlorobenzene	18	U	25	18	ug/L			02/19/24 21:38	25
Chloroethane	25	U	50	25	ug/L			02/19/24 21:38	25
Chloroform	20	U	130	20	ug/L			02/19/24 21:38	25
Chloromethane	21	U	50	21	ug/L			02/19/24 21:38	25
cis-1,2-Dichloroethene	**1200**		25	13	ug/L			02/19/24 21:38	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			02/19/24 21:38	25
Cyclohexane	23	U	130	23	ug/L			02/19/24 21:38	25
Dibromochloromethane	13	U	25	13	ug/L			02/19/24 21:38	25
Dichlorodifluoromethane	19	U	25	19	ug/L			02/19/24 21:38	25
Ethylbenzene	17	U	25	17	ug/L			02/19/24 21:38	25
Isopropylbenzene	17	U	50	17	ug/L			02/19/24 21:38	25
m,p-Xylenes	33	U	50	33	ug/L			02/19/24 21:38	25
Methyl acetate	24	U	250	24	ug/L			02/19/24 21:38	25
Methyl tert-butyl ether	15	U	50	15	ug/L			02/19/24 21:38	25
Methylene Chloride	130	U	250	130	ug/L			02/19/24 21:38	25
o-Xylene	13	U	25	13	ug/L			02/19/24 21:38	25
Styrene	15	U	25	15	ug/L			02/19/24 21:38	25

Client: Tetra Tech, Inc.
Job ID: 670-34927-1
Project/Site: NASA KSC LC34 - Bi-weekly

Client Sample ID: LC34-IW0044D2-110.0-20240216
Lab Sample ID: 670-34927-1
Date Collected: 02/16/24 08:55
Matrix: Water
Date Received: 02/16/24 12:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	19	U	25	19	ug/L			02/19/24 21:38	25
Toluene	18	U	25	18	ug/L			02/19/24 21:38	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			02/19/24 21:38	25
Trichloroethene	**440**		25	22	ug/L			02/19/24 21:38	25
Trichlorofluoromethane	24	U	25	24	ug/L			02/19/24 21:38	25
Vinyl chloride	**87**		25	18	ug/L			02/19/24 21:38	25
Xylenes, Total	33	U	50	33	ug/L			02/19/24 21:38	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*02/19/24 21:38*	*25*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*02/19/24 21:38*	*25*
Toluene-d8 (Surr)	*103*		*40 - 146*		*02/19/24 21:38*	*25*

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-34927-1
Project/Site: NASA KSC LC34 - Bi-weekly

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-34887-E-1 MS	Matrix Spike	101	95	103
670-34887-E-1 MSD	Matrix Spike Duplicate	104	95	104
670-34927-1 - DL	LC34-IW0044D2-110.0-20240216	102	106	103
670-34927-1	LC34-IW0044D2-110.0-20240216	98	103	98
670-34965-B-1 MS	Matrix Spike	96	101	99
670-34965-B-1 MSD	Matrix Spike Duplicate	95	102	100
LCS 670-76773/4	Lab Control Sample	98	98	105
LCS 670-76909/4	Lab Control Sample	97	101	97
LCSD 670-76909/5	Lab Control Sample Dup	96	103	99
MB 670-76773/7	Method Blank	105	99	104
MB 670-76909/8	Method Blank	97	103	97

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-76773/7
Matrix: Water
Analysis Batch: 76773

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			02/19/24 13:31	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			02/19/24 13:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			02/19/24 13:31	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			02/19/24 13:31	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			02/19/24 13:31	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			02/19/24 13:31	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			02/19/24 13:31	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			02/19/24 13:31	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			02/19/24 13:31	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			02/19/24 13:31	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			02/19/24 13:31	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			02/19/24 13:31	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			02/19/24 13:31	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			02/19/24 13:31	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			02/19/24 13:31	1
2-Hexanone	2.5	U	20	2.5	ug/L			02/19/24 13:31	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			02/19/24 13:31	1
Acetone	25	U	50	25	ug/L			02/19/24 13:31	1
Benzene	0.71	U	1.0	0.71	ug/L			02/19/24 13:31	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			02/19/24 13:31	1
Bromoform	0.75	U	1.0	0.75	ug/L			02/19/24 13:31	1
Bromomethane	0.95	U	2.0	0.95	ug/L			02/19/24 13:31	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			02/19/24 13:31	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			02/19/24 13:31	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			02/19/24 13:31	1
Chloroethane	0.98	U	2.0	0.98	ug/L			02/19/24 13:31	1
Chloroform	0.80	U	5.0	0.80	ug/L			02/19/24 13:31	1
Chloromethane	0.82	U	2.0	0.82	ug/L			02/19/24 13:31	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			02/19/24 13:31	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			02/19/24 13:31	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			02/19/24 13:31	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			02/19/24 13:31	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			02/19/24 13:31	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			02/19/24 13:31	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			02/19/24 13:31	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			02/19/24 13:31	1
Methyl acetate	0.95	U	10	0.95	ug/L			02/19/24 13:31	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			02/19/24 13:31	1
Methylene Chloride	5.0	U	10	5.0	ug/L			02/19/24 13:31	1
o-Xylene	0.53	U	1.0	0.53	ug/L			02/19/24 13:31	1
Styrene	0.61	U	1.0	0.61	ug/L			02/19/24 13:31	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			02/19/24 13:31	1
Toluene	0.72	U	1.0	0.72	ug/L			02/19/24 13:31	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			02/19/24 13:31	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			02/19/24 13:31	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			02/19/24 13:31	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			02/19/24 13:31	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			02/19/24 13:31	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-76773/7
Matrix: Water
Analysis Batch: 76773

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			02/19/24 13:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*02/19/24 13:31*	*1*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*02/19/24 13:31*	*1*
Toluene-d8 (Surr)	*104*		*40 - 146*		*02/19/24 13:31*	*1*

Lab Sample ID: LCS 670-76773/4
Matrix: Water
Analysis Batch: 76773

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.0		ug/L		100	57 - 148
1,1,2,2-Tetrachloroethane	20.0	17.1		ug/L		85	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	20.0		ug/L		100	47 - 173
1,1,2-Trichloroethane	20.0	18.4		ug/L		92	57 - 141
1,1-Dichloroethane	20.0	18.8		ug/L		94	57 - 142
1,1-Dichloroethene	20.0	22.1		ug/L		111	47 - 139
1,2,4-Trichlorobenzene	20.0	22.2		ug/L		111	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	16.0		ug/L		80	48 - 150
1,2-Dibromoethane (EDB)	20.0	19.9		ug/L		99	57 - 140
1,2-Dichlorobenzene	20.0	19.2		ug/L		96	63 - 131
1,2-Dichloroethane	20.0	20.2		ug/L		101	50 - 156
1,2-Dichloropropane	20.0	19.5		ug/L		97	61 - 133
1,3-Dichlorobenzene	20.0	19.8		ug/L		99	66 - 129
1,4-Dichlorobenzene	20.0	18.8		ug/L		94	65 - 133
2-Butanone (MEK)	200	157		ug/L		78	10 - 180
2-Hexanone	200	149		ug/L		74	12 - 180
4-Methyl-2-pentanone	200	145		ug/L		73	19 - 180
Acetone	200	150		ug/L		75	10 - 180
Benzene	20.0	20.0		ug/L		100	56 - 136
Bromodichloromethane	20.0	19.7		ug/L		99	58 - 135
Bromoform	20.0	18.3		ug/L		91	46 - 148
Bromomethane	20.0	34.1		ug/L		170	10 - 173
Carbon disulfide	20.0	21.7		ug/L		108	43 - 153
Carbon tetrachloride	20.0	19.1		ug/L		96	54 - 156
Chlorobenzene	20.0	20.1		ug/L		101	51 - 139
Chloroethane	20.0	19.9		ug/L		99	27 - 180
Chloroform	20.0	19.7		ug/L		99	58 - 139
Chloromethane	20.0	12.6		ug/L		63	33 - 154
cis-1,2-Dichloroethene	20.0	20.3		ug/L		102	56 - 128
cis-1,3-Dichloropropene	20.0	18.6		ug/L		93	64 - 128
Cyclohexane	20.0	17.9		ug/L		89	14 - 151
Dibromochloromethane	20.0	19.8		ug/L		99	50 - 140
Dichlorodifluoromethane	20.0	26.7		ug/L		134	10 - 180
Ethylbenzene	20.0	21.5		ug/L		108	63 - 133
Isopropylbenzene	20.0	18.7		ug/L		94	60 - 132
m,p-Xylenes	20.0	21.4		ug/L		107	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-76773/4
Matrix: Water
Analysis Batch: 76773

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	39.6		ug/L		99	70 - 130
Methyl tert-butyl ether	20.0	20.5		ug/L		102	51 - 145
Methylene Chloride	20.0	19.0		ug/L		95	43 - 142
o-Xylene	20.0	21.4		ug/L		107	61 - 129
Styrene	20.0	22.3		ug/L		112	59 - 136
Tetrachloroethene	20.0	20.8		ug/L		104	60 - 147
Toluene	20.0	19.9		ug/L		99	64 - 131
trans-1,2-Dichloroethene	20.0	20.9		ug/L		104	54 - 134
trans-1,3-Dichloropropene	20.0	20.7		ug/L		103	65 - 149
Trichloroethene	20.0	21.0		ug/L		105	62 - 135
Trichlorofluoromethane	20.0	21.3		ug/L		107	56 - 155
Vinyl chloride	20.0	20.8		ug/L		104	20 - 167
Xylenes, Total	40.0	42.8		ug/L		107	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*98*		*53 - 146*
Toluene-d8 (Surr)	*105*		*40 - 146*

Lab Sample ID: 670-34887-E-1 MS
Matrix: Water
Analysis Batch: 76773

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	26.1		ug/L		130	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	23.4		ug/L		117	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	24.6		ug/L		123	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	23.7		ug/L		119	57 - 141
1,1-Dichloroethane	0.62	U	20.0	24.7		ug/L		123	57 - 142
1,1-Dichloroethene	0.94	U J3	20.0	28.7	J3	ug/L		143	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	27.7		ug/L		139	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	20.9		ug/L		104	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	25.0		ug/L		125	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	25.0		ug/L		125	63 - 131
1,2-Dichloroethane	0.63	U	20.0	24.8		ug/L		124	50 - 156
1,2-Dichloropropane	0.80	U	20.0	25.5		ug/L		127	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	25.6		ug/L		128	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	24.4		ug/L		122	65 - 133
2-Butanone (MEK)	4.5	U	200	200		ug/L		100	10 - 180
2-Hexanone	2.5	U	200	189		ug/L		95	12 - 180
4-Methyl-2-pentanone	5.0	U	200	185		ug/L		93	19 - 180
Acetone	25	U	200	171		ug/L		86	10 - 180
Benzene	0.71	U	20.0	26.4		ug/L		132	56 - 136
Bromodichloromethane	0.52	U	20.0	24.7		ug/L		124	58 - 135
Bromoform	0.75	U	20.0	23.5		ug/L		117	46 - 148
Bromomethane	0.95	U J3	20.0	42.1	J3	ug/L		210	10 - 173
Carbon disulfide	2.5	U	20.0	27.4		ug/L		137	43 - 153
Carbon tetrachloride	0.94	U	20.0	24.7		ug/L		124	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-34887-E-1 MS
Matrix: Water
Analysis Batch: 76773

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	25.4		ug/L		127	51 - 139
Chloroethane	0.98	U	20.0	29.4		ug/L		147	27 - 180
Chloroform	0.80	U	20.0	25.6		ug/L		128	59 - 139
Chloromethane	0.82	U	20.0	16.4		ug/L		82	33 - 154
cis-1,2-Dichloroethene	0.53	U J3	20.0	26.0	J3	ug/L		130	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	22.6		ug/L		113	64 - 128
Cyclohexane	0.93	U	20.0	23.7		ug/L		119	14 - 141
Dibromochloromethane	0.50	U	20.0	24.2		ug/L		121	50 - 150
Dichlorodifluoromethane	0.74	U J3	20.0	36.8	J3	ug/L		184	10 - 180
Ethylbenzene	0.69	U J3	20.0	27.2	J3	ug/L		136	63 - 133
Isopropylbenzene	0.67	U	20.0	24.9		ug/L		124	60 - 132
m,p-Xylenes	1.3	U J3	20.0	27.0	J3	ug/L		135	64 - 133
Methyl acetate	0.95	U	40.0	50.2		ug/L		126	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	25.2		ug/L		126	50 - 150
Methylene Chloride	5.0	U	20.0	23.4		ug/L		117	43 - 142
o-Xylene	0.53	U J3	20.0	27.0	J3	ug/L		135	61 - 129
Styrene	0.61	U	20.0	27.1		ug/L		135	59 - 136
Tetrachloroethene	0.76	U	20.0	26.0		ug/L		130	60 - 147
Toluene	0.72	U	20.0	25.5		ug/L		127	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	26.1		ug/L		130	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	26.2		ug/L		131	65 - 149
Trichloroethene	0.89	U	20.0	26.2		ug/L		131	62 - 135
Trichlorofluoromethane	0.94	U	20.0	26.8		ug/L		134	56 - 155
Vinyl chloride	0.71	U	20.0	28.7		ug/L		143	20 - 167
Xylenes, Total	1.3	U	40.0	54.0		ug/L		135	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*
Dibromofluoromethane (Surr)	*95*		*53 - 146*
Toluene-d8 (Surr)	*103*		*40 - 146*

Lab Sample ID: 670-34887-E-1 MSD
Matrix: Water
Analysis Batch: 76773

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	24.9		ug/L		124	57 - 148	5	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	22.8		ug/L		114	60 - 139	3	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	23.3		ug/L		116	50 - 150	6	30
1,1,2-Trichloroethane	0.76	U	20.0	23.3		ug/L		117	57 - 141	2	16
1,1-Dichloroethane	0.62	U	20.0	24.1		ug/L		120	57 - 142	3	24
1,1-Dichloroethene	0.94	U J3	20.0	26.7		ug/L		134	49 - 139	7	16
1,2,4-Trichlorobenzene	0.70	U	20.0	27.7		ug/L		138	52 - 159	0	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	20.1		ug/L		100	48 - 150	4	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	23.9		ug/L		119	50 - 150	5	16
1,2-Dichlorobenzene	0.73	U	20.0	24.4		ug/L		122	63 - 131	2	25
1,2-Dichloroethane	0.63	U	20.0	24.1		ug/L		120	50 - 156	3	18
1,2-Dichloropropane	0.80	U	20.0	24.4		ug/L		122	61 - 133	4	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-34887-E-1 MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 76773

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U	20.0	24.9		ug/L		124	66 - 129	3	23
1,4-Dichlorobenzene	0.76	U	20.0	23.6		ug/L		118	65 - 133	3	23
2-Butanone (MEK)	4.5	U	200	194		ug/L		97	10 - 180	3	29
2-Hexanone	2.5	U	200	184		ug/L		92	12 - 180	3	28
4-Methyl-2-pentanone	5.0	U	200	180		ug/L		90	19 - 180	3	24
Acetone	25	U	200	169		ug/L		85	10 - 180	1	19
Benzene	0.71	U	20.0	25.7		ug/L		128	56 - 136	3	14
Bromodichloromethane	0.52	U	20.0	23.9		ug/L		119	58 - 135	3	19
Bromoform	0.75	U	20.0	22.5		ug/L		113	46 - 148	4	18
Bromomethane	0.95	U J3	20.0	40.3	J3	ug/L		201	10 - 173	4	29
Carbon disulfide	2.5	U	20.0	26.8		ug/L		134	43 - 153	2	26
Carbon tetrachloride	0.94	U	20.0	24.1		ug/L		120	54 - 156	3	27
Chlorobenzene	0.72	U	20.0	24.4		ug/L		122	51 - 139	4	13
Chloroethane	0.98	U	20.0	27.8		ug/L		139	27 - 180	6	22
Chloroform	0.80	U	20.0	24.8		ug/L		124	59 - 139	3	17
Chloromethane	0.82	U	20.0	17.3		ug/L		86	33 - 154	5	31
cis-1,2-Dichloroethene	0.53	U J3	20.0	25.5		ug/L		127	56 - 128	2	17
cis-1,3-Dichloropropene	0.59	U	20.0	22.0		ug/L		110	64 - 128	3	20
Cyclohexane	0.93	U	20.0	22.7		ug/L		113	14 - 141	5	30
Dibromochloromethane	0.50	U	20.0	23.4		ug/L		117	50 - 150	3	18
Dichlorodifluoromethane	0.74	U J3	20.0	33.8		ug/L		169	10 - 180	8	26
Ethylbenzene	0.69	U J3	20.0	26.1		ug/L		130	63 - 133	4	18
Isopropylbenzene	0.67	U	20.0	24.2		ug/L		121	60 - 132	3	23
m,p-Xylenes	1.3	U J3	20.0	26.0		ug/L		130	64 - 133	4	18
Methyl acetate	0.95	U	40.0	46.0		ug/L		115	50 - 150	9	30
Methyl tert-butyl ether	0.60	U	20.0	24.4		ug/L		122	50 - 150	3	22
Methylene Chloride	5.0	U	20.0	22.7		ug/L		114	43 - 142	3	23
o-Xylene	0.53	U J3	20.0	26.1	J3	ug/L		131	61 - 129	3	16
Styrene	0.61	U	20.0	26.2		ug/L		131	59 - 136	3	32
Tetrachloroethene	0.76	U	20.0	25.1		ug/L		125	60 - 147	4	21
Toluene	0.72	U	20.0	24.6		ug/L		123	64 - 131	3	16
trans-1,2-Dichloroethene	0.73	U	20.0	24.6		ug/L		123	54 - 134	6	20
trans-1,3-Dichloropropene	0.73	U	20.0	25.9		ug/L		130	65 - 149	1	17
Trichloroethene	0.89	U	20.0	24.7		ug/L		123	62 - 135	6	20
Trichlorofluoromethane	0.94	U	20.0	25.9		ug/L		130	56 - 155	3	22
Vinyl chloride	0.71	U	20.0	27.9		ug/L		140	20 - 167	3	24
Xylenes, Total	1.3	U	40.0	52.1		ug/L		130	50 - 150	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*
Dibromofluoromethane (Surr)	*95*		*53 - 146*
Toluene-d8 (Surr)	*104*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-76909/8
Matrix: Water
Analysis Batch: 76909

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			02/20/24 12:55	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			02/20/24 12:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			02/20/24 12:55	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			02/20/24 12:55	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			02/20/24 12:55	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			02/20/24 12:55	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			02/20/24 12:55	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			02/20/24 12:55	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			02/20/24 12:55	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			02/20/24 12:55	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			02/20/24 12:55	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			02/20/24 12:55	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			02/20/24 12:55	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			02/20/24 12:55	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			02/20/24 12:55	1
2-Hexanone	2.5	U	20	2.5	ug/L			02/20/24 12:55	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			02/20/24 12:55	1
Acetone	25	U	50	25	ug/L			02/20/24 12:55	1
Benzene	0.71	U	1.0	0.71	ug/L			02/20/24 12:55	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			02/20/24 12:55	1
Bromoform	0.75	U	1.0	0.75	ug/L			02/20/24 12:55	1
Bromomethane	0.95	U	2.0	0.95	ug/L			02/20/24 12:55	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			02/20/24 12:55	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			02/20/24 12:55	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			02/20/24 12:55	1
Chloroethane	0.98	U	2.0	0.98	ug/L			02/20/24 12:55	1
Chloroform	0.80	U	5.0	0.80	ug/L			02/20/24 12:55	1
Chloromethane	0.82	U	2.0	0.82	ug/L			02/20/24 12:55	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			02/20/24 12:55	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			02/20/24 12:55	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			02/20/24 12:55	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			02/20/24 12:55	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			02/20/24 12:55	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			02/20/24 12:55	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			02/20/24 12:55	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			02/20/24 12:55	1
Methyl acetate	0.95	U	10	0.95	ug/L			02/20/24 12:55	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			02/20/24 12:55	1
Methylene Chloride	5.0	U	10	5.0	ug/L			02/20/24 12:55	1
o-Xylene	0.53	U	1.0	0.53	ug/L			02/20/24 12:55	1
Styrene	0.61	U	1.0	0.61	ug/L			02/20/24 12:55	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			02/20/24 12:55	1
Toluene	0.72	U	1.0	0.72	ug/L			02/20/24 12:55	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			02/20/24 12:55	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			02/20/24 12:55	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			02/20/24 12:55	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			02/20/24 12:55	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			02/20/24 12:55	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-76909/8
Matrix: Water
Analysis Batch: 76909

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			02/20/24 12:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*02/20/24 12:55*	*1*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*02/20/24 12:55*	*1*
Toluene-d8 (Surr)	*97*		*40 - 146*		*02/20/24 12:55*	*1*

Lab Sample ID: LCS 670-76909/4
Matrix: Water
Analysis Batch: 76909

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	5.00	5.48		ug/L		110	57 - 148
1,1,2,2-Tetrachloroethane	5.00	5.80		ug/L		116	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	5.59		ug/L		112	47 - 173
1,1,2-Trichloroethane	5.00	5.67		ug/L		113	57 - 141
1,1-Dichloroethane	5.00	5.49		ug/L		110	57 - 142
1,1-Dichloroethene	5.00	5.42		ug/L		108	47 - 139
1,2,4-Trichlorobenzene	5.00	5.46		ug/L		109	52 - 159
1,2-Dibromo-3-Chloropropane	5.00	5.49	I	ug/L		110	48 - 150
1,2-Dibromoethane (EDB)	5.00	5.65	I	ug/L		113	57 - 140
1,2-Dichlorobenzene	5.00	6.25		ug/L		125	63 - 131
1,2-Dichloroethane	5.00	5.32		ug/L		106	50 - 156
1,2-Dichloropropane	5.00	5.79		ug/L		116	61 - 133
1,3-Dichlorobenzene	5.00	5.91		ug/L		118	66 - 129
1,4-Dichlorobenzene	5.00	6.04		ug/L		121	65 - 133
2-Butanone (MEK)	50.0	46.6		ug/L		93	10 - 180
2-Hexanone	50.0	46.1		ug/L		92	12 - 180
4-Methyl-2-pentanone	50.0	48.0		ug/L		96	19 - 180
Acetone	50.0	40.2	I	ug/L		80	10 - 180
Benzene	5.00	6.03		ug/L		121	56 - 136
Bromodichloromethane	5.00	5.56		ug/L		111	58 - 135
Bromoform	5.00	5.16		ug/L		103	46 - 148
Bromomethane	5.00	6.14		ug/L		123	10 - 173
Carbon disulfide	5.00	6.16		ug/L		123	43 - 153
Carbon tetrachloride	5.00	5.62		ug/L		112	54 - 156
Chlorobenzene	5.00	5.76		ug/L		115	51 - 139
Chloroethane	5.00	5.68		ug/L		114	27 - 180
Chloroform	5.00	5.36		ug/L		107	58 - 139
Chloromethane	5.00	5.49		ug/L		110	33 - 154
cis-1,2-Dichloroethene	5.00	5.59		ug/L		112	56 - 128
cis-1,3-Dichloropropene	5.00	5.12		ug/L		102	64 - 128
Cyclohexane	5.00	5.47		ug/L		109	14 - 151
Dibromochloromethane	5.00	5.44		ug/L		109	50 - 140
Dichlorodifluoromethane	5.00	6.69		ug/L		134	10 - 180
Ethylbenzene	5.00	5.32		ug/L		106	63 - 133
Isopropylbenzene	5.00	5.46		ug/L		109	60 - 132
m,p-Xylenes	5.00	5.26		ug/L		105	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-76909/4
Matrix: Water
Analysis Batch: 76909

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Methyl acetate			10.0	10.8		ug/L		108	70 - 130		
Methyl tert-butyl ether			5.00	5.07		ug/L		101	51 - 145		
Methylene Chloride			5.00	5.0	U	ug/L		95	43 - 142		
o-Xylene			5.00	5.40		ug/L		108	61 - 129		
Styrene			5.00	4.99		ug/L		100	59 - 136		
Tetrachloroethene			5.00	5.86		ug/L		117	60 - 147		
Toluene			5.00	5.70		ug/L		114	64 - 131		
trans-1,2-Dichloroethene			5.00	5.15		ug/L		103	54 - 134		
trans-1,3-Dichloropropene			5.00	5.48		ug/L		110	65 - 149		
Trichloroethene			5.00	5.79		ug/L		116	62 - 135		
Trichlorofluoromethane			5.00	5.07		ug/L		101	56 - 155		
Vinyl chloride			5.00	5.24		ug/L		105	20 - 167		
Xylenes, Total			10.0	10.7		ug/L		107	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Lab Sample ID: LCSD 670-76909/5
Matrix: Water
Analysis Batch: 76909

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			5.00	5.24		ug/L		105	57 - 148	5	25
1,1,2,2-Tetrachloroethane			5.00	5.44		ug/L		109	60 - 139	6	17
1,1,2-Trichloro-1,2,2-trifluoroetha ne			5.00	5.15		ug/L		103	47 - 173	8	30
1,1,2-Trichloroethane			5.00	5.52		ug/L		110	57 - 141	3	16
1,1-Dichloroethane			5.00	5.31		ug/L		106	57 - 142	3	24
1,1-Dichloroethene			5.00	5.29		ug/L		106	47 - 139	2	16
1,2,4-Trichlorobenzene			5.00	4.73		ug/L		95	52 - 159	14	24
1,2-Dibromo-3-Chloropropane			5.00	5.35	I	ug/L		107	48 - 150	3	21
1,2-Dibromoethane (EDB)			5.00	5.46	I	ug/L		109	57 - 140	3	16
1,2-Dichlorobenzene			5.00	5.53		ug/L		111	63 - 131	12	25
1,2-Dichloroethane			5.00	5.60		ug/L		112	50 - 156	5	18
1,2-Dichloropropane			5.00	5.39		ug/L		108	61 - 133	7	26
1,3-Dichlorobenzene			5.00	5.19		ug/L		104	66 - 129	13	23
1,4-Dichlorobenzene			5.00	5.51		ug/L		110	65 - 133	9	23
2-Butanone (MEK)			50.0	53.3		ug/L		107	10 - 180	13	29
2-Hexanone			50.0	50.7		ug/L		101	12 - 180	9	28
4-Methyl-2-pentanone			50.0	50.7		ug/L		101	19 - 180	5	24
Acetone			50.0	43.2	I	ug/L		86	10 - 180	7	19
Benzene			5.00	5.70		ug/L		114	56 - 136	6	14
Bromodichloromethane			5.00	5.47		ug/L		109	58 - 135	2	19
Bromoform			5.00	5.25		ug/L		105	46 - 148	2	18
Bromomethane			5.00	5.79		ug/L		116	10 - 173	6	29
Carbon disulfide			5.00	5.91		ug/L		118	43 - 153	4	26
Carbon tetrachloride			5.00	5.45		ug/L		109	54 - 156	3	27

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 670-76909/5
Matrix: Water
Analysis Batch: 76909

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chlorobenzene	5.00	5.44		ug/L		109	51 - 139	6	13
Chloroethane	5.00	5.10		ug/L		102	27 - 180	11	22
Chloroform	5.00	5.26		ug/L		105	58 - 139	2	17
Chloromethane	5.00	5.71		ug/L		114	33 - 154	4	31
cis-1,2-Dichloroethene	5.00	5.38		ug/L		108	56 - 128	4	17
cis-1,3-Dichloropropene	5.00	4.77		ug/L		95	64 - 128	7	20
Cyclohexane	5.00	5.62		ug/L		112	14 - 151	3	30
Dibromochloromethane	5.00	5.11		ug/L		102	50 - 140	6	18
Dichlorodifluoromethane	5.00	6.72		ug/L		134	10 - 180	1	26
Ethylbenzene	5.00	5.00		ug/L		100	63 - 133	6	18
Isopropylbenzene	5.00	4.88		ug/L		98	60 - 132	11	23
m,p-Xylenes	5.00	4.92		ug/L		98	64 - 133	7	18
Methyl acetate	10.0	9.95	I	ug/L		99	70 - 130	9	30
Methyl tert-butyl ether	5.00	5.23		ug/L		105	51 - 145	3	22
Methylene Chloride	5.00	5.0	U	ug/L		98	43 - 142	2	23
o-Xylene	5.00	4.90		ug/L		98	61 - 129	10	16
Styrene	5.00	4.64		ug/L		93	59 - 136	7	32
Tetrachloroethene	5.00	5.23		ug/L		105	60 - 147	11	21
Toluene	5.00	5.26		ug/L		105	64 - 131	8	16
trans-1,2-Dichloroethene	5.00	4.97		ug/L		99	54 - 134	4	20
trans-1,3-Dichloropropene	5.00	5.29		ug/L		106	65 - 149	4	17
Trichloroethene	5.00	5.44		ug/L		109	62 - 135	6	20
Trichlorofluoromethane	5.00	4.94		ug/L		99	56 - 155	3	22
Vinyl chloride	5.00	5.10		ug/L		102	20 - 167	3	24
Xylenes, Total	10.0	9.82		ug/L		98	50 - 150	8	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*
Dibromofluoromethane (Surr)	*103*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: 670-34965-B-1 MS
Matrix: Water
Analysis Batch: 76909

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	23.4		ug/L		117	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	21.7		ug/L		108	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	23.4		ug/L		117	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	22.8		ug/L		114	57 - 141
1,1-Dichloroethane	0.62	U	20.0	23.0		ug/L		115	57 - 142
1,1-Dichloroethene	0.94	U	20.0	24.6		ug/L		123	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	22.4		ug/L		112	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	22.5		ug/L		113	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	22.3		ug/L		111	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	22.9		ug/L		115	63 - 131
1,2-Dichloroethane	0.63	U	20.0	22.4		ug/L		112	50 - 156
1,2-Dichloropropane	0.80	U	20.0	22.7		ug/L		113	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-34965-B-1 MS
Matrix: Water
Analysis Batch: 76909

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	0.77	U	20.0	22.2		ug/L		111	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	22.5		ug/L		113	65 - 133
2-Butanone (MEK)	4.5	U	200	197		ug/L		99	10 - 180
2-Hexanone	2.5	U	200	212		ug/L		106	12 - 180
4-Methyl-2-pentanone	5.0	U	200	211		ug/L		105	19 - 180
Acetone	25	U	200	168		ug/L		84	10 - 180
Benzene	0.71	U	20.0	24.0		ug/L		120	56 - 136
Bromodichloromethane	0.52	U	20.0	22.5		ug/L		113	58 - 135
Bromoform	0.75	U	20.0	21.3		ug/L		106	46 - 148
Bromomethane	0.95	U	20.0	23.9		ug/L		120	10 - 173
Carbon disulfide	2.5	U	20.0	25.8		ug/L		129	43 - 153
Carbon tetrachloride	0.94	U	20.0	24.0		ug/L		120	54 - 156
Chlorobenzene	0.72	U	20.0	22.8		ug/L		114	51 - 139
Chloroethane	0.98	U	20.0	23.4		ug/L		117	27 - 180
Chloroform	0.80	U	20.0	22.2		ug/L		111	59 - 139
Chloromethane	0.82	U	20.0	25.1		ug/L		125	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	23.0		ug/L		115	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	20.6		ug/L		103	64 - 128
Cyclohexane	0.93	U	20.0	23.9		ug/L		120	14 - 141
Dibromochloromethane	0.50	U	20.0	22.2		ug/L		111	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	29.7		ug/L		149	10 - 180
Ethylbenzene	0.69	U	20.0	23.1		ug/L		115	63 - 133
Isopropylbenzene	0.67	U	20.0	21.7		ug/L		109	60 - 132
m,p-Xylenes	1.3	U	20.0	22.5		ug/L		113	64 - 133
Methyl acetate	0.95	U	40.0	40.2		ug/L		100	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	21.4		ug/L		107	50 - 150
Methylene Chloride	5.0	U	20.0	21.8		ug/L		109	43 - 142
o-Xylene	0.53	U	20.0	22.8		ug/L		114	61 - 129
Styrene	0.61	U	20.0	21.9		ug/L		110	59 - 136
Tetrachloroethene	0.76	U	20.0	23.3		ug/L		116	60 - 147
Toluene	0.72	U	20.0	23.0		ug/L		115	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	21.6		ug/L		108	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	21.8		ug/L		109	65 - 149
Trichloroethene	0.89	U	20.0	23.1		ug/L		116	62 - 135
Trichlorofluoromethane	0.94	U	20.0	22.9		ug/L		114	56 - 155
Vinyl chloride	0.71	U	20.0	25.4		ug/L		127	20 - 167
Xylenes, Total	1.3	U	40.0	45.3		ug/L		113	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-34965-B-1 MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 76909

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	23.2		ug/L		116	57 - 148	1	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	20.3		ug/L		101	60 - 139	7	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	23.1		ug/L		116	50 - 150	1	30
1,1,2-Trichloroethane	0.76	U	20.0	21.9		ug/L		109	57 - 141	4	16
1,1-Dichloroethane	0.62	U	20.0	22.8		ug/L		114	57 - 142	1	24
1,1-Dichloroethene	0.94	U	20.0	24.9		ug/L		125	49 - 139	1	16
1,2,4-Trichlorobenzene	0.70	U	20.0	22.2		ug/L		111	52 - 159	1	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	20.9		ug/L		104	48 - 150	8	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	21.0		ug/L		105	50 - 150	6	16
1,2-Dichlorobenzene	0.73	U	20.0	21.7		ug/L		108	63 - 131	6	25
1,2-Dichloroethane	0.63	U	20.0	22.3		ug/L		112	50 - 156	0	18
1,2-Dichloropropane	0.80	U	20.0	22.4		ug/L		112	61 - 133	1	26
1,3-Dichlorobenzene	0.77	U	20.0	21.6		ug/L		108	66 - 129	3	23
1,4-Dichlorobenzene	0.76	U	20.0	21.6		ug/L		108	65 - 133	4	23
2-Butanone (MEK)	4.5	U	200	201		ug/L		101	10 - 180	2	29
2-Hexanone	2.5	U	200	204		ug/L		102	12 - 180	4	28
4-Methyl-2-pentanone	5.0	U	200	204		ug/L		102	19 - 180	3	24
Acetone	25	U	200	166		ug/L		83	10 - 180	1	19
Benzene	0.71	U	20.0	23.0		ug/L		115	56 - 136	4	14
Bromodichloromethane	0.52	U	20.0	21.6		ug/L		108	58 - 135	4	19
Bromoform	0.75	U	20.0	20.7		ug/L		104	46 - 148	3	18
Bromomethane	0.95	U	20.0	22.9		ug/L		115	10 - 173	4	29
Carbon disulfide	2.5	U	20.0	25.6		ug/L		128	43 - 153	1	26
Carbon tetrachloride	0.94	U	20.0	22.8		ug/L		114	54 - 156	5	27
Chlorobenzene	0.72	U	20.0	22.1		ug/L		110	51 - 139	3	13
Chloroethane	0.98	U	20.0	23.0		ug/L		115	27 - 180	2	22
Chloroform	0.80	U	20.0	22.2		ug/L		111	59 - 139	0	17
Chloromethane	0.82	U	20.0	25.1		ug/L		125	33 - 154	0	31
cis-1,2-Dichloroethene	0.53	U	20.0	22.6		ug/L		113	56 - 128	2	17
cis-1,3-Dichloropropene	0.59	U	20.0	20.4		ug/L		102	64 - 128	1	20
Cyclohexane	0.93	U	20.0	24.3		ug/L		122	14 - 141	2	30
Dibromochloromethane	0.50	U	20.0	21.3		ug/L		106	50 - 150	4	18
Dichlorodifluoromethane	0.74	U	20.0	28.5		ug/L		143	10 - 180	4	26
Ethylbenzene	0.69	U	20.0	22.1		ug/L		111	63 - 133	4	18
Isopropylbenzene	0.67	U	20.0	20.1		ug/L		101	60 - 132	8	23
m,p-Xylenes	1.3	U	20.0	21.9		ug/L		110	64 - 133	3	18
Methyl acetate	0.95	U	40.0	42.3		ug/L		106	50 - 150	5	30
Methyl tert-butyl ether	0.60	U	20.0	21.2		ug/L		106	50 - 150	1	22
Methylene Chloride	5.0	U	20.0	21.2		ug/L		106	43 - 142	3	23
o-Xylene	0.53	U	20.0	21.9		ug/L		110	61 - 129	4	16
Styrene	0.61	U	20.0	21.6		ug/L		108	59 - 136	2	32
Tetrachloroethene	0.76	U	20.0	23.0		ug/L		115	60 - 147	1	21
Toluene	0.72	U	20.0	22.4		ug/L		112	64 - 131	3	16
trans-1,2-Dichloroethene	0.73	U	20.0	21.6		ug/L		108	54 - 134	0	20
trans-1,3-Dichloropropene	0.73	U	20.0	20.6		ug/L		103	65 - 149	6	17
Trichloroethene	0.89	U	20.0	22.4		ug/L		112	62 - 135	3	20
Trichlorofluoromethane	0.94	U	20.0	22.4		ug/L		112	56 - 155	2	22
Vinyl chloride	0.71	U	20.0	25.1		ug/L		126	20 - 167	1	24

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-34965-B-1 MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 76909

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	1.3	U	40.0	43.8		ug/L		110	50 - 150	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

QC Association Summary

Client: Tetra Tech, Inc.
Job ID: 670-34927-1
Project/Site: NASA KSC LC34 - Bi-weekly

GC/MS VOA

Analysis Batch: 76773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-34927-1 - DL	LC34-IW0044D2-110.0-20240216	Total/NA	Water	8260D	
MB 670-76773/7	Method Blank	Total/NA	Water	8260D	
LCS 670-76773/4	Lab Control Sample	Total/NA	Water	8260D	
670-34887-E-1 MS	Matrix Spike	Total/NA	Water	8260D	
670-34887-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 76909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-34927-1	LC34-IW0044D2-110.0-20240216	Total/NA	Water	8260D	
MB 670-76909/8	Method Blank	Total/NA	Water	8260D	
LCS 670-76909/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 670-76909/5	Lab Control Sample Dup	Total/NA	Water	8260D	
670-34965-B-1 MS	Matrix Spike	Total/NA	Water	8260D	
670-34965-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-34927-1
Project/Site: NASA KSC LC34 - Bi-weekly

Client Sample ID: LC34-IW0044D2-110.0-20240216
Lab Sample ID: 670-34927-1
Date Collected: 02/16/24 08:55
Matrix: Water
Date Received: 02/16/24 12:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		25	76909	LT	EET ORL	02/20/24 14:24
Total/NA	Analysis	8260D	DL	25	76773	T1Y	EET ORL	02/19/24 21:38

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-34927-1
Project/Site: NASA KSC LC34 - Bi-weekly

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-34927-1
Project/Site: NASA KSC LC34 - Bi-weekly

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-34927-1
Project/Site: NASA KSC LC34 - Bi-weekly

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-34927-1	LC34-IW0044D2-110.0-20240216	Water	02/16/24 08:55	02/16/24 12:24

Chain of Custody Samples

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Contains Rush Work: ☑ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name:
Chuck Sorden

Address :
1353 N. Courtenay Pkwy. Suite S

Address 2:

City, State Zip:
Merritt Island, Florida 32953

Phone:
3215917580

Deliverables:

Special Instructions:
3-Day TAT Please

Client Contact Info

Company:
Tetra Tech, Inc.

Purchase Order:
1179322

Work Order:
112G08985

Email:
Chuck.Sorden@tetratech.com

Proposed Due Date:

Project Manager
Dylnicki, Kaitlin

Project Reference:

Site Name:
NASA KSC LC34

Sampler:
Chuck Sorden

Description:
LC34 20240216 Bi-Weekly Samples

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-IW0044D2-110.0-20240216	Grab	Water	2/16/2024 08:55	FL			X	3	3

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	2/16/24 11:07	Chuck Sorden	2/16/24 12:23	Clerisier, Meline	2/16/24 14:16

Chain of Custody Sample Data

LC34-IW0044D2-110.0-20240216

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]: 02/16/2024 08:55 **Time Zone:** Eastern

[1] All collection times displayed in 24 hour format.

Chain of Custody Samples

eurofins | Environment Testing

Contains Rush Work: ☑ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name:
Chuck Sorden
Address :
1353 N. Courtenay Pkwy. Suite S
Address 2:
City, State Zip:
Merritt Island, Florida 32953
Phone:
3215917580
Deliverables:
Special Instructions:
3-Day TAT Please

Client Contact Info

Company:
Tetra Tech, Inc.
Purchase Order:
1179322
Work Order:
112G08985
Email:
Chuck.Sorden@tetratech.com
Proposed Due Date:
Project Manager
Dylnicki, Kaitlin
Project Reference:
Site Name:
NASA KSC LC34
Sampler:
Chuck Sorden
Description:
LC34 20240216 Bi-Weekly Samples

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-IW0044D2-110.0-20240216	Grab	Water	2/16/2024 08:55	FL			X	3	3

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	2/16/24 11:07	Chuck Sorden	2/16/24 12:23	Clerisier, Meline	2/16/24 14:16

1.9/1.9 5%°

670-34927 Chain of Custody

Chain of Custody Number: **256353**

Chain of Custody Sample Data

LC34-IW0044D2-110.0-20240216

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]: 02/16/2024 08:55 **Time Zone:** Eastern

[1] All collection times displayed in 24 hour format.

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-34927-1

Login Number: 34927

List Number: 1

Creator: Clerisier, Meline

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34 - System Samples

JOB NUMBER

670-35457-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

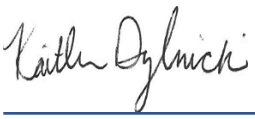
See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
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Definitions/Glossary

Client: Tetra Tech, Inc. Job ID: 670-35457-1
Project/Site: NASA KSC LC34 - System Samples

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
L	Off-scale high. Actual value is known to be greater than the value given.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-35457-1 Eurofins Orlando

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-35457-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 2/24/2024 9:51 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.3°C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-78603 recovered above the upper control limit for 2-Butanone (MEK) and Acetone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-78603/3).

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-78603 recovered outside acceptance criteria, low biased, for Carbon disulfide. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-RW21D-20240223 (670-35457-7). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-79085 recovered above the upper control limit for Chloromethane, Dichlorodifluoromethane and Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-79085/6).

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-79085 recovered outside acceptance criteria, low biased, for Bromomethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-AS2-20240223 (670-35457-3), LC34-RW17C-20240223 (670-35457-4), LC34-RW19C-20240223 (670-35457-5) and LC34-RW20C-20240223 (670-35457-6). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-79337 recovered outside acceptance criteria, low biased, for Bromomethane and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-79337 recovered above the upper control limit for Acetone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-79337/3). b

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 670-79337 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Job ID: 670-35457-1 (Continued) Eurofins Orlando

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-RW17C-20240223 (670-35457-4), LC34-RW19C-20240223 (670-35457-5) and LC34-RW20C-20240223 (670-35457-6). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-79480 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane, Bromoform, Bromomethane, Dichlorodifluoromethane and Methyl tert-butyl ether. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The matrix spike (MS) recoveries for analytical batch 670-79480 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-RW17C-20240223 (670-35457-4), LC34-RW19C-20240223 (670-35457-5) and LC34-RW20C-20240223 (670-35457-6). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-79502 recovered outside acceptance criteria, low biased, for 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,1-Dichloroethene, 1,2-Dibromoethane (EDB), Bromomethane, Carbon disulfide, Carbon tetrachloride, Chloromethane, Dichlorodifluoromethane, Tetrachloroethene, Trichloroethene and Vinyl chloride. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Job ID: 670-35457-1
Project/Site: NASA KSC LC34 - System Samples

Client Sample ID: LC34-GAC-20240223 — Lab Sample ID: 670-35457-1

No Detections.

Client Sample ID: LC34-AS1-20240223 — Lab Sample ID: 670-35457-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	13		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	9.3		1.0	0.89	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-AS2-20240223 — Lab Sample ID: 670-35457-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	270		10	5.3	ug/L	10		8260D	Total/NA
Trichloroethene - DL	420		10	8.9	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-RW17C-20240223 — Lab Sample ID: 670-35457-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	4800		200	110	ug/L	200		8260D	Total/NA
Trichloroethene - DL	140000		2000	1800	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-RW19C-20240223 — Lab Sample ID: 670-35457-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	3900		500	270	ug/L	500		8260D	Total/NA
Trichloroethene - DL	240000		5000	4500	ug/L	5000		8260D	Total/NA

Client Sample ID: LC34-RW20C-20240223 — Lab Sample ID: 670-35457-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	28		20	7.3	ug/L	10		8260D	Total/NA
cis-1,2-Dichloroethene - DL	680		10	5.3	ug/L	10		8260D	Total/NA
trans-1,2-Dichloroethene - DL	17		10	7.3	ug/L	10		8260D	Total/NA
Trichloroethene - DL	4300		50	45	ug/L	50		8260D	Total/NA
Vinyl chloride - DL	30		10	7.1	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-RW21D-20240223 — Lab Sample ID: 670-35457-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	2600		200	110	ug/L	200		8260D	Total/NA
Trichloroethene - DL	12000		200	180	ug/L	200		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Job ID: 670-35457-1
Project/Site: NASA KSC LC34 - System Samples

Client Sample ID: LC34-GAC-20240223
Lab Sample ID: 670-35457-1
Date Collected: 02/23/24 08:30
Matrix: Water
Date Received: 02/24/24 09:51

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			03/05/24 14:05	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			03/05/24 14:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			03/05/24 14:05	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			03/05/24 14:05	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			03/05/24 14:05	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			03/05/24 14:05	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			03/05/24 14:05	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			03/05/24 14:05	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			03/05/24 14:05	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			03/05/24 14:05	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			03/05/24 14:05	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			03/05/24 14:05	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			03/05/24 14:05	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			03/05/24 14:05	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			03/05/24 14:05	1
2-Hexanone	2.5	U	20	2.5	ug/L			03/05/24 14:05	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			03/05/24 14:05	1
Acetone	25	U	50	25	ug/L			03/05/24 14:05	1
Benzene	0.71	U	1.0	0.71	ug/L			03/05/24 14:05	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			03/05/24 14:05	1
Bromoform	0.75	U	1.0	0.75	ug/L			03/05/24 14:05	1
Bromomethane	0.95	U	2.0	0.95	ug/L			03/05/24 14:05	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			03/05/24 14:05	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			03/05/24 14:05	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			03/05/24 14:05	1
Chloroethane	0.98	U	2.0	0.98	ug/L			03/05/24 14:05	1
Chloroform	0.80	U	5.0	0.80	ug/L			03/05/24 14:05	1
Chloromethane	0.82	U	2.0	0.82	ug/L			03/05/24 14:05	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			03/05/24 14:05	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			03/05/24 14:05	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			03/05/24 14:05	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			03/05/24 14:05	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			03/05/24 14:05	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			03/05/24 14:05	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			03/05/24 14:05	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			03/05/24 14:05	1
Methyl acetate	0.95	U	10	0.95	ug/L			03/05/24 14:05	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			03/05/24 14:05	1
Methylene Chloride	5.0	U	10	5.0	ug/L			03/05/24 14:05	1
o-Xylene	0.53	U	1.0	0.53	ug/L			03/05/24 14:05	1
Styrene	0.61	U	1.0	0.61	ug/L			03/05/24 14:05	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			03/05/24 14:05	1
Toluene	0.72	U	1.0	0.72	ug/L			03/05/24 14:05	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			03/05/24 14:05	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			03/05/24 14:05	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			03/05/24 14:05	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			03/05/24 14:05	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			03/05/24 14:05	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			03/05/24 14:05	1

Client: Tetra Tech, Inc.
Job ID: 670-35457-1
Project/Site: NASA KSC LC34 - System Samples

Client Sample ID: LC34-GAC-20240223
Lab Sample ID: 670-35457-1
Date Collected: 02/23/24 08:30
Matrix: Water
Date Received: 02/24/24 09:51

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*03/05/24 14:05*	*1*
Dibromofluoromethane (Surr)	*112*		*53 - 146*		*03/05/24 14:05*	*1*
Toluene-d8 (Surr)	*105*		*40 - 146*		*03/05/24 14:05*	*1*

Client Sample ID: LC34-AS1-20240223
Lab Sample ID: 670-35457-2
Date Collected: 02/23/24 08:35
Matrix: Water
Date Received: 02/24/24 09:51

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			03/05/24 15:51	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			03/05/24 15:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			03/05/24 15:51	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			03/05/24 15:51	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			03/05/24 15:51	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			03/05/24 15:51	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			03/05/24 15:51	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			03/05/24 15:51	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			03/05/24 15:51	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			03/05/24 15:51	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			03/05/24 15:51	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			03/05/24 15:51	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			03/05/24 15:51	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			03/05/24 15:51	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			03/05/24 15:51	1
2-Hexanone	2.5	U	20	2.5	ug/L			03/05/24 15:51	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			03/05/24 15:51	1
Acetone	25	U	50	25	ug/L			03/05/24 15:51	1
Benzene	0.71	U	1.0	0.71	ug/L			03/05/24 15:51	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			03/05/24 15:51	1
Bromoform	0.75	U	1.0	0.75	ug/L			03/05/24 15:51	1
Bromomethane	0.95	U	2.0	0.95	ug/L			03/05/24 15:51	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			03/05/24 15:51	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			03/05/24 15:51	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			03/05/24 15:51	1
Chloroethane	0.98	U	2.0	0.98	ug/L			03/05/24 15:51	1
Chloroform	0.80	U	5.0	0.80	ug/L			03/05/24 15:51	1
Chloromethane	0.82	U	2.0	0.82	ug/L			03/05/24 15:51	1
cis-1,2-Dichloroethene	**13**		1.0	0.53	ug/L			03/05/24 15:51	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			03/05/24 15:51	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			03/05/24 15:51	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			03/05/24 15:51	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			03/05/24 15:51	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			03/05/24 15:51	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			03/05/24 15:51	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			03/05/24 15:51	1
Methyl acetate	0.95	U	10	0.95	ug/L			03/05/24 15:51	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			03/05/24 15:51	1
Methylene Chloride	5.0	U	10	5.0	ug/L			03/05/24 15:51	1
o-Xylene	0.53	U	1.0	0.53	ug/L			03/05/24 15:51	1

Client Sample ID: LC34-AS1-20240223
Lab Sample ID: 670-35457-2

Date Collected: 02/23/24 08:35
Matrix: Water
Date Received: 02/24/24 09:51

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			03/05/24 15:51	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			03/05/24 15:51	1
Toluene	0.72	U	1.0	0.72	ug/L			03/05/24 15:51	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			03/05/24 15:51	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			03/05/24 15:51	1
Trichloroethene	**9.3**		1.0	0.89	ug/L			03/05/24 15:51	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			03/05/24 15:51	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			03/05/24 15:51	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			03/05/24 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*03/05/24 15:51*	*1*
Dibromofluoromethane (Surr)	*113*		*53 - 146*		*03/05/24 15:51*	*1*
Toluene-d8 (Surr)	*103*		*40 - 146*		*03/05/24 15:51*	*1*

Client Sample ID: LC34-AS2-20240223
Lab Sample ID: 670-35457-3

Date Collected: 02/23/24 08:40
Matrix: Water
Date Received: 02/24/24 09:51

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			03/05/24 17:59	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			03/05/24 17:59	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			03/05/24 17:59	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			03/05/24 17:59	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			03/05/24 17:59	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			03/05/24 17:59	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			03/05/24 17:59	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			03/05/24 17:59	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			03/05/24 17:59	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			03/05/24 17:59	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			03/05/24 17:59	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			03/05/24 17:59	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			03/05/24 17:59	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			03/05/24 17:59	10
2-Butanone (MEK)	45	U	100	45	ug/L			03/05/24 17:59	10
2-Hexanone	25	U	200	25	ug/L			03/05/24 17:59	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			03/05/24 17:59	10
Acetone	250	U	500	250	ug/L			03/05/24 17:59	10
Benzene	7.1	U	10	7.1	ug/L			03/05/24 17:59	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			03/05/24 17:59	10
Bromoform	7.5	U	10	7.5	ug/L			03/05/24 17:59	10
Bromomethane	9.5	U	20	9.5	ug/L			03/05/24 17:59	10
Carbon disulfide	25	U	50	25	ug/L			03/05/24 17:59	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			03/05/24 17:59	10
Chlorobenzene	7.2	U	10	7.2	ug/L			03/05/24 17:59	10
Chloroethane	9.8	U	20	9.8	ug/L			03/05/24 17:59	10
Chloroform	8.0	U	50	8.0	ug/L			03/05/24 17:59	10
Chloromethane	8.2	U	20	8.2	ug/L			03/05/24 17:59	10
cis-1,2-Dichloroethene	**270**		10	5.3	ug/L			03/05/24 17:59	10

Client Sample ID: LC34-AS2-20240223
Lab Sample ID: 670-35457-3

Date Collected: 02/23/24 08:40
Matrix: Water
Date Received: 02/24/24 09:51

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			03/05/24 17:59	10
Cyclohexane	9.3	U	50	9.3	ug/L			03/05/24 17:59	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			03/05/24 17:59	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			03/05/24 17:59	10
Ethylbenzene	6.9	U	10	6.9	ug/L			03/05/24 17:59	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			03/05/24 17:59	10
m,p-Xylenes	13	U	20	13	ug/L			03/05/24 17:59	10
Methyl acetate	9.5	U	100	9.5	ug/L			03/05/24 17:59	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			03/05/24 17:59	10
Methylene Chloride	50	U	100	50	ug/L			03/05/24 17:59	10
o-Xylene	5.3	U	10	5.3	ug/L			03/05/24 17:59	10
Styrene	6.1	U	10	6.1	ug/L			03/05/24 17:59	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			03/05/24 17:59	10
Toluene	7.2	U	10	7.2	ug/L			03/05/24 17:59	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			03/05/24 17:59	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			03/05/24 17:59	10
Trichloroethene	**420**		10	8.9	ug/L			03/05/24 17:59	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			03/05/24 17:59	10
Vinyl chloride	7.1	U	10	7.1	ug/L			03/05/24 17:59	10
Xylenes, Total	13	U	20	13	ug/L			03/05/24 17:59	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*03/05/24 17:59*	*10*
Dibromofluoromethane (Surr)	*112*		*53 - 146*		*03/05/24 17:59*	*10*
Toluene-d8 (Surr)	*103*		*40 - 146*		*03/05/24 17:59*	*10*

Client Sample ID: LC34-RW17C-20240223
Lab Sample ID: 670-35457-4

Date Collected: 02/23/24 08:45
Matrix: Water
Date Received: 02/24/24 09:51

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	160	U	200	160	ug/L			03/06/24 16:23	200
1,1,2,2-Tetrachloroethane	110	U	200	110	ug/L			03/06/24 16:23	200
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	400	150	ug/L			03/06/24 16:23	200
1,1,2-Trichloroethane	150	U	400	150	ug/L			03/06/24 16:23	200
1,1-Dichloroethane	120	U	200	120	ug/L			03/06/24 16:23	200
1,1-Dichloroethene	190	U	200	190	ug/L			03/06/24 16:23	200
1,2,4-Trichlorobenzene	140	U	400	140	ug/L			03/06/24 16:23	200
1,2-Dibromo-3-Chloropropane	190	U	2000	190	ug/L			03/06/24 16:23	200
1,2-Dibromoethane (EDB)	160	U	2400	160	ug/L			03/06/24 16:23	200
1,2-Dichlorobenzene	150	U	200	150	ug/L			03/06/24 16:23	200
1,2-Dichloroethane	130	U	200	130	ug/L			03/06/24 16:23	200
1,2-Dichloropropane	160	U	200	160	ug/L			03/06/24 16:23	200
1,3-Dichlorobenzene	150	U	200	150	ug/L			03/06/24 16:23	200
1,4-Dichlorobenzene	150	U	200	150	ug/L			03/06/24 16:23	200
2-Butanone (MEK)	900	U	2000	900	ug/L			03/06/24 16:23	200
2-Hexanone	500	U	4000	500	ug/L			03/06/24 16:23	200
4-Methyl-2-pentanone	1000	U	4000	1000	ug/L			03/06/24 16:23	200
Acetone	5000	U	10000	5000	ug/L			03/06/24 16:23	200

Client Sample ID: LC34-RW17C-20240223
Lab Sample ID: 670-35457-4

Date Collected: 02/23/24 08:45
Matrix: Water
Date Received: 02/24/24 09:51

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	140	U	200	140	ug/L			03/06/24 16:23	200
Bromodichloromethane	100	U	200	100	ug/L			03/06/24 16:23	200
Bromoform	150	U	200	150	ug/L			03/06/24 16:23	200
Bromomethane	190	U	400	190	ug/L			03/06/24 16:23	200
Carbon disulfide	500	U	1000	500	ug/L			03/06/24 16:23	200
Carbon tetrachloride	190	U	200	190	ug/L			03/06/24 16:23	200
Chlorobenzene	140	U	200	140	ug/L			03/06/24 16:23	200
Chloroethane	200	U	400	200	ug/L			03/06/24 16:23	200
Chloroform	160	U	1000	160	ug/L			03/06/24 16:23	200
Chloromethane	160	U	400	160	ug/L			03/06/24 16:23	200
cis-1,2-Dichloroethene	**4800**		200	110	ug/L			03/06/24 16:23	200
cis-1,3-Dichloropropene	120	U	200	120	ug/L			03/06/24 16:23	200
Cyclohexane	190	U	1000	190	ug/L			03/06/24 16:23	200
Dibromochloromethane	100	U	200	100	ug/L			03/06/24 16:23	200
Dichlorodifluoromethane	150	U	200	150	ug/L			03/06/24 16:23	200
Ethylbenzene	140	U	200	140	ug/L			03/06/24 16:23	200
Isopropylbenzene	130	U	400	130	ug/L			03/06/24 16:23	200
m,p-Xylenes	260	U	400	260	ug/L			03/06/24 16:23	200
Methyl acetate	190	U	2000	190	ug/L			03/06/24 16:23	200
Methyl tert-butyl ether	120	U	400	120	ug/L			03/06/24 16:23	200
Methylene Chloride	1000	U	2000	1000	ug/L			03/06/24 16:23	200
o-Xylene	110	U	200	110	ug/L			03/06/24 16:23	200
Styrene	120	U	200	120	ug/L			03/06/24 16:23	200
Tetrachloroethene	150	U	200	150	ug/L			03/06/24 16:23	200
Toluene	140	U	200	140	ug/L			03/06/24 16:23	200
trans-1,2-Dichloroethene	150	U	200	150	ug/L			03/06/24 16:23	200
trans-1,3-Dichloropropene	150	U	200	150	ug/L			03/06/24 16:23	200
Trichloroethene	**140000**		2000	1800	ug/L			03/07/24 13:39	2000
Trichlorofluoromethane	190	U	200	190	ug/L			03/06/24 16:23	200
Vinyl chloride	140	U	200	140	ug/L			03/06/24 16:23	200
Xylenes, Total	260	U	400	260	ug/L			03/06/24 16:23	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*03/06/24 16:23*	*200*
4-Bromofluorobenzene (Surr)	*106*		*41 - 142*		*03/07/24 13:39*	*2000*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*03/07/24 14:45*	*1000*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*03/06/24 16:23*	*200*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*03/07/24 13:39*	*2000*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*03/07/24 14:45*	*1000*
Toluene-d8 (Surr)	*97*		*40 - 146*		*03/06/24 16:23*	*200*
Toluene-d8 (Surr)	*100*		*40 - 146*		*03/07/24 13:39*	*2000*
Toluene-d8 (Surr)	*94*		*40 - 146*		*03/07/24 14:45*	*1000*

Client Sample ID: LC34-RW19C-20240223
Lab Sample ID: 670-35457-5

Date Collected: 02/23/24 08:50
Matrix: Water
Date Received: 02/24/24 09:51

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			03/06/24 14:55	500

Client: Tetra Tech, Inc.
Job ID: 670-35457-1
Project/Site: NASA KSC LC34 - System Samples

Client Sample ID: LC34-RW19C-20240223
Lab Sample ID: 670-35457-5
Date Collected: 02/23/24 08:50
Matrix: Water
Date Received: 02/24/24 09:51

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			03/06/24 14:55	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			03/06/24 14:55	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			03/06/24 14:55	500
1,1-Dichloroethane	310	U	500	310	ug/L			03/06/24 14:55	500
1,1-Dichloroethene	470	U	500	470	ug/L			03/06/24 14:55	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			03/06/24 14:55	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			03/06/24 14:55	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			03/06/24 14:55	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			03/06/24 14:55	500
1,2-Dichloroethane	320	U	500	320	ug/L			03/06/24 14:55	500
1,2-Dichloropropane	400	U	500	400	ug/L			03/06/24 14:55	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			03/06/24 14:55	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			03/06/24 14:55	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			03/06/24 14:55	500
2-Hexanone	1300	U	10000	1300	ug/L			03/06/24 14:55	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			03/06/24 14:55	500
Acetone	13000	U	25000	13000	ug/L			03/06/24 14:55	500
Benzene	360	U	500	360	ug/L			03/06/24 14:55	500
Bromodichloromethane	260	U	500	260	ug/L			03/06/24 14:55	500
Bromoform	380	U	500	380	ug/L			03/06/24 14:55	500
Bromomethane	480	U	1000	480	ug/L			03/06/24 14:55	500
Carbon disulfide	1300	U	2500	1300	ug/L			03/06/24 14:55	500
Carbon tetrachloride	470	U	500	470	ug/L			03/06/24 14:55	500
Chlorobenzene	360	U	500	360	ug/L			03/06/24 14:55	500
Chloroethane	490	U	1000	490	ug/L			03/06/24 14:55	500
Chloroform	400	U	2500	400	ug/L			03/06/24 14:55	500
Chloromethane	410	U	1000	410	ug/L			03/06/24 14:55	500
cis-1,2-Dichloroethene	**3900**		500	270	ug/L			03/06/24 14:55	500
cis-1,3-Dichloropropene	300	U	500	300	ug/L			03/06/24 14:55	500
Cyclohexane	470	U	2500	470	ug/L			03/06/24 14:55	500
Dibromochloromethane	250	U	500	250	ug/L			03/06/24 14:55	500
Dichlorodifluoromethane	370	U	500	370	ug/L			03/06/24 14:55	500
Ethylbenzene	350	U	500	350	ug/L			03/06/24 14:55	500
Isopropylbenzene	340	U	1000	340	ug/L			03/06/24 14:55	500
m,p-Xylenes	650	U	1000	650	ug/L			03/06/24 14:55	500
Methyl acetate	480	U	5000	480	ug/L			03/06/24 14:55	500
Methyl tert-butyl ether	300	U	1000	300	ug/L			03/06/24 14:55	500
Methylene Chloride	2500	U	5000	2500	ug/L			03/06/24 14:55	500
o-Xylene	270	U	500	270	ug/L			03/06/24 14:55	500
Styrene	310	U	500	310	ug/L			03/06/24 14:55	500
Tetrachloroethene	380	U	500	380	ug/L			03/06/24 14:55	500
Toluene	360	U	500	360	ug/L			03/06/24 14:55	500
trans-1,2-Dichloroethene	370	U	500	370	ug/L			03/06/24 14:55	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			03/06/24 14:55	500
Trichloroethene	**240000**		5000	4500	ug/L			03/07/24 13:57	5000
Trichlorofluoromethane	470	U	500	470	ug/L			03/06/24 14:55	500
Vinyl chloride	360	U	500	360	ug/L			03/06/24 14:55	500
Xylenes, Total	650	U	1000	650	ug/L			03/06/24 14:55	500

Client Sample ID: LC34-RW19C-20240223
Lab Sample ID: 670-35457-5

Date Collected: 02/23/24 08:50
Matrix: Water
Date Received: 02/24/24 09:51

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*03/06/24 14:55*	*500*
4-Bromofluorobenzene (Surr)	*108*		*41 - 142*		*03/07/24 13:57*	*5000*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*03/07/24 15:03*	*2000*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*03/06/24 14:55*	*500*
Dibromofluoromethane (Surr)	*97*		*53 - 146*		*03/07/24 13:57*	*5000*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*03/07/24 15:03*	*2000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*03/06/24 14:55*	*500*
Toluene-d8 (Surr)	*100*		*40 - 146*		*03/07/24 13:57*	*5000*
Toluene-d8 (Surr)	*94*		*40 - 146*		*03/07/24 15:03*	*2000*

Client Sample ID: LC34-RW20C-20240223
Lab Sample ID: 670-35457-6

Date Collected: 02/23/24 08:55
Matrix: Water
Date Received: 02/24/24 09:51

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			03/06/24 16:05	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			03/06/24 16:05	10
1,1,2-Trichloro-1,2,2-trifluoroethane	**28**		20	7.3	ug/L			03/06/24 16:05	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			03/06/24 16:05	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			03/06/24 16:05	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			03/06/24 16:05	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			03/06/24 16:05	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			03/06/24 16:05	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			03/06/24 16:05	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			03/06/24 16:05	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			03/06/24 16:05	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			03/06/24 16:05	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			03/06/24 16:05	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			03/06/24 16:05	10
2-Butanone (MEK)	45	U	100	45	ug/L			03/06/24 16:05	10
2-Hexanone	25	U	200	25	ug/L			03/06/24 16:05	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			03/06/24 16:05	10
Acetone	250	U	500	250	ug/L			03/06/24 16:05	10
Benzene	7.1	U	10	7.1	ug/L			03/06/24 16:05	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			03/06/24 16:05	10
Bromoform	7.5	U	10	7.5	ug/L			03/06/24 16:05	10
Bromomethane	9.5	U	20	9.5	ug/L			03/06/24 16:05	10
Carbon disulfide	25	U	50	25	ug/L			03/06/24 16:05	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			03/06/24 16:05	10
Chlorobenzene	7.2	U	10	7.2	ug/L			03/06/24 16:05	10
Chloroethane	9.8	U	20	9.8	ug/L			03/06/24 16:05	10
Chloroform	8.0	U	50	8.0	ug/L			03/06/24 16:05	10
Chloromethane	8.2	U	20	8.2	ug/L			03/06/24 16:05	10
cis-1,2-Dichloroethene	**680**		10	5.3	ug/L			03/06/24 16:05	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			03/06/24 16:05	10
Cyclohexane	9.3	U	50	9.3	ug/L			03/06/24 16:05	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			03/06/24 16:05	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			03/06/24 16:05	10
Ethylbenzene	6.9	U	10	6.9	ug/L			03/06/24 16:05	10

Client Sample ID: LC34-RW20C-20240223 — Lab Sample ID: 670-35457-6

Date Collected: 02/23/24 08:55 — **Matrix: Water**
Date Received: 02/24/24 09:51

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	6.7	U	20	6.7	ug/L			03/06/24 16:05	10
m,p-Xylenes	13	U	20	13	ug/L			03/06/24 16:05	10
Methyl acetate	9.5	U	100	9.5	ug/L			03/06/24 16:05	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			03/06/24 16:05	10
Methylene Chloride	50	U	100	50	ug/L			03/06/24 16:05	10
o-Xylene	5.3	U	10	5.3	ug/L			03/06/24 16:05	10
Styrene	6.1	U	10	6.1	ug/L			03/06/24 16:05	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			03/06/24 16:05	10
Toluene	7.2	U	10	7.2	ug/L			03/06/24 16:05	10
trans-1,2-Dichloroethene	**17**		10	7.3	ug/L			03/06/24 16:05	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			03/06/24 16:05	10
Trichloroethene	**4300**		50	45	ug/L			03/07/24 12:07	50
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			03/06/24 16:05	10
Vinyl chloride	**30**		10	7.1	ug/L			03/06/24 16:05	10
Xylenes, Total	13	U	20	13	ug/L			03/06/24 16:05	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*03/06/24 16:05*	*10*
4-Bromofluorobenzene (Surr)	*106*		*41 - 142*		*03/07/24 12:07*	*50*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*03/07/24 14:28*	*50*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*03/06/24 16:05*	*10*
Dibromofluoromethane (Surr)	*96*		*53 - 146*		*03/07/24 12:07*	*50*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*03/07/24 14:28*	*50*
Toluene-d8 (Surr)	*97*		*40 - 146*		*03/06/24 16:05*	*10*
Toluene-d8 (Surr)	*97*		*40 - 146*		*03/07/24 12:07*	*50*
Toluene-d8 (Surr)	*94*		*40 - 146*		*03/07/24 14:28*	*50*

Client Sample ID: LC34-RW21D-20240223 — Lab Sample ID: 670-35457-7

Date Collected: 02/23/24 09:00 — **Matrix: Water**
Date Received: 02/24/24 09:51

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	160	U	200	160	ug/L			03/01/24 09:19	200
1,1,2,2-Tetrachloroethane	110	U	200	110	ug/L			03/01/24 09:19	200
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	400	150	ug/L			03/01/24 09:19	200
1,1,2-Trichloroethane	150	U	400	150	ug/L			03/01/24 09:19	200
1,1-Dichloroethane	120	U	200	120	ug/L			03/01/24 09:19	200
1,1-Dichloroethene	190	U	200	190	ug/L			03/01/24 09:19	200
1,2,4-Trichlorobenzene	140	U	400	140	ug/L			03/01/24 09:19	200
1,2-Dibromo-3-Chloropropane	190	U	2000	190	ug/L			03/01/24 09:19	200
1,2-Dibromoethane (EDB)	160	U	2400	160	ug/L			03/01/24 09:19	200
1,2-Dichlorobenzene	150	U	200	150	ug/L			03/01/24 09:19	200
1,2-Dichloroethane	130	U	200	130	ug/L			03/01/24 09:19	200
1,2-Dichloropropane	160	U	200	160	ug/L			03/01/24 09:19	200
1,3-Dichlorobenzene	150	U	200	150	ug/L			03/01/24 09:19	200
1,4-Dichlorobenzene	150	U	200	150	ug/L			03/01/24 09:19	200
2-Butanone (MEK)	900	U	2000	900	ug/L			03/01/24 09:19	200
2-Hexanone	500	U	4000	500	ug/L			03/01/24 09:19	200
4-Methyl-2-pentanone	1000	U	4000	1000	ug/L			03/01/24 09:19	200

Client: Tetra Tech, Inc.
Job ID: 670-35457-1
Project/Site: NASA KSC LC34 - System Samples

Client Sample ID: LC34-RW21D-20240223
Lab Sample ID: 670-35457-7
Date Collected: 02/23/24 09:00
Matrix: Water
Date Received: 02/24/24 09:51

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5000	U	10000	5000	ug/L			03/01/24 09:19	200
Benzene	140	U	200	140	ug/L			03/01/24 09:19	200
Bromodichloromethane	100	U	200	100	ug/L			03/01/24 09:19	200
Bromoform	150	U	200	150	ug/L			03/01/24 09:19	200
Bromomethane	190	U	400	190	ug/L			03/01/24 09:19	200
Carbon disulfide	500	U	1000	500	ug/L			03/01/24 09:19	200
Carbon tetrachloride	190	U	200	190	ug/L			03/01/24 09:19	200
Chlorobenzene	140	U	200	140	ug/L			03/01/24 09:19	200
Chloroethane	200	U	400	200	ug/L			03/01/24 09:19	200
Chloroform	160	U	1000	160	ug/L			03/01/24 09:19	200
Chloromethane	160	U	400	160	ug/L			03/01/24 09:19	200
cis-1,2-Dichloroethene	**2600**		200	110	ug/L			03/01/24 09:19	200
cis-1,3-Dichloropropene	120	U	200	120	ug/L			03/01/24 09:19	200
Cyclohexane	190	U	1000	190	ug/L			03/01/24 09:19	200
Dibromochloromethane	100	U	200	100	ug/L			03/01/24 09:19	200
Dichlorodifluoromethane	150	U	200	150	ug/L			03/01/24 09:19	200
Ethylbenzene	140	U	200	140	ug/L			03/01/24 09:19	200
Isopropylbenzene	130	U	400	130	ug/L			03/01/24 09:19	200
m,p-Xylenes	260	U	400	260	ug/L			03/01/24 09:19	200
Methyl acetate	190	U	2000	190	ug/L			03/01/24 09:19	200
Methyl tert-butyl ether	120	U	400	120	ug/L			03/01/24 09:19	200
Methylene Chloride	1000	U	2000	1000	ug/L			03/01/24 09:19	200
o-Xylene	110	U	200	110	ug/L			03/01/24 09:19	200
Styrene	120	U	200	120	ug/L			03/01/24 09:19	200
Tetrachloroethene	150	U	200	150	ug/L			03/01/24 09:19	200
Toluene	140	U	200	140	ug/L			03/01/24 09:19	200
trans-1,2-Dichloroethene	150	U	200	150	ug/L			03/01/24 09:19	200
trans-1,3-Dichloropropene	150	U	200	150	ug/L			03/01/24 09:19	200
Trichloroethene	**12000**		200	180	ug/L			03/01/24 09:19	200
Trichlorofluoromethane	190	U	200	190	ug/L			03/01/24 09:19	200
Vinyl chloride	140	U	200	140	ug/L			03/01/24 09:19	200
Xylenes, Total	260	U	400	260	ug/L			03/01/24 09:19	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*03/01/24 09:19*	*200*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*03/01/24 09:19*	*200*
Toluene-d8 (Surr)	*97*		*40 - 146*		*03/01/24 09:19*	*200*

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-35457-1
Project/Site: NASA KSC LC34 - System Samples

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
		BFB	DBFM	TOL						
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)						
660-134835-D-1 MS	Matrix Spike	100	100	95						
660-134835-D-1 MSD	Matrix Spike Duplicate	100	99	95						
670-35457-1	LC34-GAC-20240223	102	112	105						
670-35457-1 MS	LC34-GAC-20240223	101	101	98						
670-35457-1 MSD	LC34-GAC-20240223	105	98	97						
670-35457-2	LC34-AS1-20240223	104	113	103						
670-35457-3 - DL	LC34-AS2-20240223	105	112	103						
670-35457-4 - DL	LC34-RW17C-20240223	102	100	97						
670-35457-4 - DL	LC34-RW17C-20240223	106	98	100						
670-35457-4 - DL	LC34-RW17C-20240223	103	98	94						
670-35457-5 - DL	LC34-RW19C-20240223	101	102	100						
670-35457-5 - DL	LC34-RW19C-20240223	108	97	100						
670-35457-5 - DL	LC34-RW19C-20240223	102	98	94						
670-35457-5 MS	LC34-RW19C-20240223	99	99	98						
670-35457-5 MSD	LC34-RW19C-20240223	98	99	99						
670-35457-6 - DL	LC34-RW20C-20240223	100	100	97						
670-35457-6 - DL	LC34-RW20C-20240223	106	96	97						
670-35457-6 - DL	LC34-RW20C-20240223	104	98	94						
670-35457-7 - DL	LC34-RW21D-20240223	99	101	97						
670-35457-7 MS	LC34-RW21D-20240223	94	101	97						
670-35457-7 MSD	LC34-RW21D-20240223	96	102	97						
670-36007-C-1 MS	Matrix Spike	102	96	99						
670-36007-C-1 MSD	Matrix Spike Duplicate	103	96	99						
LCS 670-78603/4	Lab Control Sample	95	102	98						
LCS 670-79085/7	Lab Control Sample	101	100	100						
LCS 670-79337/4	Lab Control Sample	99	98	99						
LCS 670-79480/4	Lab Control Sample	104	96	97						
LCS 670-79502/4	Lab Control Sample	102	98	95						
MB 670-78603/7	Method Blank	96	101	98						
MB 670-79085/10	Method Blank	104	113	105						
MB 670-79337/7	Method Blank	99	102	96						
MB 670-79480/7	Method Blank	105	96	98						
MB 670-79502/7	Method Blank	102	98	94						

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-78603/7
Matrix: Water
Analysis Batch: 78603

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			03/01/24 08:59	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			03/01/24 08:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			03/01/24 08:59	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			03/01/24 08:59	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			03/01/24 08:59	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			03/01/24 08:59	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			03/01/24 08:59	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			03/01/24 08:59	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			03/01/24 08:59	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			03/01/24 08:59	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			03/01/24 08:59	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			03/01/24 08:59	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			03/01/24 08:59	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			03/01/24 08:59	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			03/01/24 08:59	1
2-Hexanone	2.5	U	20	2.5	ug/L			03/01/24 08:59	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			03/01/24 08:59	1
Acetone	25	U	50	25	ug/L			03/01/24 08:59	1
Benzene	0.71	U	1.0	0.71	ug/L			03/01/24 08:59	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			03/01/24 08:59	1
Bromoform	0.75	U	1.0	0.75	ug/L			03/01/24 08:59	1
Bromomethane	0.95	U	2.0	0.95	ug/L			03/01/24 08:59	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			03/01/24 08:59	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			03/01/24 08:59	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			03/01/24 08:59	1
Chloroethane	0.98	U	2.0	0.98	ug/L			03/01/24 08:59	1
Chloroform	0.80	U	5.0	0.80	ug/L			03/01/24 08:59	1
Chloromethane	0.82	U	2.0	0.82	ug/L			03/01/24 08:59	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			03/01/24 08:59	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			03/01/24 08:59	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			03/01/24 08:59	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			03/01/24 08:59	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			03/01/24 08:59	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			03/01/24 08:59	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			03/01/24 08:59	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			03/01/24 08:59	1
Methyl acetate	0.95	U	10	0.95	ug/L			03/01/24 08:59	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			03/01/24 08:59	1
Methylene Chloride	5.0	U	10	5.0	ug/L			03/01/24 08:59	1
o-Xylene	0.53	U	1.0	0.53	ug/L			03/01/24 08:59	1
Styrene	0.61	U	1.0	0.61	ug/L			03/01/24 08:59	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			03/01/24 08:59	1
Toluene	0.72	U	1.0	0.72	ug/L			03/01/24 08:59	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			03/01/24 08:59	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			03/01/24 08:59	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			03/01/24 08:59	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			03/01/24 08:59	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			03/01/24 08:59	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-78603/7
Matrix: Water
Analysis Batch: 78603

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			03/01/24 08:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*03/01/24 08:59*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*03/01/24 08:59*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*03/01/24 08:59*	*1*

Lab Sample ID: LCS 670-78603/4
Matrix: Water
Analysis Batch: 78603

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	23.4		ug/L		117	57 - 148
1,1,2,2-Tetrachloroethane	20.0	19.8		ug/L		99	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroetha ne	20.0	23.2		ug/L		116	47 - 173
1,1,2-Trichloroethane	20.0	21.8		ug/L		109	57 - 141
1,1-Dichloroethane	20.0	23.9		ug/L		119	57 - 142
1,1-Dichloroethene	20.0	23.2		ug/L		116	47 - 139
1,2,4-Trichlorobenzene	20.0	19.4		ug/L		97	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	17.6		ug/L		88	48 - 150
1,2-Dibromoethane (EDB)	20.0	21.1		ug/L		105	57 - 140
1,2-Dichlorobenzene	20.0	22.1		ug/L		110	63 - 131
1,2-Dichloroethane	20.0	20.6		ug/L		103	50 - 156
1,2-Dichloropropane	20.0	22.1		ug/L		111	61 - 133
1,3-Dichlorobenzene	20.0	22.2		ug/L		111	66 - 129
1,4-Dichlorobenzene	20.0	19.9		ug/L		99	65 - 133
2-Butanone (MEK)	200	188		ug/L		94	10 - 180
2-Hexanone	200	165		ug/L		82	12 - 180
4-Methyl-2-pentanone	200	172		ug/L		86	19 - 180
Acetone	200	193		ug/L		96	10 - 180
Benzene	20.0	23.2		ug/L		116	56 - 136
Bromodichloromethane	20.0	22.3		ug/L		111	58 - 135
Bromoform	20.0	19.9		ug/L		99	46 - 148
Bromomethane	20.0	21.3		ug/L		106	10 - 173
Carbon disulfide	20.0	22.1		ug/L		110	43 - 153
Carbon tetrachloride	20.0	25.1		ug/L		125	54 - 156
Chlorobenzene	20.0	23.4		ug/L		117	51 - 139
Chloroethane	20.0	22.7		ug/L		113	27 - 180
Chloroform	20.0	23.6		ug/L		118	58 - 139
Chloromethane	20.0	21.4		ug/L		107	33 - 154
cis-1,2-Dichloroethene	20.0	22.3		ug/L		112	56 - 128
cis-1,3-Dichloropropene	20.0	22.0		ug/L		110	64 - 128
Cyclohexane	20.0	23.1		ug/L		115	14 - 151
Dibromochloromethane	20.0	21.5		ug/L		108	50 - 140
Dichlorodifluoromethane	20.0	18.8		ug/L		94	10 - 180
Ethylbenzene	20.0	22.9		ug/L		114	63 - 133
Isopropylbenzene	20.0	22.7		ug/L		114	60 - 132
m,p-Xylenes	20.0	19.7		ug/L		99	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-78603/4
Matrix: Water
Analysis Batch: 78603

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	41.3		ug/L		103	70 - 130
Methyl tert-butyl ether	20.0	21.8		ug/L		109	51 - 145
Methylene Chloride	20.0	21.5		ug/L		108	43 - 142
o-Xylene	20.0	21.5		ug/L		107	61 - 129
Styrene	20.0	22.1		ug/L		110	59 - 136
Tetrachloroethene	20.0	22.9		ug/L		114	60 - 147
Toluene	20.0	20.9		ug/L		105	64 - 131
trans-1,2-Dichloroethene	20.0	23.5		ug/L		118	54 - 134
trans-1,3-Dichloropropene	20.0	21.4		ug/L		107	65 - 149
Trichloroethene	20.0	24.5		ug/L		123	62 - 135
Trichlorofluoromethane	20.0	21.6		ug/L		108	56 - 155
Vinyl chloride	20.0	21.0		ug/L		105	20 - 167
Xylenes, Total	40.0	41.2		ug/L		103	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: 670-35457-7 MS
Matrix: Water
Analysis Batch: 78603

Client Sample ID: LC34-RW21D-20240223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	160	U	4000	4570		ug/L		114	57 - 148
1,1,2,2-Tetrachloroethane	110	U	4000	4140		ug/L		103	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	4000	4410		ug/L		110	50 - 150
1,1,2-Trichloroethane	150	U	4000	4210		ug/L		105	57 - 141
1,1-Dichloroethane	120	U	4000	4580		ug/L		114	57 - 142
1,1-Dichloroethene	190	U	4000	4450		ug/L		111	49 - 139
1,2,4-Trichlorobenzene	140	U	4000	3650		ug/L		91	52 - 159
1,2-Dibromo-3-Chloropropane	190	U	4000	3590		ug/L		90	48 - 150
1,2-Dibromoethane (EDB)	160	U	4000	4110		ug/L		103	50 - 150
1,2-Dichlorobenzene	150	U	4000	4220		ug/L		105	63 - 131
1,2-Dichloroethane	130	U	4000	4050		ug/L		101	50 - 156
1,2-Dichloropropane	160	U	4000	4340		ug/L		109	61 - 133
1,3-Dichlorobenzene	150	U	4000	4380		ug/L		109	66 - 129
1,4-Dichlorobenzene	150	U	4000	3750		ug/L		94	65 - 133
2-Butanone (MEK)	900	U	40000	40200		ug/L		100	10 - 180
2-Hexanone	500	U	40000	35700		ug/L		89	12 - 180
4-Methyl-2-pentanone	1000	U	40000	37200		ug/L		93	19 - 180
Acetone	5000	U	40000	38000		ug/L		95	10 - 180
Benzene	140	U	4000	4470		ug/L		112	56 - 136
Bromodichloromethane	100	U	4000	4240		ug/L		106	58 - 135
Bromoform	150	U	4000	4060		ug/L		102	46 - 148
Bromomethane	190	U	4000	4260		ug/L		106	10 - 173
Carbon disulfide	500	U	4000	4150		ug/L		104	43 - 153
Carbon tetrachloride	190	U	4000	4740		ug/L		119	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-35457-7 MS
Client Sample ID: LC34-RW21D-20240223
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 78603

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	140	U	4000	4550		ug/L		114	51 - 139
Chloroethane	200	U	4000	4120		ug/L		103	27 - 180
Chloroform	160	U	4000	4640		ug/L		116	59 - 139
Chloromethane	160	U	4000	4050		ug/L		101	33 - 154
cis-1,2-Dichloroethene	2600		4000	6860		ug/L		107	56 - 128
cis-1,3-Dichloropropene	120	U	4000	4190		ug/L		105	64 - 128
Cyclohexane	190	U	4000	4700		ug/L		117	14 - 141
Dibromochloromethane	100	U	4000	4160		ug/L		104	50 - 150
Dichlorodifluoromethane	150	U	4000	3350		ug/L		84	10 - 180
Ethylbenzene	140	U	4000	4470		ug/L		112	63 - 133
Isopropylbenzene	130	U	4000	4380		ug/L		110	60 - 132
m,p-Xylenes	260	U	4000	3770		ug/L		94	64 - 133
Methyl acetate	190	U	8000	8170		ug/L		102	50 - 150
Methyl tert-butyl ether	120	U	4000	4300		ug/L		108	50 - 150
Methylene Chloride	1000	U	4000	4150		ug/L		104	43 - 142
o-Xylene	110	U	4000	4040		ug/L		101	61 - 129
Styrene	120	U	4000	4140		ug/L		104	59 - 136
Tetrachloroethene	150	U	4000	4480		ug/L		112	60 - 147
Toluene	140	U	4000	4070		ug/L		102	64 - 131
trans-1,2-Dichloroethene	150	U	4000	4460		ug/L		112	54 - 134
trans-1,3-Dichloropropene	150	U	4000	4240		ug/L		106	65 - 149
Trichloroethene	12000		4000	14700		ug/L		75	62 - 135
Trichlorofluoromethane	190	U	4000	4250		ug/L		106	56 - 155
Vinyl chloride	140	U	4000	4090		ug/L		102	20 - 167
Xylenes, Total	260	U	8000	7810		ug/L		98	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Lab Sample ID: 670-35457-7 MSD
Client Sample ID: LC34-RW21D-20240223
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 78603

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	160	U	4000	4660		ug/L		117	57 - 148	2	25
1,1,2,2-Tetrachloroethane	110	U	4000	4140		ug/L		104	60 - 139	0	17
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	4000	4500		ug/L		113	50 - 150	2	30
1,1,2-Trichloroethane	150	U	4000	4250		ug/L		106	57 - 141	1	16
1,1-Dichloroethane	120	U	4000	4580		ug/L		115	57 - 142	0	24
1,1-Dichloroethene	190	U	4000	4540		ug/L		114	49 - 139	2	16
1,2,4-Trichlorobenzene	140	U	4000	3680		ug/L		92	52 - 159	1	24
1,2-Dibromo-3-Chloropropane	190	U	4000	3630		ug/L		91	48 - 150	1	21
1,2-Dibromoethane (EDB)	160	U	4000	4160		ug/L		104	50 - 150	1	16
1,2-Dichlorobenzene	150	U	4000	4270		ug/L		107	63 - 131	1	25
1,2-Dichloroethane	130	U	4000	3940		ug/L		98	50 - 156	3	18
1,2-Dichloropropane	160	U	4000	4320		ug/L		108	61 - 133	0	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-35457-7 MSD
Client Sample ID: LC34-RW21D-20240223
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 78603

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	150	U	4000	4350		ug/L		109	66 - 129	1	23
1,4-Dichlorobenzene	150	U	4000	3830		ug/L		96	65 - 133	2	23
2-Butanone (MEK)	900	U	40000	38600		ug/L		96	10 - 180	4	29
2-Hexanone	500	U	40000	34000		ug/L		85	12 - 180	5	28
4-Methyl-2-pentanone	1000	U	40000	35200		ug/L		88	19 - 180	6	24
Acetone	5000	U	40000	35300		ug/L		88	10 - 180	7	19
Benzene	140	U	4000	4400		ug/L		110	56 - 136	2	14
Bromodichloromethane	100	U	4000	4230		ug/L		106	58 - 135	0	19
Bromoform	150	U	4000	3920		ug/L		98	46 - 148	4	18
Bromomethane	190	U	4000	4450		ug/L		111	10 - 173	4	29
Carbon disulfide	500	U	4000	4180		ug/L		104	43 - 153	1	26
Carbon tetrachloride	190	U	4000	4900		ug/L		122	54 - 156	3	27
Chlorobenzene	140	U	4000	4650		ug/L		116	51 - 139	2	13
Chloroethane	200	U	4000	4280		ug/L		107	27 - 180	4	22
Chloroform	160	U	4000	4540		ug/L		114	59 - 139	2	17
Chloromethane	160	U	4000	3910		ug/L		98	33 - 154	4	31
cis-1,2-Dichloroethene	2600		4000	6840		ug/L		106	56 - 128	0	17
cis-1,3-Dichloropropene	120	U	4000	4230		ug/L		106	64 - 128	1	20
Cyclohexane	190	U	4000	4610		ug/L		115	14 - 141	2	30
Dibromochloromethane	100	U	4000	4210		ug/L		105	50 - 150	1	18
Dichlorodifluoromethane	150	U	4000	3350		ug/L		84	10 - 180	0	26
Ethylbenzene	140	U	4000	4570		ug/L		114	63 - 133	2	18
Isopropylbenzene	130	U	4000	4510		ug/L		113	60 - 132	3	23
m,p-Xylenes	260	U	4000	3800		ug/L		95	64 - 133	1	18
Methyl acetate	190	U	8000	7620		ug/L		95	50 - 150	7	30
Methyl tert-butyl ether	120	U	4000	4240		ug/L		106	50 - 150	1	22
Methylene Chloride	1000	U	4000	4160		ug/L		104	43 - 142	0	23
o-Xylene	110	U	4000	4140		ug/L		103	61 - 129	2	16
Styrene	120	U	4000	4210		ug/L		105	59 - 136	2	32
Tetrachloroethene	150	U	4000	4500		ug/L		113	60 - 147	1	21
Toluene	140	U	4000	4080		ug/L		102	64 - 131	0	16
trans-1,2-Dichloroethene	150	U	4000	4440		ug/L		111	54 - 134	0	20
trans-1,3-Dichloropropene	150	U	4000	4180		ug/L		104	65 - 149	2	17
Trichloroethene	12000		4000	14600		ug/L		73	62 - 135	0	20
Trichlorofluoromethane	190	U	4000	4140		ug/L		104	56 - 155	3	22
Vinyl chloride	140	U	4000	3980		ug/L		99	20 - 167	3	24
Xylenes, Total	260	U	8000	7940		ug/L		99	50 - 150	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-79085/10
Matrix: Water
Analysis Batch: 79085

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			03/05/24 13:44	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			03/05/24 13:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			03/05/24 13:44	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			03/05/24 13:44	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			03/05/24 13:44	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			03/05/24 13:44	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			03/05/24 13:44	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			03/05/24 13:44	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			03/05/24 13:44	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			03/05/24 13:44	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			03/05/24 13:44	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			03/05/24 13:44	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			03/05/24 13:44	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			03/05/24 13:44	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			03/05/24 13:44	1
2-Hexanone	2.5	U	20	2.5	ug/L			03/05/24 13:44	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			03/05/24 13:44	1
Acetone	25	U	50	25	ug/L			03/05/24 13:44	1
Benzene	0.71	U	1.0	0.71	ug/L			03/05/24 13:44	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			03/05/24 13:44	1
Bromoform	0.75	U	1.0	0.75	ug/L			03/05/24 13:44	1
Bromomethane	0.95	U	2.0	0.95	ug/L			03/05/24 13:44	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			03/05/24 13:44	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			03/05/24 13:44	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			03/05/24 13:44	1
Chloroethane	0.98	U	2.0	0.98	ug/L			03/05/24 13:44	1
Chloroform	0.80	U	5.0	0.80	ug/L			03/05/24 13:44	1
Chloromethane	0.82	U	2.0	0.82	ug/L			03/05/24 13:44	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			03/05/24 13:44	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			03/05/24 13:44	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			03/05/24 13:44	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			03/05/24 13:44	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			03/05/24 13:44	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			03/05/24 13:44	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			03/05/24 13:44	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			03/05/24 13:44	1
Methyl acetate	0.95	U	10	0.95	ug/L			03/05/24 13:44	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			03/05/24 13:44	1
Methylene Chloride	5.0	U	10	5.0	ug/L			03/05/24 13:44	1
o-Xylene	0.53	U	1.0	0.53	ug/L			03/05/24 13:44	1
Styrene	0.61	U	1.0	0.61	ug/L			03/05/24 13:44	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			03/05/24 13:44	1
Toluene	0.72	U	1.0	0.72	ug/L			03/05/24 13:44	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			03/05/24 13:44	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			03/05/24 13:44	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			03/05/24 13:44	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			03/05/24 13:44	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			03/05/24 13:44	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-79085/10
Matrix: Water
Analysis Batch: 79085

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			03/05/24 13:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*03/05/24 13:44*	*1*
Dibromofluoromethane (Surr)	*113*		*53 - 146*		*03/05/24 13:44*	*1*
Toluene-d8 (Surr)	*105*		*40 - 146*		*03/05/24 13:44*	*1*

Lab Sample ID: LCS 670-79085/7
Matrix: Water
Analysis Batch: 79085

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	18.1		ug/L		90	57 - 148
1,1,2,2-Tetrachloroethane	20.0	24.8		ug/L		124	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroetha ne	20.0	17.7		ug/L		88	47 - 173
1,1,2-Trichloroethane	20.0	22.7		ug/L		114	57 - 141
1,1-Dichloroethane	20.0	18.3		ug/L		91	57 - 142
1,1-Dichloroethene	20.0	16.4		ug/L		82	47 - 139
1,2,4-Trichlorobenzene	20.0	24.0		ug/L		120	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	22.1		ug/L		111	48 - 150
1,2-Dibromoethane (EDB)	20.0	22.2		ug/L		111	57 - 140
1,2-Dichlorobenzene	20.0	24.1		ug/L		121	63 - 131
1,2-Dichloroethane	20.0	18.7		ug/L		93	50 - 156
1,2-Dichloropropane	20.0	21.1		ug/L		106	61 - 133
1,3-Dichlorobenzene	20.0	24.0		ug/L		120	66 - 129
1,4-Dichlorobenzene	20.0	23.4		ug/L		117	65 - 133
2-Butanone (MEK)	200	158		ug/L		79	10 - 180
2-Hexanone	200	233		ug/L		116	12 - 180
4-Methyl-2-pentanone	200	206		ug/L		103	19 - 180
Acetone	200	157		ug/L		78	10 - 180
Benzene	20.0	18.5		ug/L		93	56 - 136
Bromodichloromethane	20.0	20.7		ug/L		104	58 - 135
Bromoform	20.0	22.7		ug/L		113	46 - 148
Bromomethane	20.0	14.3		ug/L		72	10 - 173
Carbon disulfide	20.0	17.4		ug/L		87	43 - 153
Carbon tetrachloride	20.0	17.9		ug/L		90	54 - 156
Chlorobenzene	20.0	21.4		ug/L		107	51 - 139
Chloroethane	20.0	19.4		ug/L		97	27 - 180
Chloroform	20.0	19.1		ug/L		96	58 - 139
Chloromethane	20.0	27.2		ug/L		136	33 - 154
cis-1,2-Dichloroethene	20.0	20.3		ug/L		101	56 - 128
cis-1,3-Dichloropropene	20.0	17.9		ug/L		90	64 - 128
Cyclohexane	20.0	17.2		ug/L		86	14 - 151
Dibromochloromethane	20.0	23.0		ug/L		115	50 - 140
Dichlorodifluoromethane	20.0	24.1		ug/L		120	10 - 180
Ethylbenzene	20.0	20.2		ug/L		101	63 - 133
Isopropylbenzene	20.0	20.1		ug/L		101	60 - 132
m,p-Xylenes	20.0	19.4		ug/L		97	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-79085/7
Matrix: Water
Analysis Batch: 79085

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	33.3		ug/L		83	70 - 130
Methyl tert-butyl ether	20.0	16.6		ug/L		83	51 - 145
Methylene Chloride	20.0	18.1		ug/L		90	43 - 142
o-Xylene	20.0	19.2		ug/L		96	61 - 129
Styrene	20.0	19.1		ug/L		96	59 - 136
Tetrachloroethene	20.0	20.1		ug/L		101	60 - 147
Toluene	20.0	19.1		ug/L		96	64 - 131
trans-1,2-Dichloroethene	20.0	16.8		ug/L		84	54 - 134
trans-1,3-Dichloropropene	20.0	21.1		ug/L		105	65 - 149
Trichloroethene	20.0	17.9		ug/L		89	62 - 135
Trichlorofluoromethane	20.0	21.4		ug/L		107	56 - 155
Vinyl chloride	20.0	23.2		ug/L		116	20 - 167
Xylenes, Total	40.0	38.6		ug/L		97	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-35457-1 MS
Matrix: Water
Analysis Batch: 79085

Client Sample ID: LC34-GAC-20240223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	18.3		ug/L		92	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	23.8		ug/L		119	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	17.4		ug/L		87	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	22.4		ug/L		112	57 - 141
1,1-Dichloroethane	0.62	U	20.0	18.2		ug/L		91	57 - 142
1,1-Dichloroethene	0.94	U	20.0	17.2		ug/L		86	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	22.6		ug/L		113	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	21.2		ug/L		106	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	21.0		ug/L		105	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	23.1		ug/L		116	63 - 131
1,2-Dichloroethane	0.63	U	20.0	17.8		ug/L		89	50 - 156
1,2-Dichloropropane	0.80	U	20.0	20.1		ug/L		100	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	23.5		ug/L		118	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	23.4		ug/L		117	65 - 133
2-Butanone (MEK)	4.5	U	200	153		ug/L		77	10 - 180
2-Hexanone	2.5	U	200	216		ug/L		108	12 - 180
4-Methyl-2-pentanone	5.0	U	200	195		ug/L		98	19 - 180
Acetone	25	U	200	143		ug/L		71	10 - 180
Benzene	0.71	U	20.0	18.3		ug/L		91	56 - 136
Bromodichloromethane	0.52	U	20.0	20.6		ug/L		103	58 - 135
Bromoform	0.75	U	20.0	22.0		ug/L		110	46 - 148
Bromomethane	0.95	U	20.0	14.1		ug/L		70	10 - 173
Carbon disulfide	2.5	U	20.0	17.3		ug/L		86	43 - 153
Carbon tetrachloride	0.94	U	20.0	19.0		ug/L		95	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-35457-1 MS
Matrix: Water
Analysis Batch: 79085

Client Sample ID: LC34-GAC-20240223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	21.3		ug/L		107	51 - 139
Chloroethane	0.98	U	20.0	19.7		ug/L		98	27 - 180
Chloroform	0.80	U	20.0	19.0		ug/L		95	59 - 139
Chloromethane	0.82	U	20.0	26.9		ug/L		134	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	17.0		ug/L		85	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	16.9		ug/L		85	64 - 128
Cyclohexane	0.93	U	20.0	16.7		ug/L		84	14 - 141
Dibromochloromethane	0.50	U	20.0	22.6		ug/L		113	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	23.3		ug/L		116	10 - 180
Ethylbenzene	0.69	U	20.0	19.8		ug/L		99	63 - 133
Isopropylbenzene	0.67	U	20.0	20.7		ug/L		103	60 - 132
m,p-Xylenes	1.3	U	20.0	19.7		ug/L		98	64 - 133
Methyl acetate	0.95	U	40.0	31.2		ug/L		78	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	15.5		ug/L		78	50 - 150
Methylene Chloride	5.0	U	20.0	16.0		ug/L		80	43 - 142
o-Xylene	0.53	U	20.0	19.0		ug/L		95	61 - 129
Styrene	0.61	U	20.0	19.1		ug/L		95	59 - 136
Tetrachloroethene	0.76	U	20.0	20.8		ug/L		104	60 - 147
Toluene	0.72	U	20.0	19.3		ug/L		97	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	17.2		ug/L		86	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	20.4		ug/L		102	65 - 149
Trichloroethene	0.89	U	20.0	18.5		ug/L		93	62 - 135
Trichlorofluoromethane	0.94	U	20.0	22.0		ug/L		110	56 - 155
Vinyl chloride	0.71	U	20.0	23.0		ug/L		115	20 - 167
Xylenes, Total	1.3	U	40.0	38.7		ug/L		97	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: 670-35457-1 MSD
Matrix: Water
Analysis Batch: 79085

Client Sample ID: LC34-GAC-20240223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	17.5		ug/L		88	57 - 148	5	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	25.1		ug/L		125	60 - 139	5	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	15.7		ug/L		79	50 - 150	10	30
1,1,2-Trichloroethane	0.76	U	20.0	21.7		ug/L		108	57 - 141	3	16
1,1-Dichloroethane	0.62	U	20.0	17.2		ug/L		86	57 - 142	5	24
1,1-Dichloroethene	0.94	U	20.0	15.7		ug/L		78	49 - 139	9	16
1,2,4-Trichlorobenzene	0.70	U	20.0	22.8		ug/L		114	52 - 159	1	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	23.6		ug/L		118	48 - 150	11	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	20.8		ug/L		104	50 - 150	1	16
1,2-Dichlorobenzene	0.73	U	20.0	23.2		ug/L		116	63 - 131	0	25
1,2-Dichloroethane	0.63	U	20.0	17.7		ug/L		88	50 - 156	1	18
1,2-Dichloropropane	0.80	U	20.0	19.0		ug/L		95	61 - 133	6	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-35457-1 MSD
Client Sample ID: LC34-GAC-20240223
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 79085

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U	20.0	23.2		ug/L		116	66 - 129	1	23
1,4-Dichlorobenzene	0.76	U	20.0	23.0		ug/L		115	65 - 133	2	23
2-Butanone (MEK)	4.5	U	200	160		ug/L		80	10 - 180	4	29
2-Hexanone	2.5	U	200	230		ug/L		115	12 - 180	6	28
4-Methyl-2-pentanone	5.0	U	200	206		ug/L		103	19 - 180	6	24
Acetone	25	U	200	148		ug/L		74	10 - 180	4	19
Benzene	0.71	U	20.0	17.1		ug/L		86	56 - 136	6	14
Bromodichloromethane	0.52	U	20.0	19.8		ug/L		99	58 - 135	4	19
Bromoform	0.75	U	20.0	23.2		ug/L		116	46 - 148	5	18
Bromomethane	0.95	U	20.0	14.4		ug/L		72	10 - 173	2	29
Carbon disulfide	2.5	U	20.0	16.2		ug/L		81	43 - 153	6	26
Carbon tetrachloride	0.94	U	20.0	17.7		ug/L		88	54 - 156	7	27
Chlorobenzene	0.72	U	20.0	20.5		ug/L		103	51 - 139	4	13
Chloroethane	0.98	U	20.0	16.9		ug/L		85	27 - 180	15	22
Chloroform	0.80	U	20.0	18.3		ug/L		91	59 - 139	4	17
Chloromethane	0.82	U	20.0	26.2		ug/L		131	33 - 154	2	31
cis-1,2-Dichloroethene	0.53	U	20.0	30.3		ug/L		73	56 - 128	2	17
cis-1,3-Dichloropropene	0.59	U	20.0	16.3		ug/L		82	64 - 128	4	20
Cyclohexane	0.93	U	20.0	15.9		ug/L		80	14 - 141	5	30
Dibromochloromethane	0.50	U	20.0	21.9		ug/L		110	50 - 150	3	18
Dichlorodifluoromethane	0.74	U	20.0	21.6		ug/L		108	10 - 180	8	26
Ethylbenzene	0.69	U	20.0	19.8		ug/L		99	63 - 133	0	18
Isopropylbenzene	0.67	U	20.0	20.2		ug/L		101	60 - 132	2	23
m,p-Xylenes	1.3	U	20.0	18.8		ug/L		94	64 - 133	5	18
Methyl acetate	0.95	U	40.0	30.5		ug/L		76	50 - 150	2	30
Methyl tert-butyl ether	0.60	U	20.0	15.6		ug/L		78	50 - 150	0	22
Methylene Chloride	5.0	U	20.0	15.5		ug/L		77	43 - 142	3	23
o-Xylene	0.53	U	20.0	18.6		ug/L		93	61 - 129	2	16
Styrene	0.61	U	20.0	18.3		ug/L		91	59 - 136	4	32
Tetrachloroethene	0.76	U	20.0	19.7		ug/L		98	60 - 147	6	21
Toluene	0.72	U	20.0	18.2		ug/L		91	64 - 131	6	16
trans-1,2-Dichloroethene	0.73	U	20.0	15.8		ug/L		79	54 - 134	9	20
trans-1,3-Dichloropropene	0.73	U	20.0	19.6		ug/L		98	65 - 149	4	17
Trichloroethene	0.89	U	20.0	18.5		ug/L		93	62 - 135	6	20
Trichlorofluoromethane	0.94	U	20.0	20.5		ug/L		103	56 - 155	7	22
Vinyl chloride	0.71	U	20.0	21.9		ug/L		109	20 - 167	5	24
Xylenes, Total	1.3	U	40.0	37.4		ug/L		94	50 - 150	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*
Dibromofluoromethane (Surr)	*98*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-79337/7
Matrix: Water
Analysis Batch: 79337

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			03/06/24 14:37	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			03/06/24 14:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			03/06/24 14:37	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			03/06/24 14:37	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			03/06/24 14:37	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			03/06/24 14:37	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			03/06/24 14:37	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			03/06/24 14:37	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			03/06/24 14:37	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			03/06/24 14:37	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			03/06/24 14:37	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			03/06/24 14:37	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			03/06/24 14:37	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			03/06/24 14:37	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			03/06/24 14:37	1
2-Hexanone	2.5	U	20	2.5	ug/L			03/06/24 14:37	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			03/06/24 14:37	1
Acetone	25	U	50	25	ug/L			03/06/24 14:37	1
Benzene	0.71	U	1.0	0.71	ug/L			03/06/24 14:37	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			03/06/24 14:37	1
Bromoform	0.75	U	1.0	0.75	ug/L			03/06/24 14:37	1
Bromomethane	0.95	U	2.0	0.95	ug/L			03/06/24 14:37	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			03/06/24 14:37	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			03/06/24 14:37	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			03/06/24 14:37	1
Chloroethane	0.98	U	2.0	0.98	ug/L			03/06/24 14:37	1
Chloroform	0.80	U	5.0	0.80	ug/L			03/06/24 14:37	1
Chloromethane	0.82	U	2.0	0.82	ug/L			03/06/24 14:37	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			03/06/24 14:37	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			03/06/24 14:37	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			03/06/24 14:37	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			03/06/24 14:37	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			03/06/24 14:37	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			03/06/24 14:37	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			03/06/24 14:37	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			03/06/24 14:37	1
Methyl acetate	0.95	U	10	0.95	ug/L			03/06/24 14:37	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			03/06/24 14:37	1
Methylene Chloride	5.0	U	10	5.0	ug/L			03/06/24 14:37	1
o-Xylene	0.53	U	1.0	0.53	ug/L			03/06/24 14:37	1
Styrene	0.61	U	1.0	0.61	ug/L			03/06/24 14:37	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			03/06/24 14:37	1
Toluene	0.72	U	1.0	0.72	ug/L			03/06/24 14:37	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			03/06/24 14:37	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			03/06/24 14:37	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			03/06/24 14:37	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			03/06/24 14:37	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			03/06/24 14:37	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-79337/7
Matrix: Water
Analysis Batch: 79337

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			03/06/24 14:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*03/06/24 14:37*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*03/06/24 14:37*	*1*
Toluene-d8 (Surr)	*96*		*40 - 146*		*03/06/24 14:37*	*1*

Lab Sample ID: LCS 670-79337/4
Matrix: Water
Analysis Batch: 79337

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.9		ug/L		105	57 - 148
1,1,2,2-Tetrachloroethane	20.0	20.3		ug/L		101	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	20.9		ug/L		105	47 - 173
1,1,2-Trichloroethane	20.0	21.7		ug/L		108	57 - 141
1,1-Dichloroethane	20.0	21.5		ug/L		108	57 - 142
1,1-Dichloroethene	20.0	20.1		ug/L		100	47 - 139
1,2,4-Trichlorobenzene	20.0	20.4		ug/L		102	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	18.7		ug/L		94	48 - 150
1,2-Dibromoethane (EDB)	20.0	20.7		ug/L		103	57 - 140
1,2-Dichlorobenzene	20.0	22.1		ug/L		111	63 - 131
1,2-Dichloroethane	20.0	18.5		ug/L		93	50 - 156
1,2-Dichloropropane	20.0	21.8		ug/L		109	61 - 133
1,3-Dichlorobenzene	20.0	22.0		ug/L		110	66 - 129
1,4-Dichlorobenzene	20.0	19.0		ug/L		95	65 - 133
2-Butanone (MEK)	200	185		ug/L		92	10 - 180
2-Hexanone	200	173		ug/L		86	12 - 180
4-Methyl-2-pentanone	200	178		ug/L		89	19 - 180
Acetone	200	170		ug/L		85	10 - 180
Benzene	20.0	21.9		ug/L		110	56 - 136
Bromodichloromethane	20.0	20.9		ug/L		105	58 - 135
Bromoform	20.0	20.4		ug/L		102	46 - 148
Bromomethane	20.0	17.3		ug/L		86	10 - 173
Carbon disulfide	20.0	19.0		ug/L		95	43 - 153
Carbon tetrachloride	20.0	21.3		ug/L		107	54 - 156
Chlorobenzene	20.0	22.7		ug/L		113	51 - 139
Chloroethane	20.0	17.2		ug/L		86	27 - 180
Chloroform	20.0	22.8		ug/L		114	58 - 139
Chloromethane	20.0	20.4		ug/L		102	33 - 154
cis-1,2-Dichloroethene	20.0	20.9		ug/L		104	56 - 128
cis-1,3-Dichloropropene	20.0	21.6		ug/L		108	64 - 128
Cyclohexane	20.0	20.8		ug/L		104	14 - 151
Dibromochloromethane	20.0	20.9		ug/L		104	50 - 140
Dichlorodifluoromethane	20.0	14.9		ug/L		75	10 - 180
Ethylbenzene	20.0	22.0		ug/L		110	63 - 133
Isopropylbenzene	20.0	22.0		ug/L		110	60 - 132
m,p-Xylenes	20.0	19.4		ug/L		97	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-79337/4
Matrix: Water
Analysis Batch: 79337

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	37.5		ug/L		94	70 - 130
Methyl tert-butyl ether	20.0	20.5		ug/L		103	51 - 145
Methylene Chloride	20.0	20.0		ug/L		100	43 - 142
o-Xylene	20.0	21.0		ug/L		105	61 - 129
Styrene	20.0	21.6		ug/L		108	59 - 136
Tetrachloroethene	20.0	22.3		ug/L		112	60 - 147
Toluene	20.0	20.4		ug/L		102	64 - 131
trans-1,2-Dichloroethene	20.0	21.2		ug/L		106	54 - 134
trans-1,3-Dichloropropene	20.0	21.5		ug/L		108	65 - 149
Trichloroethene	20.0	22.5		ug/L		113	62 - 135
Trichlorofluoromethane	20.0	18.4		ug/L		92	56 - 155
Vinyl chloride	20.0	20.8		ug/L		104	20 - 167
Xylenes, Total	40.0	40.4		ug/L		101	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*
Dibromofluoromethane (Surr)	*98*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: 670-35457-5 MS
Matrix: Water
Analysis Batch: 79337

Client Sample ID: LC34-RW19C-20240223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	400	U	10000	11400		ug/L		114	57 - 148
1,1,2,2-Tetrachloroethane	270	U	10000	11400		ug/L		114	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	10000	11400		ug/L		114	50 - 150
1,1,2-Trichloroethane	380	U	10000	11600		ug/L		116	57 - 141
1,1-Dichloroethane	310	U	10000	12400		ug/L		124	57 - 142
1,1-Dichloroethene	470	U	10000	11100		ug/L		111	49 - 139
1,2,4-Trichlorobenzene	350	U	10000	10200		ug/L		102	52 - 159
1,2-Dibromo-3-Chloropropane	480	U	10000	10600		ug/L		106	48 - 150
1,2-Dibromoethane (EDB)	390	U	10000	11400		ug/L		114	50 - 150
1,2-Dichlorobenzene	370	U	10000	11700		ug/L		117	63 - 131
1,2-Dichloroethane	320	U	10000	10100		ug/L		101	50 - 156
1,2-Dichloropropane	400	U	10000	11700		ug/L		117	61 - 133
1,3-Dichlorobenzene	390	U	10000	11500		ug/L		115	66 - 129
1,4-Dichlorobenzene	380	U	10000	10000		ug/L		100	65 - 133
2-Butanone (MEK)	2300	U	100000	109000		ug/L		109	10 - 180
2-Hexanone	1300	U	100000	98000		ug/L		98	12 - 180
4-Methyl-2-pentanone	2500	U	100000	101000		ug/L		101	19 - 180
Acetone	13000	U	100000	93900		ug/L		94	10 - 180
Benzene	360	U	10000	11900		ug/L		119	56 - 136
Bromodichloromethane	260	U	10000	11100		ug/L		111	58 - 135
Bromoform	380	U	10000	11600		ug/L		116	46 - 148
Bromomethane	480	U	10000	8810		ug/L		88	10 - 173
Carbon disulfide	1300	U	10000	9990		ug/L		100	43 - 153
Carbon tetrachloride	470	U	10000	11900		ug/L		119	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-35457-5 MS
Matrix: Water
Analysis Batch: 79337

Client Sample ID: LC34-RW19C-20240223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	360	U	10000	12000		ug/L		120	51 - 139
Chloroethane	490	U	10000	9510		ug/L		95	27 - 180
Chloroform	400	U	10000	11500		ug/L		115	59 - 139
Chloromethane	410	U	10000	10400		ug/L		104	33 - 154
cis-1,2-Dichloroethene	3900		10000	15700		ug/L		117	56 - 128
cis-1,3-Dichloropropene	300	U	10000	11400		ug/L		114	64 - 128
Cyclohexane	470	U	10000	11700		ug/L		117	14 - 141
Dibromochloromethane	250	U	10000	11100		ug/L		111	50 - 150
Dichlorodifluoromethane	370	U	10000	7650		ug/L		77	10 - 180
Ethylbenzene	350	U	10000	11300		ug/L		113	63 - 133
Isopropylbenzene	340	U	10000	11400		ug/L		114	60 - 132
m,p-Xylenes	650	U	10000	10200		ug/L		102	64 - 133
Methyl acetate	480	U	20000	23000		ug/L		115	50 - 150
Methyl tert-butyl ether	300	U	10000	12100		ug/L		121	50 - 150
Methylene Chloride	2500	U	10000	11300		ug/L		113	43 - 142
o-Xylene	270	U	10000	11000		ug/L		110	61 - 129
Styrene	310	U	10000	11200		ug/L		112	59 - 136
Tetrachloroethene	380	U	10000	11700		ug/L		117	60 - 147
Toluene	360	U	10000	10600		ug/L		106	64 - 131
trans-1,2-Dichloroethene	370	U	10000	11600		ug/L		116	54 - 134
trans-1,3-Dichloropropene	370	U	10000	11400		ug/L		114	65 - 149
Trichloroethene	160000	L J3	10000	161000	L J3	ug/L		23	62 - 135
Trichlorofluoromethane	470	U	10000	9800		ug/L		98	56 - 155
Vinyl chloride	360	U	10000	10400		ug/L		104	20 - 167
Xylenes, Total	650	U	20000	21200		ug/L		106	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: 670-35457-5 MSD
Matrix: Water
Analysis Batch: 79337

Client Sample ID: LC34-RW19C-20240223
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	400	U	10000	10800		ug/L		108	57 - 148	5	25
1,1,2,2-Tetrachloroethane	270	U	10000	10900		ug/L		109	60 - 139	5	17
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	10000	11400		ug/L		114	50 - 150	0	30
1,1,2-Trichloroethane	380	U	10000	11500		ug/L		115	57 - 141	1	16
1,1-Dichloroethane	310	U	10000	11200		ug/L		112	57 - 142	10	24
1,1-Dichloroethene	470	U	10000	10300		ug/L		103	49 - 139	7	16
1,2,4-Trichlorobenzene	350	U	10000	10600		ug/L		106	52 - 159	4	24
1,2-Dibromo-3-Chloropropane	480	U	10000	10100		ug/L		101	48 - 150	4	21
1,2-Dibromoethane (EDB)	390	U	10000	11100		ug/L		111	50 - 150	2	16
1,2-Dichlorobenzene	370	U	10000	11400		ug/L		114	63 - 131	2	25
1,2-Dichloroethane	320	U	10000	9700		ug/L		97	50 - 156	4	18
1,2-Dichloropropane	400	U	10000	11200		ug/L		112	61 - 133	4	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-35457-5 MSD
Client Sample ID: LC34-RW19C-20240223
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 79337

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	390	U	10000	11300		ug/L		113	66 - 129	2	23
1,4-Dichlorobenzene	380	U	10000	9970		ug/L		100	65 - 133	0	23
2-Butanone (MEK)	2300	U	100000	99900		ug/L		100	10 - 180	9	29
2-Hexanone	1300	U	100000	93700		ug/L		94	12 - 180	4	28
4-Methyl-2-pentanone	2500	U	100000	97500		ug/L		98	19 - 180	4	24
Acetone	13000	U	100000	82100		ug/L		82	10 - 180	13	19
Benzene	360	U	10000	11500		ug/L		115	56 - 136	4	14
Bromodichloromethane	260	U	10000	11200		ug/L		112	58 - 135	1	19
Bromoform	380	U	10000	10900		ug/L		109	46 - 148	6	18
Bromomethane	480	U	10000	8170		ug/L		82	10 - 173	7	29
Carbon disulfide	1300	U	10000	9650		ug/L		96	43 - 153	3	26
Carbon tetrachloride	470	U	10000	11700		ug/L		117	54 - 156	2	27
Chlorobenzene	360	U	10000	11800		ug/L		118	51 - 139	2	13
Chloroethane	490	U	10000	8280		ug/L		83	27 - 180	14	22
Chloroform	400	U	10000	11200		ug/L		112	59 - 139	2	17
Chloromethane	410	U	10000	9740		ug/L		97	33 - 154	7	31
cis-1,2-Dichloroethene	3900		10000	14500		ug/L		106	56 - 128	8	17
cis-1,3-Dichloropropene	300	U	10000	11200		ug/L		112	64 - 128	2	20
Cyclohexane	470	U	10000	10900		ug/L		109	14 - 141	7	30
Dibromochloromethane	250	U	10000	11000		ug/L		110	50 - 150	1	18
Dichlorodifluoromethane	370	U	10000	6980		ug/L		70	10 - 180	9	26
Ethylbenzene	350	U	10000	11400		ug/L		114	63 - 133	1	18
Isopropylbenzene	340	U	10000	11300		ug/L		113	60 - 132	1	23
m,p-Xylenes	650	U	10000	10000		ug/L		100	64 - 133	2	18
Methyl acetate	480	U	20000	20800		ug/L		104	50 - 150	10	30
Methyl tert-butyl ether	300	U	10000	11200		ug/L		112	50 - 150	8	22
Methylene Chloride	2500	U	10000	10200		ug/L		102	43 - 142	10	23
o-Xylene	270	U	10000	10900		ug/L		109	61 - 129	1	16
Styrene	310	U	10000	11100		ug/L		111	59 - 136	1	32
Tetrachloroethene	380	U	10000	11700		ug/L		117	60 - 147	0	21
Toluene	360	U	10000	10400		ug/L		104	64 - 131	2	16
trans-1,2-Dichloroethene	370	U	10000	11200		ug/L		112	54 - 134	4	20
trans-1,3-Dichloropropene	370	U	10000	11200		ug/L		112	65 - 149	2	17
Trichloroethene	160000	L J3	10000	159000	L J3	ug/L		-5	62 - 135	2	20
Trichlorofluoromethane	470	U	10000	8790		ug/L		88	56 - 155	11	22
Vinyl chloride	360	U	10000	9210		ug/L		92	20 - 167	12	24
Xylenes, Total	650	U	20000	20900		ug/L		105	50 - 150	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-79480/7
Matrix: Water
Analysis Batch: 79480

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			03/07/24 11:26	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			03/07/24 11:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			03/07/24 11:26	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			03/07/24 11:26	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			03/07/24 11:26	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			03/07/24 11:26	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			03/07/24 11:26	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			03/07/24 11:26	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			03/07/24 11:26	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			03/07/24 11:26	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			03/07/24 11:26	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			03/07/24 11:26	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			03/07/24 11:26	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			03/07/24 11:26	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			03/07/24 11:26	1
2-Hexanone	2.5	U	20	2.5	ug/L			03/07/24 11:26	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			03/07/24 11:26	1
Acetone	25	U	50	25	ug/L			03/07/24 11:26	1
Benzene	0.71	U	1.0	0.71	ug/L			03/07/24 11:26	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			03/07/24 11:26	1
Bromoform	0.75	U	1.0	0.75	ug/L			03/07/24 11:26	1
Bromomethane	0.95	U	2.0	0.95	ug/L			03/07/24 11:26	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			03/07/24 11:26	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			03/07/24 11:26	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			03/07/24 11:26	1
Chloroethane	0.98	U	2.0	0.98	ug/L			03/07/24 11:26	1
Chloroform	0.80	U	5.0	0.80	ug/L			03/07/24 11:26	1
Chloromethane	0.82	U	2.0	0.82	ug/L			03/07/24 11:26	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			03/07/24 11:26	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			03/07/24 11:26	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			03/07/24 11:26	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			03/07/24 11:26	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			03/07/24 11:26	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			03/07/24 11:26	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			03/07/24 11:26	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			03/07/24 11:26	1
Methyl acetate	0.95	U	10	0.95	ug/L			03/07/24 11:26	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			03/07/24 11:26	1
Methylene Chloride	5.0	U	10	5.0	ug/L			03/07/24 11:26	1
o-Xylene	0.53	U	1.0	0.53	ug/L			03/07/24 11:26	1
Styrene	0.61	U	1.0	0.61	ug/L			03/07/24 11:26	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			03/07/24 11:26	1
Toluene	0.72	U	1.0	0.72	ug/L			03/07/24 11:26	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			03/07/24 11:26	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			03/07/24 11:26	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			03/07/24 11:26	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			03/07/24 11:26	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			03/07/24 11:26	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-79480/7
Matrix: Water
Analysis Batch: 79480

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			03/07/24 11:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*03/07/24 11:26*	*1*
Dibromofluoromethane (Surr)	*96*		*53 - 146*		*03/07/24 11:26*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*03/07/24 11:26*	*1*

Lab Sample ID: LCS 670-79480/4
Matrix: Water
Analysis Batch: 79480

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	5.00	5.68		ug/L		114	57 - 148
1,1,2,2-Tetrachloroethane	5.00	4.68		ug/L		94	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	6.03		ug/L		121	47 - 173
1,1,2-Trichloroethane	5.00	4.84		ug/L		97	57 - 141
1,1-Dichloroethane	5.00	6.06		ug/L		121	57 - 142
1,1-Dichloroethene	5.00	5.87		ug/L		117	47 - 139
1,2,4-Trichlorobenzene	5.00	5.68		ug/L		114	52 - 159
1,2-Dibromo-3-Chloropropane	5.00	3.65	I	ug/L		73	48 - 150
1,2-Dibromoethane (EDB)	5.00	4.28	I	ug/L		86	57 - 140
1,2-Dichlorobenzene	5.00	5.65		ug/L		113	63 - 131
1,2-Dichloroethane	5.00	4.82		ug/L		96	50 - 156
1,2-Dichloropropane	5.00	5.55		ug/L		111	61 - 133
1,3-Dichlorobenzene	5.00	5.82		ug/L		116	66 - 129
1,4-Dichlorobenzene	5.00	5.85		ug/L		117	65 - 133
2-Butanone (MEK)	50.0	34.3		ug/L		69	10 - 180
2-Hexanone	50.0	33.9		ug/L		68	12 - 180
4-Methyl-2-pentanone	50.0	35.9		ug/L		72	19 - 180
Acetone	50.0	36.0	I	ug/L		72	10 - 180
Benzene	5.00	5.97		ug/L		119	56 - 136
Bromodichloromethane	5.00	4.97		ug/L		99	58 - 135
Bromoform	5.00	4.17		ug/L		83	46 - 148
Bromomethane	5.00	4.15		ug/L		83	10 - 173
Carbon disulfide	5.00	6.10		ug/L		122	43 - 153
Carbon tetrachloride	5.00	5.82		ug/L		116	54 - 156
Chlorobenzene	5.00	5.59		ug/L		112	51 - 139
Chloroethane	5.00	5.28		ug/L		106	27 - 180
Chloroform	5.00	5.04		ug/L		101	58 - 139
Chloromethane	5.00	4.25		ug/L		85	33 - 154
cis-1,2-Dichloroethene	5.00	5.26		ug/L		105	56 - 128
cis-1,3-Dichloropropene	5.00	4.84		ug/L		97	64 - 128
Cyclohexane	5.00	6.96		ug/L		139	14 - 151
Dibromochloromethane	5.00	4.87		ug/L		97	50 - 140
Dichlorodifluoromethane	5.00	2.67		ug/L		53	10 - 180
Ethylbenzene	5.00	5.74		ug/L		115	63 - 133
Isopropylbenzene	5.00	5.78		ug/L		116	60 - 132
m,p-Xylenes	5.00	5.60		ug/L		112	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-79480/4
Matrix: Water
Analysis Batch: 79480

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	10.0	8.05	I	ug/L		80	70 - 130
Methyl tert-butyl ether	5.00	4.32		ug/L		86	51 - 145
Methylene Chloride	5.00	5.0	U	ug/L		93	43 - 142
o-Xylene	5.00	5.28		ug/L		106	61 - 129
Styrene	5.00	5.21		ug/L		104	59 - 136
Tetrachloroethene	5.00	5.72		ug/L		114	60 - 147
Toluene	5.00	5.77		ug/L		115	64 - 131
trans-1,2-Dichloroethene	5.00	5.43		ug/L		109	54 - 134
trans-1,3-Dichloropropene	5.00	4.67		ug/L		93	65 - 149
Trichloroethene	5.00	5.62		ug/L		112	62 - 135
Trichlorofluoromethane	5.00	5.48		ug/L		110	56 - 155
Vinyl chloride	5.00	5.92		ug/L		118	20 - 167
Xylenes, Total	10.0	10.9		ug/L		109	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*
Dibromofluoromethane (Surr)	*96*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Lab Sample ID: 670-36007-C-1 MS
Matrix: Water
Analysis Batch: 79480

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	22.4		ug/L		112	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	21.9		ug/L		110	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	23.7		ug/L		118	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	22.3		ug/L		112	57 - 141
1,1-Dichloroethane	0.62	U	20.0	25.1		ug/L		126	57 - 142
1,1-Dichloroethene	0.94	U	20.0	25.8		ug/L		129	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	22.3		ug/L		111	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	17.5		ug/L		88	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	19.5		ug/L		98	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	22.2		ug/L		111	63 - 131
1,2-Dichloroethane	0.63	U	20.0	19.9		ug/L		99	50 - 156
1,2-Dichloropropane	0.80	U	20.0	23.4		ug/L		117	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	23.1		ug/L		115	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	22.6		ug/L		113	65 - 133
2-Butanone (MEK)	4.5	U	200	172		ug/L		86	10 - 180
2-Hexanone	2.5	U	200	182		ug/L		91	12 - 180
4-Methyl-2-pentanone	5.0	U	200	193		ug/L		96	19 - 180
Acetone	25	U	200	182		ug/L		91	10 - 180
Benzene	0.71	U	20.0	24.1		ug/L		121	56 - 136
Bromodichloromethane	2.7		20.0	24.6		ug/L		110	58 - 135
Bromoform	0.75	U	20.0	18.8		ug/L		94	46 - 148
Bromomethane	0.95	U	20.0	15.5		ug/L		78	10 - 173
Carbon disulfide	2.5	U	20.0	25.9		ug/L		129	43 - 153
Carbon tetrachloride	0.94	U	20.0	24.3		ug/L		121	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-36007-C-1 MS
Matrix: Water
Analysis Batch: 79480

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	22.4		ug/L		112	51 - 139
Chloroethane	0.98	U	20.0	23.5		ug/L		118	27 - 180
Chloroform	8.0		20.0	28.8		ug/L		104	59 - 139
Chloromethane	0.82	U	20.0	21.5		ug/L		107	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	22.5		ug/L		113	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	20.6		ug/L		103	64 - 128
Cyclohexane	0.93	U J3	20.0	28.4	J3	ug/L		142	14 - 141
Dibromochloromethane	0.50	U	20.0	21.0		ug/L		105	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	11.7		ug/L		58	10 - 180
Ethylbenzene	0.69	U	20.0	23.8		ug/L		119	63 - 133
Isopropylbenzene	0.67	U	20.0	25.0		ug/L		125	60 - 132
m,p-Xylenes	1.3	U	20.0	24.0		ug/L		120	64 - 133
Methyl acetate	0.95	U	40.0	42.7		ug/L		107	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	19.9		ug/L		99	50 - 150
Methylene Chloride	5.0	U	20.0	21.8		ug/L		109	43 - 142
o-Xylene	0.53	U	20.0	22.7		ug/L		113	61 - 129
Styrene	0.61	U	20.0	23.1		ug/L		116	59 - 136
Tetrachloroethene	0.76	U	20.0	23.2		ug/L		116	60 - 147
Toluene	0.72	U	20.0	23.8		ug/L		119	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	23.9		ug/L		119	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	20.0		ug/L		100	65 - 149
Trichloroethene	0.89	U	20.0	22.6		ug/L		113	62 - 135
Trichlorofluoromethane	0.94	U	20.0	22.3		ug/L		112	56 - 155
Vinyl chloride	0.71	U	20.0	24.6		ug/L		123	20 - 167
Xylenes, Total	1.3	U	40.0	46.7		ug/L		117	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*96*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: 670-36007-C-1 MSD
Matrix: Water
Analysis Batch: 79480

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	21.9		ug/L		110	57 - 148	2	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	21.7		ug/L		109	60 - 139	1	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	23.4		ug/L		117	50 - 150	1	30
1,1,2-Trichloroethane	0.76	U	20.0	22.3		ug/L		112	57 - 141	0	16
1,1-Dichloroethane	0.62	U	20.0	24.7		ug/L		124	57 - 142	2	24
1,1-Dichloroethene	0.94	U	20.0	24.4		ug/L		122	49 - 139	5	16
1,2,4-Trichlorobenzene	0.70	U	20.0	23.0		ug/L		115	52 - 159	3	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	16.7		ug/L		84	48 - 150	5	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	19.3		ug/L		97	50 - 150	1	16
1,2-Dichlorobenzene	0.73	U	20.0	22.0		ug/L		110	63 - 131	1	25
1,2-Dichloroethane	0.63	U	20.0	19.9		ug/L		100	50 - 156	0	18
1,2-Dichloropropane	0.80	U	20.0	23.3		ug/L		116	61 - 133	0	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-36007-C-1 MSD
Matrix: Water
Analysis Batch: 79480

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U	20.0	22.8		ug/L		114	66 - 129	1	23
1,4-Dichlorobenzene	0.76	U	20.0	22.4		ug/L		112	65 - 133	1	23
2-Butanone (MEK)	4.5	U	200	170		ug/L		85	10 - 180	2	29
2-Hexanone	2.5	U	200	180		ug/L		90	12 - 180	1	28
4-Methyl-2-pentanone	5.0	U	200	191		ug/L		95	19 - 180	1	24
Acetone	25	U	200	184		ug/L		92	10 - 180	1	19
Benzene	0.71	U	20.0	23.7		ug/L		119	56 - 136	2	14
Bromodichloromethane	2.7		20.0	24.4		ug/L		108	58 - 135	1	19
Bromoform	0.75	U	20.0	18.8		ug/L		94	46 - 148	0	18
Bromomethane	0.95	U	20.0	17.9		ug/L		90	10 - 173	14	29
Carbon disulfide	2.5	U	20.0	25.7		ug/L		128	43 - 153	1	26
Carbon tetrachloride	0.94	U	20.0	24.1		ug/L		121	54 - 156	1	27
Chlorobenzene	0.72	U	20.0	22.3		ug/L		111	51 - 139	1	13
Chloroethane	0.98	U	20.0	23.1		ug/L		115	27 - 180	2	22
Chloroform	8.0		20.0	29.2		ug/L		106	59 - 139	1	17
Chloromethane	0.82	U	20.0	21.2		ug/L		106	33 - 154	1	31
cis-1,2-Dichloroethene	0.53	U	20.0	22.2		ug/L		111	56 - 128	2	17
cis-1,3-Dichloropropene	0.59	U	20.0	20.5		ug/L		103	64 - 128	0	20
Cyclohexane	0.93	U J3	20.0	28.0		ug/L		140	14 - 141	2	30
Dibromochloromethane	0.50	U	20.0	20.3		ug/L		102	50 - 150	4	18
Dichlorodifluoromethane	0.74	U	20.0	11.8		ug/L		59	10 - 180	1	26
Ethylbenzene	0.69	U	20.0	23.8		ug/L		119	63 - 133	0	18
Isopropylbenzene	0.67	U	20.0	24.8		ug/L		124	60 - 132	1	23
m,p-Xylenes	1.3	U	20.0	23.8		ug/L		119	64 - 133	1	18
Methyl acetate	0.95	U	40.0	40.3		ug/L		101	50 - 150	6	30
Methyl tert-butyl ether	0.60	U	20.0	19.5		ug/L		98	50 - 150	2	22
Methylene Chloride	5.0	U	20.0	21.9		ug/L		109	43 - 142	0	23
o-Xylene	0.53	U	20.0	21.9		ug/L		110	61 - 129	3	16
Styrene	0.61	U	20.0	22.6		ug/L		113	59 - 136	2	32
Tetrachloroethene	0.76	U	20.0	22.5		ug/L		112	60 - 147	3	21
Toluene	0.72	U	20.0	23.3		ug/L		116	64 - 131	2	16
trans-1,2-Dichloroethene	0.73	U	20.0	23.5		ug/L		117	54 - 134	2	20
trans-1,3-Dichloropropene	0.73	U	20.0	20.1		ug/L		101	65 - 149	0	17
Trichloroethene	0.89	U	20.0	22.5		ug/L		113	62 - 135	1	20
Trichlorofluoromethane	0.94	U	20.0	22.3		ug/L		112	56 - 155	0	22
Vinyl chloride	0.71	U	20.0	24.0		ug/L		120	20 - 167	2	24
Xylenes, Total	1.3	U	40.0	45.7		ug/L		114	50 - 150	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*
Dibromofluoromethane (Surr)	*96*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-79502/7
Matrix: Water
Analysis Batch: 79502

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			03/07/24 12:11	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			03/07/24 12:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			03/07/24 12:11	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			03/07/24 12:11	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			03/07/24 12:11	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			03/07/24 12:11	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			03/07/24 12:11	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			03/07/24 12:11	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			03/07/24 12:11	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			03/07/24 12:11	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			03/07/24 12:11	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			03/07/24 12:11	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			03/07/24 12:11	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			03/07/24 12:11	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			03/07/24 12:11	1
2-Hexanone	2.5	U	20	2.5	ug/L			03/07/24 12:11	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			03/07/24 12:11	1
Acetone	25	U	50	25	ug/L			03/07/24 12:11	1
Benzene	0.71	U	1.0	0.71	ug/L			03/07/24 12:11	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			03/07/24 12:11	1
Bromoform	0.75	U	1.0	0.75	ug/L			03/07/24 12:11	1
Bromomethane	0.95	U	2.0	0.95	ug/L			03/07/24 12:11	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			03/07/24 12:11	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			03/07/24 12:11	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			03/07/24 12:11	1
Chloroethane	0.98	U	2.0	0.98	ug/L			03/07/24 12:11	1
Chloroform	0.80	U	5.0	0.80	ug/L			03/07/24 12:11	1
Chloromethane	0.82	U	2.0	0.82	ug/L			03/07/24 12:11	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			03/07/24 12:11	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			03/07/24 12:11	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			03/07/24 12:11	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			03/07/24 12:11	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			03/07/24 12:11	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			03/07/24 12:11	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			03/07/24 12:11	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			03/07/24 12:11	1
Methyl acetate	0.95	U	10	0.95	ug/L			03/07/24 12:11	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			03/07/24 12:11	1
Methylene Chloride	5.0	U	10	5.0	ug/L			03/07/24 12:11	1
o-Xylene	0.53	U	1.0	0.53	ug/L			03/07/24 12:11	1
Styrene	0.61	U	1.0	0.61	ug/L			03/07/24 12:11	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			03/07/24 12:11	1
Toluene	0.72	U	1.0	0.72	ug/L			03/07/24 12:11	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			03/07/24 12:11	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			03/07/24 12:11	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			03/07/24 12:11	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			03/07/24 12:11	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			03/07/24 12:11	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-79502/7
Matrix: Water
Analysis Batch: 79502

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			03/07/24 12:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*03/07/24 12:11*	*1*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*03/07/24 12:11*	*1*
Toluene-d8 (Surr)	*94*		*40 - 146*		*03/07/24 12:11*	*1*

Lab Sample ID: LCS 670-79502/4
Matrix: Water
Analysis Batch: 79502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	18.9		ug/L		95	57 - 148
1,1,2,2-Tetrachloroethane	20.0	23.7		ug/L		119	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	16.9		ug/L		84	47 - 173
1,1,2-Trichloroethane	20.0	19.5		ug/L		98	57 - 141
1,1-Dichloroethane	20.0	20.1		ug/L		100	57 - 142
1,1-Dichloroethene	20.0	18.5		ug/L		93	47 - 139
1,2,4-Trichlorobenzene	20.0	22.7		ug/L		114	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	20.9		ug/L		105	48 - 150
1,2-Dibromoethane (EDB)	20.0	19.3		ug/L		97	57 - 140
1,2-Dichlorobenzene	20.0	23.2		ug/L		116	63 - 131
1,2-Dichloroethane	20.0	21.0		ug/L		105	50 - 156
1,2-Dichloropropane	20.0	19.7		ug/L		99	61 - 133
1,3-Dichlorobenzene	20.0	23.0		ug/L		115	66 - 129
1,4-Dichlorobenzene	20.0	22.4		ug/L		112	65 - 133
2-Butanone (MEK)	200	211		ug/L		105	10 - 180
2-Hexanone	200	177		ug/L		88	12 - 180
4-Methyl-2-pentanone	200	195		ug/L		98	19 - 180
Acetone	200	190		ug/L		95	10 - 180
Benzene	20.0	19.8		ug/L		99	56 - 136
Bromodichloromethane	20.0	20.1		ug/L		100	58 - 135
Bromoform	20.0	22.5		ug/L		113	46 - 148
Bromomethane	20.0	12.2		ug/L		61	10 - 173
Carbon disulfide	20.0	18.3		ug/L		91	43 - 153
Carbon tetrachloride	20.0	18.3		ug/L		92	54 - 156
Chlorobenzene	20.0	21.3		ug/L		107	51 - 139
Chloroethane	20.0	15.2		ug/L		76	27 - 180
Chloroform	20.0	19.3		ug/L		97	58 - 139
Chloromethane	20.0	13.9		ug/L		69	33 - 154
cis-1,2-Dichloroethene	20.0	20.1		ug/L		101	56 - 128
cis-1,3-Dichloropropene	20.0	17.9		ug/L		89	64 - 128
Cyclohexane	20.0	18.6		ug/L		93	14 - 151
Dibromochloromethane	20.0	19.7		ug/L		99	50 - 140
Dichlorodifluoromethane	20.0	8.11		ug/L		41	10 - 180
Ethylbenzene	20.0	20.8		ug/L		104	63 - 133
Isopropylbenzene	20.0	23.6		ug/L		118	60 - 132
m,p-Xylenes	20.0	21.6		ug/L		108	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-79502/4
Matrix: Water
Analysis Batch: 79502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	37.5		ug/L		94	70 - 130
Methyl tert-butyl ether	20.0	19.2		ug/L		96	51 - 145
Methylene Chloride	20.0	19.4		ug/L		97	43 - 142
o-Xylene	20.0	21.0		ug/L		105	61 - 129
Styrene	20.0	21.0		ug/L		105	59 - 136
Tetrachloroethene	20.0	19.0		ug/L		95	60 - 147
Toluene	20.0	19.0		ug/L		95	64 - 131
trans-1,2-Dichloroethene	20.0	19.2		ug/L		96	54 - 134
trans-1,3-Dichloropropene	20.0	19.5		ug/L		97	65 - 149
Trichloroethene	20.0	18.7		ug/L		93	62 - 135
Trichlorofluoromethane	20.0	15.4		ug/L		77	56 - 155
Vinyl chloride	20.0	13.8		ug/L		69	20 - 167
Xylenes, Total	40.0	42.6		ug/L		107	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*98*		*53 - 146*
Toluene-d8 (Surr)	*95*		*40 - 146*

Lab Sample ID: 660-134835-D-1 MS
Matrix: Water
Analysis Batch: 79502

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	20.7		ug/L		104	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	24.5		ug/L		123	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	18.1		ug/L		90	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	20.3		ug/L		102	57 - 141
1,1-Dichloroethane	0.62	U	20.0	20.8		ug/L		104	57 - 142
1,1-Dichloroethene	0.94	U	20.0	20.6		ug/L		103	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	23.9		ug/L		120	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	21.9		ug/L		110	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	19.3		ug/L		97	50 - 150
1,2-Dichlorobenzene	1.2		20.0	25.3		ug/L		120	63 - 131
1,2-Dichloroethane	0.63	U	20.0	21.3		ug/L		107	50 - 156
1,2-Dichloropropane	0.80	U	20.0	20.8		ug/L		104	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	23.8		ug/L		119	66 - 129
1,4-Dichlorobenzene	0.81	I	20.0	24.3		ug/L		117	65 - 133
2-Butanone (MEK)	4.5	U	200	198		ug/L		99	10 - 180
2-Hexanone	2.5	U	200	185		ug/L		92	12 - 180
4-Methyl-2-pentanone	5.0	U	200	203		ug/L		102	19 - 180
Acetone	25	U	200	201		ug/L		100	10 - 180
Benzene	1.0		20.0	21.9		ug/L		104	56 - 136
Bromodichloromethane	0.52	U	20.0	20.7		ug/L		103	58 - 135
Bromoform	0.75	U	20.0	23.0		ug/L		115	46 - 148
Bromomethane	0.95	U	20.0	14.4		ug/L		72	10 - 173
Carbon disulfide	2.5	U	20.0	20.4		ug/L		102	43 - 153
Carbon tetrachloride	0.94	U	20.0	19.7		ug/L		98	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-134835-D-1 MS
Matrix: Water
Analysis Batch: 79502

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	17		20.0	40.0		ug/L		115	51 - 139
Chloroethane	0.98	U	20.0	18.1		ug/L		91	27 - 180
Chloroform	0.80	U	20.0	21.3		ug/L		107	59 - 139
Chloromethane	0.82	U	20.0	15.2		ug/L		76	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	21.1		ug/L		106	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	18.3		ug/L		92	64 - 128
Cyclohexane	8.3		20.0	27.8		ug/L		97	14 - 141
Dibromochloromethane	0.50	U	20.0	20.4		ug/L		102	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	8.15		ug/L		41	10 - 180
Ethylbenzene	22		20.0	47.0		ug/L		123	63 - 133
Isopropylbenzene	51		20.0	75.2		ug/L		123	60 - 132
m,p-Xylenes	14		20.0	40.3		ug/L		132	64 - 133
Methyl acetate	0.95	U	40.0	39.4		ug/L		99	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	20.3		ug/L		102	50 - 150
Methylene Chloride	5.0	U	20.0	19.5		ug/L		98	43 - 142
o-Xylene	4.1		20.0	27.6		ug/L		117	61 - 129
Styrene	0.61	U	20.0	22.0		ug/L		110	59 - 136
Tetrachloroethene	0.76	U	20.0	20.1		ug/L		101	60 - 147
Toluene	2.7		20.0	23.4		ug/L		103	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	21.2		ug/L		106	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	19.6		ug/L		98	65 - 149
Trichloroethene	0.89	U	20.0	19.9		ug/L		100	62 - 135
Trichlorofluoromethane	0.94	U	20.0	16.7		ug/L		84	56 - 155
Vinyl chloride	0.71	U	20.0	15.5		ug/L		78	20 - 167
Xylenes, Total	18		40.0	67.9		ug/L		125	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*95*		*40 - 146*

Lab Sample ID: 660-134835-D-1 MSD
Matrix: Water
Analysis Batch: 79502

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	20.1		ug/L		100	57 - 148	3	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	24.1		ug/L		120	60 - 139	2	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	18.1		ug/L		90	50 - 150	0	30
1,1,2-Trichloroethane	0.76	U	20.0	19.1		ug/L		95	57 - 141	6	16
1,1-Dichloroethane	0.62	U	20.0	20.4		ug/L		102	57 - 142	2	24
1,1-Dichloroethene	0.94	U	20.0	19.8		ug/L		99	49 - 139	4	16
1,2,4-Trichlorobenzene	0.70	U	20.0	24.4		ug/L		122	52 - 159	2	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	21.8		ug/L		109	48 - 150	0	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	18.9		ug/L		94	50 - 150	2	16
1,2-Dichlorobenzene	1.2		20.0	24.6		ug/L		117	63 - 131	3	25
1,2-Dichloroethane	0.63	U	20.0	21.0		ug/L		105	50 - 156	1	18
1,2-Dichloropropane	0.80	U	20.0	19.9		ug/L		99	61 - 133	5	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-134835-D-1 MSD
Matrix: Water
Analysis Batch: 79502

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U	20.0	23.6		ug/L		118	66 - 129	1	23
1,4-Dichlorobenzene	0.81	I	20.0	23.7		ug/L		114	65 - 133	2	23
2-Butanone (MEK)	4.5	U	200	190		ug/L		95	10 - 180	4	29
2-Hexanone	2.5	U	200	176		ug/L		88	12 - 180	5	28
4-Methyl-2-pentanone	5.0	U	200	194		ug/L		97	19 - 180	5	24
Acetone	25	U	200	195		ug/L		98	10 - 180	3	19
Benzene	1.0		20.0	20.8		ug/L		99	56 - 136	5	14
Bromodichloromethane	0.52	U	20.0	20.3		ug/L		101	58 - 135	2	19
Bromoform	0.75	U	20.0	22.2		ug/L		111	46 - 148	3	18
Bromomethane	0.95	U	20.0	14.5		ug/L		73	10 - 173	1	29
Carbon disulfide	2.5	U	20.0	19.4		ug/L		97	43 - 153	5	26
Carbon tetrachloride	0.94	U	20.0	19.3		ug/L		96	54 - 156	2	27
Chlorobenzene	17		20.0	38.9		ug/L		109	51 - 139	3	13
Chloroethane	0.98	U	20.0	16.5		ug/L		83	27 - 180	9	22
Chloroform	0.80	U	20.0	20.4		ug/L		102	59 - 139	4	17
Chloromethane	0.82	U	20.0	14.6		ug/L		73	33 - 154	4	31
cis-1,2-Dichloroethene	0.53	U	20.0	20.6		ug/L		103	56 - 128	3	17
cis-1,3-Dichloropropene	0.59	U	20.0	17.7		ug/L		89	64 - 128	3	20
Cyclohexane	8.3		20.0	27.7		ug/L		97	14 - 141	0	30
Dibromochloromethane	0.50	U	20.0	20.0		ug/L		100	50 - 150	2	18
Dichlorodifluoromethane	0.74	U	20.0	8.21		ug/L		41	10 - 180	1	26
Ethylbenzene	22		20.0	44.7		ug/L		111	63 - 133	5	18
Isopropylbenzene	51		20.0	73.8		ug/L		116	60 - 132	2	23
m,p-Xylenes	14		20.0	38.7		ug/L		124	64 - 133	4	18
Methyl acetate	0.95	U	40.0	37.3		ug/L		93	50 - 150	6	30
Methyl tert-butyl ether	0.60	U	20.0	19.5		ug/L		97	50 - 150	4	22
Methylene Chloride	5.0	U	20.0	18.5		ug/L		92	43 - 142	6	23
o-Xylene	4.1		20.0	26.7		ug/L		113	61 - 129	3	16
Styrene	0.61	U	20.0	21.2		ug/L		106	59 - 136	4	32
Tetrachloroethene	0.76	U	20.0	19.6		ug/L		98	60 - 147	3	21
Toluene	2.7		20.0	22.3		ug/L		98	64 - 131	4	16
trans-1,2-Dichloroethene	0.73	U	20.0	20.3		ug/L		101	54 - 134	5	20
trans-1,3-Dichloropropene	0.73	U	20.0	19.0		ug/L		95	65 - 149	3	17
Trichloroethene	0.89	U	20.0	19.0		ug/L		95	62 - 135	4	20
Trichlorofluoromethane	0.94	U	20.0	16.6		ug/L		83	56 - 155	1	22
Vinyl chloride	0.71	U	20.0	14.5		ug/L		73	20 - 167	7	24
Xylenes, Total	18		40.0	65.4		ug/L		118	50 - 150	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*95*		*40 - 146*

GC/MS VOA

Analysis Batch: 78603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-35457-7 - DL	LC34-RW21D-20240223	Total/NA	Water	8260D	
MB 670-78603/7	Method Blank	Total/NA	Water	8260D	
LCS 670-78603/4	Lab Control Sample	Total/NA	Water	8260D	
670-35457-7 MS	LC34-RW21D-20240223	Total/NA	Water	8260D	
670-35457-7 MSD	LC34-RW21D-20240223	Total/NA	Water	8260D	

Analysis Batch: 79085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-35457-1	LC34-GAC-20240223	Total/NA	Water	8260D	
670-35457-2	LC34-AS1-20240223	Total/NA	Water	8260D	
670-35457-3 - DL	LC34-AS2-20240223	Total/NA	Water	8260D	
MB 670-79085/10	Method Blank	Total/NA	Water	8260D	
LCS 670-79085/7	Lab Control Sample	Total/NA	Water	8260D	
670-35457-1 MS	LC34-GAC-20240223	Total/NA	Water	8260D	
670-35457-1 MSD	LC34-GAC-20240223	Total/NA	Water	8260D	

Analysis Batch: 79337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-35457-4 - DL	LC34-RW17C-20240223	Total/NA	Water	8260D	
670-35457-5 - DL	LC34-RW19C-20240223	Total/NA	Water	8260D	
670-35457-6 - DL	LC34-RW20C-20240223	Total/NA	Water	8260D	
MB 670-79337/7	Method Blank	Total/NA	Water	8260D	
LCS 670-79337/4	Lab Control Sample	Total/NA	Water	8260D	
670-35457-5 MS	LC34-RW19C-20240223	Total/NA	Water	8260D	
670-35457-5 MSD	LC34-RW19C-20240223	Total/NA	Water	8260D	

Analysis Batch: 79480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-35457-4 - DL	LC34-RW17C-20240223	Total/NA	Water	8260D	
670-35457-5 - DL	LC34-RW19C-20240223	Total/NA	Water	8260D	
670-35457-6 - DL	LC34-RW20C-20240223	Total/NA	Water	8260D	
MB 670-79480/7	Method Blank	Total/NA	Water	8260D	
LCS 670-79480/4	Lab Control Sample	Total/NA	Water	8260D	
670-36007-C-1 MS	Matrix Spike	Total/NA	Water	8260D	
670-36007-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 79502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-35457-4 - DL	LC34-RW17C-20240223	Total/NA	Water	8260D	
670-35457-5 - DL	LC34-RW19C-20240223	Total/NA	Water	8260D	
670-35457-6 - DL	LC34-RW20C-20240223	Total/NA	Water	8260D	
MB 670-79502/7	Method Blank	Total/NA	Water	8260D	
LCS 670-79502/4	Lab Control Sample	Total/NA	Water	8260D	
660-134835-D-1 MS	Matrix Spike	Total/NA	Water	8260D	
660-134835-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-35457-1
Project/Site: NASA KSC LC34 - System Samples

Client Sample ID: LC34-GAC-20240223
Lab Sample ID: 670-35457-1
Date Collected: 02/23/24 08:30
Matrix: Water
Date Received: 02/24/24 09:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	79085	JFL	EET ORL	03/05/24 14:05

Client Sample ID: LC34-AS1-20240223
Lab Sample ID: 670-35457-2
Date Collected: 02/23/24 08:35
Matrix: Water
Date Received: 02/24/24 09:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	79085	JFL	EET ORL	03/05/24 15:51

Client Sample ID: LC34-AS2-20240223
Lab Sample ID: 670-35457-3
Date Collected: 02/23/24 08:40
Matrix: Water
Date Received: 02/24/24 09:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	79085	JFL	EET ORL	03/05/24 17:59

Client Sample ID: LC34-RW17C-20240223
Lab Sample ID: 670-35457-4
Date Collected: 02/23/24 08:45
Matrix: Water
Date Received: 02/24/24 09:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	79502	T1Y	EET ORL	03/07/24 14:45
Total/NA	Analysis	8260D	DL	200	79337	AAM	EET ORL	03/06/24 16:23
Total/NA	Analysis	8260D	DL	2000	79480	AAM	EET ORL	03/07/24 13:39

Client Sample ID: LC34-RW19C-20240223
Lab Sample ID: 670-35457-5
Date Collected: 02/23/24 08:50
Matrix: Water
Date Received: 02/24/24 09:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2000	79502	T1Y	EET ORL	03/07/24 15:03
Total/NA	Analysis	8260D	DL	500	79337	AAM	EET ORL	03/06/24 14:55
Total/NA	Analysis	8260D	DL	5000	79480	AAM	EET ORL	03/07/24 13:57

Client Sample ID: LC34-RW20C-20240223
Lab Sample ID: 670-35457-6
Date Collected: 02/23/24 08:55
Matrix: Water
Date Received: 02/24/24 09:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	50	79502	T1Y	EET ORL	03/07/24 14:28
Total/NA	Analysis	8260D	DL	10	79337	AAM	EET ORL	03/06/24 16:05
Total/NA	Analysis	8260D	DL	50	79480	AAM	EET ORL	03/07/24 12:07

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-35457-1
Project/Site: NASA KSC LC34 - System Samples

Client Sample ID: LC34-RW21D-20240223
Lab Sample ID: 670-35457-7
Date Collected: 02/23/24 09:00
Matrix: Water
Date Received: 02/24/24 09:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	78603	KG	EET ORL	03/01/24 09:19

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc. Job ID: 670-35457-1
Project/Site: NASA KSC LC34 - System Samples

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-35457-1
Project/Site: NASA KSC LC34 - System Samples

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-35457-1
Project/Site: NASA KSC LC34 - System Samples

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-35457-1	LC34-GAC-20240223	Water	02/23/24 08:30	02/24/24 09:51
670-35457-2	LC34-AS1-20240223	Water	02/23/24 08:35	02/24/24 09:51
670-35457-3	LC34-AS2-20240223	Water	02/23/24 08:40	02/24/24 09:51
670-35457-4	LC34-RW17C-20240223	Water	02/23/24 08:45	02/24/24 09:51
670-35457-5	LC34-RW19C-20240223	Water	02/23/24 08:50	02/24/24 09:51
670-35457-6	LC34-RW20C-20240223	Water	02/23/24 08:55	02/24/24 09:51
670-35457-7	LC34-RW21D-20240223	Water	02/23/24 09:00	02/24/24 09:51

Chain of Custody Samples

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Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

Client Contact Info

Name:
Chuck Sorden

Address :
1353 N. Courtenay Pkwy. Suite S

Address 2:

City, State Zip:
Merritt Island, Florida 32953

Phone:
3215917580

Deliverables:

Special Instructions:

Client Contact Info

Company:
Tetra Tech, Inc.

Purchase Order:
1179322

Work Order:
112G08985

Email:
Chuck.Sorden@tetratech.com

Proposed Due Date:

Project Manager
Dylnicki, Kaitlin

Project Reference:

Site Name:
NASA KSC LC34

Sampler:
Chuck Sorden

Description:
LC34 202402 System Samples

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C - (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-GAC-20240223	Comp	Water	2/23/2024 08:30	FL			X	3	3
2	LC34-AS1-20240223	Grab	Water	2/23/2024 08:35	FL			X	3	3
3	LC34-AS2-20240223	Grab	Water	2/23/2024 08:40	FL			X	3	3
4	LC34-RW17C-20240223	Grab	Water	2/23/2024 08:45	FL			X	3	3
5	LC34-RW19C-20240223	Grab	Water	2/23/2024 08:50	FL			X	3	3
6	LC34-RW20C-20240223	Grab	Water	2/23/2024 08:55	FL			X	3	3
7	LC34-RW21D-20240223	Grab	Water	2/23/2024 09:00	FL			X	3	3

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	2/23/24 15:04	Chuck Sorden	2/23/24 15:04	Clerisier, Meline	2/24/24 9:51

Chain of Custody Number: **257771**

Chain of Custody Samples

eurofins | Environment Testing

Contains Rush Work: ☐ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name:
Chuck Sorden

Address :
1353 N. Courtenay Pkwy. Suite S

Address 2:

City, State Zip:
Merritt Island, Florida 32953

Phone:
3215917580

Deliverables:

Special Instructions:

Client Contact Info

Company:
Tetra Tech, Inc.

Project Manager
Dylnicki, Kaitlin

Purchase Order:
1179322

Project Reference:

Work Order:
112G08985

Site Name:
NASA KSC LC34

Email:
Chuck.Sorden@tetratech.com

Sampler:
Chuck Sorden

Proposed Due Date:

Description:
LC34 202402 System Samples

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C - (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-GAC-20240223	Comp	Water	2/23/2024 08:30	FL			X	3	3
2	LC34-AS1-20240223	Grab	Water	2/23/2024 08:35	FL			X	3	3
3	LC34-AS2-20240223	Grab	Water	2/23/2024 08:40	FL			X	3	3
4	LC34-RW17C-20240223	Grab	Water	2/23/2024 08:45	FL			X	3	3
5	LC34-RW19C-20240223	Grab	Water	2/23/2024 08:50	FL			X	3	3
6	LC34-RW20C-20240223	Grab	Water	2/23/2024 08:55	FL			X	3	3
7	LC34-RW21D-20240223	Grab	Water	2/23/2024 09:00	FL			X	3	3

670-35457 Chain of Custody

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	2/23/24 15:04	Chuck Sorden	2/23/24 15:04	Clerisier, Meline	2/24/24 9:51

MC

Chain of Custody Number: **257771**

1.3 / 1.3

3/8/2024

5%

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-35457-1

Login Number: 35457

List Number: 1

Creator: Clerisier, Meline

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34 - Biweekly

JOB NUMBER

670-35812-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

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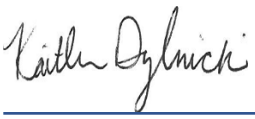

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Authorized for release by
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Definitions/Glossary

Client: Tetra Tech, Inc. Job ID: 670-35812-1
Project/Site: NASA KSC LC34 - Biweekly

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
670-35812-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985

Receipt
The sample was received on 3/2/2024 12:21 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-79073 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane, Bromomethane, Chloromethane and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 670-79073 recovered outside control limits for the following analytes: Methyl acetate. A low-level RL spiked at the reporting limit, was prepared with this batch. The affected target analytes recovered within acceptance limits; therefore, the RL demonstrates the analytical system had sufficient sensitivity to detect the compounds had they been present. Since the affected target compounds were not detected in the samples, the data have been reported and qualified.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0044D2-110.0-20240301 (670-35812-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Job ID: 670-35812-1
Project/Site: NASA KSC LC34 - Biweekly

Client Sample ID: LC34-IW0044D2-110.0-20240301
Lab Sample ID: 670-35812-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1100		20	11	ug/L	20		8260D	Total/NA
Trichloroethene - DL	270		20	18	ug/L	20		8260D	Total/NA
Vinyl chloride - DL	100		20	14	ug/L	20		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Job ID: 670-35812-1
Project/Site: NASA KSC LC34 - Biweekly

Client Sample ID: LC34-IW0044D2-110.0-20240301
Lab Sample ID: 670-35812-1
Date Collected: 03/01/24 11:45
Matrix: Water
Date Received: 03/02/24 12:21

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	16	U	20	16	ug/L			03/05/24 19:17	20
1,1,2,2-Tetrachloroethane	11	U	20	11	ug/L			03/05/24 19:17	20
1,1,2-Trichloro-1,2,2-trifluoroethane	15	U	40	15	ug/L			03/05/24 19:17	20
1,1,2-Trichloroethane	15	U	40	15	ug/L			03/05/24 19:17	20
1,1-Dichloroethane	12	U	20	12	ug/L			03/05/24 19:17	20
1,1-Dichloroethene	19	U	20	19	ug/L			03/05/24 19:17	20
1,2,4-Trichlorobenzene	14	U	40	14	ug/L			03/05/24 19:17	20
1,2-Dibromo-3-Chloropropane	19	U	200	19	ug/L			03/05/24 19:17	20
1,2-Dibromoethane (EDB)	16	U	240	16	ug/L			03/05/24 19:17	20
1,2-Dichlorobenzene	15	U	20	15	ug/L			03/05/24 19:17	20
1,2-Dichloroethane	13	U	20	13	ug/L			03/05/24 19:17	20
1,2-Dichloropropane	16	U	20	16	ug/L			03/05/24 19:17	20
1,3-Dichlorobenzene	15	U	20	15	ug/L			03/05/24 19:17	20
1,4-Dichlorobenzene	15	U	20	15	ug/L			03/05/24 19:17	20
2-Butanone (MEK)	90	U	200	90	ug/L			03/05/24 19:17	20
2-Hexanone	50	U	400	50	ug/L			03/05/24 19:17	20
4-Methyl-2-pentanone	100	U	400	100	ug/L			03/05/24 19:17	20
Acetone	500	U	1000	500	ug/L			03/05/24 19:17	20
Benzene	14	U	20	14	ug/L			03/05/24 19:17	20
Bromodichloromethane	10	U	20	10	ug/L			03/05/24 19:17	20
Bromoform	15	U	20	15	ug/L			03/05/24 19:17	20
Bromomethane	19	U	40	19	ug/L			03/05/24 19:17	20
Carbon disulfide	50	U	100	50	ug/L			03/05/24 19:17	20
Carbon tetrachloride	19	U	20	19	ug/L			03/05/24 19:17	20
Chlorobenzene	14	U	20	14	ug/L			03/05/24 19:17	20
Chloroethane	20	U	40	20	ug/L			03/05/24 19:17	20
Chloroform	16	U	100	16	ug/L			03/05/24 19:17	20
Chloromethane	16	U	40	16	ug/L			03/05/24 19:17	20
cis-1,2-Dichloroethene	**1100**		20	11	ug/L			03/05/24 19:17	20
cis-1,3-Dichloropropene	12	U	20	12	ug/L			03/05/24 19:17	20
Cyclohexane	19	U	100	19	ug/L			03/05/24 19:17	20
Dibromochloromethane	10	U	20	10	ug/L			03/05/24 19:17	20
Dichlorodifluoromethane	15	U	20	15	ug/L			03/05/24 19:17	20
Ethylbenzene	14	U	20	14	ug/L			03/05/24 19:17	20
Isopropylbenzene	13	U	40	13	ug/L			03/05/24 19:17	20
m,p-Xylenes	26	U	40	26	ug/L			03/05/24 19:17	20
Methyl acetate	19	U J3	200	19	ug/L			03/05/24 19:17	20
Methyl tert-butyl ether	12	U	40	12	ug/L			03/05/24 19:17	20
Methylene Chloride	100	U	200	100	ug/L			03/05/24 19:17	20
o-Xylene	11	U	20	11	ug/L			03/05/24 19:17	20
Styrene	12	U	20	12	ug/L			03/05/24 19:17	20
Tetrachloroethene	15	U	20	15	ug/L			03/05/24 19:17	20
Toluene	14	U	20	14	ug/L			03/05/24 19:17	20
trans-1,2-Dichloroethene	15	U	20	15	ug/L			03/05/24 19:17	20
trans-1,3-Dichloropropene	15	U	20	15	ug/L			03/05/24 19:17	20
Trichloroethene	**270**		20	18	ug/L			03/05/24 19:17	20
Trichlorofluoromethane	19	U	20	19	ug/L			03/05/24 19:17	20
Vinyl chloride	**100**		20	14	ug/L			03/05/24 19:17	20
Xylenes, Total	26	U	40	26	ug/L			03/05/24 19:17	20

Client: Tetra Tech, Inc.
Job ID: 670-35812-1
Project/Site: NASA KSC LC34 - Biweekly

Client Sample ID: LC34-IW0044D2-110.0-20240301
Lab Sample ID: 670-35812-1
Date Collected: 03/01/24 11:45
Matrix: Water
Date Received: 03/02/24 12:21

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		41 - 142		03/05/24 19:17	20
Dibromofluoromethane (Surr)	97		53 - 146		03/05/24 19:17	20
Toluene-d8 (Surr)	97		40 - 146		03/05/24 19:17	20

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-35812-1
Project/Site: NASA KSC LC34 - Biweekly

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-35812-1 - DL	LC34-IW0044D2-110.0-20240301	107	97	97
LB 670-78748/1-A	Method Blank	105	99	99
LCS 670-79073/4	Lab Control Sample	105	96	97
MB 670-79073/7	Method Blank	107	97	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
660-134758-B-3-B MS	Matrix Spike	103	97	99
660-134758-B-3-B MSD	Matrix Spike Duplicate	102	91	97

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 - Biweekly

Job ID: 670-35812-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: LB 670-78748/1-A
Matrix: Water
Analysis Batch: 79073

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			03/05/24 11:29	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			03/05/24 11:29	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			03/05/24 11:29	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			03/05/24 11:29	100
1,1-Dichloroethane	62	U	100	62	ug/L			03/05/24 11:29	100
1,1-Dichloroethene	94	U	100	94	ug/L			03/05/24 11:29	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			03/05/24 11:29	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			03/05/24 11:29	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			03/05/24 11:29	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			03/05/24 11:29	100
1,2-Dichloroethane	63	U	100	63	ug/L			03/05/24 11:29	100
1,2-Dichloropropane	80	U	100	80	ug/L			03/05/24 11:29	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			03/05/24 11:29	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			03/05/24 11:29	100
2-Butanone (MEK)	450	U	1000	450	ug/L			03/05/24 11:29	100
2-Hexanone	250	U	2000	250	ug/L			03/05/24 11:29	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			03/05/24 11:29	100
Acetone	2500	U	5000	2500	ug/L			03/05/24 11:29	100
Benzene	71	U	100	71	ug/L			03/05/24 11:29	100
Bromodichloromethane	52	U	100	52	ug/L			03/05/24 11:29	100
Bromoform	75	U	100	75	ug/L			03/05/24 11:29	100
Bromomethane	95	U	200	95	ug/L			03/05/24 11:29	100
Carbon disulfide	250	U	500	250	ug/L			03/05/24 11:29	100
Carbon tetrachloride	94	U	100	94	ug/L			03/05/24 11:29	100
Chlorobenzene	72	U	100	72	ug/L			03/05/24 11:29	100
Chloroethane	98	U	200	98	ug/L			03/05/24 11:29	100
Chloroform	80	U	500	80	ug/L			03/05/24 11:29	100
Chloromethane	82	U	200	82	ug/L			03/05/24 11:29	100
cis-1,2-Dichloroethene	53	U	100	53	ug/L			03/05/24 11:29	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			03/05/24 11:29	100
Cyclohexane	93	U	500	93	ug/L			03/05/24 11:29	100
Dibromochloromethane	50	U	100	50	ug/L			03/05/24 11:29	100
Dichlorodifluoromethane	74	U	100	74	ug/L			03/05/24 11:29	100
Ethylbenzene	69	U	100	69	ug/L			03/05/24 11:29	100
Isopropylbenzene	67	U	200	67	ug/L			03/05/24 11:29	100
m,p-Xylenes	130	U	200	130	ug/L			03/05/24 11:29	100
Methyl acetate	95	U	1000	95	ug/L			03/05/24 11:29	100
Methyl tert-butyl ether	60	U	200	60	ug/L			03/05/24 11:29	100
Methylene Chloride	500	U	1000	500	ug/L			03/05/24 11:29	100
o-Xylene	53	U	100	53	ug/L			03/05/24 11:29	100
Styrene	61	U	100	61	ug/L			03/05/24 11:29	100
Tetrachloroethene	76	U	100	76	ug/L			03/05/24 11:29	100
Toluene	72	U	100	72	ug/L			03/05/24 11:29	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			03/05/24 11:29	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			03/05/24 11:29	100
Trichloroethene	89	U	100	89	ug/L			03/05/24 11:29	100
Trichlorofluoromethane	94	U	100	94	ug/L			03/05/24 11:29	100
Vinyl chloride	71	U	100	71	ug/L			03/05/24 11:29	100

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LB 670-78748/1-A
Matrix: Water
Analysis Batch: 79073

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	130	U	200	130	ug/L			03/05/24 11:29	100

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*03/05/24 11:29*	*100*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*03/05/24 11:29*	*100*
Toluene-d8 (Surr)	*99*		*40 - 146*		*03/05/24 11:29*	*100*

Lab Sample ID: MB 670-79073/7
Matrix: Water
Analysis Batch: 79073

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			03/05/24 10:55	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			03/05/24 10:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			03/05/24 10:55	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			03/05/24 10:55	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			03/05/24 10:55	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			03/05/24 10:55	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			03/05/24 10:55	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			03/05/24 10:55	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			03/05/24 10:55	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			03/05/24 10:55	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			03/05/24 10:55	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			03/05/24 10:55	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			03/05/24 10:55	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			03/05/24 10:55	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			03/05/24 10:55	1
2-Hexanone	2.5	U	20	2.5	ug/L			03/05/24 10:55	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			03/05/24 10:55	1
Acetone	25	U	50	25	ug/L			03/05/24 10:55	1
Benzene	0.71	U	1.0	0.71	ug/L			03/05/24 10:55	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			03/05/24 10:55	1
Bromoform	0.75	U	1.0	0.75	ug/L			03/05/24 10:55	1
Bromomethane	0.95	U	2.0	0.95	ug/L			03/05/24 10:55	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			03/05/24 10:55	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			03/05/24 10:55	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			03/05/24 10:55	1
Chloroethane	0.98	U	2.0	0.98	ug/L			03/05/24 10:55	1
Chloroform	0.80	U	5.0	0.80	ug/L			03/05/24 10:55	1
Chloromethane	0.82	U	2.0	0.82	ug/L			03/05/24 10:55	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			03/05/24 10:55	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			03/05/24 10:55	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			03/05/24 10:55	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			03/05/24 10:55	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			03/05/24 10:55	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			03/05/24 10:55	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			03/05/24 10:55	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			03/05/24 10:55	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-79073/7
Matrix: Water
Analysis Batch: 79073

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	0.95	U	10	0.95	ug/L			03/05/24 10:55	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			03/05/24 10:55	1
Methylene Chloride	5.0	U	10	5.0	ug/L			03/05/24 10:55	1
o-Xylene	0.53	U	1.0	0.53	ug/L			03/05/24 10:55	1
Styrene	0.61	U	1.0	0.61	ug/L			03/05/24 10:55	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			03/05/24 10:55	1
Toluene	0.72	U	1.0	0.72	ug/L			03/05/24 10:55	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			03/05/24 10:55	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			03/05/24 10:55	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			03/05/24 10:55	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			03/05/24 10:55	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			03/05/24 10:55	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			03/05/24 10:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*41 - 142*		*03/05/24 10:55*	*1*
Dibromofluoromethane (Surr)	*97*		*53 - 146*		*03/05/24 10:55*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*03/05/24 10:55*	*1*

Lab Sample ID: LCS 670-79073/4
Matrix: Water
Analysis Batch: 79073

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	5.00	5.13		ug/L		103	57 - 148
1,1,2,2-Tetrachloroethane	5.00	5.03		ug/L		101	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	5.38		ug/L		108	47 - 173
1,1,2-Trichloroethane	5.00	5.22		ug/L		104	57 - 141
1,1-Dichloroethane	5.00	5.13		ug/L		103	57 - 142
1,1-Dichloroethene	5.00	4.49		ug/L		90	47 - 139
1,2,4-Trichlorobenzene	5.00	5.61		ug/L		112	52 - 159
1,2-Dibromo-3-Chloropropane	5.00	3.25	I	ug/L		65	48 - 150
1,2-Dibromoethane (EDB)	5.00	4.62	I	ug/L		92	57 - 140
1,2-Dichlorobenzene	5.00	5.49		ug/L		110	63 - 131
1,2-Dichloroethane	5.00	4.53		ug/L		91	50 - 156
1,2-Dichloropropane	5.00	5.33		ug/L		107	61 - 133
1,3-Dichlorobenzene	5.00	5.64		ug/L		113	66 - 129
1,4-Dichlorobenzene	5.00	5.74		ug/L		115	65 - 133
2-Butanone (MEK)	50.0	30.2		ug/L		60	10 - 180
2-Hexanone	50.0	35.4		ug/L		71	12 - 180
4-Methyl-2-pentanone	50.0	36.8		ug/L		74	19 - 180
Acetone	50.0	25	U	ug/L		49	10 - 180
Benzene	5.00	5.39		ug/L		108	56 - 136
Bromodichloromethane	5.00	5.14		ug/L		103	58 - 135
Bromoform	5.00	4.41		ug/L		88	46 - 148
Bromomethane	5.00	3.35		ug/L		67	10 - 173
Carbon disulfide	5.00	4.07	I	ug/L		81	43 - 153
Carbon tetrachloride	5.00	5.35		ug/L		107	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-79073/4
Matrix: Water
Analysis Batch: 79073

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	5.00	5.64		ug/L		113	51 - 139
Chloroethane	5.00	5.93		ug/L		119	27 - 180
Chloroform	5.00	4.97	I	ug/L		99	58 - 139
Chloromethane	5.00	3.76		ug/L		75	33 - 154
cis-1,2-Dichloroethene	5.00	4.83		ug/L		97	56 - 128
cis-1,3-Dichloropropene	5.00	4.82		ug/L		96	64 - 128
Cyclohexane	5.00	6.32		ug/L		126	14 - 151
Dibromochloromethane	5.00	4.72		ug/L		94	50 - 140
Dichlorodifluoromethane	5.00	2.32		ug/L		46	10 - 180
Ethylbenzene	5.00	5.48		ug/L		110	63 - 133
Isopropylbenzene	5.00	5.94		ug/L		119	60 - 132
m,p-Xylenes	5.00	5.66		ug/L		113	64 - 133
Methyl acetate	10.0	5.96	I J3	ug/L		60	70 - 130
Methyl tert-butyl ether	5.00	3.72		ug/L		74	51 - 145
Methylene Chloride	5.00	5.0	U	ug/L		77	43 - 142
o-Xylene	5.00	5.03		ug/L		101	61 - 129
Styrene	5.00	5.09		ug/L		102	59 - 136
Tetrachloroethene	5.00	5.76		ug/L		115	60 - 147
Toluene	5.00	5.66		ug/L		113	64 - 131
trans-1,2-Dichloroethene	5.00	5.13		ug/L		103	54 - 134
trans-1,3-Dichloropropene	5.00	4.86		ug/L		97	65 - 149
Trichloroethene	5.00	5.53		ug/L		111	62 - 135
Trichlorofluoromethane	5.00	5.40		ug/L		108	56 - 155
Vinyl chloride	5.00	5.40		ug/L		108	20 - 167
Xylenes, Total	10.0	10.7		ug/L		107	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*
Dibromofluoromethane (Surr)	*96*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Lab Sample ID: 660-134758-B-3-B MS
Matrix: Water
Analysis Batch: 79073

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	80	U	2000	1860		ug/L		93	57 - 148
1,1,2,2-Tetrachloroethane	54	U	2000	1970		ug/L		98	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	1740		ug/L		87	50 - 150
1,1,2-Trichloroethane	76	U	2000	2040		ug/L		102	57 - 141
1,1-Dichloroethane	62	U	2000	2010		ug/L		101	57 - 142
1,1-Dichloroethene	94	U	2000	1590		ug/L		79	49 - 139
1,2,4-Trichlorobenzene	70	U	2000	2110		ug/L		105	52 - 159
1,2-Dibromo-3-Chloropropane	96	U	2000	1540		ug/L		77	48 - 150
1,2-Dibromoethane (EDB)	78	U	2000	1790		ug/L		90	50 - 150
1,2-Dichlorobenzene	73	U	2000	2110		ug/L		106	63 - 131
1,2-Dichloroethane	63	U	2000	1770		ug/L		88	50 - 156
1,2-Dichloropropane	80	U	2000	2030		ug/L		102	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-134758-B-3-B MS
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: TCLP
Analysis Batch: 79073

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	77	U	2000	2120		ug/L		106	66 - 129
1,4-Dichlorobenzene	76	U	2000	2110		ug/L		106	65 - 133
2-Butanone (MEK)	450	U	20000	12800		ug/L		64	10 - 180
2-Hexanone	250	U	20000	15200		ug/L		76	12 - 180
4-Methyl-2-pentanone	500	U	20000	16200		ug/L		81	19 - 180
Acetone	2500	U	20000	10700		ug/L		54	10 - 180
Benzene	71	U	2000	1990		ug/L		99	56 - 136
Bromodichloromethane	52	U	2000	1980		ug/L		99	58 - 135
Bromoform	75	U	2000	1740		ug/L		87	46 - 148
Bromomethane	95	U	2000	1430		ug/L		72	10 - 173
Carbon disulfide	250	U	2000	1430		ug/L		72	43 - 153
Carbon tetrachloride	94	U	2000	2010		ug/L		100	54 - 156
Chlorobenzene	72	U	2000	2100		ug/L		105	51 - 139
Chloroethane	98	U	2000	1920		ug/L		96	27 - 180
Chloroform	80	U	2000	1830		ug/L		92	59 - 139
Chloromethane	82	U	2000	1340		ug/L		67	33 - 154
cis-1,2-Dichloroethene	53	U	2000	1890		ug/L		95	56 - 128
cis-1,3-Dichloropropene	59	U	2000	1940		ug/L		97	64 - 128
Cyclohexane	93	U	2000	2300		ug/L		115	14 - 141
Dibromochloromethane	50	U	2000	1890		ug/L		94	50 - 150
Dichlorodifluoromethane	74	U	2000	790		ug/L		40	10 - 180
Ethylbenzene	69	U	2000	2190		ug/L		109	63 - 133
Isopropylbenzene	67	U	2000	2300		ug/L		115	60 - 132
m,p-Xylenes	130	U	2000	2140		ug/L		107	64 - 133
Methyl acetate	95	U J3	4000	3130		ug/L		78	50 - 150
Methyl tert-butyl ether	60	U	2000	1440		ug/L		72	50 - 150
Methylene Chloride	500	U	2000	1770		ug/L		89	43 - 142
o-Xylene	53	U	2000	2050		ug/L		103	61 - 129
Styrene	61	U	2000	2180		ug/L		109	59 - 136
Tetrachloroethene	76	U	2000	2060		ug/L		103	60 - 147
Toluene	72	U	2000	2070		ug/L		103	64 - 131
trans-1,2-Dichloroethene	73	U	2000	1840		ug/L		92	54 - 134
trans-1,3-Dichloropropene	73	U	2000	1850		ug/L		93	65 - 149
Trichloroethene	89	U	2000	1900		ug/L		95	62 - 135
Trichlorofluoromethane	94	U	2000	1880		ug/L		94	56 - 155
Vinyl chloride	71	U	2000	1970		ug/L		98	20 - 167
Xylenes, Total	130	U	4000	4190		ug/L		105	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*
Dibromofluoromethane (Surr)	*97*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-134758-B-3-B MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: TCLP
Analysis Batch: 79073

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	80	U	2000	1900		ug/L		95	57 - 148	2	25
1,1,2,2-Tetrachloroethane	54	U	2000	1940		ug/L		97	60 - 139	2	17
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	1790		ug/L		89	50 - 150	3	30
1,1,2-Trichloroethane	76	U	2000	2090		ug/L		104	57 - 141	2	16
1,1-Dichloroethane	62	U	2000	2000		ug/L		100	57 - 142	1	24
1,1-Dichloroethene	94	U	2000	1680		ug/L		84	49 - 139	6	16
1,2,4-Trichlorobenzene	70	U	2000	2150		ug/L		107	52 - 159	2	24
1,2-Dibromo-3-Chloropropane	96	U	2000	1570		ug/L		78	48 - 150	2	21
1,2-Dibromoethane (EDB)	78	U	2000	1810		ug/L		91	50 - 150	1	16
1,2-Dichlorobenzene	73	U	2000	2100		ug/L		105	63 - 131	1	25
1,2-Dichloroethane	63	U	2000	1720		ug/L		86	50 - 156	3	18
1,2-Dichloropropane	80	U	2000	2110		ug/L		105	61 - 133	4	26
1,3-Dichlorobenzene	77	U	2000	2100		ug/L		105	66 - 129	1	23
1,4-Dichlorobenzene	76	U	2000	2090		ug/L		105	65 - 133	1	23
2-Butanone (MEK)	450	U	20000	13100		ug/L		66	10 - 180	3	29
2-Hexanone	250	U	20000	15700		ug/L		78	12 - 180	3	28
4-Methyl-2-pentanone	500	U	20000	16700		ug/L		84	19 - 180	3	24
Acetone	2500	U	20000	10800		ug/L		54	10 - 180	1	19
Benzene	71	U	2000	1990		ug/L		99	56 - 136	0	14
Bromodichloromethane	52	U	2000	1990		ug/L		99	58 - 135	0	19
Bromoform	75	U	2000	1710		ug/L		86	46 - 148	1	18
Bromomethane	95	U	2000	1530		ug/L		77	10 - 173	7	29
Carbon disulfide	250	U	2000	1450		ug/L		72	43 - 153	1	26
Carbon tetrachloride	94	U	2000	1960		ug/L		98	54 - 156	2	27
Chlorobenzene	72	U	2000	2110		ug/L		105	51 - 139	0	13
Chloroethane	98	U	2000	1960		ug/L		98	27 - 180	2	22
Chloroform	80	U	2000	1800		ug/L		90	59 - 139	2	17
Chloromethane	82	U	2000	1270		ug/L		64	33 - 154	5	31
cis-1,2-Dichloroethene	53	U	2000	1850		ug/L		92	56 - 128	2	17
cis-1,3-Dichloropropene	59	U	2000	1980		ug/L		99	64 - 128	2	20
Cyclohexane	93	U	2000	2260		ug/L		113	14 - 141	2	30
Dibromochloromethane	50	U	2000	1890		ug/L		94	50 - 150	0	18
Dichlorodifluoromethane	74	U	2000	791		ug/L		40	10 - 180	0	26
Ethylbenzene	69	U	2000	2220		ug/L		111	63 - 133	1	18
Isopropylbenzene	67	U	2000	2250		ug/L		112	60 - 132	2	23
m,p-Xylenes	130	U	2000	2190		ug/L		109	64 - 133	2	18
Methyl acetate	95	U J3	4000	2810		ug/L		70	50 - 150	11	30
Methyl tert-butyl ether	60	U	2000	1460		ug/L		73	50 - 150	1	22
Methylene Chloride	500	U	2000	1740		ug/L		87	43 - 142	2	23
o-Xylene	53	U	2000	2080		ug/L		104	61 - 129	1	16
Styrene	61	U	2000	2170		ug/L		108	59 - 136	1	32
Tetrachloroethene	76	U	2000	2090		ug/L		104	60 - 147	1	21
Toluene	72	U	2000	2070		ug/L		104	64 - 131	0	16
trans-1,2-Dichloroethene	73	U	2000	1860		ug/L		93	54 - 134	1	20
trans-1,3-Dichloropropene	73	U	2000	1900		ug/L		95	65 - 149	2	17
Trichloroethene	89	U	2000	1990		ug/L		99	62 - 135	4	20
Trichlorofluoromethane	94	U	2000	1890		ug/L		95	56 - 155	0	22
Vinyl chloride	71	U	2000	1870		ug/L		93	20 - 167	5	24

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-134758-B-3-B MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: TCLP
Analysis Batch: 79073

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	130	U	4000	4270		ug/L		107	50 - 150	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*91*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

QC Association Summary

Client: Tetra Tech, Inc.
Job ID: 670-35812-1
Project/Site: NASA KSC LC34 - Biweekly

GC/MS VOA

Leach Batch: 78748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 670-78748/1-A	Method Blank	Total/NA	Water	1311	
660-134758-B-3-B MS	Matrix Spike	TCLP	Water	1311	
660-134758-B-3-B MSD	Matrix Spike Duplicate	TCLP	Water	1311	

Analysis Batch: 79073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-35812-1 - DL	LC34-IW0044D2-110.0-20240301	Total/NA	Water	8260D	
LB 670-78748/1-A	Method Blank	Total/NA	Water	8260D	78748
MB 670-79073/7	Method Blank	Total/NA	Water	8260D	
LCS 670-79073/4	Lab Control Sample	Total/NA	Water	8260D	
660-134758-B-3-B MS	Matrix Spike	TCLP	Water	8260D	78748
660-134758-B-3-B MSD	Matrix Spike Duplicate	TCLP	Water	8260D	78748

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-35812-1
Project/Site: NASA KSC LC34 - Biweekly

Client Sample ID: LC34-IW0044D2-110.0-20240301
Lab Sample ID: 670-35812-1
Date Collected: 03/01/24 11:45
Matrix: Water
Date Received: 03/02/24 12:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	20	79073	AAM	EET ORL	03/05/24 19:17

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-35812-1
Project/Site: NASA KSC LC34 - Biweekly

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-35812-1
Project/Site: NASA KSC LC34 - Biweekly

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-35812-1
Project/Site: NASA KSC LC34 - Biweekly

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-35812-1	LC34-IW0044D2-110.0-20240301	Water	03/01/24 11:45	03/02/24 12:21

Chain of Custody Samples

eurofins | Environment Testing

Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

Client Contact Info

Name:

Address :

Address 2:

City, State Zip: Merritt Island, Florida 32953

Phone:

Deliverables:

Special Instructions:

Client Contact Info

Company: Tetra Tech, Inc.

Project Manager: Dylnicki, Kaitlin

Purchase Order: 1179322

Project Reference:

Work Order: 112G08985

Site Name: NASA KSC LC34

Email:

Sampler:

Proposed Due Date:

Description: LC34 20240301 Bi-Weekly Samples

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-IW0044D2-110.0-2 0240301	Grab	Water	3/1/2024 00:00	FL			X	3	**3**

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	3/1/24 11:59	Chuck Sorden	3/1/24 14:44	Clerisier, Meline	3/2/24 12:21

Chain of Custody Sample Data

LC34-IW0044D2-110.0-20240301

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]: 03/01/2024 00:00 **Time Zone:** Eastern

[1] All collection times displayed in 24 hour format.

Chain of Custody Samples

eurofins | Environment Testing

Contains Rush Work: ☐ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name:

Address :

Address 2:

City, State Zip: Merritt Island, Florida 32953

Phone:

Deliverables:

Special Instructions:

Client Contact

Company: Tetra Tech, Inc.

Project Manager: Dylnicki, Kaitlin

Purchase Order: 1179322

Project Reference:

Work Order: 112G08985

Site Name: NASA KSC LC34

Email:

Sampler:

Proposed Due Date:

Description: LC34 20240301 Bi-Weekly Samples

Methods and Bottles

670-35812 Chain of Custody

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]												Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-IW0044D2-110.0-2 0240301	Grab	Water	3/1/2024 00:00	FL			X												3	3

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	3/1/24 11:59	Chuck Sorden	3/1/24 14:44	Clerisier, Meline	3/2/24 12:21

5.6/5.6

596°

Chain of Custody Number: **259759**

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-35812-1

Login Number: 35812

List Number: 1

Creator: Clerisier, Meline

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34 - Biweekly

JOB NUMBER

670-36558-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

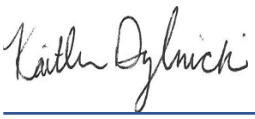
See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
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Definitions/Glossary

Client: Tetra Tech, Inc. Job ID: 670-36558-1
Project/Site: NASA KSC LC34 - Biweekly

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-36558-1 Eurofins Orlando

Job Narrative
670-36558-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985

Receipt
The sample was received on 3/16/2024 7:00 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.6°C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-81280 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane, Chloromethane and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-81478 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane, Bromoform, Chloromethane and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0044D2-110.0-20240315 (670-36558-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Job ID: 670-36558-1
Project/Site: NASA KSC LC34 - Biweekly

Client Sample ID: LC34-IW0044D2-110.0-20240315
Lab Sample ID: 670-36558-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	4.1		1.0	0.94	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	11		1.0	0.73	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene - DL	2400		25	13	ug/L	25		8260D	Total/NA
Trichloroethene - DL	1000		25	22	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	260		25	18	ug/L	25		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Job ID: 670-36558-1
Project/Site: NASA KSC LC34 - Biweekly

Client Sample ID: LC34-IW0044D2-110.0-20240315
Lab Sample ID: 670-36558-1
Date Collected: 03/15/24 10:50
Matrix: Water
Date Received: 03/16/24 07:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			03/19/24 12:32	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			03/19/24 12:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			03/19/24 12:32	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			03/19/24 12:32	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			03/19/24 12:32	1
1,1-Dichloroethene	**4.1**		1.0	0.94	ug/L			03/19/24 12:32	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			03/19/24 12:32	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			03/19/24 12:32	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			03/19/24 12:32	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			03/19/24 12:32	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			03/19/24 12:32	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			03/19/24 12:32	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			03/19/24 12:32	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			03/19/24 12:32	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			03/19/24 12:32	1
2-Hexanone	2.5	U	20	2.5	ug/L			03/19/24 12:32	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			03/19/24 12:32	1
Acetone	25	U	50	25	ug/L			03/19/24 12:32	1
Benzene	0.71	U	1.0	0.71	ug/L			03/19/24 12:32	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			03/19/24 12:32	1
Bromoform	0.75	U	1.0	0.75	ug/L			03/19/24 12:32	1
Bromomethane	0.95	U	2.0	0.95	ug/L			03/19/24 12:32	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			03/19/24 12:32	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			03/19/24 12:32	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			03/19/24 12:32	1
Chloroethane	0.98	U	2.0	0.98	ug/L			03/19/24 12:32	1
Chloroform	0.80	U	5.0	0.80	ug/L			03/19/24 12:32	1
Chloromethane	0.82	U	2.0	0.82	ug/L			03/19/24 12:32	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			03/19/24 12:32	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			03/19/24 12:32	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			03/19/24 12:32	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			03/19/24 12:32	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			03/19/24 12:32	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			03/19/24 12:32	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			03/19/24 12:32	1
Methyl acetate	0.95	U	10	0.95	ug/L			03/19/24 12:32	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			03/19/24 12:32	1
Methylene Chloride	5.0	U	10	5.0	ug/L			03/19/24 12:32	1
o-Xylene	0.53	U	1.0	0.53	ug/L			03/19/24 12:32	1
Styrene	0.61	U	1.0	0.61	ug/L			03/19/24 12:32	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			03/19/24 12:32	1
Toluene	0.72	U	1.0	0.72	ug/L			03/19/24 12:32	1
trans-1,2-Dichloroethene	**11**		1.0	0.73	ug/L			03/19/24 12:32	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			03/19/24 12:32	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			03/19/24 12:32	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			03/19/24 12:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*03/19/24 12:32*	*1*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*03/19/24 12:32*	*1*

Client: Tetra Tech, Inc.
Job ID: 670-36558-1
Project/Site: NASA KSC LC34 - Biweekly

Client Sample ID: LC34-IW0044D2-110.0-20240315
Lab Sample ID: 670-36558-1
Date Collected: 03/15/24 10:50
Matrix: Water
Date Received: 03/16/24 07:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*40 - 146*		*03/19/24 12:32*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**2400**		25	13	ug/L			03/20/24 12:34	25
Trichloroethene	**1000**		25	22	ug/L			03/20/24 12:34	25
Vinyl chloride	**260**		25	18	ug/L			03/20/24 12:34	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*03/20/24 12:34*	*25*
Dibromofluoromethane (Surr)	*97*		*53 - 146*		*03/20/24 12:34*	*25*
Toluene-d8 (Surr)	*100*		*40 - 146*		*03/20/24 12:34*	*25*

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-36558-1
Project/Site: NASA KSC LC34 - Biweekly

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-36492-C-22 MS	Matrix Spike	101	98	100
670-36492-C-22 MSD	Matrix Spike Duplicate	104	95	99
670-36558-1	LC34-IW0044D2-110.0-20240315	104	99	99
670-36558-1 - DL	LC34-IW0044D2-110.0-20240315	102	97	100
LB 670-81279/1-A	Method Blank	105	95	98
LCS 670-81280/4	Lab Control Sample	108	95	98
LCS 670-81478/4	Lab Control Sample	103	95	98
MB 670-81280/7	Method Blank	107	95	100
MB 670-81478/7	Method Blank	105	98	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
660-135046-D-1-B MS	Matrix Spike	103	96	101
660-135046-D-1-B MSD	Matrix Spike Duplicate	102	98	100

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Client: Tetra Tech, Inc.
Job ID: 670-36558-1
Project/Site: NASA KSC LC34 - Biweekly

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-81280/7
Matrix: Water
Analysis Batch: 81280

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			03/19/24 09:56	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			03/19/24 09:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			03/19/24 09:56	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			03/19/24 09:56	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			03/19/24 09:56	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			03/19/24 09:56	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			03/19/24 09:56	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			03/19/24 09:56	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			03/19/24 09:56	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			03/19/24 09:56	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			03/19/24 09:56	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			03/19/24 09:56	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			03/19/24 09:56	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			03/19/24 09:56	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			03/19/24 09:56	1
2-Hexanone	2.5	U	20	2.5	ug/L			03/19/24 09:56	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			03/19/24 09:56	1
Acetone	25	U	50	25	ug/L			03/19/24 09:56	1
Benzene	0.71	U	1.0	0.71	ug/L			03/19/24 09:56	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			03/19/24 09:56	1
Bromoform	0.75	U	1.0	0.75	ug/L			03/19/24 09:56	1
Bromomethane	0.95	U	2.0	0.95	ug/L			03/19/24 09:56	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			03/19/24 09:56	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			03/19/24 09:56	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			03/19/24 09:56	1
Chloroethane	0.98	U	2.0	0.98	ug/L			03/19/24 09:56	1
Chloroform	0.80	U	5.0	0.80	ug/L			03/19/24 09:56	1
Chloromethane	0.82	U	2.0	0.82	ug/L			03/19/24 09:56	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			03/19/24 09:56	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			03/19/24 09:56	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			03/19/24 09:56	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			03/19/24 09:56	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			03/19/24 09:56	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			03/19/24 09:56	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			03/19/24 09:56	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			03/19/24 09:56	1
Methyl acetate	0.95	U	10	0.95	ug/L			03/19/24 09:56	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			03/19/24 09:56	1
Methylene Chloride	5.0	U	10	5.0	ug/L			03/19/24 09:56	1
o-Xylene	0.53	U	1.0	0.53	ug/L			03/19/24 09:56	1
Styrene	0.61	U	1.0	0.61	ug/L			03/19/24 09:56	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			03/19/24 09:56	1
Toluene	0.72	U	1.0	0.72	ug/L			03/19/24 09:56	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			03/19/24 09:56	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			03/19/24 09:56	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			03/19/24 09:56	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			03/19/24 09:56	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			03/19/24 09:56	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-81280/7
Matrix: Water
Analysis Batch: 81280

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			03/19/24 09:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*41 - 142*		*03/19/24 09:56*	*1*
Dibromofluoromethane (Surr)	*95*		*53 - 146*		*03/19/24 09:56*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*03/19/24 09:56*	*1*

Lab Sample ID: LCS 670-81280/4
Matrix: Water
Analysis Batch: 81280

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	5.00	4.85		ug/L		97	57 - 148
1,1,2,2-Tetrachloroethane	5.00	5.17		ug/L		103	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	5.37		ug/L		107	47 - 173
1,1,2-Trichloroethane	5.00	4.59		ug/L		92	57 - 141
1,1-Dichloroethane	5.00	5.69		ug/L		114	57 - 142
1,1-Dichloroethene	5.00	5.06		ug/L		101	47 - 139
1,2,4-Trichlorobenzene	5.00	5.65		ug/L		113	52 - 159
1,2-Dibromo-3-Chloropropane	5.00	3.33	I	ug/L		67	48 - 150
1,2-Dibromoethane (EDB)	5.00	4.32	I	ug/L		86	57 - 140
1,2-Dichlorobenzene	5.00	5.42		ug/L		108	63 - 131
1,2-Dichloroethane	5.00	4.15		ug/L		83	50 - 156
1,2-Dichloropropane	5.00	5.55		ug/L		111	61 - 133
1,3-Dichlorobenzene	5.00	5.77		ug/L		115	66 - 129
1,4-Dichlorobenzene	5.00	5.37		ug/L		107	65 - 133
2-Butanone (MEK)	50.0	36.4		ug/L		73	10 - 180
2-Hexanone	50.0	37.9		ug/L		76	12 - 180
4-Methyl-2-pentanone	50.0	40.2		ug/L		80	19 - 180
Acetone	50.0	37.1	I	ug/L		74	10 - 180
Benzene	5.00	5.30		ug/L		106	56 - 136
Bromodichloromethane	5.00	4.72		ug/L		94	58 - 135
Bromoform	5.00	4.32		ug/L		86	46 - 148
Bromomethane	5.00	3.29		ug/L		66	10 - 173
Carbon disulfide	5.00	3.61	I	ug/L		72	43 - 153
Carbon tetrachloride	5.00	5.15		ug/L		103	54 - 156
Chlorobenzene	5.00	5.14		ug/L		103	51 - 139
Chloroethane	5.00	4.91		ug/L		98	27 - 180
Chloroform	5.00	4.70	I	ug/L		94	58 - 139
Chloromethane	5.00	3.66		ug/L		73	33 - 154
cis-1,2-Dichloroethene	5.00	4.88		ug/L		98	56 - 128
cis-1,3-Dichloropropene	5.00	4.60		ug/L		92	64 - 128
Cyclohexane	5.00	5.26		ug/L		105	14 - 151
Dibromochloromethane	5.00	4.53		ug/L		91	50 - 140
Dichlorodifluoromethane	5.00	3.55		ug/L		71	10 - 180
Ethylbenzene	5.00	5.38		ug/L		108	63 - 133
Isopropylbenzene	5.00	5.71		ug/L		114	60 - 132
m,p-Xylenes	5.00	5.11		ug/L		102	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-81280/4
Matrix: Water
Analysis Batch: 81280

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	10.0	8.06	I	ug/L		81	70 - 130
Methyl tert-butyl ether	5.00	4.40		ug/L		88	51 - 145
Methylene Chloride	5.00	5.0	U	ug/L		82	43 - 142
o-Xylene	5.00	4.89		ug/L		98	61 - 129
Styrene	5.00	4.83		ug/L		97	59 - 136
Tetrachloroethene	5.00	5.05		ug/L		101	60 - 147
Toluene	5.00	5.10		ug/L		102	64 - 131
trans-1,2-Dichloroethene	5.00	4.79		ug/L		96	54 - 134
trans-1,3-Dichloropropene	5.00	4.50		ug/L		90	65 - 149
Trichloroethene	5.00	4.75		ug/L		95	62 - 135
Trichlorofluoromethane	5.00	5.04		ug/L		101	56 - 155
Vinyl chloride	5.00	5.04		ug/L		101	20 - 167
Xylenes, Total	10.0	10.0		ug/L		100	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*41 - 142*
Dibromofluoromethane (Surr)	*95*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: 670-36492-C-22 MS
Matrix: Water
Analysis Batch: 81280

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	20.5		ug/L		102	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	19.7		ug/L		99	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	22.0		ug/L		110	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	20.2		ug/L		101	57 - 141
1,1-Dichloroethane	0.62	U	20.0	22.4		ug/L		112	57 - 142
1,1-Dichloroethene	0.94	U	20.0	20.5		ug/L		102	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	21.7		ug/L		108	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	14.8		ug/L		74	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	17.8		ug/L		89	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	20.7		ug/L		104	63 - 131
1,2-Dichloroethane	0.63	U	20.0	18.0		ug/L		90	50 - 156
1,2-Dichloropropane	0.80	U	20.0	21.2		ug/L		106	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	21.1		ug/L		106	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	21.2		ug/L		106	65 - 133
2-Butanone (MEK)	4.5	U	200	147		ug/L		73	10 - 180
2-Hexanone	2.5	U	200	158		ug/L		79	12 - 180
4-Methyl-2-pentanone	5.0	U	200	172		ug/L		86	19 - 180
Acetone	25	U	200	150		ug/L		75	10 - 180
Benzene	0.71	U	20.0	21.3		ug/L		107	56 - 136
Bromodichloromethane	0.52	U	20.0	19.8		ug/L		99	58 - 135
Bromoform	0.75	U	20.0	16.6		ug/L		83	46 - 148
Bromomethane	0.95	U	20.0	16.5		ug/L		83	10 - 173
Carbon disulfide	2.5	U	20.0	14.5		ug/L		73	43 - 153
Carbon tetrachloride	0.94	U	20.0	22.1		ug/L		111	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-36492-C-22 MS
Matrix: Water
Analysis Batch: 81280

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	21.6		ug/L		108	51 - 139
Chloroethane	0.98	U	20.0	20.5		ug/L		103	27 - 180
Chloroform	0.80	U	20.0	19.7		ug/L		98	59 - 139
Chloromethane	0.82	U	20.0	14.5		ug/L		73	33 - 154
cis-1,2-Dichloroethene	0.84	I	20.0	21.3		ug/L		102	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	19.2		ug/L		96	64 - 128
Cyclohexane	0.93	U	20.0	22.8		ug/L		114	14 - 141
Dibromochloromethane	0.50	U	20.0	19.0		ug/L		95	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	14.9		ug/L		75	10 - 180
Ethylbenzene	0.69	U	20.0	23.1		ug/L		115	63 - 133
Isopropylbenzene	0.67	U	20.0	23.4		ug/L		117	60 - 132
m,p-Xylenes	1.3	U	20.0	22.1		ug/L		110	64 - 133
Methyl acetate	0.95	U	40.0	37.0		ug/L		92	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	18.0		ug/L		90	50 - 150
Methylene Chloride	5.0	U	20.0	18.9		ug/L		94	43 - 142
o-Xylene	0.53	U	20.0	21.0		ug/L		105	61 - 129
Styrene	0.61	U	20.0	21.9		ug/L		110	59 - 136
Tetrachloroethene	0.76	U	20.0	21.6		ug/L		108	60 - 147
Toluene	0.72	U	20.0	21.8		ug/L		109	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	20.1		ug/L		101	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	19.4		ug/L		97	65 - 149
Trichloroethene	0.89	U	20.0	19.8		ug/L		99	62 - 135
Trichlorofluoromethane	0.94	U	20.0	19.8		ug/L		99	56 - 155
Vinyl chloride	0.71	U	20.0	20.5		ug/L		102	20 - 167
Xylenes, Total	1.3	U	40.0	43.1		ug/L		108	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*
Dibromofluoromethane (Surr)	*98*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-36492-C-22 MSD
Matrix: Water
Analysis Batch: 81280

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	21.0		ug/L		105	57 - 148	3	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	19.7		ug/L		99	60 - 139	0	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	23.2		ug/L		116	50 - 150	5	30
1,1,2-Trichloroethane	0.76	U	20.0	20.1		ug/L		101	57 - 141	0	16
1,1-Dichloroethane	0.62	U	20.0	22.8		ug/L		114	57 - 142	2	24
1,1-Dichloroethene	0.94	U	20.0	20.7		ug/L		104	49 - 139	1	16
1,2,4-Trichlorobenzene	0.70	U	20.0	22.6		ug/L		113	52 - 159	4	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	15.2		ug/L		76	48 - 150	2	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	17.6		ug/L		88	50 - 150	1	16
1,2-Dichlorobenzene	0.73	U	20.0	22.4		ug/L		112	63 - 131	8	25
1,2-Dichloroethane	0.63	U	20.0	17.8		ug/L		89	50 - 156	1	18
1,2-Dichloropropane	0.80	U	20.0	21.9		ug/L		109	61 - 133	3	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-36492-C-22 MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 81280

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U	20.0	22.7		ug/L		114	66 - 129	7	23
1,4-Dichlorobenzene	0.76	U	20.0	22.5		ug/L		113	65 - 133	6	23
2-Butanone (MEK)	4.5	U	200	138		ug/L		69	10 - 180	6	29
2-Hexanone	2.5	U	200	152		ug/L		76	12 - 180	4	28
4-Methyl-2-pentanone	5.0	U	200	165		ug/L		82	19 - 180	4	24
Acetone	25	U	200	147		ug/L		74	10 - 180	1	19
Benzene	0.71	U	20.0	21.5		ug/L		108	56 - 136	1	14
Bromodichloromethane	0.52	U	20.0	19.9		ug/L		99	58 - 135	0	19
Bromoform	0.75	U	20.0	17.2		ug/L		86	46 - 148	4	18
Bromomethane	0.95	U	20.0	18.0		ug/L		90	10 - 173	9	29
Carbon disulfide	2.5	U	20.0	14.5		ug/L		72	43 - 153	0	26
Carbon tetrachloride	0.94	U	20.0	22.5		ug/L		113	54 - 156	2	27
Chlorobenzene	0.72	U	20.0	21.8		ug/L		109	51 - 139	1	13
Chloroethane	0.98	U	20.0	20.2		ug/L		101	27 - 180	2	22
Chloroform	0.80	U	20.0	19.5		ug/L		98	59 - 139	1	17
Chloromethane	0.82	U	20.0	14.6		ug/L		73	33 - 154	1	31
cis-1,2-Dichloroethene	0.84	I	20.0	21.1		ug/L		101	56 - 128	1	17
cis-1,3-Dichloropropene	0.59	U	20.0	19.9		ug/L		100	64 - 128	4	20
Cyclohexane	0.93	U	20.0	22.9		ug/L		115	14 - 141	0	30
Dibromochloromethane	0.50	U	20.0	18.5		ug/L		93	50 - 150	3	18
Dichlorodifluoromethane	0.74	U	20.0	14.4		ug/L		72	10 - 180	4	26
Ethylbenzene	0.69	U	20.0	23.5		ug/L		117	63 - 133	2	18
Isopropylbenzene	0.67	U	20.0	25.0		ug/L		125	60 - 132	6	23
m,p-Xylenes	1.3	U	20.0	22.7		ug/L		114	64 - 133	3	18
Methyl acetate	0.95	U	40.0	33.5		ug/L		84	50 - 150	10	30
Methyl tert-butyl ether	0.60	U	20.0	18.0		ug/L		90	50 - 150	0	22
Methylene Chloride	5.0	U	20.0	19.6		ug/L		98	43 - 142	4	23
o-Xylene	0.53	U	20.0	21.5		ug/L		108	61 - 129	2	16
Styrene	0.61	U	20.0	22.6		ug/L		113	59 - 136	3	32
Tetrachloroethene	0.76	U	20.0	21.5		ug/L		107	60 - 147	0	21
Toluene	0.72	U	20.0	21.9		ug/L		109	64 - 131	1	16
trans-1,2-Dichloroethene	0.73	U	20.0	19.8		ug/L		99	54 - 134	2	20
trans-1,3-Dichloropropene	0.73	U	20.0	19.3		ug/L		96	65 - 149	1	17
Trichloroethene	0.89	U	20.0	20.8		ug/L		104	62 - 135	4	20
Trichlorofluoromethane	0.94	U	20.0	20.4		ug/L		102	56 - 155	3	22
Vinyl chloride	0.71	U	20.0	20.6		ug/L		103	20 - 167	1	24
Xylenes, Total	1.3	U	40.0	44.2		ug/L		111	50 - 150	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*
Dibromofluoromethane (Surr)	*95*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LB 670-81279/1-A
Matrix: Water
Analysis Batch: 81478

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			03/20/24 10:20	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			03/20/24 10:20	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			03/20/24 10:20	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			03/20/24 10:20	100
1,1-Dichloroethane	62	U	100	62	ug/L			03/20/24 10:20	100
1,1-Dichloroethene	94	U	100	94	ug/L			03/20/24 10:20	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			03/20/24 10:20	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			03/20/24 10:20	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			03/20/24 10:20	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			03/20/24 10:20	100
1,2-Dichloroethane	63	U	100	63	ug/L			03/20/24 10:20	100
1,2-Dichloropropane	80	U	100	80	ug/L			03/20/24 10:20	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			03/20/24 10:20	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			03/20/24 10:20	100
2-Butanone (MEK)	450	U	1000	450	ug/L			03/20/24 10:20	100
2-Hexanone	250	U	2000	250	ug/L			03/20/24 10:20	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			03/20/24 10:20	100
Acetone	2500	U	5000	2500	ug/L			03/20/24 10:20	100
Benzene	71	U	100	71	ug/L			03/20/24 10:20	100
Bromodichloromethane	52	U	100	52	ug/L			03/20/24 10:20	100
Bromoform	75	U	100	75	ug/L			03/20/24 10:20	100
Bromomethane	95	U	200	95	ug/L			03/20/24 10:20	100
Carbon disulfide	250	U	500	250	ug/L			03/20/24 10:20	100
Carbon tetrachloride	94	U	100	94	ug/L			03/20/24 10:20	100
Chlorobenzene	72	U	100	72	ug/L			03/20/24 10:20	100
Chloroethane	98	U	200	98	ug/L			03/20/24 10:20	100
Chloroform	80	U	500	80	ug/L			03/20/24 10:20	100
Chloromethane	82	U	200	82	ug/L			03/20/24 10:20	100
cis-1,2-Dichloroethene	53	U	100	53	ug/L			03/20/24 10:20	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			03/20/24 10:20	100
Cyclohexane	93	U	500	93	ug/L			03/20/24 10:20	100
Dibromochloromethane	50	U	100	50	ug/L			03/20/24 10:20	100
Dichlorodifluoromethane	74	U	100	74	ug/L			03/20/24 10:20	100
Ethylbenzene	69	U	100	69	ug/L			03/20/24 10:20	100
Isopropylbenzene	67	U	200	67	ug/L			03/20/24 10:20	100
m,p-Xylenes	130	U	200	130	ug/L			03/20/24 10:20	100
Methyl acetate	95	U	1000	95	ug/L			03/20/24 10:20	100
Methyl tert-butyl ether	60	U	200	60	ug/L			03/20/24 10:20	100
Methylene Chloride	500	U	1000	500	ug/L			03/20/24 10:20	100
o-Xylene	53	U	100	53	ug/L			03/20/24 10:20	100
Styrene	61	U	100	61	ug/L			03/20/24 10:20	100
Tetrachloroethene	76	U	100	76	ug/L			03/20/24 10:20	100
Toluene	72	U	100	72	ug/L			03/20/24 10:20	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			03/20/24 10:20	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			03/20/24 10:20	100
Trichloroethene	89	U	100	89	ug/L			03/20/24 10:20	100
Trichlorofluoromethane	94	U	100	94	ug/L			03/20/24 10:20	100
Vinyl chloride	71	U	100	71	ug/L			03/20/24 10:20	100

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LB 670-81279/1-A
Matrix: Water
Analysis Batch: 81478

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	130	U	200	130	ug/L			03/20/24 10:20	100

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*03/20/24 10:20*	*100*
Dibromofluoromethane (Surr)	*95*		*53 - 146*		*03/20/24 10:20*	*100*
Toluene-d8 (Surr)	*98*		*40 - 146*		*03/20/24 10:20*	*100*

Lab Sample ID: MB 670-81478/7
Matrix: Water
Analysis Batch: 81478

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			03/20/24 10:00	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			03/20/24 10:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			03/20/24 10:00	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			03/20/24 10:00	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			03/20/24 10:00	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			03/20/24 10:00	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			03/20/24 10:00	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			03/20/24 10:00	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			03/20/24 10:00	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			03/20/24 10:00	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			03/20/24 10:00	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			03/20/24 10:00	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			03/20/24 10:00	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			03/20/24 10:00	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			03/20/24 10:00	1
2-Hexanone	2.5	U	20	2.5	ug/L			03/20/24 10:00	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			03/20/24 10:00	1
Acetone	25	U	50	25	ug/L			03/20/24 10:00	1
Benzene	0.71	U	1.0	0.71	ug/L			03/20/24 10:00	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			03/20/24 10:00	1
Bromoform	0.75	U	1.0	0.75	ug/L			03/20/24 10:00	1
Bromomethane	0.95	U	2.0	0.95	ug/L			03/20/24 10:00	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			03/20/24 10:00	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			03/20/24 10:00	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			03/20/24 10:00	1
Chloroethane	0.98	U	2.0	0.98	ug/L			03/20/24 10:00	1
Chloroform	0.80	U	5.0	0.80	ug/L			03/20/24 10:00	1
Chloromethane	0.82	U	2.0	0.82	ug/L			03/20/24 10:00	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			03/20/24 10:00	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			03/20/24 10:00	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			03/20/24 10:00	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			03/20/24 10:00	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			03/20/24 10:00	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			03/20/24 10:00	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			03/20/24 10:00	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			03/20/24 10:00	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-81478/7
Matrix: Water
Analysis Batch: 81478

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	0.95	U	10	0.95	ug/L			03/20/24 10:00	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			03/20/24 10:00	1
Methylene Chloride	5.0	U	10	5.0	ug/L			03/20/24 10:00	1
o-Xylene	0.53	U	1.0	0.53	ug/L			03/20/24 10:00	1
Styrene	0.61	U	1.0	0.61	ug/L			03/20/24 10:00	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			03/20/24 10:00	1
Toluene	0.72	U	1.0	0.72	ug/L			03/20/24 10:00	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			03/20/24 10:00	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			03/20/24 10:00	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			03/20/24 10:00	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			03/20/24 10:00	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			03/20/24 10:00	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			03/20/24 10:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*03/20/24 10:00*	*1*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*03/20/24 10:00*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*03/20/24 10:00*	*1*

Lab Sample ID: LCS 670-81478/4
Matrix: Water
Analysis Batch: 81478

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	5.00	5.17		ug/L		103	57 - 148
1,1,2,2-Tetrachloroethane	5.00	5.00		ug/L		100	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	5.31		ug/L		106	47 - 173
1,1,2-Trichloroethane	5.00	5.30		ug/L		106	57 - 141
1,1-Dichloroethane	5.00	5.71		ug/L		114	57 - 142
1,1-Dichloroethene	5.00	4.83		ug/L		97	47 - 139
1,2,4-Trichlorobenzene	5.00	5.63		ug/L		113	52 - 159
1,2-Dibromo-3-Chloropropane	5.00	3.56	I	ug/L		71	48 - 150
1,2-Dibromoethane (EDB)	5.00	4.34	I	ug/L		87	57 - 140
1,2-Dichlorobenzene	5.00	5.44		ug/L		109	63 - 131
1,2-Dichloroethane	5.00	4.61		ug/L		92	50 - 156
1,2-Dichloropropane	5.00	5.60		ug/L		112	61 - 133
1,3-Dichlorobenzene	5.00	5.52		ug/L		110	66 - 129
1,4-Dichlorobenzene	5.00	5.54		ug/L		111	65 - 133
2-Butanone (MEK)	50.0	37.4		ug/L		75	10 - 180
2-Hexanone	50.0	39.5		ug/L		79	12 - 180
4-Methyl-2-pentanone	50.0	41.1		ug/L		82	19 - 180
Acetone	50.0	38.4	I	ug/L		77	10 - 180
Benzene	5.00	5.27		ug/L		105	56 - 136
Bromodichloromethane	5.00	5.15		ug/L		103	58 - 135
Bromoform	5.00	4.22		ug/L		84	46 - 148
Bromomethane	5.00	3.68		ug/L		74	10 - 173
Carbon disulfide	5.00	3.22	I	ug/L		64	43 - 153
Carbon tetrachloride	5.00	5.28		ug/L		106	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-81478/4
Matrix: Water
Analysis Batch: 81478

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorobenzene			5.00	5.39		ug/L		108	51 - 139		
Chloroethane			5.00	5.01		ug/L		100	27 - 180		
Chloroform			5.00	4.89	I	ug/L		98	58 - 139		
Chloromethane			5.00	3.55		ug/L		71	33 - 154		
cis-1,2-Dichloroethene			5.00	5.03		ug/L		101	56 - 128		
cis-1,3-Dichloropropene			5.00	4.73		ug/L		95	64 - 128		
Cyclohexane			5.00	5.40		ug/L		108	14 - 151		
Dibromochloromethane			5.00	4.48		ug/L		90	50 - 140		
Dichlorodifluoromethane			5.00	3.15		ug/L		63	10 - 180		
Ethylbenzene			5.00	5.34		ug/L		107	63 - 133		
Isopropylbenzene			5.00	5.66		ug/L		113	60 - 132		
m,p-Xylenes			5.00	5.43		ug/L		109	64 - 133		
Methyl acetate			10.0	8.81	I	ug/L		88	70 - 130		
Methyl tert-butyl ether			5.00	4.62		ug/L		92	51 - 145		
Methylene Chloride			5.00	5.0	U	ug/L		79	43 - 142		
o-Xylene			5.00	4.98		ug/L		100	61 - 129		
Styrene			5.00	4.95		ug/L		99	59 - 136		
Tetrachloroethene			5.00	5.25		ug/L		105	60 - 147		
Toluene			5.00	5.40		ug/L		108	64 - 131		
trans-1,2-Dichloroethene			5.00	4.80		ug/L		96	54 - 134		
trans-1,3-Dichloropropene			5.00	4.66		ug/L		93	65 - 149		
Trichloroethene			5.00	5.19		ug/L		104	62 - 135		
Trichlorofluoromethane			5.00	4.81		ug/L		96	56 - 155		
Vinyl chloride			5.00	4.66		ug/L		93	20 - 167		
Xylenes, Total			10.0	10.4		ug/L		104	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*
Dibromofluoromethane (Surr)	*95*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: 660-135046-D-1-B MS
Matrix: Water
Analysis Batch: 81478

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1,1-Trichloroethane	80	U	2000	1880		ug/L		94	57 - 148		
1,1,2,2-Tetrachloroethane	54	U	2000	1870		ug/L		93	60 - 139		
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	1940		ug/L		97	50 - 150		
1,1,2-Trichloroethane	76	U	2000	1910		ug/L		95	57 - 141		
1,1-Dichloroethane	62	U	2000	2070		ug/L		103	57 - 142		
1,1-Dichloroethene	94	U	2000	1760		ug/L		88	49 - 139		
1,2,4-Trichlorobenzene	70	U	2000	2180		ug/L		109	52 - 159		
1,2-Dibromo-3-Chloropropane	96	U	2000	1300		ug/L		65	48 - 150		
1,2-Dibromoethane (EDB)	78	U	2000	1710		ug/L		85	50 - 150		
1,2-Dichlorobenzene	73	U	2000	2090		ug/L		105	63 - 131		
1,2-Dichloroethane	63	U	2000	1680		ug/L		84	50 - 156		
1,2-Dichloropropane	80	U	2000	2030		ug/L		101	61 - 133		

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-135046-D-1-B MS
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: TCLP
Analysis Batch: 81478

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	77	U	2000	2110		ug/L		105	66 - 129
1,4-Dichlorobenzene	76	U	2000	2050		ug/L		103	65 - 133
2-Butanone (MEK)	450	U	20000	13100		ug/L		65	10 - 180
2-Hexanone	250	U	20000	13900		ug/L		70	12 - 180
4-Methyl-2-pentanone	500	U	20000	15200		ug/L		76	19 - 180
Acetone	2500	U	20000	13500		ug/L		68	10 - 180
Benzene	71	U	2000	1970		ug/L		98	56 - 136
Bromodichloromethane	52	U	2000	1970		ug/L		98	58 - 135
Bromoform	75	U	2000	1620		ug/L		81	46 - 148
Bromomethane	95	U	2000	1560		ug/L		78	10 - 173
Carbon disulfide	250	U	2000	1180		ug/L		59	43 - 153
Carbon tetrachloride	94	U	2000	2020		ug/L		101	54 - 156
Chlorobenzene	72	U	2000	2080		ug/L		104	51 - 139
Chloroethane	98	U	2000	1730		ug/L		86	27 - 180
Chloroform	80	U	2000	1860		ug/L		93	59 - 139
Chloromethane	82	U	2000	1270		ug/L		64	33 - 154
cis-1,2-Dichloroethene	53	U	2000	1860		ug/L		93	56 - 128
cis-1,3-Dichloropropene	59	U	2000	1810		ug/L		91	64 - 128
Cyclohexane	93	U	2000	1960		ug/L		98	14 - 141
Dibromochloromethane	50	U	2000	1770		ug/L		88	50 - 150
Dichlorodifluoromethane	74	U	2000	1090		ug/L		55	10 - 180
Ethylbenzene	69	U	2000	2130		ug/L		107	63 - 133
Isopropylbenzene	67	U	2000	2230		ug/L		112	60 - 132
m,p-Xylenes	130	U	2000	2130		ug/L		107	64 - 133
Methyl acetate	95	U	4000	3200		ug/L		80	50 - 150
Methyl tert-butyl ether	60	U	2000	1630		ug/L		82	50 - 150
Methylene Chloride	500	U	2000	1790		ug/L		89	43 - 142
o-Xylene	53	U	2000	2020		ug/L		101	61 - 129
Styrene	61	U	2000	2130		ug/L		106	59 - 136
Tetrachloroethene	76	U	2000	1930		ug/L		97	60 - 147
Toluene	72	U	2000	2080		ug/L		104	64 - 131
trans-1,2-Dichloroethene	73	U	2000	1730		ug/L		86	54 - 134
trans-1,3-Dichloropropene	73	U	2000	1760		ug/L		88	65 - 149
Trichloroethene	89	U	2000	1830		ug/L		92	62 - 135
Trichlorofluoromethane	94	U	2000	1750		ug/L		88	56 - 155
Vinyl chloride	71	U	2000	1720		ug/L		86	20 - 167
Xylenes, Total	130	U	4000	4150		ug/L		104	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*
Dibromofluoromethane (Surr)	*96*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-135046-D-1-B MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: TCLP
Analysis Batch: 81478

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	80	U	2000	1830		ug/L		92	57 - 148	2	25
1,1,2,2-Tetrachloroethane	54	U	2000	2010		ug/L		101	60 - 139	7	17
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	1960		ug/L		98	50 - 150	1	30
1,1,2-Trichloroethane	76	U	2000	1970		ug/L		98	57 - 141	3	16
1,1-Dichloroethane	62	U	2000	2050		ug/L		102	57 - 142	1	24
1,1-Dichloroethene	94	U	2000	1770		ug/L		89	49 - 139	1	16
1,2,4-Trichlorobenzene	70	U	2000	2150		ug/L		108	52 - 159	1	24
1,2-Dibromo-3-Chloropropane	96	U	2000	1540		ug/L		77	48 - 150	17	21
1,2-Dibromoethane (EDB)	78	U	2000	1770		ug/L		88	50 - 150	4	16
1,2-Dichlorobenzene	73	U	2000	2080		ug/L		104	63 - 131	1	25
1,2-Dichloroethane	63	U	2000	1680		ug/L		84	50 - 156	0	18
1,2-Dichloropropane	80	U	2000	2070		ug/L		103	61 - 133	2	26
1,3-Dichlorobenzene	77	U	2000	2090		ug/L		104	66 - 129	1	23
1,4-Dichlorobenzene	76	U	2000	2100		ug/L		105	65 - 133	2	23
2-Butanone (MEK)	450	U	20000	14300		ug/L		71	10 - 180	9	29
2-Hexanone	250	U	20000	15900		ug/L		79	12 - 180	13	28
4-Methyl-2-pentanone	500	U	20000	17000		ug/L		85	19 - 180	11	24
Acetone	2500	U	20000	15500		ug/L		77	10 - 180	13	19
Benzene	71	U	2000	1940		ug/L		97	56 - 136	1	14
Bromodichloromethane	52	U	2000	1920		ug/L		96	58 - 135	3	19
Bromoform	75	U	2000	1700		ug/L		85	46 - 148	4	18
Bromomethane	95	U	2000	1500		ug/L		75	10 - 173	4	29
Carbon disulfide	250	U	2000	1180		ug/L		59	43 - 153	0	26
Carbon tetrachloride	94	U	2000	1920		ug/L		96	54 - 156	5	27
Chlorobenzene	72	U	2000	2010		ug/L		100	51 - 139	4	13
Chloroethane	98	U	2000	1580		ug/L		79	27 - 180	9	22
Chloroform	80	U	2000	1780		ug/L		89	59 - 139	4	17
Chloromethane	82	U	2000	1220		ug/L		61	33 - 154	4	31
cis-1,2-Dichloroethene	53	U	2000	1840		ug/L		92	56 - 128	1	17
cis-1,3-Dichloropropene	59	U	2000	1840		ug/L		92	64 - 128	2	20
Cyclohexane	93	U	2000	1890		ug/L		95	14 - 141	4	30
Dibromochloromethane	50	U	2000	1840		ug/L		92	50 - 150	4	18
Dichlorodifluoromethane	74	U	2000	1080		ug/L		54	10 - 180	1	26
Ethylbenzene	69	U	2000	2090		ug/L		105	63 - 133	2	18
Isopropylbenzene	67	U	2000	2170		ug/L		109	60 - 132	3	23
m,p-Xylenes	130	U	2000	2040		ug/L		102	64 - 133	4	18
Methyl acetate	95	U	4000	3710		ug/L		93	50 - 150	15	30
Methyl tert-butyl ether	60	U	2000	1760		ug/L		88	50 - 150	7	22
Methylene Chloride	500	U	2000	1810		ug/L		91	43 - 142	2	23
o-Xylene	53	U	2000	1980		ug/L		99	61 - 129	2	16
Styrene	61	U	2000	2060		ug/L		103	59 - 136	3	32
Tetrachloroethene	76	U	2000	1930		ug/L		97	60 - 147	0	21
Toluene	72	U	2000	2000		ug/L		100	64 - 131	4	16
trans-1,2-Dichloroethene	73	U	2000	1710		ug/L		86	54 - 134	1	20
trans-1,3-Dichloropropene	73	U	2000	1830		ug/L		92	65 - 149	4	17
Trichloroethene	89	U	2000	1820		ug/L		91	62 - 135	1	20
Trichlorofluoromethane	94	U	2000	1690		ug/L		84	56 - 155	4	22
Vinyl chloride	71	U	2000	1690		ug/L		84	20 - 167	2	24

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-135046-D-1-B MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: TCLP
Analysis Batch: 81478

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	130	U	4000	4020		ug/L		101	50 - 150	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*98*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

QC Association Summary

Client: Tetra Tech, Inc.
Job ID: 670-36558-1
Project/Site: NASA KSC LC34 - Biweekly

GC/MS VOA

Leach Batch: 81279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 670-81279/1-A	Method Blank	Total/NA	Water	1311	
660-135046-D-1-B MS	Matrix Spike	TCLP	Water	1311	
660-135046-D-1-B MSD	Matrix Spike Duplicate	TCLP	Water	1311	

Analysis Batch: 81280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-36558-1	LC34-IW0044D2-110.0-20240315	Total/NA	Water	8260D	
MB 670-81280/7	Method Blank	Total/NA	Water	8260D	
LCS 670-81280/4	Lab Control Sample	Total/NA	Water	8260D	
670-36492-C-22 MS	Matrix Spike	Total/NA	Water	8260D	
670-36492-C-22 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 81478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-36558-1 - DL	LC34-IW0044D2-110.0-20240315	Total/NA	Water	8260D	
LB 670-81279/1-A	Method Blank	Total/NA	Water	8260D	81279
MB 670-81478/7	Method Blank	Total/NA	Water	8260D	
LCS 670-81478/4	Lab Control Sample	Total/NA	Water	8260D	
660-135046-D-1-B MS	Matrix Spike	TCLP	Water	8260D	81279
660-135046-D-1-B MSD	Matrix Spike Duplicate	TCLP	Water	8260D	81279

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-36558-1
Project/Site: NASA KSC LC34 - Biweekly

Client Sample ID: LC34-IW0044D2-110.0-20240315
Lab Sample ID: 670-36558-1
Date Collected: 03/15/24 10:50
Matrix: Water
Date Received: 03/16/24 07:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81280	AAM	EET ORL	03/19/24 12:32
Total/NA	Analysis	8260D	DL	25	81478	AAM	EET ORL	03/20/24 12:34

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-36558-1
Project/Site: NASA KSC LC34 - Biweekly

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-36558-1
Project/Site: NASA KSC LC34 - Biweekly

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-36558-1
Project/Site: NASA KSC LC34 - Biweekly

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-36558-1	LC34-IW0044D2-110.0-20240315	Water	03/15/24 10:50	03/16/24 07:00

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3586 | PAGE 1 OF 1

PROJECT NO: 112G08985	FACILITY: NASA KSC	PROJECT MANAGER: Mark Jonnet	PHONE NUMBER: (412) 921-8622	LABORATORY NAME AND CONTACT: Eurofins, Kaitlin Dylnicki
SAMPLERS (SIGNATURE): Natalie Fabbri		FIELD OPERATIONS LEADER: Chuck Sorden	PHONE NUMBER: (321) 591-7580	ADDRESS: 480 Newburyport Ave
		CARRIER/WAYBILL NUMBER:		CITY, STATE: Altamonte Springs, FL

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☒ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G): G	PRESERVATIVE USED: HCl/4°C	TYPE OF ANALYSIS: 8260D/5035 NASA LC34 (MOD) Custom Full	COMMENTS
3/15 2024	1050	LC34-IW0044D2-110.0-20240315		105	115	GW	G	3	3			

670-36558 Chain of Custody

1. RELINQUISHED BY		DATE 3-15-24	TIME 1100	1. RECEIVED BY MC		DATE 3/16/24	TIME 7 00
2. RELINQUISHED BY		DATE	TIME	2. RECEIVED BY		DATE	TIME
3. RELINQUISHED BY		DATE	TIME	3. RECEIVED BY		DATE	TIME

COMMENTS: 1.6 / 1.6

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R

FORM NO. TtNUS-001

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-36558-1

Login Number: 36558

List Source: Eurofins Orlando

List Number: 1

Creator: Clerisier, Meline

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34 Monthly System Samples

JOB NUMBER

670-36845-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

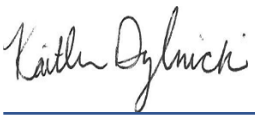
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
Kaitlin Dylnicki, Project Manager
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Definitions/Glossary

Client: Tetra Tech, Inc. Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
L	Off-scale high. Actual value is known to be greater than the value given.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-36845-1 Eurofins Orlando

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-36845-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 3/21/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.1°C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-82592 recovered outside acceptance criteria, low biased, for Bromomethane and Isopropylbenzene. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-82592 recovered above the upper control limit for 2-Hexanone, Acetone, Chloromethane and Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-82592/4).

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 670-82592 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-AS2-20240319 (670-36845-3), LC34-INFLUENT-20240319 (670-36845-4), LC34-RW1A-20240319 (670-36845-5), LC34-RW1B-20240319 (670-36845-6), LC34-RW2A-20240319 (670-36845-7), LC34-RW2B-20240319 (670-36845-8), LC34-RW3A-20240319 (670-36845-9), LC34-RW3B-20240319 (670-36845-10), LC34-RW9A-20240319 (670-36845-11), LC34-RW17C-20240319 (670-36845-12), LC34-RW18C-20240319 (670-36845-13), LC34-RW19C-20240319 (670-36845-14), LC34-RW20C-20240319 (670-36845-15) and LC34-RW21D-20240319 (670-36845-16). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc. Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Client Sample ID: LC34-GAC-20240319 Lab Sample ID: 670-36845-1

No Detections.

Client Sample ID: LC34-AS1-20240319 Lab Sample ID: 670-36845-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	16		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	13		1.0	0.89	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-AS2-20240319 Lab Sample ID: 670-36845-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	250		5.0	2.7	ug/L	5		8260D	Total/NA
Trichloroethene - DL	390		5.0	4.5	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-INFLUENT-20240319 Lab Sample ID: 670-36845-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	5100		500	270	ug/L	500		8260D	Total/NA
Trichloroethene - DL	25000		500	450	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-RW1A-20240319 Lab Sample ID: 670-36845-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	11000		250	130	ug/L	250		8260D	Total/NA
Trichloroethene - DL	16000		250	220	ug/L	250		8260D	Total/NA
Vinyl chloride - DL	1200		250	180	ug/L	250		8260D	Total/NA

Client Sample ID: LC34-RW1B-20240319 Lab Sample ID: 670-36845-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	5600		250	130	ug/L	250		8260D	Total/NA
Trichloroethene - DL	15000		250	220	ug/L	250		8260D	Total/NA
Vinyl chloride - DL	330		250	180	ug/L	250		8260D	Total/NA

Client Sample ID: LC34-RW2A-20240319 Lab Sample ID: 670-36845-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	2600		200	110	ug/L	200		8260D	Total/NA
Trichloroethene - DL	9800		200	180	ug/L	200		8260D	Total/NA
Vinyl chloride - DL	510		200	140	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-RW2B-20240319 Lab Sample ID: 670-36845-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	3300		500	270	ug/L	500		8260D	Total/NA
Trichloroethene - DL	21000		500	450	ug/L	500		8260D	Total/NA
Vinyl chloride - DL	670		500	360	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-RW3A-20240319 Lab Sample ID: 670-36845-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	2300	J3	25	13	ug/L	25		8260D	Total/NA
Trichloroethene - DL	1600	J3	25	22	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	360		25	18	ug/L	25		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Orlando

Detection Summary

Client: Tetra Tech, Inc.
Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Client Sample ID: LC34-RW3B-20240319 — Lab Sample ID: 670-36845-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	3000		200	110	ug/L	200		8260D	Total/NA
Trichloroethene - DL	9300		200	180	ug/L	200		8260D	Total/NA
Vinyl chloride - DL	360		200	140	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-RW9A-20240319 — Lab Sample ID: 670-36845-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	2300		25	13	ug/L	25		8260D	Total/NA
trans-1,2-Dichloroethene - DL	46		25	18	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	1600		25	18	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-RW17C-20240319 — Lab Sample ID: 670-36845-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	4200		2000	1100	ug/L	2000		8260D	Total/NA
Trichloroethene - DL	150000		2000	1800	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-RW18C-20240319 — Lab Sample ID: 670-36845-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene - DL	410000		5000	4500	ug/L	5000		8260D	Total/NA

Client Sample ID: LC34-RW19C-20240319 — Lab Sample ID: 670-36845-14

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	3400		2500	1300	ug/L	2500		8260D	Total/NA
Trichloroethene - DL	210000		2500	2200	ug/L	2500		8260D	Total/NA

Client Sample ID: LC34-RW20C-20240319 — Lab Sample ID: 670-36845-15

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	630		100	53	ug/L	100		8260D	Total/NA
Trichloroethene - DL	3200		100	89	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-RW21D-20240319 — Lab Sample ID: 670-36845-16

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	3800		200	110	ug/L	200		8260D	Total/NA
Trichloroethene - DL	9200		200	180	ug/L	200		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Client Sample ID: LC34-GAC-20240319
Lab Sample ID: 670-36845-1
Date Collected: 03/19/24 10:00
Matrix: Water
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			03/27/24 12:18	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			03/27/24 12:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			03/27/24 12:18	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			03/27/24 12:18	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			03/27/24 12:18	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			03/27/24 12:18	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			03/27/24 12:18	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			03/27/24 12:18	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			03/27/24 12:18	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			03/27/24 12:18	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			03/27/24 12:18	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			03/27/24 12:18	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			03/27/24 12:18	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			03/27/24 12:18	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			03/27/24 12:18	1
2-Hexanone	2.5	U	20	2.5	ug/L			03/27/24 12:18	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			03/27/24 12:18	1
Acetone	25	U	50	25	ug/L			03/27/24 12:18	1
Benzene	0.71	U	1.0	0.71	ug/L			03/27/24 12:18	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			03/27/24 12:18	1
Bromoform	0.75	U	1.0	0.75	ug/L			03/27/24 12:18	1
Bromomethane	0.95	U	2.0	0.95	ug/L			03/27/24 12:18	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			03/27/24 12:18	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			03/27/24 12:18	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			03/27/24 12:18	1
Chloroethane	0.98	U	2.0	0.98	ug/L			03/27/24 12:18	1
Chloroform	0.80	U	5.0	0.80	ug/L			03/27/24 12:18	1
Chloromethane	0.82	U	2.0	0.82	ug/L			03/27/24 12:18	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			03/27/24 12:18	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			03/27/24 12:18	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			03/27/24 12:18	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			03/27/24 12:18	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			03/27/24 12:18	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			03/27/24 12:18	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			03/27/24 12:18	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			03/27/24 12:18	1
Methyl acetate	0.95	U	10	0.95	ug/L			03/27/24 12:18	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			03/27/24 12:18	1
Methylene Chloride	5.0	U	10	5.0	ug/L			03/27/24 12:18	1
o-Xylene	0.53	U	1.0	0.53	ug/L			03/27/24 12:18	1
Styrene	0.61	U	1.0	0.61	ug/L			03/27/24 12:18	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			03/27/24 12:18	1
Toluene	0.72	U	1.0	0.72	ug/L			03/27/24 12:18	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			03/27/24 12:18	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			03/27/24 12:18	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			03/27/24 12:18	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			03/27/24 12:18	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			03/27/24 12:18	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			03/27/24 12:18	1

Client Sample ID: LC34-GAC-20240319 — Lab Sample ID: 670-36845-1

Date Collected: 03/19/24 10:00 — **Matrix: Water**
Date Received: 03/21/24 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*03/27/24 12:18*	*1*
Dibromofluoromethane (Surr)	*115*		*53 - 146*		*03/27/24 12:18*	*1*
Toluene-d8 (Surr)	*106*		*40 - 146*		*03/27/24 12:18*	*1*

Client Sample ID: LC34-AS1-20240319 — Lab Sample ID: 670-36845-2

Date Collected: 03/19/24 10:05 — **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			03/27/24 12:36	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			03/27/24 12:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			03/27/24 12:36	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			03/27/24 12:36	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			03/27/24 12:36	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			03/27/24 12:36	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			03/27/24 12:36	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			03/27/24 12:36	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			03/27/24 12:36	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			03/27/24 12:36	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			03/27/24 12:36	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			03/27/24 12:36	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			03/27/24 12:36	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			03/27/24 12:36	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			03/27/24 12:36	1
2-Hexanone	2.5	U	20	2.5	ug/L			03/27/24 12:36	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			03/27/24 12:36	1
Acetone	25	U	50	25	ug/L			03/27/24 12:36	1
Benzene	0.71	U	1.0	0.71	ug/L			03/27/24 12:36	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			03/27/24 12:36	1
Bromoform	0.75	U	1.0	0.75	ug/L			03/27/24 12:36	1
Bromomethane	0.95	U	2.0	0.95	ug/L			03/27/24 12:36	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			03/27/24 12:36	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			03/27/24 12:36	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			03/27/24 12:36	1
Chloroethane	0.98	U	2.0	0.98	ug/L			03/27/24 12:36	1
Chloroform	0.80	U	5.0	0.80	ug/L			03/27/24 12:36	1
Chloromethane	0.82	U	2.0	0.82	ug/L			03/27/24 12:36	1
cis-1,2-Dichloroethene	**16**		1.0	0.53	ug/L			03/27/24 12:36	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			03/27/24 12:36	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			03/27/24 12:36	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			03/27/24 12:36	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			03/27/24 12:36	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			03/27/24 12:36	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			03/27/24 12:36	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			03/27/24 12:36	1
Methyl acetate	0.95	U	10	0.95	ug/L			03/27/24 12:36	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			03/27/24 12:36	1
Methylene Chloride	5.0	U	10	5.0	ug/L			03/27/24 12:36	1
o-Xylene	0.53	U	1.0	0.53	ug/L			03/27/24 12:36	1

Client Sample ID: LC34-AS1-20240319 — Lab Sample ID: 670-36845-2

Date Collected: 03/19/24 10:05 — **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			03/27/24 12:36	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			03/27/24 12:36	1
Toluene	0.72	U	1.0	0.72	ug/L			03/27/24 12:36	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			03/27/24 12:36	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			03/27/24 12:36	1
Trichloroethene	**13**		1.0	0.89	ug/L			03/27/24 12:36	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			03/27/24 12:36	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			03/27/24 12:36	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			03/27/24 12:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*03/27/24 12:36*	*1*
Dibromofluoromethane (Surr)	*117*		*53 - 146*		*03/27/24 12:36*	*1*
Toluene-d8 (Surr)	*108*		*40 - 146*		*03/27/24 12:36*	*1*

Client Sample ID: LC34-AS2-20240319 — Lab Sample ID: 670-36845-3

Date Collected: 03/19/24 10:10 — **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			03/27/24 16:50	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			03/27/24 16:50	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			03/27/24 16:50	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			03/27/24 16:50	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			03/27/24 16:50	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			03/27/24 16:50	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			03/27/24 16:50	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			03/27/24 16:50	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			03/27/24 16:50	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			03/27/24 16:50	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			03/27/24 16:50	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			03/27/24 16:50	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			03/27/24 16:50	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			03/27/24 16:50	5
2-Butanone (MEK)	23	U	50	23	ug/L			03/27/24 16:50	5
2-Hexanone	13	U	100	13	ug/L			03/27/24 16:50	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			03/27/24 16:50	5
Acetone	130	U	250	130	ug/L			03/27/24 16:50	5
Benzene	3.6	U	5.0	3.6	ug/L			03/27/24 16:50	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			03/27/24 16:50	5
Bromoform	3.8	U	5.0	3.8	ug/L			03/27/24 16:50	5
Bromomethane	4.8	U	10	4.8	ug/L			03/27/24 16:50	5
Carbon disulfide	13	U	25	13	ug/L			03/27/24 16:50	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			03/27/24 16:50	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			03/27/24 16:50	5
Chloroethane	4.9	U	10	4.9	ug/L			03/27/24 16:50	5
Chloroform	4.0	U	25	4.0	ug/L			03/27/24 16:50	5
Chloromethane	4.1	U	10	4.1	ug/L			03/27/24 16:50	5
cis-1,2-Dichloroethene	**250**		5.0	2.7	ug/L			03/27/24 16:50	5

Client Sample ID: LC34-AS2-20240319 — Lab Sample ID: 670-36845-3

Date Collected: 03/19/24 10:10 — **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			03/27/24 16:50	5
Cyclohexane	4.7	U	25	4.7	ug/L			03/27/24 16:50	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			03/27/24 16:50	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			03/27/24 16:50	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			03/27/24 16:50	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			03/27/24 16:50	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			03/27/24 16:50	5
Methyl acetate	4.8	U	50	4.8	ug/L			03/27/24 16:50	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			03/27/24 16:50	5
Methylene Chloride	25	U	50	25	ug/L			03/27/24 16:50	5
o-Xylene	2.7	U	5.0	2.7	ug/L			03/27/24 16:50	5
Styrene	3.1	U	5.0	3.1	ug/L			03/27/24 16:50	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			03/27/24 16:50	5
Toluene	3.6	U	5.0	3.6	ug/L			03/27/24 16:50	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			03/27/24 16:50	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			03/27/24 16:50	5
Trichloroethene	**390**		5.0	4.5	ug/L			03/27/24 16:50	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			03/27/24 16:50	5
Vinyl chloride	3.6	U	5.0	3.6	ug/L			03/27/24 16:50	5
Xylenes, Total	6.5	U	10	6.5	ug/L			03/27/24 16:50	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*03/27/24 16:50*	*5*
Dibromofluoromethane (Surr)	*117*		*53 - 146*		*03/27/24 16:50*	*5*
Toluene-d8 (Surr)	*108*		*40 - 146*		*03/27/24 16:50*	*5*

Client Sample ID: LC34-INFLUENT-20240319 — Lab Sample ID: 670-36845-4

Date Collected: 03/19/24 10:15 — **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			03/27/24 15:37	500
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			03/27/24 15:37	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			03/27/24 15:37	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			03/27/24 15:37	500
1,1-Dichloroethane	310	U	500	310	ug/L			03/27/24 15:37	500
1,1-Dichloroethene	470	U	500	470	ug/L			03/27/24 15:37	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			03/27/24 15:37	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			03/27/24 15:37	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			03/27/24 15:37	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			03/27/24 15:37	500
1,2-Dichloroethane	320	U	500	320	ug/L			03/27/24 15:37	500
1,2-Dichloropropane	400	U	500	400	ug/L			03/27/24 15:37	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			03/27/24 15:37	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			03/27/24 15:37	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			03/27/24 15:37	500
2-Hexanone	1300	U	10000	1300	ug/L			03/27/24 15:37	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			03/27/24 15:37	500
Acetone	13000	U	25000	13000	ug/L			03/27/24 15:37	500

Client Sample ID: LC34-INFLUENT-20240319 Lab Sample ID: 670-36845-4

Date Collected: 03/19/24 10:15 **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	360	U	500	360	ug/L			03/27/24 15:37	500
Bromodichloromethane	260	U	500	260	ug/L			03/27/24 15:37	500
Bromoform	380	U	500	380	ug/L			03/27/24 15:37	500
Bromomethane	480	U	1000	480	ug/L			03/27/24 15:37	500
Carbon disulfide	1300	U	2500	1300	ug/L			03/27/24 15:37	500
Carbon tetrachloride	470	U	500	470	ug/L			03/27/24 15:37	500
Chlorobenzene	360	U	500	360	ug/L			03/27/24 15:37	500
Chloroethane	490	U	1000	490	ug/L			03/27/24 15:37	500
Chloroform	400	U	2500	400	ug/L			03/27/24 15:37	500
Chloromethane	410	U	1000	410	ug/L			03/27/24 15:37	500
cis-1,2-Dichloroethene	**5100**		500	270	ug/L			03/27/24 15:37	500
cis-1,3-Dichloropropene	300	U	500	300	ug/L			03/27/24 15:37	500
Cyclohexane	470	U	2500	470	ug/L			03/27/24 15:37	500
Dibromochloromethane	250	U	500	250	ug/L			03/27/24 15:37	500
Dichlorodifluoromethane	370	U	500	370	ug/L			03/27/24 15:37	500
Ethylbenzene	350	U	500	350	ug/L			03/27/24 15:37	500
Isopropylbenzene	340	U	1000	340	ug/L			03/27/24 15:37	500
m,p-Xylenes	650	U	1000	650	ug/L			03/27/24 15:37	500
Methyl acetate	480	U	5000	480	ug/L			03/27/24 15:37	500
Methyl tert-butyl ether	300	U	1000	300	ug/L			03/27/24 15:37	500
Methylene Chloride	2500	U	5000	2500	ug/L			03/27/24 15:37	500
o-Xylene	270	U	500	270	ug/L			03/27/24 15:37	500
Styrene	310	U	500	310	ug/L			03/27/24 15:37	500
Tetrachloroethene	380	U	500	380	ug/L			03/27/24 15:37	500
Toluene	360	U	500	360	ug/L			03/27/24 15:37	500
trans-1,2-Dichloroethene	370	U	500	370	ug/L			03/27/24 15:37	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			03/27/24 15:37	500
Trichloroethene	**25000**		500	450	ug/L			03/27/24 15:37	500
Trichlorofluoromethane	470	U	500	470	ug/L			03/27/24 15:37	500
Vinyl chloride	360	U	500	360	ug/L			03/27/24 15:37	500
Xylenes, Total	650	U	1000	650	ug/L			03/27/24 15:37	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*03/27/24 15:37*	*500*
Dibromofluoromethane (Surr)	*122*		*53 - 146*		*03/27/24 15:37*	*500*
Toluene-d8 (Surr)	*108*		*40 - 146*		*03/27/24 15:37*	*500*

Client Sample ID: LC34-RW1A-20240319 Lab Sample ID: 670-36845-5

Date Collected: 03/19/24 10:20 **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	200	U	250	200	ug/L			03/27/24 14:44	250
1,1,2,2-Tetrachloroethane	140	U	250	140	ug/L			03/27/24 14:44	250
1,1,2-Trichloro-1,2,2-trifluoroethane	180	U	500	180	ug/L			03/27/24 14:44	250
1,1,2-Trichloroethane	190	U	500	190	ug/L			03/27/24 14:44	250
1,1-Dichloroethane	160	U	250	160	ug/L			03/27/24 14:44	250
1,1-Dichloroethene	240	U	250	240	ug/L			03/27/24 14:44	250
1,2,4-Trichlorobenzene	180	U	500	180	ug/L			03/27/24 14:44	250

Client: Tetra Tech, Inc.
Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Client Sample ID: LC34-RW1A-20240319
Lab Sample ID: 670-36845-5
Date Collected: 03/19/24 10:20
Matrix: Water
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	240	U	2500	240	ug/L			03/27/24 14:44	250
1,2-Dibromoethane (EDB)	200	U	3000	200	ug/L			03/27/24 14:44	250
1,2-Dichlorobenzene	180	U	250	180	ug/L			03/27/24 14:44	250
1,2-Dichloroethane	160	U	250	160	ug/L			03/27/24 14:44	250
1,2-Dichloropropane	200	U	250	200	ug/L			03/27/24 14:44	250
1,3-Dichlorobenzene	190	U	250	190	ug/L			03/27/24 14:44	250
1,4-Dichlorobenzene	190	U	250	190	ug/L			03/27/24 14:44	250
2-Butanone (MEK)	1100	U	2500	1100	ug/L			03/27/24 14:44	250
2-Hexanone	630	U	5000	630	ug/L			03/27/24 14:44	250
4-Methyl-2-pentanone	1300	U	5000	1300	ug/L			03/27/24 14:44	250
Acetone	6300	U	13000	6300	ug/L			03/27/24 14:44	250
Benzene	180	U	250	180	ug/L			03/27/24 14:44	250
Bromodichloromethane	130	U	250	130	ug/L			03/27/24 14:44	250
Bromoform	190	U	250	190	ug/L			03/27/24 14:44	250
Bromomethane	240	U	500	240	ug/L			03/27/24 14:44	250
Carbon disulfide	630	U	1300	630	ug/L			03/27/24 14:44	250
Carbon tetrachloride	240	U	250	240	ug/L			03/27/24 14:44	250
Chlorobenzene	180	U	250	180	ug/L			03/27/24 14:44	250
Chloroethane	250	U	500	250	ug/L			03/27/24 14:44	250
Chloroform	200	U	1300	200	ug/L			03/27/24 14:44	250
Chloromethane	210	U	500	210	ug/L			03/27/24 14:44	250
cis-1,2-Dichloroethene	**11000**		250	130	ug/L			03/27/24 14:44	250
cis-1,3-Dichloropropene	150	U	250	150	ug/L			03/27/24 14:44	250
Cyclohexane	230	U	1300	230	ug/L			03/27/24 14:44	250
Dibromochloromethane	130	U	250	130	ug/L			03/27/24 14:44	250
Dichlorodifluoromethane	190	U	250	190	ug/L			03/27/24 14:44	250
Ethylbenzene	170	U	250	170	ug/L			03/27/24 14:44	250
Isopropylbenzene	170	U	500	170	ug/L			03/27/24 14:44	250
m,p-Xylenes	330	U	500	330	ug/L			03/27/24 14:44	250
Methyl acetate	240	U	2500	240	ug/L			03/27/24 14:44	250
Methyl tert-butyl ether	150	U	500	150	ug/L			03/27/24 14:44	250
Methylene Chloride	1300	U	2500	1300	ug/L			03/27/24 14:44	250
o-Xylene	130	U	250	130	ug/L			03/27/24 14:44	250
Styrene	150	U	250	150	ug/L			03/27/24 14:44	250
Tetrachloroethene	190	U	250	190	ug/L			03/27/24 14:44	250
Toluene	180	U	250	180	ug/L			03/27/24 14:44	250
trans-1,2-Dichloroethene	180	U	250	180	ug/L			03/27/24 14:44	250
trans-1,3-Dichloropropene	180	U	250	180	ug/L			03/27/24 14:44	250
Trichloroethene	**16000**		250	220	ug/L			03/27/24 14:44	250
Trichlorofluoromethane	240	U	250	240	ug/L			03/27/24 14:44	250
Vinyl chloride	**1200**		250	180	ug/L			03/27/24 14:44	250
Xylenes, Total	330	U	500	330	ug/L			03/27/24 14:44	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*03/27/24 14:44*	*250*
Dibromofluoromethane (Surr)	*116*		*53 - 146*		*03/27/24 14:44*	*250*
Toluene-d8 (Surr)	*107*		*40 - 146*		*03/27/24 14:44*	*250*

Client: Tetra Tech, Inc.
Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Client Sample ID: LC34-RW1B-20240319
Lab Sample ID: 670-36845-6
Date Collected: 03/19/24 10:25
Matrix: Water
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	200	U	250	200	ug/L			03/27/24 15:01	250
1,1,2,2-Tetrachloroethane	140	U	250	140	ug/L			03/27/24 15:01	250
1,1,2-Trichloro-1,2,2-trifluoroethane	180	U	500	180	ug/L			03/27/24 15:01	250
1,1,2-Trichloroethane	190	U	500	190	ug/L			03/27/24 15:01	250
1,1-Dichloroethane	160	U	250	160	ug/L			03/27/24 15:01	250
1,1-Dichloroethene	240	U	250	240	ug/L			03/27/24 15:01	250
1,2,4-Trichlorobenzene	180	U	500	180	ug/L			03/27/24 15:01	250
1,2-Dibromo-3-Chloropropane	240	U	2500	240	ug/L			03/27/24 15:01	250
1,2-Dibromoethane (EDB)	200	U	3000	200	ug/L			03/27/24 15:01	250
1,2-Dichlorobenzene	180	U	250	180	ug/L			03/27/24 15:01	250
1,2-Dichloroethane	160	U	250	160	ug/L			03/27/24 15:01	250
1,2-Dichloropropane	200	U	250	200	ug/L			03/27/24 15:01	250
1,3-Dichlorobenzene	190	U	250	190	ug/L			03/27/24 15:01	250
1,4-Dichlorobenzene	190	U	250	190	ug/L			03/27/24 15:01	250
2-Butanone (MEK)	1100	U	2500	1100	ug/L			03/27/24 15:01	250
2-Hexanone	630	U	5000	630	ug/L			03/27/24 15:01	250
4-Methyl-2-pentanone	1300	U	5000	1300	ug/L			03/27/24 15:01	250
Acetone	6300	U	13000	6300	ug/L			03/27/24 15:01	250
Benzene	180	U	250	180	ug/L			03/27/24 15:01	250
Bromodichloromethane	130	U	250	130	ug/L			03/27/24 15:01	250
Bromoform	190	U	250	190	ug/L			03/27/24 15:01	250
Bromomethane	240	U	500	240	ug/L			03/27/24 15:01	250
Carbon disulfide	630	U	1300	630	ug/L			03/27/24 15:01	250
Carbon tetrachloride	240	U	250	240	ug/L			03/27/24 15:01	250
Chlorobenzene	180	U	250	180	ug/L			03/27/24 15:01	250
Chloroethane	250	U	500	250	ug/L			03/27/24 15:01	250
Chloroform	200	U	1300	200	ug/L			03/27/24 15:01	250
Chloromethane	210	U	500	210	ug/L			03/27/24 15:01	250
cis-1,2-Dichloroethene	**5600**		250	130	ug/L			03/27/24 15:01	250
cis-1,3-Dichloropropene	150	U	250	150	ug/L			03/27/24 15:01	250
Cyclohexane	230	U	1300	230	ug/L			03/27/24 15:01	250
Dibromochloromethane	130	U	250	130	ug/L			03/27/24 15:01	250
Dichlorodifluoromethane	190	U	250	190	ug/L			03/27/24 15:01	250
Ethylbenzene	170	U	250	170	ug/L			03/27/24 15:01	250
Isopropylbenzene	170	U	500	170	ug/L			03/27/24 15:01	250
m,p-Xylenes	330	U	500	330	ug/L			03/27/24 15:01	250
Methyl acetate	240	U	2500	240	ug/L			03/27/24 15:01	250
Methyl tert-butyl ether	150	U	500	150	ug/L			03/27/24 15:01	250
Methylene Chloride	1300	U	2500	1300	ug/L			03/27/24 15:01	250
o-Xylene	130	U	250	130	ug/L			03/27/24 15:01	250
Styrene	150	U	250	150	ug/L			03/27/24 15:01	250
Tetrachloroethene	190	U	250	190	ug/L			03/27/24 15:01	250
Toluene	180	U	250	180	ug/L			03/27/24 15:01	250
trans-1,2-Dichloroethene	180	U	250	180	ug/L			03/27/24 15:01	250
trans-1,3-Dichloropropene	180	U	250	180	ug/L			03/27/24 15:01	250
Trichloroethene	**15000**		250	220	ug/L			03/27/24 15:01	250
Trichlorofluoromethane	240	U	250	240	ug/L			03/27/24 15:01	250
Vinyl chloride	**330**		250	180	ug/L			03/27/24 15:01	250
Xylenes, Total	330	U	500	330	ug/L			03/27/24 15:01	250

Client Sample ID: LC34-RW1B-20240319 Lab Sample ID: 670-36845-6

Date Collected: 03/19/24 10:25 **Matrix: Water**
Date Received: 03/21/24 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*03/27/24 15:01*	*250*
Dibromofluoromethane (Surr)	*116*		*53 - 146*		*03/27/24 15:01*	*250*
Toluene-d8 (Surr)	*108*		*40 - 146*		*03/27/24 15:01*	*250*

Client Sample ID: LC34-RW2A-20240319 Lab Sample ID: 670-36845-7

Date Collected: 03/19/24 10:30 **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	160	U	200	160	ug/L			03/27/24 13:51	200
1,1,2,2-Tetrachloroethane	110	U	200	110	ug/L			03/27/24 13:51	200
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	400	150	ug/L			03/27/24 13:51	200
1,1,2-Trichloroethane	150	U	400	150	ug/L			03/27/24 13:51	200
1,1-Dichloroethane	120	U	200	120	ug/L			03/27/24 13:51	200
1,1-Dichloroethene	190	U	200	190	ug/L			03/27/24 13:51	200
1,2,4-Trichlorobenzene	140	U	400	140	ug/L			03/27/24 13:51	200
1,2-Dibromo-3-Chloropropane	190	U	2000	190	ug/L			03/27/24 13:51	200
1,2-Dibromoethane (EDB)	160	U	2400	160	ug/L			03/27/24 13:51	200
1,2-Dichlorobenzene	150	U	200	150	ug/L			03/27/24 13:51	200
1,2-Dichloroethane	130	U	200	130	ug/L			03/27/24 13:51	200
1,2-Dichloropropane	160	U	200	160	ug/L			03/27/24 13:51	200
1,3-Dichlorobenzene	150	U	200	150	ug/L			03/27/24 13:51	200
1,4-Dichlorobenzene	150	U	200	150	ug/L			03/27/24 13:51	200
2-Butanone (MEK)	900	U	2000	900	ug/L			03/27/24 13:51	200
2-Hexanone	500	U	4000	500	ug/L			03/27/24 13:51	200
4-Methyl-2-pentanone	1000	U	4000	1000	ug/L			03/27/24 13:51	200
Acetone	5000	U	10000	5000	ug/L			03/27/24 13:51	200
Benzene	140	U	200	140	ug/L			03/27/24 13:51	200
Bromodichloromethane	100	U	200	100	ug/L			03/27/24 13:51	200
Bromoform	150	U	200	150	ug/L			03/27/24 13:51	200
Bromomethane	190	U	400	190	ug/L			03/27/24 13:51	200
Carbon disulfide	500	U	1000	500	ug/L			03/27/24 13:51	200
Carbon tetrachloride	190	U	200	190	ug/L			03/27/24 13:51	200
Chlorobenzene	140	U	200	140	ug/L			03/27/24 13:51	200
Chloroethane	200	U	400	200	ug/L			03/27/24 13:51	200
Chloroform	160	U	1000	160	ug/L			03/27/24 13:51	200
Chloromethane	160	U	400	160	ug/L			03/27/24 13:51	200
cis-1,2-Dichloroethene	**2600**		200	110	ug/L			03/27/24 13:51	200
cis-1,3-Dichloropropene	120	U	200	120	ug/L			03/27/24 13:51	200
Cyclohexane	190	U	1000	190	ug/L			03/27/24 13:51	200
Dibromochloromethane	100	U	200	100	ug/L			03/27/24 13:51	200
Dichlorodifluoromethane	150	U	200	150	ug/L			03/27/24 13:51	200
Ethylbenzene	140	U	200	140	ug/L			03/27/24 13:51	200
Isopropylbenzene	130	U	400	130	ug/L			03/27/24 13:51	200
m,p-Xylenes	260	U	400	260	ug/L			03/27/24 13:51	200
Methyl acetate	190	U	2000	190	ug/L			03/27/24 13:51	200
Methyl tert-butyl ether	120	U	400	120	ug/L			03/27/24 13:51	200
Methylene Chloride	1000	U	2000	1000	ug/L			03/27/24 13:51	200
o-Xylene	110	U	200	110	ug/L			03/27/24 13:51	200

Client Sample ID: LC34-RW2A-20240319 Lab Sample ID: 670-36845-7

Date Collected: 03/19/24 10:30 **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	120	U	200	120	ug/L			03/27/24 13:51	200
Tetrachloroethene	150	U	200	150	ug/L			03/27/24 13:51	200
Toluene	140	U	200	140	ug/L			03/27/24 13:51	200
trans-1,2-Dichloroethene	150	U	200	150	ug/L			03/27/24 13:51	200
trans-1,3-Dichloropropene	150	U	200	150	ug/L			03/27/24 13:51	200
Trichloroethene	**9800**		200	180	ug/L			03/27/24 13:51	200
Trichlorofluoromethane	190	U	200	190	ug/L			03/27/24 13:51	200
Vinyl chloride	**510**		200	140	ug/L			03/27/24 13:51	200
Xylenes, Total	260	U	400	260	ug/L			03/27/24 13:51	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*03/27/24 13:51*	*200*
Dibromofluoromethane (Surr)	*118*		*53 - 146*		*03/27/24 13:51*	*200*
Toluene-d8 (Surr)	*109*		*40 - 146*		*03/27/24 13:51*	*200*

Client Sample ID: LC34-RW2B-20240319 Lab Sample ID: 670-36845-8

Date Collected: 03/19/24 10:35 **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			03/27/24 15:19	500
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			03/27/24 15:19	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			03/27/24 15:19	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			03/27/24 15:19	500
1,1-Dichloroethane	310	U	500	310	ug/L			03/27/24 15:19	500
1,1-Dichloroethene	470	U	500	470	ug/L			03/27/24 15:19	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			03/27/24 15:19	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			03/27/24 15:19	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			03/27/24 15:19	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			03/27/24 15:19	500
1,2-Dichloroethane	320	U	500	320	ug/L			03/27/24 15:19	500
1,2-Dichloropropane	400	U	500	400	ug/L			03/27/24 15:19	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			03/27/24 15:19	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			03/27/24 15:19	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			03/27/24 15:19	500
2-Hexanone	1300	U	10000	1300	ug/L			03/27/24 15:19	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			03/27/24 15:19	500
Acetone	13000	U	25000	13000	ug/L			03/27/24 15:19	500
Benzene	360	U	500	360	ug/L			03/27/24 15:19	500
Bromodichloromethane	260	U	500	260	ug/L			03/27/24 15:19	500
Bromoform	380	U	500	380	ug/L			03/27/24 15:19	500
Bromomethane	480	U	1000	480	ug/L			03/27/24 15:19	500
Carbon disulfide	1300	U	2500	1300	ug/L			03/27/24 15:19	500
Carbon tetrachloride	470	U	500	470	ug/L			03/27/24 15:19	500
Chlorobenzene	360	U	500	360	ug/L			03/27/24 15:19	500
Chloroethane	490	U	1000	490	ug/L			03/27/24 15:19	500
Chloroform	400	U	2500	400	ug/L			03/27/24 15:19	500
Chloromethane	410	U	1000	410	ug/L			03/27/24 15:19	500
cis-1,2-Dichloroethene	**3300**		500	270	ug/L			03/27/24 15:19	500

Client Sample ID: LC34-RW2B-20240319 — Lab Sample ID: 670-36845-8

Date Collected: 03/19/24 10:35 — **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	300	U	500	300	ug/L			03/27/24 15:19	500
Cyclohexane	470	U	2500	470	ug/L			03/27/24 15:19	500
Dibromochloromethane	250	U	500	250	ug/L			03/27/24 15:19	500
Dichlorodifluoromethane	370	U	500	370	ug/L			03/27/24 15:19	500
Ethylbenzene	350	U	500	350	ug/L			03/27/24 15:19	500
Isopropylbenzene	340	U	1000	340	ug/L			03/27/24 15:19	500
m,p-Xylenes	650	U	1000	650	ug/L			03/27/24 15:19	500
Methyl acetate	480	U	5000	480	ug/L			03/27/24 15:19	500
Methyl tert-butyl ether	300	U	1000	300	ug/L			03/27/24 15:19	500
Methylene Chloride	2500	U	5000	2500	ug/L			03/27/24 15:19	500
o-Xylene	270	U	500	270	ug/L			03/27/24 15:19	500
Styrene	310	U	500	310	ug/L			03/27/24 15:19	500
Tetrachloroethene	380	U	500	380	ug/L			03/27/24 15:19	500
Toluene	360	U	500	360	ug/L			03/27/24 15:19	500
trans-1,2-Dichloroethene	370	U	500	370	ug/L			03/27/24 15:19	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			03/27/24 15:19	500
Trichloroethene	**21000**		500	450	ug/L			03/27/24 15:19	500
Trichlorofluoromethane	470	U	500	470	ug/L			03/27/24 15:19	500
Vinyl chloride	**670**		500	360	ug/L			03/27/24 15:19	500
Xylenes, Total	650	U	1000	650	ug/L			03/27/24 15:19	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*03/27/24 15:19*	*500*
Dibromofluoromethane (Surr)	*118*		*53 - 146*		*03/27/24 15:19*	*500*
Toluene-d8 (Surr)	*110*		*40 - 146*		*03/27/24 15:19*	*500*

Client Sample ID: LC34-RW3A-20240319 — Lab Sample ID: 670-36845-9

Date Collected: 03/19/24 10:40 — **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			03/27/24 11:07	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			03/27/24 11:07	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			03/27/24 11:07	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			03/27/24 11:07	25
1,1-Dichloroethane	16	U	25	16	ug/L			03/27/24 11:07	25
1,1-Dichloroethene	24	U	25	24	ug/L			03/27/24 11:07	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			03/27/24 11:07	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			03/27/24 11:07	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			03/27/24 11:07	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			03/27/24 11:07	25
1,2-Dichloroethane	16	U	25	16	ug/L			03/27/24 11:07	25
1,2-Dichloropropane	20	U	25	20	ug/L			03/27/24 11:07	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			03/27/24 11:07	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			03/27/24 11:07	25
2-Butanone (MEK)	110	U	250	110	ug/L			03/27/24 11:07	25
2-Hexanone	63	U	500	63	ug/L			03/27/24 11:07	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			03/27/24 11:07	25
Acetone	630	U	1300	630	ug/L			03/27/24 11:07	25

Client Sample ID: LC34-RW3A-20240319 — Lab Sample ID: 670-36845-9

Date Collected: 03/19/24 10:40 — **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	18	U	25	18	ug/L			03/27/24 11:07	25
Bromodichloromethane	13	U	25	13	ug/L			03/27/24 11:07	25
Bromoform	19	U	25	19	ug/L			03/27/24 11:07	25
Bromomethane	24	U	50	24	ug/L			03/27/24 11:07	25
Carbon disulfide	63	U	130	63	ug/L			03/27/24 11:07	25
Carbon tetrachloride	24	U	25	24	ug/L			03/27/24 11:07	25
Chlorobenzene	18	U	25	18	ug/L			03/27/24 11:07	25
Chloroethane	25	U	50	25	ug/L			03/27/24 11:07	25
Chloroform	20	U	130	20	ug/L			03/27/24 11:07	25
Chloromethane	21	U	50	21	ug/L			03/27/24 11:07	25
cis-1,2-Dichloroethene	**2300**	**J3**	25	13	ug/L			03/27/24 11:07	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			03/27/24 11:07	25
Cyclohexane	23	U	130	23	ug/L			03/27/24 11:07	25
Dibromochloromethane	13	U	25	13	ug/L			03/27/24 11:07	25
Dichlorodifluoromethane	19	U	25	19	ug/L			03/27/24 11:07	25
Ethylbenzene	17	U	25	17	ug/L			03/27/24 11:07	25
Isopropylbenzene	17	U	50	17	ug/L			03/27/24 11:07	25
m,p-Xylenes	33	U	50	33	ug/L			03/27/24 11:07	25
Methyl acetate	24	U	250	24	ug/L			03/27/24 11:07	25
Methyl tert-butyl ether	15	U	50	15	ug/L			03/27/24 11:07	25
Methylene Chloride	130	U	250	130	ug/L			03/27/24 11:07	25
o-Xylene	13	U	25	13	ug/L			03/27/24 11:07	25
Styrene	15	U	25	15	ug/L			03/27/24 11:07	25
Tetrachloroethene	19	U	25	19	ug/L			03/27/24 11:07	25
Toluene	18	U	25	18	ug/L			03/27/24 11:07	25
trans-1,2-Dichloroethene	18	U	25	18	ug/L			03/27/24 11:07	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			03/27/24 11:07	25
Trichloroethene	**1600**	**J3**	25	22	ug/L			03/27/24 11:07	25
Trichlorofluoromethane	24	U	25	24	ug/L			03/27/24 11:07	25
Vinyl chloride	**360**		25	18	ug/L			03/27/24 11:07	25
Xylenes, Total	33	U	50	33	ug/L			03/27/24 11:07	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*03/27/24 11:07*	*25*
Dibromofluoromethane (Surr)	*116*		*53 - 146*		*03/27/24 11:07*	*25*
Toluene-d8 (Surr)	*108*		*40 - 146*		*03/27/24 11:07*	*25*

Client Sample ID: LC34-RW3B-20240319 — Lab Sample ID: 670-36845-10

Date Collected: 03/19/24 10:45 — **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	160	U	200	160	ug/L			03/27/24 14:09	200
1,1,2,2-Tetrachloroethane	110	U	200	110	ug/L			03/27/24 14:09	200
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	400	150	ug/L			03/27/24 14:09	200
1,1,2-Trichloroethane	150	U	400	150	ug/L			03/27/24 14:09	200
1,1-Dichloroethane	120	U	200	120	ug/L			03/27/24 14:09	200
1,1-Dichloroethene	190	U	200	190	ug/L			03/27/24 14:09	200
1,2,4-Trichlorobenzene	140	U	400	140	ug/L			03/27/24 14:09	200

Client: Tetra Tech, Inc.
Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Client Sample ID: LC34-RW3B-20240319
Lab Sample ID: 670-36845-10
Date Collected: 03/19/24 10:45
Matrix: Water
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	190	U	2000	190	ug/L			03/27/24 14:09	200
1,2-Dibromoethane (EDB)	160	U	2400	160	ug/L			03/27/24 14:09	200
1,2-Dichlorobenzene	150	U	200	150	ug/L			03/27/24 14:09	200
1,2-Dichloroethane	130	U	200	130	ug/L			03/27/24 14:09	200
1,2-Dichloropropane	160	U	200	160	ug/L			03/27/24 14:09	200
1,3-Dichlorobenzene	150	U	200	150	ug/L			03/27/24 14:09	200
1,4-Dichlorobenzene	150	U	200	150	ug/L			03/27/24 14:09	200
2-Butanone (MEK)	900	U	2000	900	ug/L			03/27/24 14:09	200
2-Hexanone	500	U	4000	500	ug/L			03/27/24 14:09	200
4-Methyl-2-pentanone	1000	U	4000	1000	ug/L			03/27/24 14:09	200
Acetone	5000	U	10000	5000	ug/L			03/27/24 14:09	200
Benzene	140	U	200	140	ug/L			03/27/24 14:09	200
Bromodichloromethane	100	U	200	100	ug/L			03/27/24 14:09	200
Bromoform	150	U	200	150	ug/L			03/27/24 14:09	200
Bromomethane	190	U	400	190	ug/L			03/27/24 14:09	200
Carbon disulfide	500	U	1000	500	ug/L			03/27/24 14:09	200
Carbon tetrachloride	190	U	200	190	ug/L			03/27/24 14:09	200
Chlorobenzene	140	U	200	140	ug/L			03/27/24 14:09	200
Chloroethane	200	U	400	200	ug/L			03/27/24 14:09	200
Chloroform	160	U	1000	160	ug/L			03/27/24 14:09	200
Chloromethane	160	U	400	160	ug/L			03/27/24 14:09	200
cis-1,2-Dichloroethene	**3000**		200	110	ug/L			03/27/24 14:09	200
cis-1,3-Dichloropropene	120	U	200	120	ug/L			03/27/24 14:09	200
Cyclohexane	190	U	1000	190	ug/L			03/27/24 14:09	200
Dibromochloromethane	100	U	200	100	ug/L			03/27/24 14:09	200
Dichlorodifluoromethane	150	U	200	150	ug/L			03/27/24 14:09	200
Ethylbenzene	140	U	200	140	ug/L			03/27/24 14:09	200
Isopropylbenzene	130	U	400	130	ug/L			03/27/24 14:09	200
m,p-Xylenes	260	U	400	260	ug/L			03/27/24 14:09	200
Methyl acetate	190	U	2000	190	ug/L			03/27/24 14:09	200
Methyl tert-butyl ether	120	U	400	120	ug/L			03/27/24 14:09	200
Methylene Chloride	1000	U	2000	1000	ug/L			03/27/24 14:09	200
o-Xylene	110	U	200	110	ug/L			03/27/24 14:09	200
Styrene	120	U	200	120	ug/L			03/27/24 14:09	200
Tetrachloroethene	150	U	200	150	ug/L			03/27/24 14:09	200
Toluene	140	U	200	140	ug/L			03/27/24 14:09	200
trans-1,2-Dichloroethene	150	U	200	150	ug/L			03/27/24 14:09	200
trans-1,3-Dichloropropene	150	U	200	150	ug/L			03/27/24 14:09	200
Trichloroethene	**9300**		200	180	ug/L			03/27/24 14:09	200
Trichlorofluoromethane	190	U	200	190	ug/L			03/27/24 14:09	200
Vinyl chloride	**360**		200	140	ug/L			03/27/24 14:09	200
Xylenes, Total	260	U	400	260	ug/L			03/27/24 14:09	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*03/27/24 14:09*	*200*
Dibromofluoromethane (Surr)	*118*		*53 - 146*		*03/27/24 14:09*	*200*
Toluene-d8 (Surr)	*110*		*40 - 146*		*03/27/24 14:09*	*200*

Client: Tetra Tech, Inc.
Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Client Sample ID: LC34-RW9A-20240319
Lab Sample ID: 670-36845-11
Date Collected: 03/19/24 10:50
Matrix: Water
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			03/27/24 17:10	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			03/27/24 17:10	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			03/27/24 17:10	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			03/27/24 17:10	25
1,1-Dichloroethane	16	U	25	16	ug/L			03/27/24 17:10	25
1,1-Dichloroethene	24	U	25	24	ug/L			03/27/24 17:10	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			03/27/24 17:10	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			03/27/24 17:10	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			03/27/24 17:10	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			03/27/24 17:10	25
1,2-Dichloroethane	16	U	25	16	ug/L			03/27/24 17:10	25
1,2-Dichloropropane	20	U	25	20	ug/L			03/27/24 17:10	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			03/27/24 17:10	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			03/27/24 17:10	25
2-Butanone (MEK)	110	U	250	110	ug/L			03/27/24 17:10	25
2-Hexanone	63	U	500	63	ug/L			03/27/24 17:10	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			03/27/24 17:10	25
Acetone	630	U	1300	630	ug/L			03/27/24 17:10	25
Benzene	18	U	25	18	ug/L			03/27/24 17:10	25
Bromodichloromethane	13	U	25	13	ug/L			03/27/24 17:10	25
Bromoform	19	U	25	19	ug/L			03/27/24 17:10	25
Bromomethane	24	U	50	24	ug/L			03/27/24 17:10	25
Carbon disulfide	63	U	130	63	ug/L			03/27/24 17:10	25
Carbon tetrachloride	24	U	25	24	ug/L			03/27/24 17:10	25
Chlorobenzene	18	U	25	18	ug/L			03/27/24 17:10	25
Chloroethane	25	U	50	25	ug/L			03/27/24 17:10	25
Chloroform	20	U	130	20	ug/L			03/27/24 17:10	25
Chloromethane	21	U	50	21	ug/L			03/27/24 17:10	25
cis-1,2-Dichloroethene	**2300**		25	13	ug/L			03/27/24 17:10	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			03/27/24 17:10	25
Cyclohexane	23	U	130	23	ug/L			03/27/24 17:10	25
Dibromochloromethane	13	U	25	13	ug/L			03/27/24 17:10	25
Dichlorodifluoromethane	19	U	25	19	ug/L			03/27/24 17:10	25
Ethylbenzene	17	U	25	17	ug/L			03/27/24 17:10	25
Isopropylbenzene	17	U	50	17	ug/L			03/27/24 17:10	25
m,p-Xylenes	33	U	50	33	ug/L			03/27/24 17:10	25
Methyl acetate	24	U	250	24	ug/L			03/27/24 17:10	25
Methyl tert-butyl ether	15	U	50	15	ug/L			03/27/24 17:10	25
Methylene Chloride	130	U	250	130	ug/L			03/27/24 17:10	25
o-Xylene	13	U	25	13	ug/L			03/27/24 17:10	25
Styrene	15	U	25	15	ug/L			03/27/24 17:10	25
Tetrachloroethene	19	U	25	19	ug/L			03/27/24 17:10	25
Toluene	18	U	25	18	ug/L			03/27/24 17:10	25
trans-1,2-Dichloroethene	**46**		25	18	ug/L			03/27/24 17:10	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			03/27/24 17:10	25
Trichloroethene	22	U	25	22	ug/L			03/27/24 17:10	25
Trichlorofluoromethane	24	U	25	24	ug/L			03/27/24 17:10	25
Vinyl chloride	**1600**		25	18	ug/L			03/27/24 17:10	25
Xylenes, Total	33	U	50	33	ug/L			03/27/24 17:10	25

Client Sample ID: LC34-RW9A-20240319 — Lab Sample ID: 670-36845-11

Date Collected: 03/19/24 10:50 — **Matrix: Water**
Date Received: 03/21/24 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*03/27/24 17:10*	*25*
Dibromofluoromethane (Surr)	*115*		*53 - 146*		*03/27/24 17:10*	*25*
Toluene-d8 (Surr)	*106*		*40 - 146*		*03/27/24 17:10*	*25*

Client Sample ID: LC34-RW17C-20240319 — Lab Sample ID: 670-36845-12

Date Collected: 03/19/24 10:55 — **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1600	U	2000	1600	ug/L			03/27/24 15:54	2000
1,1,2,2-Tetrachloroethane	1100	U	2000	1100	ug/L			03/27/24 15:54	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U	4000	1500	ug/L			03/27/24 15:54	2000
1,1,2-Trichloroethane	1500	U	4000	1500	ug/L			03/27/24 15:54	2000
1,1-Dichloroethane	1200	U	2000	1200	ug/L			03/27/24 15:54	2000
1,1-Dichloroethene	1900	U	2000	1900	ug/L			03/27/24 15:54	2000
1,2,4-Trichlorobenzene	1400	U	4000	1400	ug/L			03/27/24 15:54	2000
1,2-Dibromo-3-Chloropropane	1900	U	20000	1900	ug/L			03/27/24 15:54	2000
1,2-Dibromoethane (EDB)	1600	U	24000	1600	ug/L			03/27/24 15:54	2000
1,2-Dichlorobenzene	1500	U	2000	1500	ug/L			03/27/24 15:54	2000
1,2-Dichloroethane	1300	U	2000	1300	ug/L			03/27/24 15:54	2000
1,2-Dichloropropane	1600	U	2000	1600	ug/L			03/27/24 15:54	2000
1,3-Dichlorobenzene	1500	U	2000	1500	ug/L			03/27/24 15:54	2000
1,4-Dichlorobenzene	1500	U	2000	1500	ug/L			03/27/24 15:54	2000
2-Butanone (MEK)	9000	U	20000	9000	ug/L			03/27/24 15:54	2000
2-Hexanone	5000	U	40000	5000	ug/L			03/27/24 15:54	2000
4-Methyl-2-pentanone	10000	U	40000	10000	ug/L			03/27/24 15:54	2000
Acetone	50000	U	100000	50000	ug/L			03/27/24 15:54	2000
Benzene	1400	U	2000	1400	ug/L			03/27/24 15:54	2000
Bromodichloromethane	1000	U	2000	1000	ug/L			03/27/24 15:54	2000
Bromoform	1500	U	2000	1500	ug/L			03/27/24 15:54	2000
Bromomethane	1900	U	4000	1900	ug/L			03/27/24 15:54	2000
Carbon disulfide	5000	U	10000	5000	ug/L			03/27/24 15:54	2000
Carbon tetrachloride	1900	U	2000	1900	ug/L			03/27/24 15:54	2000
Chlorobenzene	1400	U	2000	1400	ug/L			03/27/24 15:54	2000
Chloroethane	2000	U	4000	2000	ug/L			03/27/24 15:54	2000
Chloroform	1600	U	10000	1600	ug/L			03/27/24 15:54	2000
Chloromethane	1600	U	4000	1600	ug/L			03/27/24 15:54	2000
cis-1,2-Dichloroethene	**4200**		2000	1100	ug/L			03/27/24 15:54	2000
cis-1,3-Dichloropropene	1200	U	2000	1200	ug/L			03/27/24 15:54	2000
Cyclohexane	1900	U	10000	1900	ug/L			03/27/24 15:54	2000
Dibromochloromethane	1000	U	2000	1000	ug/L			03/27/24 15:54	2000
Dichlorodifluoromethane	1500	U	2000	1500	ug/L			03/27/24 15:54	2000
Ethylbenzene	1400	U	2000	1400	ug/L			03/27/24 15:54	2000
Isopropylbenzene	1300	U	4000	1300	ug/L			03/27/24 15:54	2000
m,p-Xylenes	2600	U	4000	2600	ug/L			03/27/24 15:54	2000
Methyl acetate	1900	U	20000	1900	ug/L			03/27/24 15:54	2000
Methyl tert-butyl ether	1200	U	4000	1200	ug/L			03/27/24 15:54	2000
Methylene Chloride	10000	U	20000	10000	ug/L			03/27/24 15:54	2000
o-Xylene	1100	U	2000	1100	ug/L			03/27/24 15:54	2000

Client Sample ID: LC34-RW17C-20240319 — Lab Sample ID: 670-36845-12

Date Collected: 03/19/24 10:55 — **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	1200	U	2000	1200	ug/L			03/27/24 15:54	2000
Tetrachloroethene	1500	U	2000	1500	ug/L			03/27/24 15:54	2000
Toluene	1400	U	2000	1400	ug/L			03/27/24 15:54	2000
trans-1,2-Dichloroethene	1500	U	2000	1500	ug/L			03/27/24 15:54	2000
trans-1,3-Dichloropropene	1500	U	2000	1500	ug/L			03/27/24 15:54	2000
Trichloroethene	**150000**		2000	1800	ug/L			03/27/24 15:54	2000
Trichlorofluoromethane	1900	U	2000	1900	ug/L			03/27/24 15:54	2000
Vinyl chloride	1400	U	2000	1400	ug/L			03/27/24 15:54	2000
Xylenes, Total	2600	U	4000	2600	ug/L			03/27/24 15:54	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*03/27/24 15:54*	*2000*
Dibromofluoromethane (Surr)	*120*		*53 - 146*		*03/27/24 15:54*	*2000*
Toluene-d8 (Surr)	*109*		*40 - 146*		*03/27/24 15:54*	*2000*

Client Sample ID: LC34-RW18C-20240319 — Lab Sample ID: 670-36845-13

Date Collected: 03/19/24 11:00 — **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4000	U	5000	4000	ug/L			03/27/24 16:30	5000
1,1,2,2-Tetrachloroethane	2700	U	5000	2700	ug/L			03/27/24 16:30	5000
1,1,2-Trichloro-1,2,2-trifluoroethane	3700	U	10000	3700	ug/L			03/27/24 16:30	5000
1,1,2-Trichloroethane	3800	U	10000	3800	ug/L			03/27/24 16:30	5000
1,1-Dichloroethane	3100	U	5000	3100	ug/L			03/27/24 16:30	5000
1,1-Dichloroethene	4700	U	5000	4700	ug/L			03/27/24 16:30	5000
1,2,4-Trichlorobenzene	3500	U	10000	3500	ug/L			03/27/24 16:30	5000
1,2-Dibromo-3-Chloropropane	4800	U	50000	4800	ug/L			03/27/24 16:30	5000
1,2-Dibromoethane (EDB)	3900	U	60000	3900	ug/L			03/27/24 16:30	5000
1,2-Dichlorobenzene	3700	U	5000	3700	ug/L			03/27/24 16:30	5000
1,2-Dichloroethane	3200	U	5000	3200	ug/L			03/27/24 16:30	5000
1,2-Dichloropropane	4000	U	5000	4000	ug/L			03/27/24 16:30	5000
1,3-Dichlorobenzene	3900	U	5000	3900	ug/L			03/27/24 16:30	5000
1,4-Dichlorobenzene	3800	U	5000	3800	ug/L			03/27/24 16:30	5000
2-Butanone (MEK)	23000	U	50000	23000	ug/L			03/27/24 16:30	5000
2-Hexanone	13000	U	100000	13000	ug/L			03/27/24 16:30	5000
4-Methyl-2-pentanone	25000	U	100000	25000	ug/L			03/27/24 16:30	5000
Acetone	130000	U	250000	130000	ug/L			03/27/24 16:30	5000
Benzene	3600	U	5000	3600	ug/L			03/27/24 16:30	5000
Bromodichloromethane	2600	U	5000	2600	ug/L			03/27/24 16:30	5000
Bromoform	3800	U	5000	3800	ug/L			03/27/24 16:30	5000
Bromomethane	4800	U	10000	4800	ug/L			03/27/24 16:30	5000
Carbon disulfide	13000	U	25000	13000	ug/L			03/27/24 16:30	5000
Carbon tetrachloride	4700	U	5000	4700	ug/L			03/27/24 16:30	5000
Chlorobenzene	3600	U	5000	3600	ug/L			03/27/24 16:30	5000
Chloroethane	4900	U	10000	4900	ug/L			03/27/24 16:30	5000
Chloroform	4000	U	25000	4000	ug/L			03/27/24 16:30	5000
Chloromethane	4100	U	10000	4100	ug/L			03/27/24 16:30	5000
cis-1,2-Dichloroethene	2700	U	5000	2700	ug/L			03/27/24 16:30	5000

Client Sample ID: LC34-RW18C-20240319 — Lab Sample ID: 670-36845-13

Date Collected: 03/19/24 11:00 — **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	3000	U	5000	3000	ug/L			03/27/24 16:30	5000
Cyclohexane	4700	U	25000	4700	ug/L			03/27/24 16:30	5000
Dibromochloromethane	2500	U	5000	2500	ug/L			03/27/24 16:30	5000
Dichlorodifluoromethane	3700	U	5000	3700	ug/L			03/27/24 16:30	5000
Ethylbenzene	3500	U	5000	3500	ug/L			03/27/24 16:30	5000
Isopropylbenzene	3400	U	10000	3400	ug/L			03/27/24 16:30	5000
m,p-Xylenes	6500	U	10000	6500	ug/L			03/27/24 16:30	5000
Methyl acetate	4800	U	50000	4800	ug/L			03/27/24 16:30	5000
Methyl tert-butyl ether	3000	U	10000	3000	ug/L			03/27/24 16:30	5000
Methylene Chloride	25000	U	50000	25000	ug/L			03/27/24 16:30	5000
o-Xylene	2700	U	5000	2700	ug/L			03/27/24 16:30	5000
Styrene	3100	U	5000	3100	ug/L			03/27/24 16:30	5000
Tetrachloroethene	3800	U	5000	3800	ug/L			03/27/24 16:30	5000
Toluene	3600	U	5000	3600	ug/L			03/27/24 16:30	5000
trans-1,2-Dichloroethene	3700	U	5000	3700	ug/L			03/27/24 16:30	5000
trans-1,3-Dichloropropene	3700	U	5000	3700	ug/L			03/27/24 16:30	5000
Trichloroethene	**410000**		5000	4500	ug/L			03/27/24 16:30	5000
Trichlorofluoromethane	4700	U	5000	4700	ug/L			03/27/24 16:30	5000
Vinyl chloride	3600	U	5000	3600	ug/L			03/27/24 16:30	5000
Xylenes, Total	6500	U	10000	6500	ug/L			03/27/24 16:30	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*03/27/24 16:30*	*5000*
Dibromofluoromethane (Surr)	*117*		*53 - 146*		*03/27/24 16:30*	*5000*
Toluene-d8 (Surr)	*109*		*40 - 146*		*03/27/24 16:30*	*5000*

Client Sample ID: LC34-RW19C-20240319 — Lab Sample ID: 670-36845-14

Date Collected: 03/19/24 11:05 — **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	2000	U	2500	2000	ug/L			03/27/24 16:12	2500
1,1,2,2-Tetrachloroethane	1400	U	2500	1400	ug/L			03/27/24 16:12	2500
1,1,2-Trichloro-1,2,2-trifluoroethane	1800	U	5000	1800	ug/L			03/27/24 16:12	2500
1,1,2-Trichloroethane	1900	U	5000	1900	ug/L			03/27/24 16:12	2500
1,1-Dichloroethane	1600	U	2500	1600	ug/L			03/27/24 16:12	2500
1,1-Dichloroethene	2400	U	2500	2400	ug/L			03/27/24 16:12	2500
1,2,4-Trichlorobenzene	1800	U	5000	1800	ug/L			03/27/24 16:12	2500
1,2-Dibromo-3-Chloropropane	2400	U	25000	2400	ug/L			03/27/24 16:12	2500
1,2-Dibromoethane (EDB)	2000	U	30000	2000	ug/L			03/27/24 16:12	2500
1,2-Dichlorobenzene	1800	U	2500	1800	ug/L			03/27/24 16:12	2500
1,2-Dichloroethane	1600	U	2500	1600	ug/L			03/27/24 16:12	2500
1,2-Dichloropropane	2000	U	2500	2000	ug/L			03/27/24 16:12	2500
1,3-Dichlorobenzene	1900	U	2500	1900	ug/L			03/27/24 16:12	2500
1,4-Dichlorobenzene	1900	U	2500	1900	ug/L			03/27/24 16:12	2500
2-Butanone (MEK)	11000	U	25000	11000	ug/L			03/27/24 16:12	2500
2-Hexanone	6300	U	50000	6300	ug/L			03/27/24 16:12	2500
4-Methyl-2-pentanone	13000	U	50000	13000	ug/L			03/27/24 16:12	2500
Acetone	63000	U	130000	63000	ug/L			03/27/24 16:12	2500

Client Sample ID: LC34-RW19C-20240319 **Lab Sample ID: 670-36845-14**
Date Collected: 03/19/24 11:05 **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1800	U	2500	1800	ug/L			03/27/24 16:12	2500
Bromodichloromethane	1300	U	2500	1300	ug/L			03/27/24 16:12	2500
Bromoform	1900	U	2500	1900	ug/L			03/27/24 16:12	2500
Bromomethane	2400	U	5000	2400	ug/L			03/27/24 16:12	2500
Carbon disulfide	6300	U	13000	6300	ug/L			03/27/24 16:12	2500
Carbon tetrachloride	2400	U	2500	2400	ug/L			03/27/24 16:12	2500
Chlorobenzene	1800	U	2500	1800	ug/L			03/27/24 16:12	2500
Chloroethane	2500	U	5000	2500	ug/L			03/27/24 16:12	2500
Chloroform	2000	U	13000	2000	ug/L			03/27/24 16:12	2500
Chloromethane	2100	U	5000	2100	ug/L			03/27/24 16:12	2500
cis-1,2-Dichloroethene	**3400**		2500	1300	ug/L			03/27/24 16:12	2500
cis-1,3-Dichloropropene	1500	U	2500	1500	ug/L			03/27/24 16:12	2500
Cyclohexane	2300	U	13000	2300	ug/L			03/27/24 16:12	2500
Dibromochloromethane	1300	U	2500	1300	ug/L			03/27/24 16:12	2500
Dichlorodifluoromethane	1900	U	2500	1900	ug/L			03/27/24 16:12	2500
Ethylbenzene	1700	U	2500	1700	ug/L			03/27/24 16:12	2500
Isopropylbenzene	1700	U	5000	1700	ug/L			03/27/24 16:12	2500
m,p-Xylenes	3300	U	5000	3300	ug/L			03/27/24 16:12	2500
Methyl acetate	2400	U	25000	2400	ug/L			03/27/24 16:12	2500
Methyl tert-butyl ether	1500	U	5000	1500	ug/L			03/27/24 16:12	2500
Methylene Chloride	13000	U	25000	13000	ug/L			03/27/24 16:12	2500
o-Xylene	1300	U	2500	1300	ug/L			03/27/24 16:12	2500
Styrene	1500	U	2500	1500	ug/L			03/27/24 16:12	2500
Tetrachloroethene	1900	U	2500	1900	ug/L			03/27/24 16:12	2500
Toluene	1800	U	2500	1800	ug/L			03/27/24 16:12	2500
trans-1,2-Dichloroethene	1800	U	2500	1800	ug/L			03/27/24 16:12	2500
trans-1,3-Dichloropropene	1800	U	2500	1800	ug/L			03/27/24 16:12	2500
Trichloroethene	**210000**		2500	2200	ug/L			03/27/24 16:12	2500
Trichlorofluoromethane	2400	U	2500	2400	ug/L			03/27/24 16:12	2500
Vinyl chloride	1800	U	2500	1800	ug/L			03/27/24 16:12	2500
Xylenes, Total	3300	U	5000	3300	ug/L			03/27/24 16:12	2500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*03/27/24 16:12*	*2500*
Dibromofluoromethane (Surr)	*119*		*53 - 146*		*03/27/24 16:12*	*2500*
Toluene-d8 (Surr)	*109*		*40 - 146*		*03/27/24 16:12*	*2500*

Client Sample ID: LC34-RW20C-20240319 **Lab Sample ID: 670-36845-15**
Date Collected: 03/19/24 11:10 **Matrix: Water**
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			03/27/24 13:33	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			03/27/24 13:33	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			03/27/24 13:33	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			03/27/24 13:33	100
1,1-Dichloroethane	62	U	100	62	ug/L			03/27/24 13:33	100
1,1-Dichloroethene	94	U	100	94	ug/L			03/27/24 13:33	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			03/27/24 13:33	100

Client: Tetra Tech, Inc.
Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Client Sample ID: LC34-RW20C-20240319
Lab Sample ID: 670-36845-15
Date Collected: 03/19/24 11:10
Matrix: Water
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			03/27/24 13:33	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			03/27/24 13:33	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			03/27/24 13:33	100
1,2-Dichloroethane	63	U	100	63	ug/L			03/27/24 13:33	100
1,2-Dichloropropane	80	U	100	80	ug/L			03/27/24 13:33	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			03/27/24 13:33	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			03/27/24 13:33	100
2-Butanone (MEK)	450	U	1000	450	ug/L			03/27/24 13:33	100
2-Hexanone	250	U	2000	250	ug/L			03/27/24 13:33	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			03/27/24 13:33	100
Acetone	2500	U	5000	2500	ug/L			03/27/24 13:33	100
Benzene	71	U	100	71	ug/L			03/27/24 13:33	100
Bromodichloromethane	52	U	100	52	ug/L			03/27/24 13:33	100
Bromoform	75	U	100	75	ug/L			03/27/24 13:33	100
Bromomethane	95	U	200	95	ug/L			03/27/24 13:33	100
Carbon disulfide	250	U	500	250	ug/L			03/27/24 13:33	100
Carbon tetrachloride	94	U	100	94	ug/L			03/27/24 13:33	100
Chlorobenzene	72	U	100	72	ug/L			03/27/24 13:33	100
Chloroethane	98	U	200	98	ug/L			03/27/24 13:33	100
Chloroform	80	U	500	80	ug/L			03/27/24 13:33	100
Chloromethane	82	U	200	82	ug/L			03/27/24 13:33	100
cis-1,2-Dichloroethene	**630**		100	53	ug/L			03/27/24 13:33	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			03/27/24 13:33	100
Cyclohexane	93	U	500	93	ug/L			03/27/24 13:33	100
Dibromochloromethane	50	U	100	50	ug/L			03/27/24 13:33	100
Dichlorodifluoromethane	74	U	100	74	ug/L			03/27/24 13:33	100
Ethylbenzene	69	U	100	69	ug/L			03/27/24 13:33	100
Isopropylbenzene	67	U	200	67	ug/L			03/27/24 13:33	100
m,p-Xylenes	130	U	200	130	ug/L			03/27/24 13:33	100
Methyl acetate	95	U	1000	95	ug/L			03/27/24 13:33	100
Methyl tert-butyl ether	60	U	200	60	ug/L			03/27/24 13:33	100
Methylene Chloride	500	U	1000	500	ug/L			03/27/24 13:33	100
o-Xylene	53	U	100	53	ug/L			03/27/24 13:33	100
Styrene	61	U	100	61	ug/L			03/27/24 13:33	100
Tetrachloroethene	76	U	100	76	ug/L			03/27/24 13:33	100
Toluene	72	U	100	72	ug/L			03/27/24 13:33	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			03/27/24 13:33	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			03/27/24 13:33	100
Trichloroethene	**3200**		100	89	ug/L			03/27/24 13:33	100
Trichlorofluoromethane	94	U	100	94	ug/L			03/27/24 13:33	100
Vinyl chloride	71	U	100	71	ug/L			03/27/24 13:33	100
Xylenes, Total	130	U	200	130	ug/L			03/27/24 13:33	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*03/27/24 13:33*	*100*
Dibromofluoromethane (Surr)	*117*		*53 - 146*		*03/27/24 13:33*	*100*
Toluene-d8 (Surr)	*109*		*40 - 146*		*03/27/24 13:33*	*100*

Client: Tetra Tech, Inc.
Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Client Sample ID: LC34-RW21D-20240319
Lab Sample ID: 670-36845-16
Date Collected: 03/19/24 11:15
Matrix: Water
Date Received: 03/21/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	160	U	200	160	ug/L			03/27/24 14:26	200
1,1,2,2-Tetrachloroethane	110	U	200	110	ug/L			03/27/24 14:26	200
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	400	150	ug/L			03/27/24 14:26	200
1,1,2-Trichloroethane	150	U	400	150	ug/L			03/27/24 14:26	200
1,1-Dichloroethane	120	U	200	120	ug/L			03/27/24 14:26	200
1,1-Dichloroethene	190	U	200	190	ug/L			03/27/24 14:26	200
1,2,4-Trichlorobenzene	140	U	400	140	ug/L			03/27/24 14:26	200
1,2-Dibromo-3-Chloropropane	190	U	2000	190	ug/L			03/27/24 14:26	200
1,2-Dibromoethane (EDB)	160	U	2400	160	ug/L			03/27/24 14:26	200
1,2-Dichlorobenzene	150	U	200	150	ug/L			03/27/24 14:26	200
1,2-Dichloroethane	130	U	200	130	ug/L			03/27/24 14:26	200
1,2-Dichloropropane	160	U	200	160	ug/L			03/27/24 14:26	200
1,3-Dichlorobenzene	150	U	200	150	ug/L			03/27/24 14:26	200
1,4-Dichlorobenzene	150	U	200	150	ug/L			03/27/24 14:26	200
2-Butanone (MEK)	900	U	2000	900	ug/L			03/27/24 14:26	200
2-Hexanone	500	U	4000	500	ug/L			03/27/24 14:26	200
4-Methyl-2-pentanone	1000	U	4000	1000	ug/L			03/27/24 14:26	200
Acetone	5000	U	10000	5000	ug/L			03/27/24 14:26	200
Benzene	140	U	200	140	ug/L			03/27/24 14:26	200
Bromodichloromethane	100	U	200	100	ug/L			03/27/24 14:26	200
Bromoform	150	U	200	150	ug/L			03/27/24 14:26	200
Bromomethane	190	U	400	190	ug/L			03/27/24 14:26	200
Carbon disulfide	500	U	1000	500	ug/L			03/27/24 14:26	200
Carbon tetrachloride	190	U	200	190	ug/L			03/27/24 14:26	200
Chlorobenzene	140	U	200	140	ug/L			03/27/24 14:26	200
Chloroethane	200	U	400	200	ug/L			03/27/24 14:26	200
Chloroform	160	U	1000	160	ug/L			03/27/24 14:26	200
Chloromethane	160	U	400	160	ug/L			03/27/24 14:26	200
cis-1,2-Dichloroethene	**3800**		200	110	ug/L			03/27/24 14:26	200
cis-1,3-Dichloropropene	120	U	200	120	ug/L			03/27/24 14:26	200
Cyclohexane	190	U	1000	190	ug/L			03/27/24 14:26	200
Dibromochloromethane	100	U	200	100	ug/L			03/27/24 14:26	200
Dichlorodifluoromethane	150	U	200	150	ug/L			03/27/24 14:26	200
Ethylbenzene	140	U	200	140	ug/L			03/27/24 14:26	200
Isopropylbenzene	130	U	400	130	ug/L			03/27/24 14:26	200
m,p-Xylenes	260	U	400	260	ug/L			03/27/24 14:26	200
Methyl acetate	190	U	2000	190	ug/L			03/27/24 14:26	200
Methyl tert-butyl ether	120	U	400	120	ug/L			03/27/24 14:26	200
Methylene Chloride	1000	U	2000	1000	ug/L			03/27/24 14:26	200
o-Xylene	110	U	200	110	ug/L			03/27/24 14:26	200
Styrene	120	U	200	120	ug/L			03/27/24 14:26	200
Tetrachloroethene	150	U	200	150	ug/L			03/27/24 14:26	200
Toluene	140	U	200	140	ug/L			03/27/24 14:26	200
trans-1,2-Dichloroethene	150	U	200	150	ug/L			03/27/24 14:26	200
trans-1,3-Dichloropropene	150	U	200	150	ug/L			03/27/24 14:26	200
Trichloroethene	**9200**		200	180	ug/L			03/27/24 14:26	200
Trichlorofluoromethane	190	U	200	190	ug/L			03/27/24 14:26	200
Vinyl chloride	140	U	200	140	ug/L			03/27/24 14:26	200
Xylenes, Total	260	U	400	260	ug/L			03/27/24 14:26	200

Client: Tetra Tech, Inc.
Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Client Sample ID: LC34-RW21D-20240319
Lab Sample ID: 670-36845-16
Date Collected: 03/19/24 11:15
Matrix: Water
Date Received: 03/21/24 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		41 - 142		03/27/24 14:26	200
Dibromofluoromethane (Surr)	118		53 - 146		03/27/24 14:26	200
Toluene-d8 (Surr)	107		40 - 146		03/27/24 14:26	200

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
		BFB	DBFM	TOL						
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)						
670-36845-1	LC34-GAC-20240319	100	115	106						
670-36845-2	LC34-AS1-20240319	105	117	108						
670-36845-3 - DL	LC34-AS2-20240319	100	117	108						
670-36845-4 - DL	LC34-INFLUENT-20240319	103	122	108						
670-36845-5 - DL	LC34-RW1A-20240319	104	116	107						
670-36845-6 - DL	LC34-RW1B-20240319	105	116	108						
670-36845-7 - DL	LC34-RW2A-20240319	100	118	109						
670-36845-8 - DL	LC34-RW2B-20240319	101	118	110						
670-36845-9 - DL	LC34-RW3A-20240319	104	116	108						
670-36845-9 MS	LC34-RW3A-20240319	102	101	101						
670-36845-9 MSD	LC34-RW3A-20240319	100	99	102						
670-36845-10 - DL	LC34-RW3B-20240319	105	118	110						
670-36845-11 - DL	LC34-RW9A-20240319	103	115	106						
670-36845-12 - DL	LC34-RW17C-20240319	103	120	109						
670-36845-13 - DL	LC34-RW18C-20240319	103	117	109						
670-36845-14 - DL	LC34-RW19C-20240319	101	119	109						
670-36845-15 - DL	LC34-RW20C-20240319	102	117	109						
670-36845-16 - DL	LC34-RW21D-20240319	104	118	107						
LCS 670-82592/5	Lab Control Sample	102	103	104						
MB 670-82592/8	Method Blank	104	117	107						

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-82592/8
Matrix: Water
Analysis Batch: 82592

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			03/27/24 10:48	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			03/27/24 10:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			03/27/24 10:48	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			03/27/24 10:48	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			03/27/24 10:48	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			03/27/24 10:48	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			03/27/24 10:48	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			03/27/24 10:48	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			03/27/24 10:48	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			03/27/24 10:48	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			03/27/24 10:48	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			03/27/24 10:48	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			03/27/24 10:48	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			03/27/24 10:48	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			03/27/24 10:48	1
2-Hexanone	2.5	U	20	2.5	ug/L			03/27/24 10:48	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			03/27/24 10:48	1
Acetone	25	U	50	25	ug/L			03/27/24 10:48	1
Benzene	0.71	U	1.0	0.71	ug/L			03/27/24 10:48	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			03/27/24 10:48	1
Bromoform	0.75	U	1.0	0.75	ug/L			03/27/24 10:48	1
Bromomethane	0.95	U	2.0	0.95	ug/L			03/27/24 10:48	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			03/27/24 10:48	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			03/27/24 10:48	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			03/27/24 10:48	1
Chloroethane	0.98	U	2.0	0.98	ug/L			03/27/24 10:48	1
Chloroform	0.80	U	5.0	0.80	ug/L			03/27/24 10:48	1
Chloromethane	0.82	U	2.0	0.82	ug/L			03/27/24 10:48	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			03/27/24 10:48	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			03/27/24 10:48	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			03/27/24 10:48	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			03/27/24 10:48	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			03/27/24 10:48	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			03/27/24 10:48	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			03/27/24 10:48	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			03/27/24 10:48	1
Methyl acetate	0.95	U	10	0.95	ug/L			03/27/24 10:48	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			03/27/24 10:48	1
Methylene Chloride	5.0	U	10	5.0	ug/L			03/27/24 10:48	1
o-Xylene	0.53	U	1.0	0.53	ug/L			03/27/24 10:48	1
Styrene	0.61	U	1.0	0.61	ug/L			03/27/24 10:48	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			03/27/24 10:48	1
Toluene	0.72	U	1.0	0.72	ug/L			03/27/24 10:48	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			03/27/24 10:48	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			03/27/24 10:48	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			03/27/24 10:48	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			03/27/24 10:48	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			03/27/24 10:48	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-82592/8
Matrix: Water
Analysis Batch: 82592

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			03/27/24 10:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*03/27/24 10:48*	*1*
Dibromofluoromethane (Surr)	*117*		*53 - 146*		*03/27/24 10:48*	*1*
Toluene-d8 (Surr)	*107*		*40 - 146*		*03/27/24 10:48*	*1*

Lab Sample ID: LCS 670-82592/5
Matrix: Water
Analysis Batch: 82592

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.4		ug/L		102	57 - 148
1,1,2,2-Tetrachloroethane	20.0	19.4		ug/L		97	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroetha ne	20.0	19.2		ug/L		96	47 - 173
1,1,2-Trichloroethane	20.0	21.6		ug/L		108	57 - 141
1,1-Dichloroethane	20.0	22.0		ug/L		110	57 - 142
1,1-Dichloroethene	20.0	19.6		ug/L		98	47 - 139
1,2,4-Trichlorobenzene	20.0	17.5		ug/L		87	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	17.2		ug/L		86	48 - 150
1,2-Dibromoethane (EDB)	20.0	21.4		ug/L		107	57 - 140
1,2-Dichlorobenzene	20.0	19.3		ug/L		96	63 - 131
1,2-Dichloroethane	20.0	21.2		ug/L		106	50 - 156
1,2-Dichloropropane	20.0	22.0		ug/L		110	61 - 133
1,3-Dichlorobenzene	20.0	19.2		ug/L		96	66 - 129
1,4-Dichlorobenzene	20.0	18.8		ug/L		94	65 - 133
2-Butanone (MEK)	200	165		ug/L		83	10 - 180
2-Hexanone	200	201		ug/L		101	12 - 180
4-Methyl-2-pentanone	200	192		ug/L		96	19 - 180
Acetone	200	166		ug/L		83	10 - 180
Benzene	20.0	21.4		ug/L		107	56 - 136
Bromodichloromethane	20.0	21.7		ug/L		108	58 - 135
Bromoform	20.0	18.4		ug/L		92	46 - 148
Bromomethane	20.0	14.5		ug/L		73	10 - 173
Carbon disulfide	20.0	21.3		ug/L		106	43 - 153
Carbon tetrachloride	20.0	20.9		ug/L		104	54 - 156
Chlorobenzene	20.0	19.7		ug/L		98	51 - 139
Chloroethane	20.0	16.2		ug/L		81	27 - 180
Chloroform	20.0	21.5		ug/L		107	58 - 139
Chloromethane	20.0	24.7		ug/L		123	33 - 154
cis-1,2-Dichloroethene	20.0	23.1		ug/L		116	56 - 128
cis-1,3-Dichloropropene	20.0	18.5		ug/L		92	64 - 128
Cyclohexane	20.0	19.1		ug/L		96	14 - 151
Dibromochloromethane	20.0	21.3		ug/L		106	50 - 140
Dichlorodifluoromethane	20.0	22.6		ug/L		113	10 - 180
Ethylbenzene	20.0	17.8		ug/L		89	63 - 133
Isopropylbenzene	20.0	16.8		ug/L		84	60 - 132
m,p-Xylenes	20.0	17.8		ug/L		89	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-82592/5
Matrix: Water
Analysis Batch: 82592

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	34.6		ug/L		86	70 - 130
Methyl tert-butyl ether	20.0	18.6		ug/L		93	51 - 145
Methylene Chloride	20.0	20.9		ug/L		105	43 - 142
o-Xylene	20.0	16.9		ug/L		84	61 - 129
Styrene	20.0	16.4		ug/L		82	59 - 136
Tetrachloroethene	20.0	20.7		ug/L		103	60 - 147
Toluene	20.0	20.4		ug/L		102	64 - 131
trans-1,2-Dichloroethene	20.0	19.9		ug/L		99	54 - 134
trans-1,3-Dichloropropene	20.0	20.4		ug/L		102	65 - 149
Trichloroethene	20.0	19.8		ug/L		99	62 - 135
Trichlorofluoromethane	20.0	17.3		ug/L		87	56 - 155
Vinyl chloride	20.0	19.2		ug/L		96	20 - 167
Xylenes, Total	40.0	34.7		ug/L		87	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*103*		*53 - 146*
Toluene-d8 (Surr)	*104*		*40 - 146*

Lab Sample ID: 670-36845-9 MS
Matrix: Water
Analysis Batch: 82592

Client Sample ID: LC34-RW3A-20240319
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20	U	500	572		ug/L		114	57 - 148
1,1,2,2-Tetrachloroethane	14	U	500	538		ug/L		108	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	500	530		ug/L		106	50 - 150
1,1,2-Trichloroethane	19	U	500	585		ug/L		117	57 - 141
1,1-Dichloroethane	16	U	500	601		ug/L		120	57 - 142
1,1-Dichloroethene	24	U	500	553		ug/L		111	49 - 139
1,2,4-Trichlorobenzene	18	U	500	458		ug/L		92	52 - 159
1,2-Dibromo-3-Chloropropane	24	U	500	482		ug/L		96	48 - 150
1,2-Dibromoethane (EDB)	20	U	500	582		ug/L		116	50 - 150
1,2-Dichlorobenzene	18	U	500	504		ug/L		101	63 - 131
1,2-Dichloroethane	16	U	500	574		ug/L		115	50 - 156
1,2-Dichloropropane	20	U	500	599		ug/L		120	61 - 133
1,3-Dichlorobenzene	19	U	500	520		ug/L		104	66 - 129
1,4-Dichlorobenzene	19	U	500	508		ug/L		102	65 - 133
2-Butanone (MEK)	110	U	5000	4570		ug/L		91	10 - 180
2-Hexanone	63	U	5000	5550		ug/L		111	12 - 180
4-Methyl-2-pentanone	130	U	5000	5230		ug/L		105	19 - 180
Acetone	630	U	5000	4410		ug/L		88	10 - 180
Benzene	18	U	500	589		ug/L		118	56 - 136
Bromodichloromethane	13	U	500	566		ug/L		113	58 - 135
Bromoform	19	U	500	498		ug/L		100	46 - 148
Bromomethane	24	U	500	408		ug/L		82	10 - 173
Carbon disulfide	63	U	500	582		ug/L		116	43 - 153
Carbon tetrachloride	24	U	500	567		ug/L		113	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-36845-9 MS
Matrix: Water
Analysis Batch: 82592

Client Sample ID: LC34-RW3A-20240319
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	18	U	500	524		ug/L		105	51 - 139
Chloroethane	25	U	500	484		ug/L		97	27 - 180
Chloroform	20	U	500	588		ug/L		118	59 - 139
Chloromethane	21	U	500	704		ug/L		141	33 - 154
cis-1,2-Dichloroethene	2300	J3	500	2660	L	ug/L		63	56 - 128
cis-1,3-Dichloropropene	15	U	500	484		ug/L		97	64 - 128
Cyclohexane	23	U	500	551		ug/L		110	14 - 141
Dibromochloromethane	13	U	500	574		ug/L		115	50 - 150
Dichlorodifluoromethane	19	U	500	644		ug/L		129	10 - 180
Ethylbenzene	17	U	500	499		ug/L		100	63 - 133
Isopropylbenzene	17	U	500	462		ug/L		92	60 - 132
m,p-Xylenes	33	U	500	479		ug/L		96	64 - 133
Methyl acetate	24	U	1000	958		ug/L		96	50 - 150
Methyl tert-butyl ether	15	U	500	490		ug/L		98	50 - 150
Methylene Chloride	130	U	500	545		ug/L		109	43 - 142
o-Xylene	13	U	500	453		ug/L		91	61 - 129
Styrene	15	U	500	437		ug/L		87	59 - 136
Tetrachloroethene	19	U	500	591		ug/L		118	60 - 147
Toluene	18	U	500	548		ug/L		110	64 - 131
trans-1,2-Dichloroethene	18	U	500	576		ug/L		115	54 - 134
trans-1,3-Dichloropropene	18	U	500	543		ug/L		109	65 - 149
Trichloroethene	1600	J3	500	1880	J3	ug/L		60	62 - 135
Trichlorofluoromethane	24	U	500	492		ug/L		98	56 - 155
Vinyl chloride	360		500	844		ug/L		97	20 - 167
Xylenes, Total	33	U	1000	932		ug/L		93	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Lab Sample ID: 670-36845-9 MSD
Matrix: Water
Analysis Batch: 82592

Client Sample ID: LC34-RW3A-20240319
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	20	U	500	551		ug/L		110	57 - 148	4	25
1,1,2,2-Tetrachloroethane	14	U	500	512		ug/L		102	60 - 139	5	17
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	500	552		ug/L		110	50 - 150	4	30
1,1,2-Trichloroethane	19	U	500	562		ug/L		112	57 - 141	4	16
1,1-Dichloroethane	16	U	500	580		ug/L		116	57 - 142	4	24
1,1-Dichloroethene	24	U	500	547		ug/L		109	49 - 139	1	16
1,2,4-Trichlorobenzene	18	U	500	449		ug/L		90	52 - 159	2	24
1,2-Dibromo-3-Chloropropane	24	U	500	464		ug/L		93	48 - 150	4	21
1,2-Dibromoethane (EDB)	20	U	500	551		ug/L		110	50 - 150	5	16
1,2-Dichlorobenzene	18	U	500	484		ug/L		97	63 - 131	4	25
1,2-Dichloroethane	16	U	500	561		ug/L		112	50 - 156	2	18
1,2-Dichloropropane	20	U	500	576		ug/L		115	61 - 133	4	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-36845-9 MSD
Client Sample ID: LC34-RW3A-20240319
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 82592

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	19	U	500	486		ug/L		97	66 - 129	7	23
1,4-Dichlorobenzene	19	U	500	486		ug/L		97	65 - 133	4	23
2-Butanone (MEK)	110	U	5000	4570		ug/L		91	10 - 180	0	29
2-Hexanone	63	U	5000	5450		ug/L		109	12 - 180	2	28
4-Methyl-2-pentanone	130	U	5000	5160		ug/L		103	19 - 180	1	24
Acetone	630	U	5000	4300		ug/L		86	10 - 180	2	19
Benzene	18	U	500	570		ug/L		114	56 - 136	3	14
Bromodichloromethane	13	U	500	556		ug/L		111	58 - 135	2	19
Bromoform	19	U	500	470		ug/L		94	46 - 148	6	18
Bromomethane	24	U	500	402		ug/L		80	10 - 173	1	29
Carbon disulfide	63	U	500	557		ug/L		111	43 - 153	4	26
Carbon tetrachloride	24	U	500	551		ug/L		110	54 - 156	3	27
Chlorobenzene	18	U	500	513		ug/L		103	51 - 139	2	13
Chloroethane	25	U	500	445		ug/L		89	27 - 180	8	22
Chloroform	20	U	500	560		ug/L		112	59 - 139	5	17
Chloromethane	21	U	500	675		ug/L		135	33 - 154	4	31
cis-1,2-Dichloroethene	2300	J3	500	2570	L J3	ug/L		45	56 - 128	3	17
cis-1,3-Dichloropropene	15	U	500	473		ug/L		95	64 - 128	2	20
Cyclohexane	23	U	500	547		ug/L		109	14 - 141	1	30
Dibromochloromethane	13	U	500	550		ug/L		110	50 - 150	4	18
Dichlorodifluoromethane	19	U	500	626		ug/L		125	10 - 180	3	26
Ethylbenzene	17	U	500	483		ug/L		97	63 - 133	3	18
Isopropylbenzene	17	U	500	441		ug/L		88	60 - 132	5	23
m,p-Xylenes	33	U	500	474		ug/L		95	64 - 133	1	18
Methyl acetate	24	U	1000	969		ug/L		97	50 - 150	1	30
Methyl tert-butyl ether	15	U	500	495		ug/L		99	50 - 150	1	22
Methylene Chloride	130	U	500	541		ug/L		108	43 - 142	1	23
o-Xylene	13	U	500	453		ug/L		91	61 - 129	0	16
Styrene	15	U	500	431		ug/L		86	59 - 136	1	32
Tetrachloroethene	19	U	500	554		ug/L		111	60 - 147	6	21
Toluene	18	U	500	534		ug/L		107	64 - 131	3	16
trans-1,2-Dichloroethene	18	U	500	537		ug/L		107	54 - 134	7	20
trans-1,3-Dichloropropene	18	U	500	535		ug/L		107	65 - 149	1	17
Trichloroethene	1600	J3	500	1830	J3	ug/L		51	62 - 135	2	20
Trichlorofluoromethane	24	U	500	477		ug/L		95	56 - 155	3	22
Vinyl chloride	360		500	821		ug/L		92	20 - 167	3	24
Xylenes, Total	33	U	1000	927		ug/L		93	50 - 150	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

QC Association Summary

Client: Tetra Tech, Inc.
Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

GC/MS VOA

Analysis Batch: 82592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-36845-1	LC34-GAC-20240319	Total/NA	Water	8260D	
670-36845-2	LC34-AS1-20240319	Total/NA	Water	8260D	
670-36845-3 - DL	LC34-AS2-20240319	Total/NA	Water	8260D	
670-36845-4 - DL	LC34-INFLUENT-20240319	Total/NA	Water	8260D	
670-36845-5 - DL	LC34-RW1A-20240319	Total/NA	Water	8260D	
670-36845-6 - DL	LC34-RW1B-20240319	Total/NA	Water	8260D	
670-36845-7 - DL	LC34-RW2A-20240319	Total/NA	Water	8260D	
670-36845-8 - DL	LC34-RW2B-20240319	Total/NA	Water	8260D	
670-36845-9 - DL	LC34-RW3A-20240319	Total/NA	Water	8260D	
670-36845-10 - DL	LC34-RW3B-20240319	Total/NA	Water	8260D	
670-36845-11 - DL	LC34-RW9A-20240319	Total/NA	Water	8260D	
670-36845-12 - DL	LC34-RW17C-20240319	Total/NA	Water	8260D	
670-36845-13 - DL	LC34-RW18C-20240319	Total/NA	Water	8260D	
670-36845-14 - DL	LC34-RW19C-20240319	Total/NA	Water	8260D	
670-36845-15 - DL	LC34-RW20C-20240319	Total/NA	Water	8260D	
670-36845-16 - DL	LC34-RW21D-20240319	Total/NA	Water	8260D	
MB 670-82592/8	Method Blank	Total/NA	Water	8260D	
LCS 670-82592/5	Lab Control Sample	Total/NA	Water	8260D	
670-36845-9 MS	LC34-RW3A-20240319	Total/NA	Water	8260D	
670-36845-9 MSD	LC34-RW3A-20240319	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Client Sample ID: LC34-GAC-20240319
Lab Sample ID: 670-36845-1
Date Collected: 03/19/24 10:00
Matrix: Water
Date Received: 03/21/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	82592	KG	EET ORL	03/27/24 12:18

Client Sample ID: LC34-AS1-20240319
Lab Sample ID: 670-36845-2
Date Collected: 03/19/24 10:05
Matrix: Water
Date Received: 03/21/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	82592	KG	EET ORL	03/27/24 12:36

Client Sample ID: LC34-AS2-20240319
Lab Sample ID: 670-36845-3
Date Collected: 03/19/24 10:10
Matrix: Water
Date Received: 03/21/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	82592	KG	EET ORL	03/27/24 16:50

Client Sample ID: LC34-INFLUENT-20240319
Lab Sample ID: 670-36845-4
Date Collected: 03/19/24 10:15
Matrix: Water
Date Received: 03/21/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	82592	KG	EET ORL	03/27/24 15:37

Client Sample ID: LC34-RW1A-20240319
Lab Sample ID: 670-36845-5
Date Collected: 03/19/24 10:20
Matrix: Water
Date Received: 03/21/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	250	82592	KG	EET ORL	03/27/24 14:44

Client Sample ID: LC34-RW1B-20240319
Lab Sample ID: 670-36845-6
Date Collected: 03/19/24 10:25
Matrix: Water
Date Received: 03/21/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	250	82592	KG	EET ORL	03/27/24 15:01

Client Sample ID: LC34-RW2A-20240319
Lab Sample ID: 670-36845-7
Date Collected: 03/19/24 10:30
Matrix: Water
Date Received: 03/21/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	82592	KG	EET ORL	03/27/24 13:51

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Client Sample ID: LC34-RW2B-20240319
Lab Sample ID: 670-36845-8
Date Collected: 03/19/24 10:35
Matrix: Water
Date Received: 03/21/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	82592	KG	EET ORL	03/27/24 15:19

Client Sample ID: LC34-RW3A-20240319
Lab Sample ID: 670-36845-9
Date Collected: 03/19/24 10:40
Matrix: Water
Date Received: 03/21/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	82592	KG	EET ORL	03/27/24 11:07

Client Sample ID: LC34-RW3B-20240319
Lab Sample ID: 670-36845-10
Date Collected: 03/19/24 10:45
Matrix: Water
Date Received: 03/21/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	82592	KG	EET ORL	03/27/24 14:09

Client Sample ID: LC34-RW9A-20240319
Lab Sample ID: 670-36845-11
Date Collected: 03/19/24 10:50
Matrix: Water
Date Received: 03/21/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	82592	KG	EET ORL	03/27/24 17:10

Client Sample ID: LC34-RW17C-20240319
Lab Sample ID: 670-36845-12
Date Collected: 03/19/24 10:55
Matrix: Water
Date Received: 03/21/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2000	82592	KG	EET ORL	03/27/24 15:54

Client Sample ID: LC34-RW18C-20240319
Lab Sample ID: 670-36845-13
Date Collected: 03/19/24 11:00
Matrix: Water
Date Received: 03/21/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5000	82592	KG	EET ORL	03/27/24 16:30

Client Sample ID: LC34-RW19C-20240319
Lab Sample ID: 670-36845-14
Date Collected: 03/19/24 11:05
Matrix: Water
Date Received: 03/21/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2500	82592	KG	EET ORL	03/27/24 16:12

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Client Sample ID: LC34-RW20C-20240319
Lab Sample ID: 670-36845-15
Date Collected: 03/19/24 11:10
Matrix: Water
Date Received: 03/21/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	82592	KG	EET ORL	03/27/24 13:33

Client Sample ID: LC34-RW21D-20240319
Lab Sample ID: 670-36845-16
Date Collected: 03/19/24 11:15
Matrix: Water
Date Received: 03/21/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	82592	KG	EET ORL	03/27/24 14:26

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc. Job ID: 670-36845-1

Project/Site: NASA KSC LC34 Monthly System Samples

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-36845-1
Project/Site: NASA KSC LC34 Monthly System Samples

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-36845-1	LC34-GAC-20240319	Water	03/19/24 10:00	03/21/24 08:00
670-36845-2	LC34-AS1-20240319	Water	03/19/24 10:05	03/21/24 08:00
670-36845-3	LC34-AS2-20240319	Water	03/19/24 10:10	03/21/24 08:00
670-36845-4	LC34-INFLUENT-20240319	Water	03/19/24 10:15	03/21/24 08:00
670-36845-5	LC34-RW1A-20240319	Water	03/19/24 10:20	03/21/24 08:00
670-36845-6	LC34-RW1B-20240319	Water	03/19/24 10:25	03/21/24 08:00
670-36845-7	LC34-RW2A-20240319	Water	03/19/24 10:30	03/21/24 08:00
670-36845-8	LC34-RW2B-20240319	Water	03/19/24 10:35	03/21/24 08:00
670-36845-9	LC34-RW3A-20240319	Water	03/19/24 10:40	03/21/24 08:00
670-36845-10	LC34-RW3B-20240319	Water	03/19/24 10:45	03/21/24 08:00
670-36845-11	LC34-RW9A-20240319	Water	03/19/24 10:50	03/21/24 08:00
670-36845-12	LC34-RW17C-20240319	Water	03/19/24 10:55	03/21/24 08:00
670-36845-13	LC34-RW18C-20240319	Water	03/19/24 11:00	03/21/24 08:00
670-36845-14	LC34-RW19C-20240319	Water	03/19/24 11:05	03/21/24 08:00
670-36845-15	LC34-RW20C-20240319	Water	03/19/24 11:10	03/21/24 08:00
670-36845-16	LC34-RW21D-20240319	Water	03/19/24 11:15	03/21/24 08:00

Chain of Custody Samples

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Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

Client Contact Info

Name:
Chuck Sorden

Address :
1353 N. Courtenay Pkwy. Suite S

Address 2:

City, State Zip:
Merritt Island, Florida 32953

Phone:
3215917580

Email:
Chuck.Sorden@tetratech.com

Deliverables:

Client Contact Info

Company:
Tetra Tech, Inc.

Purchase Order:
1179322

Work Order:
112G08985

Proposed Due Date:

EETA Project Number:
67001156

Special Instructions:

Project Manager:
Dylnicki, Kaitlin

Project Reference:

Sampler:
Chuck Sorden

Description:
LC34 202403 Monthly System Samples

Site Name:
NASA KSC LC34

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	Lat/Long	Methods and Bottles: 8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-GAC-20240319	Grab	Water	03/19/24 10:00	FL				X	3	3
2	LC34-AS1-20240319	Grab	Water	03/19/24 10:05	FL				X	3	3
3	LC34-AS2-20240319	Grab	Water	03/19/24 10:10	FL				X	3	3
4	LC34-INFLUENT-20240319	Grab	Water	03/19/24 10:15	FL				X	3	3
5	LC34-RW1A-20240319	Grab	Water	03/19/24 10:20	FL				X	3	3
6	LC34-RW1B-20240319	Grab	Water	03/19/24 10:25	FL				X	3	3
7	LC34-RW2A-20240319	Grab	Water	03/19/24 10:30	FL				X	3	3
8	LC34-RW2B-20240319	Grab	Water	03/19/24 10:35	FL				X	3	3
9	LC34-RW3A-20240319	Grab	Water	03/19/24 10:40	FL				X	3	3
10	LC34-RW3B-20240319	Grab	Water	03/19/24 10:45	FL				X	3	3
11	LC34-RW9A-20240319	Grab	Water	03/19/24 10:50	FL				X	3	3
12	LC34-RW17C-20240319	Grab	Water	03/19/24 10:55	FL				X	3	3

Chain of Custody Samples

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Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

Client Contact Info

Name:
Chuck Sorden

Address :
1353 N. Courtenay Pkwy. Suite S

Address 2:

City, State Zip:
Merritt Island, Florida 32953

Phone:
3215917580

Email:
Chuck.Sorden@tetratech.com

Deliverables:

Client Contact Info

Company:
Tetra Tech, Inc.

Purchase Order:
1179322

Work Order:
112G08985

Proposed Due Date:

EETA Project Number:
67001156

Special Instructions:

Project Manager:
Dylnicki, Kaitlin

Project Reference:

Sampler:
Chuck Sorden

Description:
LC34 202403 Monthly System Samples

Site Name:
NASA KSC LC34

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	Lat/Long	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
13	LC34-RW18C-20240319	Grab	Water	03/19/24 11:00	FL				X	3	3
14	LC34-RW19C-20240319	Grab	Water	03/19/24 11:05	FL				X	3	3
15	LC34-RW20C-20240319	Grab	Water	03/19/24 11:10	FL				X	3	3
16	LC34-RW21D-20240319	Grab	Water	03/19/24 11:15	FL				X	3	3

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	3/20/24 19:17	Chuck Sorden	3/20/24 19:17	Bittle, David W	3/21/24 13:29

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-36845-1

Login Number: 36845

List Source: Eurofins Orlando

List Number: 1

Creator: Bittle, David W

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 4/3/2024 10:13:42 AM

JOB DESCRIPTION

NASA KSC LC34 - Biweekly Samples

JOB NUMBER

670-37342-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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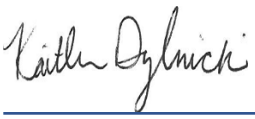
The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
Kaitlin Dylnicki, Project Manager
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(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc. Job ID: 670-37342-1
Project/Site: NASA KSC LC34 - Biweekly Samples

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-37342-1 Eurofins Orlando

Job Narrative
670-37342-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985

Receipt
The sample was received on 3/30/2024 8:00 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-83451 recovered outside acceptance criteria, low biased, for 2-Hexanone, Bromomethane and Chloroethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 670-83451 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-83451 recovered above the upper control limit for 1,1,2-Trichloro-1,2,2-trifluoroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-83451/3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Job ID: 670-37342-1
Project/Site: NASA KSC LC34 - Biweekly Samples

Client Sample ID: LC34-IW0044D2-110.0-20240329
Lab Sample ID: 670-37342-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	2.9		1.0	0.94	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	10		1.0	0.73	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene - DL	1400		20	11	ug/L	20		8260D	Total/NA
Trichloroethene - DL	660		20	18	ug/L	20		8260D	Total/NA
Vinyl chloride - DL	150		20	14	ug/L	20		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Job ID: 670-37342-1
Project/Site: NASA KSC LC34 - Biweekly Samples

Client Sample ID: LC34-IW0044D2-110.0-20240329
Lab Sample ID: 670-37342-1
Date Collected: 03/29/24 11:05
Matrix: Water
Date Received: 03/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			04/02/24 12:05	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			04/02/24 12:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			04/02/24 12:05	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			04/02/24 12:05	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			04/02/24 12:05	1
1,1-Dichloroethene	**2.9**		1.0	0.94	ug/L			04/02/24 12:05	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			04/02/24 12:05	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			04/02/24 12:05	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			04/02/24 12:05	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			04/02/24 12:05	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			04/02/24 12:05	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			04/02/24 12:05	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			04/02/24 12:05	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			04/02/24 12:05	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			04/02/24 12:05	1
2-Hexanone	2.5	U	20	2.5	ug/L			04/02/24 12:05	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			04/02/24 12:05	1
Acetone	25	U	50	25	ug/L			04/02/24 12:05	1
Benzene	0.71	U	1.0	0.71	ug/L			04/02/24 12:05	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			04/02/24 12:05	1
Bromoform	0.75	U	1.0	0.75	ug/L			04/02/24 12:05	1
Bromomethane	0.95	U	2.0	0.95	ug/L			04/02/24 12:05	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			04/02/24 12:05	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			04/02/24 12:05	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			04/02/24 12:05	1
Chloroethane	0.98	U	2.0	0.98	ug/L			04/02/24 12:05	1
Chloroform	0.80	U	5.0	0.80	ug/L			04/02/24 12:05	1
Chloromethane	0.82	U	2.0	0.82	ug/L			04/02/24 12:05	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			04/02/24 12:05	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			04/02/24 12:05	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			04/02/24 12:05	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			04/02/24 12:05	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			04/02/24 12:05	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			04/02/24 12:05	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			04/02/24 12:05	1
Methyl acetate	0.95	U	10	0.95	ug/L			04/02/24 12:05	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			04/02/24 12:05	1
Methylene Chloride	5.0	U	10	5.0	ug/L			04/02/24 12:05	1
o-Xylene	0.53	U	1.0	0.53	ug/L			04/02/24 12:05	1
Styrene	0.61	U	1.0	0.61	ug/L			04/02/24 12:05	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			04/02/24 12:05	1
Toluene	0.72	U	1.0	0.72	ug/L			04/02/24 12:05	1
trans-1,2-Dichloroethene	**10**		1.0	0.73	ug/L			04/02/24 12:05	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			04/02/24 12:05	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			04/02/24 12:05	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			04/02/24 12:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*04/02/24 12:05*	*1*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*04/02/24 12:05*	*1*

Client: Tetra Tech, Inc.
Job ID: 670-37342-1
Project/Site: NASA KSC LC34 - Biweekly Samples

Client Sample ID: LC34-IW0044D2-110.0-20240329
Lab Sample ID: 670-37342-1
Date Collected: 03/29/24 11:05
Matrix: Water
Date Received: 03/30/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*100*		*40 - 146*		*04/02/24 12:05*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**1400**		20	11	ug/L			04/02/24 17:09	20
Trichloroethene	**660**		20	18	ug/L			04/02/24 17:09	20
Vinyl chloride	**150**		20	14	ug/L			04/02/24 17:09	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*		*04/02/24 17:09*	*20*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*04/02/24 17:09*	*20*
Toluene-d8 (Surr)	*97*		*40 - 146*		*04/02/24 17:09*	*20*

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-37342-1
Project/Site: NASA KSC LC34 - Biweekly Samples

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-37342-1	LC34-IW0044D2-110.0-20240329	94	103	100
670-37342-1 - DL	LC34-IW0044D2-110.0-20240329	93	100	97
762-3915-K-1 MS	Matrix Spike	93	102	99
762-3915-K-1 MSD	Matrix Spike Duplicate	94	100	100
LCS 670-83451/4	Lab Control Sample	92	102	100
MB 670-83451/7	Method Blank	95	103	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-83451/7
Matrix: Water
Analysis Batch: 83451

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			04/02/24 10:19	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			04/02/24 10:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			04/02/24 10:19	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			04/02/24 10:19	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			04/02/24 10:19	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			04/02/24 10:19	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			04/02/24 10:19	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			04/02/24 10:19	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			04/02/24 10:19	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			04/02/24 10:19	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			04/02/24 10:19	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			04/02/24 10:19	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			04/02/24 10:19	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			04/02/24 10:19	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			04/02/24 10:19	1
2-Hexanone	2.5	U	20	2.5	ug/L			04/02/24 10:19	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			04/02/24 10:19	1
Acetone	25	U	50	25	ug/L			04/02/24 10:19	1
Benzene	0.71	U	1.0	0.71	ug/L			04/02/24 10:19	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			04/02/24 10:19	1
Bromoform	0.75	U	1.0	0.75	ug/L			04/02/24 10:19	1
Bromomethane	0.95	U	2.0	0.95	ug/L			04/02/24 10:19	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			04/02/24 10:19	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			04/02/24 10:19	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			04/02/24 10:19	1
Chloroethane	0.98	U	2.0	0.98	ug/L			04/02/24 10:19	1
Chloroform	0.80	U	5.0	0.80	ug/L			04/02/24 10:19	1
Chloromethane	0.82	U	2.0	0.82	ug/L			04/02/24 10:19	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			04/02/24 10:19	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			04/02/24 10:19	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			04/02/24 10:19	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			04/02/24 10:19	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			04/02/24 10:19	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			04/02/24 10:19	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			04/02/24 10:19	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			04/02/24 10:19	1
Methyl acetate	0.95	U	10	0.95	ug/L			04/02/24 10:19	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			04/02/24 10:19	1
Methylene Chloride	5.0	U	10	5.0	ug/L			04/02/24 10:19	1
o-Xylene	0.53	U	1.0	0.53	ug/L			04/02/24 10:19	1
Styrene	0.61	U	1.0	0.61	ug/L			04/02/24 10:19	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			04/02/24 10:19	1
Toluene	0.72	U	1.0	0.72	ug/L			04/02/24 10:19	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			04/02/24 10:19	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			04/02/24 10:19	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			04/02/24 10:19	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			04/02/24 10:19	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			04/02/24 10:19	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-83451/7
Matrix: Water
Analysis Batch: 83451

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			04/02/24 10:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*04/02/24 10:19*	*1*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*04/02/24 10:19*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*04/02/24 10:19*	*1*

Lab Sample ID: LCS 670-83451/4
Matrix: Water
Analysis Batch: 83451

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	22.3		ug/L		112	57 - 148
1,1,2,2-Tetrachloroethane	20.0	17.3		ug/L		86	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	25.3		ug/L		126	47 - 173
1,1,2-Trichloroethane	20.0	20.7		ug/L		103	57 - 141
1,1-Dichloroethane	20.0	20.6		ug/L		103	57 - 142
1,1-Dichloroethene	20.0	20.8		ug/L		104	47 - 139
1,2,4-Trichlorobenzene	20.0	20.0		ug/L		100	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	16.8		ug/L		84	48 - 150
1,2-Dibromoethane (EDB)	20.0	19.6		ug/L		98	57 - 140
1,2-Dichlorobenzene	20.0	21.8		ug/L		109	63 - 131
1,2-Dichloroethane	20.0	17.1		ug/L		85	50 - 156
1,2-Dichloropropane	20.0	19.9		ug/L		99	61 - 133
1,3-Dichlorobenzene	20.0	22.4		ug/L		112	66 - 129
1,4-Dichlorobenzene	20.0	19.5		ug/L		98	65 - 133
2-Butanone (MEK)	200	160		ug/L		80	10 - 180
2-Hexanone	200	137		ug/L		69	12 - 180
4-Methyl-2-pentanone	200	143		ug/L		71	19 - 180
Acetone	200	139		ug/L		69	10 - 180
Benzene	20.0	21.5		ug/L		107	56 - 136
Bromodichloromethane	20.0	20.8		ug/L		104	58 - 135
Bromoform	20.0	20.8		ug/L		104	46 - 148
Bromomethane	20.0	14.9		ug/L		75	10 - 173
Carbon disulfide	20.0	20.8		ug/L		104	43 - 153
Carbon tetrachloride	20.0	23.1		ug/L		116	54 - 156
Chlorobenzene	20.0	23.3		ug/L		116	51 - 139
Chloroethane	20.0	15.2		ug/L		76	27 - 180
Chloroform	20.0	22.5		ug/L		113	58 - 139
Chloromethane	20.0	17.9		ug/L		89	33 - 154
cis-1,2-Dichloroethene	20.0	19.7		ug/L		98	56 - 128
cis-1,3-Dichloropropene	20.0	20.2		ug/L		101	64 - 128
Cyclohexane	20.0	20.4		ug/L		102	14 - 151
Dibromochloromethane	20.0	21.3		ug/L		106	50 - 140
Dichlorodifluoromethane	20.0	16.3		ug/L		81	10 - 180
Ethylbenzene	20.0	22.3		ug/L		111	63 - 133
Isopropylbenzene	20.0	21.8		ug/L		109	60 - 132
m,p-Xylenes	20.0	19.3		ug/L		96	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-83451/4
Matrix: Water
Analysis Batch: 83451

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	38.1		ug/L		95	70 - 130
Methyl tert-butyl ether	20.0	19.5		ug/L		98	51 - 145
Methylene Chloride	20.0	21.1		ug/L		105	43 - 142
o-Xylene	20.0	20.4		ug/L		102	61 - 129
Styrene	20.0	21.3		ug/L		106	59 - 136
Tetrachloroethene	20.0	24.8		ug/L		124	60 - 147
Toluene	20.0	20.0		ug/L		100	64 - 131
trans-1,2-Dichloroethene	20.0	23.5		ug/L		117	54 - 134
trans-1,3-Dichloropropene	20.0	19.6		ug/L		98	65 - 149
Trichloroethene	20.0	23.7		ug/L		118	62 - 135
Trichlorofluoromethane	20.0	16.8		ug/L		84	56 - 155
Vinyl chloride	20.0	16.5		ug/L		82	20 - 167
Xylenes, Total	40.0	39.7		ug/L		99	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 762-3915-K-1 MS
Matrix: Water
Analysis Batch: 83451

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	80	U J3	2000	2170		ug/L		109	57 - 148
1,1,2,2-Tetrachloroethane	54	U J3	2000	1820		ug/L		91	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	1750		ug/L		87	50 - 150
1,1,2-Trichloroethane	76	U J3	2000	1990		ug/L		100	57 - 141
1,1-Dichloroethane	62	U J3	2000	2030		ug/L		101	57 - 142
1,1-Dichloroethene	94	U J3	2000	1500		ug/L		75	49 - 139
1,2,4-Trichlorobenzene	70	U J3	2000	2050		ug/L		103	52 - 159
1,2-Dibromo-3-Chloropropane	96	U J3	2000	1860		ug/L		93	48 - 150
1,2-Dibromoethane (EDB)	78	U J3	2000	1910		ug/L		95	50 - 150
1,2-Dichlorobenzene	73	U J3	2000	2110		ug/L		105	63 - 131
1,2-Dichloroethane	63	U J3	2000	1690		ug/L		84	50 - 156
1,2-Dichloropropane	80	U J3	2000	1980		ug/L		99	61 - 133
1,3-Dichlorobenzene	77	U J3	2000	2150		ug/L		108	66 - 129
1,4-Dichlorobenzene	76	U J3	2000	1880		ug/L		94	65 - 133
2-Butanone (MEK)	450	U	20000	17800		ug/L		89	10 - 180
2-Hexanone	250	U	20000	15500		ug/L		78	12 - 180
4-Methyl-2-pentanone	500	U	20000	15800		ug/L		79	19 - 180
Acetone	2500	U	20000	20200		ug/L		101	10 - 180
Benzene	71	U J3	2000	2110		ug/L		105	56 - 136
Bromodichloromethane	52	U J3	2000	1980		ug/L		99	58 - 135
Bromoform	75	U J3	2000	2090		ug/L		104	46 - 148
Bromomethane	95	U	2000	1430		ug/L		71	10 - 173
Carbon disulfide	250	U	2000	1170		ug/L		58	43 - 153
Carbon tetrachloride	94	U J3	2000	2330		ug/L		117	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 762-3915-K-1 MS
Matrix: Water
Analysis Batch: 83451

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	72	U J3	2000	2260		ug/L		113	51 - 139
Chloroethane	98	U J3	2000	1190		ug/L		59	27 - 180
Chloroform	80	U J3	2000	2140		ug/L		107	59 - 139
Chloromethane	82	U J3	2000	1770		ug/L		89	33 - 154
cis-1,2-Dichloroethene	53	U J3	2000	1940		ug/L		97	56 - 128
cis-1,3-Dichloropropene	59	U J3	2000	1960		ug/L		98	64 - 128
Cyclohexane	93	U	2000	2030		ug/L		102	14 - 141
Dibromochloromethane	50	U J3	2000	2040		ug/L		102	50 - 150
Dichlorodifluoromethane	74	U J3	2000	1570		ug/L		78	10 - 180
Ethylbenzene	69	U J3	2000	2230		ug/L		112	63 - 133
Isopropylbenzene	67	U	2000	2160		ug/L		108	60 - 132
m,p-Xylenes	130	U J3	2000	1950		ug/L		98	64 - 133
Methyl acetate	95	U	4000	3840		ug/L		96	50 - 150
Methyl tert-butyl ether	60	U	2000	1930		ug/L		97	50 - 150
Methylene Chloride	500	U J3	2000	1970		ug/L		99	43 - 142
o-Xylene	53	U J3	2000	2110		ug/L		106	61 - 129
Styrene	61	U	2000	2140		ug/L		107	59 - 136
Tetrachloroethene	76	U J3	2000	2450		ug/L		122	60 - 147
Toluene	72	U J3	2000	1970		ug/L		99	64 - 131
trans-1,2-Dichloroethene	73	U J3	2000	2270		ug/L		113	54 - 134
trans-1,3-Dichloropropene	73	U J3	2000	1960		ug/L		98	65 - 149
Trichloroethene	89	U J3	2000	2420		ug/L		121	62 - 135
Trichlorofluoromethane	94	U J3	2000	1690		ug/L		84	56 - 155
Vinyl chloride	71	U J3	2000	1800		ug/L		90	20 - 167
Xylenes, Total	130	U	4000	4060		ug/L		102	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: 762-3915-K-1 MSD
Matrix: Water
Analysis Batch: 83451

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	80	U J3	2000	1660	J3	ug/L		83	57 - 148	27	25
1,1,2,2-Tetrachloroethane	54	U J3	2000	1420	J3	ug/L		71	60 - 139	24	17
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	1320		ug/L		66	50 - 150	28	30
1,1,2-Trichloroethane	76	U J3	2000	1520	J3	ug/L		76	57 - 141	27	16
1,1-Dichloroethane	62	U J3	2000	1520	J3	ug/L		76	57 - 142	29	24
1,1-Dichloroethene	94	U J3	2000	1170	J3	ug/L		58	49 - 139	25	16
1,2,4-Trichlorobenzene	70	U J3	2000	1580	J3	ug/L		79	52 - 159	26	24
1,2-Dibromo-3-Chloropropane	96	U J3	2000	1360	J3	ug/L		68	48 - 150	31	21
1,2-Dibromoethane (EDB)	78	U J3	2000	1530	J3	ug/L		76	50 - 150	22	16
1,2-Dichlorobenzene	73	U J3	2000	1600	J3	ug/L		80	63 - 131	27	25
1,2-Dichloroethane	63	U J3	2000	1320	J3	ug/L		66	50 - 156	24	18
1,2-Dichloropropane	80	U J3	2000	1490	J3	ug/L		75	61 - 133	28	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 762-3915-K-1 MSD
Matrix: Water
Analysis Batch: 83451

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	77	U J3	2000	1670	J3	ug/L		83	66 - 129	25	23
1,4-Dichlorobenzene	76	U J3	2000	1440	J3	ug/L		72	65 - 133	26	23
2-Butanone (MEK)	450	U	20000	14100		ug/L		71	10 - 180	23	29
2-Hexanone	250	U	20000	12300		ug/L		61	12 - 180	24	28
4-Methyl-2-pentanone	500	U	20000	12600		ug/L		63	19 - 180	23	24
Acetone	2500	U	20000	16900		ug/L		84	10 - 180	18	19
Benzene	71	U J3	2000	1630	J3	ug/L		82	56 - 136	26	14
Bromodichloromethane	52	U J3	2000	1530	J3	ug/L		77	58 - 135	25	19
Bromoform	75	U J3	2000	1620	J3	ug/L		81	46 - 148	25	18
Bromomethane	95	U	2000	1130		ug/L		57	10 - 173	23	29
Carbon disulfide	250	U	2000	922		ug/L		46	43 - 153	24	26
Carbon tetrachloride	94	U J3	2000	1760	J3	ug/L		88	54 - 156	28	27
Chlorobenzene	72	U J3	2000	1740	J3	ug/L		87	51 - 139	26	13
Chloroethane	98	U J3	2000	932	J3	ug/L		47	27 - 180	24	22
Chloroform	80	U J3	2000	1630	J3	ug/L		81	59 - 139	27	17
Chloromethane	82	U J3	2000	1280	J3	ug/L		64	33 - 154	32	31
cis-1,2-Dichloroethene	53	U J3	2000	1460	J3	ug/L		73	56 - 128	28	17
cis-1,3-Dichloropropene	59	U J3	2000	1530	J3	ug/L		77	64 - 128	24	20
Cyclohexane	93	U	2000	1530		ug/L		77	14 - 141	28	30
Dibromochloromethane	50	U J3	2000	1580	J3	ug/L		79	50 - 150	25	18
Dichlorodifluoromethane	74	U J3	2000	1170	J3	ug/L		59	10 - 180	29	26
Ethylbenzene	69	U J3	2000	1730	J3	ug/L		87	63 - 133	25	18
Isopropylbenzene	67	U	2000	1740		ug/L		87	60 - 132	22	23
m,p-Xylenes	130	U J3	2000	1540	J3	ug/L		77	64 - 133	24	18
Methyl acetate	95	U	4000	2980		ug/L		74	50 - 150	25	30
Methyl tert-butyl ether	60	U	2000	1560		ug/L		78	50 - 150	21	22
Methylene Chloride	500	U J3	2000	1490	J3	ug/L		75	43 - 142	28	23
o-Xylene	53	U J3	2000	1650	J3	ug/L		83	61 - 129	24	16
Styrene	61	U	2000	1670		ug/L		84	59 - 136	24	32
Tetrachloroethene	76	U J3	2000	1930	J3	ug/L		96	60 - 147	24	21
Toluene	72	U J3	2000	1550	J3	ug/L		77	64 - 131	24	16
trans-1,2-Dichloroethene	73	U J3	2000	1720	J3	ug/L		86	54 - 134	27	20
trans-1,3-Dichloropropene	73	U J3	2000	1550	J3	ug/L		77	65 - 149	23	17
Trichloroethene	89	U J3	2000	1850	J3	ug/L		93	62 - 135	26	20
Trichlorofluoromethane	94	U J3	2000	1310	J3	ug/L		66	56 - 155	25	22
Vinyl chloride	71	U J3	2000	1380	J3	ug/L		69	20 - 167	26	24
Xylenes, Total	130	U	4000	3190		ug/L		80	50 - 150	24	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

QC Association Summary

Client: Tetra Tech, Inc.
Job ID: 670-37342-1
Project/Site: NASA KSC LC34 - Biweekly Samples

GC/MS VOA

Analysis Batch: 83451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-37342-1	LC34-IW0044D2-110.0-20240329	Total/NA	Water	8260D	
670-37342-1 - DL	LC34-IW0044D2-110.0-20240329	Total/NA	Water	8260D	
MB 670-83451/7	Method Blank	Total/NA	Water	8260D	
LCS 670-83451/4	Lab Control Sample	Total/NA	Water	8260D	
762-3915-K-1 MS	Matrix Spike	Total/NA	Water	8260D	
762-3915-K-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-37342-1
Project/Site: NASA KSC LC34 - Biweekly Samples

Client Sample ID: LC34-IW0044D2-110.0-20240329
Lab Sample ID: 670-37342-1
Date Collected: 03/29/24 11:05
Matrix: Water
Date Received: 03/30/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	83451	KG	EET ORL	04/02/24 12:05
Total/NA	Analysis	8260D	DL	20	83451	KG	EET ORL	04/02/24 17:09

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-37342-1
Project/Site: NASA KSC LC34 - Biweekly Samples

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-37342-1
Project/Site: NASA KSC LC34 - Biweekly Samples

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-37342-1
Project/Site: NASA KSC LC34 - Biweekly Samples

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-37342-1	LC34-IW0044D2-110.0-20240329	Water	03/29/24 11:05	03/30/24 08:00

Chain of Custody Samples

eurofins | Environment Testing

Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

Client Contact Info

Name:
Chuck Sorden

Address :
1353 N. Courtenay Pkwy. Suite S

Address 2:

City, State Zip:
Merritt Island, Florida 32953

Phone:
3215917580

Email:
Chuck.Sorden@tetratech.com

Deliverables:

Client Contact Info

Company:
Tetra Tech, Inc.

Purchase Order:
1179322

Work Order:
112G08985

Proposed Due Date:

EETA Project Number:
67001156

Special Instructions:

Project Manager:
Dylnicki, Kaitlin

Project Reference:

Sampler:
Chuck Sorden

Description:
LC34 20240329 Bi-Weekly Samples

Site Name:
NASA KSC LC34

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	Lat/Long	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-IW0044D2-110.0-20240329	Grab	Water	03/29/24 11:05	FL				X	3	3

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	3/29/24 14:48	Chuck Sorden	3/29/24 14:48	Clerisier, Meline	3/30/24 11:29

Chain of Custody Samples

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Contains Rush Work: ☐ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name:
Chuck Sorden
Address :
1353 N. Courtenay Pkwy. Suite S
Address 2:
City, State Zip:
Merritt Island, Florida 32953
Phone:
3215917580
Email:
Chuck.Sorden@tetratech.com
Deliverables:

Client Contact Info

Company:
Tetra Tech, Inc.
Purchase Order:
1179322
Work Order:
112G08985
Proposed Due Date:
EETA Project Number:
67001156
Special Instructions:

Project Manager:
Dylnicki, Kaitlin
Project Reference:
Sampler:
Chuck Sorden
Description:
LC34 20240329 Bi-Weekly Samples
Site Name:
NASA KSC LC34

Methods and Bottles

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	Lat/Long	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-IW0044D2-110.0-20240329	Grab	Water	03/29/24 11:05	FL				X	3	3

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:	
Chuck Sorden	3/29/24 14:48	Chuck Sorden	3/29/24 14:48	Clerisier, Meline	3/30/24 ~~11:29~~ 8:00	1.2/1.2 596°

670-37342 Chain of Custody

Chain of Custody Number: **270150**

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-37342-1

Login Number: 37342

List Source: Eurofins Orlando

List Number: 1

Creator: Clerisier, Meline

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34 DPT

JOB NUMBER

670-33262-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

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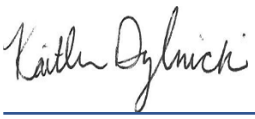

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Authorized for release by
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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-33262-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/17/2024 1:20 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.3°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72090 recovered outside acceptance criteria, low biased, for Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72090 recovered above the upper control limit for 1,1-Dichloroethene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-72090/3).

Method 8260D: The laboratory control sample (LCS) for analytical batch 670-72090 recovered outside control limits for the following analytes: trans-1,2-Dichloroethene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 670-72090 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0600-008.0-20240116 (670-33262-21), LC34-DPT0600-013.0-20240116 (670-33262-23), LC34-DPT0600-023.0-20240116 (670-33262-27), LC34-DPT0600-028.0-20240116 (670-33262-28), LC34-DPT0599-028.0-20240116 (670-33262-29), LC34-DPT0600-033.0-20240116 (670-33262-30), LC34-DPT0599-033.0-20240116 (670-33262-31), LC34-DPT0599-038.0-20240116 (670-33262-32), LC34-DPT0600-038.0-20240116 (670-33262-33), LC34-DPT0600-043.0-20240116 (670-33262-34), LC34-DPT0599-043.0-20240116 (670-33262-35), LC34-DPT0599-048.0-20240116 (670-33262-36), LC34-DPT0600-048.0-20240116 (670-33262-37) and LC34-DPT0599-053.0-20240116 (670-33262-38). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72072 recovered above the upper control limit for Acetone and Chloroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-72072/3).

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0601-008.0-20240115 (670-33262-1), LC34-DPT0601-018.0-20240115 (670-33262-3), LC34-DPT0601-023.0-20240115 (670-33262-4), LC34-DPT0601-028.0-20240115 (670-33262-5), LC34-DPT0601-038.0-20240115 (670-33262-7), LC34-DPT0601-043.0-20240115 (670-33262-8), LC34-DPT0601-048.0-20240115 (670-33262-9), LC34-DPT0601-053.0-20240115 (670-33262-10), LC34-DPT0601-058.0-20240115 (670-33262-11), LC34-DPT0601-063.0-20240115 (670-33262-12), LC34-DPT0601-068.0-20240115 (670-33262-13), LC34-DPT0601-078.0-20240115 (670-33262-15) and LC34-DPT0601-083.0-20240115 (670-33262-16). Elevated reporting limits (RLs) are provided.

Job ID: 670-33262-1 (Continued) Eurofins Orlando

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 670-72072 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72247 recovered above the upper control limit for Chloroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-72247/4).

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 670-72247 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72523 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0600-053.0-20240116 (670-33262-39), LC34-DPT0599-058.0-20240116 (670-33262-40), LC34-DPT0600-058.0-20240116 (670-33262-41), LC34-DPT0600-063.0-20240116 (670-33262-42) and LC34-DPT0599-063.0-20240116 (670-33262-43). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72672 recovered outside acceptance criteria, low biased, for 1,1,2,2-Tetrachloroethane, 1,2-Dibromo-3-Chloropropane, 2-Butanone (MEK), 2-Hexanone, 4-Methyl-2-pentanone, Acetone, Chloromethane and Methyl acetate. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0600-053.0-20240116 (670-33262-39) and LC34-DPT0600-058.0-20240116 (670-33262-41). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33262-1

Client Sample ID: LC34-DPT0601-008.0-20240115 — Lab Sample ID: 670-33262-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK) - DL	460	I	500	230	ug/L	50		8260D	Total/NA
cis-1,2-Dichloroethene - DL	1600		50	27	ug/L	50		8260D	Total/NA
Vinyl chloride - DL	250		50	36	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-DPT0601-013.0-20240115 — Lab Sample ID: 670-33262-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	73		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	32		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0601-018.0-20240115 — Lab Sample ID: 670-33262-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	250		5.0	2.7	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	77		5.0	3.6	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-DPT0601-023.0-20240115 — Lab Sample ID: 670-33262-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	5700		100	53	ug/L	100		8260D	Total/NA
trans-1,2-Dichloroethene - DL	83	I	100	73	ug/L	100		8260D	Total/NA
Vinyl chloride - DL	400		100	71	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-DPT0601-028.0-20240115 — Lab Sample ID: 670-33262-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1300		25	13	ug/L	25		8260D	Total/NA
trans-1,2-Dichloroethene - DL	26		25	18	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	510		25	18	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-DPT0601-033.0-20240115 — Lab Sample ID: 670-33262-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4.4		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	1.3		1.0	0.73	ug/L	1		8260D	Total/NA
Trichloroethene	1.3		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	13		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0601-038.0-20240115 — Lab Sample ID: 670-33262-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	4300		100	53	ug/L	100		8260D	Total/NA
trans-1,2-Dichloroethene - DL	300		100	73	ug/L	100		8260D	Total/NA
Vinyl chloride - DL	2700		100	71	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-DPT0601-043.0-20240115 — Lab Sample ID: 670-33262-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	58000		1000	530	ug/L	1000		8260D	Total/NA
trans-1,2-Dichloroethene - DL	2200		1000	730	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	4700		1000	890	ug/L	1000		8260D	Total/NA
Vinyl chloride - DL	6200		1000	710	ug/L	1000		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Orlando

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33262-1

Client Sample ID: LC34-DPT0601-048.0-20240115 — Lab Sample ID: 670-33262-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	120000		2000	1100	ug/L	2000		8260D	Total/NA
trans-1,2-Dichloroethene - DL	4100		1000	730	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	44000		1000	890	ug/L	1000		8260D	Total/NA
Vinyl chloride - DL	3800		1000	710	ug/L	1000		8260D	Total/NA

Client Sample ID: LC34-DPT0601-053.0-20240115 — Lab Sample ID: 670-33262-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	7200		100	53	ug/L	100		8260D	Total/NA
trans-1,2-Dichloroethene - DL	86	I	100	73	ug/L	100		8260D	Total/NA
Vinyl chloride - DL	3600		100	71	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-DPT0601-058.0-20240115 — Lab Sample ID: 670-33262-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	33		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	3.1		1.0	0.73	ug/L	1		8260D	Total/NA
Trichloroethene	2.3		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	64		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0601-063.0-20240115 — Lab Sample ID: 670-33262-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	110		5.0	2.7	ug/L	5		8260D	Total/NA
trans-1,2-Dichloroethene - DL	5.9		5.0	3.7	ug/L	5		8260D	Total/NA
Trichloroethene - DL	10		5.0	4.5	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	34		5.0	3.6	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-DPT0601-068.0-20240115 — Lab Sample ID: 670-33262-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.1		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	1.3		1.0	0.73	ug/L	1		8260D	Total/NA
Trichloroethene	2.0		1.0	0.89	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0601-073.0-20240115 — Lab Sample ID: 670-33262-14

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	25		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	1.6		1.0	0.73	ug/L	1		8260D	Total/NA
Trichloroethene	10		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	1.9		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0601-078.0-20240115 — Lab Sample ID: 670-33262-15

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	7400		100	53	ug/L	100		8260D	Total/NA
trans-1,2-Dichloroethene - DL	150		100	73	ug/L	100		8260D	Total/NA
Trichloroethene - DL	1000		100	89	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-DPT0601-083.0-20240115 — Lab Sample ID: 670-33262-16

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	19		1.0	0.53	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Orlando

Client Sample ID: LC34-DPT0601-083.0-20240115 (Continued) — Lab Sample ID: 670-33262-16

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	1.6		1.0	0.73	ug/L	1		8260D	Total/NA
Trichloroethene	1.2		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	3.0		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0601-088.0-20240115 — Lab Sample ID: 670-33262-17

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.7		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	1.9		1.0	0.89	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0601-093.0-20240116 — Lab Sample ID: 670-33262-18

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	27		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	7.1		1.0	0.89	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0601-098.0-20240116 — Lab Sample ID: 670-33262-19

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	25		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	11		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	1.0		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0599-008.0-20240116 — Lab Sample ID: 670-33262-20

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.1		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	11		1.0	0.89	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0600-008.0-20240116 — Lab Sample ID: 670-33262-21

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	230		50	27	ug/L	50		8260D	Total/NA
Trichloroethene - DL	990		50	45	ug/L	50		8260D	Total/NA
Vinyl chloride - DL	140		50	36	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-DPT0599-013.0-20240116 — Lab Sample ID: 670-33262-22

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.93	I	1.0	0.89	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0600-013.0-20240116 — Lab Sample ID: 670-33262-23

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1900		50	27	ug/L	50		8260D	Total/NA
Trichloroethene - DL	2100		50	45	ug/L	50		8260D	Total/NA
Vinyl chloride - DL	120		50	36	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-DPT0599-018.0-20240116 — Lab Sample ID: 670-33262-24

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.6		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	1.7		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	8.9		1.0	0.71	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33262-1

Client Sample ID: LC34-DPT0600-018.0-20240116 — Lab Sample ID: 670-33262-25

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	37		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	1.6		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	60		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0599-023.0-20240116 — Lab Sample ID: 670-33262-26

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroethane	1.9	I	2.0	0.98	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	25		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	2.6		1.0	0.73	ug/L	1		8260D	Total/NA
Trichloroethene	5.7		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	81		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0600-023.0-20240116 — Lab Sample ID: 670-33262-27

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	480		10	5.3	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	400		10	7.1	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-DPT0600-028.0-20240116 — Lab Sample ID: 670-33262-28

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	300		100	53	ug/L	100		8260D	Total/NA
Vinyl chloride - DL	110		100	71	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-DPT0599-028.0-20240116 — Lab Sample ID: 670-33262-29

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	30000		1000	530	ug/L	1000		8260D	Total/NA
trans-1,2-Dichloroethene - DL	1500		1000	730	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	45000		1000	890	ug/L	1000		8260D	Total/NA
Vinyl chloride - DL	2500		1000	710	ug/L	1000		8260D	Total/NA

Client Sample ID: LC34-DPT0600-033.0-20240116 — Lab Sample ID: 670-33262-30

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1500		50	27	ug/L	50		8260D	Total/NA
Vinyl chloride - DL	430		50	36	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-DPT0599-033.0-20240116 — Lab Sample ID: 670-33262-31

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	74000		1000	530	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	320000		5000	4500	ug/L	5000		8260D	Total/NA
Vinyl chloride - DL	1300		1000	710	ug/L	1000		8260D	Total/NA

Client Sample ID: LC34-DPT0599-038.0-20240116 — Lab Sample ID: 670-33262-32

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	70000		10000	5300	ug/L	10000		8260D	Total/NA
Trichloroethene - DL	510000		10000	8900	ug/L	10000		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33262-1

Client Sample ID: LC34-DPT0600-038.0-20240116 — Lab Sample ID: 670-33262-33

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	490		100	53	ug/L	100		8260D	Total/NA
Vinyl chloride - DL	460		100	71	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-DPT0600-043.0-20240116 — Lab Sample ID: 670-33262-34

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	370		50	27	ug/L	50		8260D	Total/NA
Vinyl chloride - DL	1100		50	36	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-DPT0599-043.0-20240116 — Lab Sample ID: 670-33262-35

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	160000		2500	1300	ug/L	2500		8260D	Total/NA
trans-1,2-Dichloroethene - DL	4100		2500	1800	ug/L	2500		8260D	Total/NA
Trichloroethene - DL	22000		2500	2200	ug/L	2500		8260D	Total/NA
Vinyl chloride - DL	25000		2500	1800	ug/L	2500		8260D	Total/NA

Client Sample ID: LC34-DPT0599-048.0-20240116 — Lab Sample ID: 670-33262-36

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	64000		1000	530	ug/L	1000		8260D	Total/NA
trans-1,2-Dichloroethene - DL	2300		1000	730	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	3400		1000	890	ug/L	1000		8260D	Total/NA
Vinyl chloride - DL	15000		1000	710	ug/L	1000		8260D	Total/NA

Client Sample ID: LC34-DPT0600-048.0-20240116 — Lab Sample ID: 670-33262-37

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	70000		10000	5300	ug/L	10000		8260D	Total/NA
Trichloroethene - DL	450000		10000	8900	ug/L	10000		8260D	Total/NA
Vinyl chloride - DL	13000		10000	7100	ug/L	10000		8260D	Total/NA

Client Sample ID: LC34-DPT0599-053.0-20240116 — Lab Sample ID: 670-33262-38

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	120000		5000	2700	ug/L	5000		8260D	Total/NA
Trichloroethene - DL	130000		5000	4500	ug/L	5000		8260D	Total/NA
Vinyl chloride - DL	9600		5000	3600	ug/L	5000		8260D	Total/NA

Client Sample ID: LC34-DPT0600-053.0-20240116 — Lab Sample ID: 670-33262-39

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	590		10	5.3	ug/L	10		8260D	Total/NA
trans-1,2-Dichloroethene - DL	26		10	7.3	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	1800		50	36	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-DPT0599-058.0-20240116 — Lab Sample ID: 670-33262-40

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	48000		1000	530	ug/L	1000		8260D	Total/NA
trans-1,2-Dichloroethene - DL	890	I	1000	730	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	7100		1000	890	ug/L	1000		8260D	Total/NA
Vinyl chloride - DL	2700		1000	710	ug/L	1000		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33262-1

Client Sample ID: LC34-DPT0600-058.0-20240116 — Lab Sample ID: 670-33262-41

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	940		25	13	ug/L	25		8260D	Total/NA
trans-1,2-Dichloroethene - DL	52		25	18	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	2700		100	71	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-DPT0600-063.0-20240116 — Lab Sample ID: 670-33262-42

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	90		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	3.4		1.0	0.73	ug/L	1		8260D	Total/NA
Trichloroethene	1.5		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	29		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0599-063.0-20240116 — Lab Sample ID: 670-33262-43

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	4100		100	53	ug/L	100		8260D	Total/NA
trans-1,2-Dichloroethene - DL	79	I	100	73	ug/L	100		8260D	Total/NA
Trichloroethene - DL	560		100	89	ug/L	100		8260D	Total/NA
Vinyl chloride - DL	900		100	71	ug/L	100		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0601-008.0-20240115
Lab Sample ID: 670-33262-1
Date Collected: 01/15/24 09:30
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	40	U	50	40	ug/L			01/18/24 19:54	50
1,1,2,2-Tetrachloroethane	27	U	50	27	ug/L			01/18/24 19:54	50
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	100	37	ug/L			01/18/24 19:54	50
1,1,2-Trichloroethane	38	U	100	38	ug/L			01/18/24 19:54	50
1,1-Dichloroethane	31	U	50	31	ug/L			01/18/24 19:54	50
1,1-Dichloroethene	47	U	50	47	ug/L			01/18/24 19:54	50
1,2,4-Trichlorobenzene	35	U J3	100	35	ug/L			01/18/24 19:54	50
1,2-Dibromo-3-Chloropropane	48	U	500	48	ug/L			01/18/24 19:54	50
1,2-Dibromoethane (EDB)	39	U	600	39	ug/L			01/18/24 19:54	50
1,2-Dichlorobenzene	37	U	50	37	ug/L			01/18/24 19:54	50
1,2-Dichloroethane	32	U	50	32	ug/L			01/18/24 19:54	50
1,2-Dichloropropane	40	U	50	40	ug/L			01/18/24 19:54	50
1,3-Dichlorobenzene	39	U	50	39	ug/L			01/18/24 19:54	50
1,4-Dichlorobenzene	38	U	50	38	ug/L			01/18/24 19:54	50
2-Butanone (MEK)	**460**	**I**	500	230	ug/L			01/18/24 19:54	50
2-Hexanone	130	U	1000	130	ug/L			01/18/24 19:54	50
4-Methyl-2-pentanone	250	U	1000	250	ug/L			01/18/24 19:54	50
Acetone	1300	U	2500	1300	ug/L			01/18/24 19:54	50
Benzene	36	U	50	36	ug/L			01/18/24 19:54	50
Bromodichloromethane	26	U	50	26	ug/L			01/18/24 19:54	50
Bromoform	38	U	50	38	ug/L			01/18/24 19:54	50
Bromomethane	48	U	100	48	ug/L			01/18/24 19:54	50
Carbon disulfide	130	U	250	130	ug/L			01/18/24 19:54	50
Carbon tetrachloride	47	U	50	47	ug/L			01/18/24 19:54	50
Chlorobenzene	36	U	50	36	ug/L			01/18/24 19:54	50
Chloroethane	49	U	100	49	ug/L			01/18/24 19:54	50
Chloroform	40	U	250	40	ug/L			01/18/24 19:54	50
Chloromethane	41	U	100	41	ug/L			01/18/24 19:54	50
cis-1,2-Dichloroethene	**1600**		50	27	ug/L			01/18/24 19:54	50
cis-1,3-Dichloropropene	30	U	50	30	ug/L			01/18/24 19:54	50
Cyclohexane	47	U	250	47	ug/L			01/18/24 19:54	50
Dibromochloromethane	25	U	50	25	ug/L			01/18/24 19:54	50
Dichlorodifluoromethane	37	U	50	37	ug/L			01/18/24 19:54	50
Ethylbenzene	35	U	50	35	ug/L			01/18/24 19:54	50
Isopropylbenzene	34	U	100	34	ug/L			01/18/24 19:54	50
m,p-Xylenes	65	U	100	65	ug/L			01/18/24 19:54	50
Methyl acetate	48	U	500	48	ug/L			01/18/24 19:54	50
Methyl tert-butyl ether	30	U	100	30	ug/L			01/18/24 19:54	50
Methylene Chloride	250	U	500	250	ug/L			01/18/24 19:54	50
o-Xylene	27	U	50	27	ug/L			01/18/24 19:54	50
Styrene	31	U	50	31	ug/L			01/18/24 19:54	50
Tetrachloroethene	38	U	50	38	ug/L			01/18/24 19:54	50
Toluene	36	U	50	36	ug/L			01/18/24 19:54	50
trans-1,2-Dichloroethene	37	U	50	37	ug/L			01/18/24 19:54	50
trans-1,3-Dichloropropene	37	U	50	37	ug/L			01/18/24 19:54	50
Trichloroethene	45	U	50	45	ug/L			01/18/24 19:54	50
Trichlorofluoromethane	47	U	50	47	ug/L			01/18/24 19:54	50
Vinyl chloride	**250**		50	36	ug/L			01/18/24 19:54	50
Xylenes, Total	65	U	100	65	ug/L			01/18/24 19:54	50

Client Sample ID: LC34-DPT0601-008.0-20240115
Lab Sample ID: 670-33262-1

Date Collected: 01/15/24 09:30
Matrix: Water
Date Received: 01/17/24 13:20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/18/24 19:54*	*50*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/18/24 19:54*	*50*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/18/24 19:54*	*50*

Client Sample ID: LC34-DPT0601-013.0-20240115
Lab Sample ID: 670-33262-2

Date Collected: 01/15/24 09:45
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/18/24 13:46	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/18/24 13:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/18/24 13:46	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/18/24 13:46	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/18/24 13:46	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/18/24 13:46	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/18/24 13:46	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/18/24 13:46	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/18/24 13:46	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/18/24 13:46	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/18/24 13:46	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/18/24 13:46	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/18/24 13:46	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/18/24 13:46	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/18/24 13:46	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/18/24 13:46	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/18/24 13:46	1
Acetone	25	U	50	25	ug/L			01/18/24 13:46	1
Benzene	0.71	U	1.0	0.71	ug/L			01/18/24 13:46	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/18/24 13:46	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/18/24 13:46	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/18/24 13:46	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/18/24 13:46	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/18/24 13:46	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/18/24 13:46	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/18/24 13:46	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/18/24 13:46	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/18/24 13:46	1
cis-1,2-Dichloroethene	**73**		1.0	0.53	ug/L			01/18/24 13:46	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/18/24 13:46	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/18/24 13:46	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/18/24 13:46	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/18/24 13:46	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/18/24 13:46	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/18/24 13:46	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/18/24 13:46	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/18/24 13:46	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/18/24 13:46	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/18/24 13:46	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/18/24 13:46	1

Client Sample ID: LC34-DPT0601-013.0-20240115
Lab Sample ID: 670-33262-2

Date Collected: 01/15/24 09:45
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			01/18/24 13:46	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/18/24 13:46	1
Toluene	0.72	U	1.0	0.72	ug/L			01/18/24 13:46	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/18/24 13:46	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/18/24 13:46	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/18/24 13:46	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/18/24 13:46	1
Vinyl chloride	**32**		1.0	0.71	ug/L			01/18/24 13:46	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/18/24 13:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/18/24 13:46*	*1*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/18/24 13:46*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/18/24 13:46*	*1*

Client Sample ID: LC34-DPT0601-018.0-20240115
Lab Sample ID: 670-33262-3

Date Collected: 01/15/24 10:00
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			01/18/24 15:58	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			01/18/24 15:58	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			01/18/24 15:58	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			01/18/24 15:58	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			01/18/24 15:58	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			01/18/24 15:58	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			01/18/24 15:58	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			01/18/24 15:58	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			01/18/24 15:58	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			01/18/24 15:58	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			01/18/24 15:58	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			01/18/24 15:58	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			01/18/24 15:58	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			01/18/24 15:58	5
2-Butanone (MEK)	23	U	50	23	ug/L			01/18/24 15:58	5
2-Hexanone	13	U	100	13	ug/L			01/18/24 15:58	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			01/18/24 15:58	5
Acetone	130	U	250	130	ug/L			01/18/24 15:58	5
Benzene	3.6	U	5.0	3.6	ug/L			01/18/24 15:58	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			01/18/24 15:58	5
Bromoform	3.8	U	5.0	3.8	ug/L			01/18/24 15:58	5
Bromomethane	4.8	U	10	4.8	ug/L			01/18/24 15:58	5
Carbon disulfide	13	U	25	13	ug/L			01/18/24 15:58	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			01/18/24 15:58	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			01/18/24 15:58	5
Chloroethane	4.9	U	10	4.9	ug/L			01/18/24 15:58	5
Chloroform	4.0	U	25	4.0	ug/L			01/18/24 15:58	5
Chloromethane	4.1	U	10	4.1	ug/L			01/18/24 15:58	5
cis-1,2-Dichloroethene	**250**		5.0	2.7	ug/L			01/18/24 15:58	5

Client Sample ID: LC34-DPT0601-018.0-20240115
Lab Sample ID: 670-33262-3

Date Collected: 01/15/24 10:00
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			01/18/24 15:58	5
Cyclohexane	4.7	U	25	4.7	ug/L			01/18/24 15:58	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			01/18/24 15:58	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			01/18/24 15:58	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			01/18/24 15:58	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			01/18/24 15:58	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			01/18/24 15:58	5
Methyl acetate	4.8	U	50	4.8	ug/L			01/18/24 15:58	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			01/18/24 15:58	5
Methylene Chloride	25	U	50	25	ug/L			01/18/24 15:58	5
o-Xylene	2.7	U	5.0	2.7	ug/L			01/18/24 15:58	5
Styrene	3.1	U	5.0	3.1	ug/L			01/18/24 15:58	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			01/18/24 15:58	5
Toluene	3.6	U	5.0	3.6	ug/L			01/18/24 15:58	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			01/18/24 15:58	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			01/18/24 15:58	5
Trichloroethene	4.5	U	5.0	4.5	ug/L			01/18/24 15:58	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			01/18/24 15:58	5
Vinyl chloride	**77**		5.0	3.6	ug/L			01/18/24 15:58	5
Xylenes, Total	6.5	U	10	6.5	ug/L			01/18/24 15:58	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/18/24 15:58*	*5*
Dibromofluoromethane (Surr)	*97*		*53 - 146*		*01/18/24 15:58*	*5*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/18/24 15:58*	*5*

Client Sample ID: LC34-DPT0601-023.0-20240115
Lab Sample ID: 670-33262-4

Date Collected: 01/15/24 10:15
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/18/24 18:02	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/18/24 18:02	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/18/24 18:02	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/18/24 18:02	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/18/24 18:02	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/18/24 18:02	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/18/24 18:02	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/18/24 18:02	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/18/24 18:02	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/18/24 18:02	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/18/24 18:02	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/18/24 18:02	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/18/24 18:02	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/18/24 18:02	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/18/24 18:02	100
2-Hexanone	250	U	2000	250	ug/L			01/18/24 18:02	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/18/24 18:02	100
Acetone	2500	U	5000	2500	ug/L			01/18/24 18:02	100

Client Sample ID: LC34-DPT0601-023.0-20240115
Lab Sample ID: 670-33262-4

Date Collected: 01/15/24 10:15
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	71	U	100	71	ug/L			01/18/24 18:02	100
Bromodichloromethane	52	U	100	52	ug/L			01/18/24 18:02	100
Bromoform	75	U	100	75	ug/L			01/18/24 18:02	100
Bromomethane	95	U	200	95	ug/L			01/18/24 18:02	100
Carbon disulfide	250	U	500	250	ug/L			01/18/24 18:02	100
Carbon tetrachloride	94	U	100	94	ug/L			01/18/24 18:02	100
Chlorobenzene	72	U	100	72	ug/L			01/18/24 18:02	100
Chloroethane	98	U	200	98	ug/L			01/18/24 18:02	100
Chloroform	80	U	500	80	ug/L			01/18/24 18:02	100
Chloromethane	82	U	200	82	ug/L			01/18/24 18:02	100
cis-1,2-Dichloroethene	**5700**		100	53	ug/L			01/18/24 18:02	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/18/24 18:02	100
Cyclohexane	93	U	500	93	ug/L			01/18/24 18:02	100
Dibromochloromethane	50	U	100	50	ug/L			01/18/24 18:02	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/18/24 18:02	100
Ethylbenzene	69	U	100	69	ug/L			01/18/24 18:02	100
Isopropylbenzene	67	U	200	67	ug/L			01/18/24 18:02	100
m,p-Xylenes	130	U	200	130	ug/L			01/18/24 18:02	100
Methyl acetate	95	U	1000	95	ug/L			01/18/24 18:02	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/18/24 18:02	100
Methylene Chloride	500	U	1000	500	ug/L			01/18/24 18:02	100
o-Xylene	53	U	100	53	ug/L			01/18/24 18:02	100
Styrene	61	U	100	61	ug/L			01/18/24 18:02	100
Tetrachloroethene	76	U	100	76	ug/L			01/18/24 18:02	100
Toluene	72	U	100	72	ug/L			01/18/24 18:02	100
trans-1,2-Dichloroethene	**83**	**I**	100	73	ug/L			01/18/24 18:02	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/18/24 18:02	100
Trichloroethene	89	U	100	89	ug/L			01/18/24 18:02	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/18/24 18:02	100
Vinyl chloride	**400**		100	71	ug/L			01/18/24 18:02	100
Xylenes, Total	130	U	200	130	ug/L			01/18/24 18:02	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/18/24 18:02*	*100*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*01/18/24 18:02*	*100*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/18/24 18:02*	*100*

Client Sample ID: LC34-DPT0601-028.0-20240115
Lab Sample ID: 670-33262-5

Date Collected: 01/15/24 10:30
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			01/18/24 17:41	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			01/18/24 17:41	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			01/18/24 17:41	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			01/18/24 17:41	25
1,1-Dichloroethane	16	U	25	16	ug/L			01/18/24 17:41	25
1,1-Dichloroethene	24	U	25	24	ug/L			01/18/24 17:41	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			01/18/24 17:41	25

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33262-1

Client Sample ID: LC34-DPT0601-028.0-20240115
Date Collected: 01/15/24 10:30
Date Received: 01/17/24 13:20

Lab Sample ID: 670-33262-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			01/18/24 17:41	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			01/18/24 17:41	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			01/18/24 17:41	25
1,2-Dichloroethane	16	U	25	16	ug/L			01/18/24 17:41	25
1,2-Dichloropropane	20	U	25	20	ug/L			01/18/24 17:41	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			01/18/24 17:41	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			01/18/24 17:41	25
2-Butanone (MEK)	110	U	250	110	ug/L			01/18/24 17:41	25
2-Hexanone	63	U	500	63	ug/L			01/18/24 17:41	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			01/18/24 17:41	25
Acetone	630	U	1300	630	ug/L			01/18/24 17:41	25
Benzene	18	U	25	18	ug/L			01/18/24 17:41	25
Bromodichloromethane	13	U	25	13	ug/L			01/18/24 17:41	25
Bromoform	19	U	25	19	ug/L			01/18/24 17:41	25
Bromomethane	24	U	50	24	ug/L			01/18/24 17:41	25
Carbon disulfide	63	U	130	63	ug/L			01/18/24 17:41	25
Carbon tetrachloride	24	U	25	24	ug/L			01/18/24 17:41	25
Chlorobenzene	18	U	25	18	ug/L			01/18/24 17:41	25
Chloroethane	25	U	50	25	ug/L			01/18/24 17:41	25
Chloroform	20	U	130	20	ug/L			01/18/24 17:41	25
Chloromethane	21	U	50	21	ug/L			01/18/24 17:41	25
cis-1,2-Dichloroethene	**1300**		25	13	ug/L			01/18/24 17:41	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			01/18/24 17:41	25
Cyclohexane	23	U	130	23	ug/L			01/18/24 17:41	25
Dibromochloromethane	13	U	25	13	ug/L			01/18/24 17:41	25
Dichlorodifluoromethane	19	U	25	19	ug/L			01/18/24 17:41	25
Ethylbenzene	17	U	25	17	ug/L			01/18/24 17:41	25
Isopropylbenzene	17	U	50	17	ug/L			01/18/24 17:41	25
m,p-Xylenes	33	U	50	33	ug/L			01/18/24 17:41	25
Methyl acetate	24	U	250	24	ug/L			01/18/24 17:41	25
Methyl tert-butyl ether	15	U	50	15	ug/L			01/18/24 17:41	25
Methylene Chloride	130	U	250	130	ug/L			01/18/24 17:41	25
o-Xylene	13	U	25	13	ug/L			01/18/24 17:41	25
Styrene	15	U	25	15	ug/L			01/18/24 17:41	25
Tetrachloroethene	19	U	25	19	ug/L			01/18/24 17:41	25
Toluene	18	U	25	18	ug/L			01/18/24 17:41	25
trans-1,2-Dichloroethene	**26**		25	18	ug/L			01/18/24 17:41	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			01/18/24 17:41	25
Trichloroethene	22	U	25	22	ug/L			01/18/24 17:41	25
Trichlorofluoromethane	24	U	25	24	ug/L			01/18/24 17:41	25
Vinyl chloride	**510**		25	18	ug/L			01/18/24 17:41	25
Xylenes, Total	33	U	50	33	ug/L			01/18/24 17:41	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/18/24 17:41*	*25*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/18/24 17:41*	*25*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/18/24 17:41*	*25*

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0601-033.0-20240115
Lab Sample ID: 670-33262-6
Date Collected: 01/15/24 10:50
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/18/24 14:04	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/18/24 14:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/18/24 14:04	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/18/24 14:04	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/18/24 14:04	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/18/24 14:04	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/18/24 14:04	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/18/24 14:04	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/18/24 14:04	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/18/24 14:04	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/18/24 14:04	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/18/24 14:04	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/18/24 14:04	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/18/24 14:04	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/18/24 14:04	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/18/24 14:04	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/18/24 14:04	1
Acetone	25	U	50	25	ug/L			01/18/24 14:04	1
Benzene	0.71	U	1.0	0.71	ug/L			01/18/24 14:04	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/18/24 14:04	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/18/24 14:04	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/18/24 14:04	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/18/24 14:04	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/18/24 14:04	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/18/24 14:04	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/18/24 14:04	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/18/24 14:04	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/18/24 14:04	1
cis-1,2-Dichloroethene	**4.4**		1.0	0.53	ug/L			01/18/24 14:04	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/18/24 14:04	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/18/24 14:04	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/18/24 14:04	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/18/24 14:04	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/18/24 14:04	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/18/24 14:04	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/18/24 14:04	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/18/24 14:04	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/18/24 14:04	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/18/24 14:04	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/18/24 14:04	1
Styrene	0.61	U	1.0	0.61	ug/L			01/18/24 14:04	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/18/24 14:04	1
Toluene	0.72	U	1.0	0.72	ug/L			01/18/24 14:04	1
trans-1,2-Dichloroethene	**1.3**		1.0	0.73	ug/L			01/18/24 14:04	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/18/24 14:04	1
Trichloroethene	**1.3**		1.0	0.89	ug/L			01/18/24 14:04	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/18/24 14:04	1
Vinyl chloride	**13**		1.0	0.71	ug/L			01/18/24 14:04	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/18/24 14:04	1

Client Sample ID: LC34-DPT0601-033.0-20240115
Lab Sample ID: 670-33262-6

Date Collected: 01/15/24 10:50
Matrix: Water
Date Received: 01/17/24 13:20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/18/24 14:04*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/18/24 14:04*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/18/24 14:04*	*1*

Client Sample ID: LC34-DPT0601-038.0-20240115
Lab Sample ID: 670-33262-7

Date Collected: 01/15/24 11:10
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/18/24 18:20	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/18/24 18:20	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/18/24 18:20	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/18/24 18:20	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/18/24 18:20	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/18/24 18:20	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/18/24 18:20	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/18/24 18:20	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/18/24 18:20	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/18/24 18:20	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/18/24 18:20	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/18/24 18:20	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/18/24 18:20	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/18/24 18:20	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/18/24 18:20	100
2-Hexanone	250	U	2000	250	ug/L			01/18/24 18:20	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/18/24 18:20	100
Acetone	2500	U	5000	2500	ug/L			01/18/24 18:20	100
Benzene	71	U	100	71	ug/L			01/18/24 18:20	100
Bromodichloromethane	52	U	100	52	ug/L			01/18/24 18:20	100
Bromoform	75	U	100	75	ug/L			01/18/24 18:20	100
Bromomethane	95	U	200	95	ug/L			01/18/24 18:20	100
Carbon disulfide	250	U	500	250	ug/L			01/18/24 18:20	100
Carbon tetrachloride	94	U	100	94	ug/L			01/18/24 18:20	100
Chlorobenzene	72	U	100	72	ug/L			01/18/24 18:20	100
Chloroethane	98	U	200	98	ug/L			01/18/24 18:20	100
Chloroform	80	U	500	80	ug/L			01/18/24 18:20	100
Chloromethane	82	U	200	82	ug/L			01/18/24 18:20	100
cis-1,2-Dichloroethene	**4300**		100	53	ug/L			01/18/24 18:20	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/18/24 18:20	100
Cyclohexane	93	U	500	93	ug/L			01/18/24 18:20	100
Dibromochloromethane	50	U	100	50	ug/L			01/18/24 18:20	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/18/24 18:20	100
Ethylbenzene	69	U	100	69	ug/L			01/18/24 18:20	100
Isopropylbenzene	67	U	200	67	ug/L			01/18/24 18:20	100
m,p-Xylenes	130	U	200	130	ug/L			01/18/24 18:20	100
Methyl acetate	95	U	1000	95	ug/L			01/18/24 18:20	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/18/24 18:20	100
Methylene Chloride	500	U	1000	500	ug/L			01/18/24 18:20	100
o-Xylene	53	U	100	53	ug/L			01/18/24 18:20	100

Client Sample ID: LC34-DPT0601-038.0-20240115
Lab Sample ID: 670-33262-7

Date Collected: 01/15/24 11:10
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	61	U	100	61	ug/L			01/18/24 18:20	100
Tetrachloroethene	76	U	100	76	ug/L			01/18/24 18:20	100
Toluene	72	U	100	72	ug/L			01/18/24 18:20	100
trans-1,2-Dichloroethene	**300**		100	73	ug/L			01/18/24 18:20	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/18/24 18:20	100
Trichloroethene	89	U	100	89	ug/L			01/18/24 18:20	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/18/24 18:20	100
Vinyl chloride	**2700**		100	71	ug/L			01/18/24 18:20	100
Xylenes, Total	130	U	200	130	ug/L			01/18/24 18:20	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*01/18/24 18:20*	*100*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*01/18/24 18:20*	*100*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/18/24 18:20*	*100*

Client Sample ID: LC34-DPT0601-043.0-20240115
Lab Sample ID: 670-33262-8

Date Collected: 01/15/24 11:30
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/18/24 19:19	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/18/24 19:19	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/18/24 19:19	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/18/24 19:19	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/18/24 19:19	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/18/24 19:19	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/18/24 19:19	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/18/24 19:19	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/18/24 19:19	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/18/24 19:19	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/18/24 19:19	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/18/24 19:19	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/18/24 19:19	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/18/24 19:19	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/18/24 19:19	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/18/24 19:19	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/18/24 19:19	1000
Acetone	25000	U	50000	25000	ug/L			01/18/24 19:19	1000
Benzene	710	U	1000	710	ug/L			01/18/24 19:19	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/18/24 19:19	1000
Bromoform	750	U	1000	750	ug/L			01/18/24 19:19	1000
Bromomethane	950	U	2000	950	ug/L			01/18/24 19:19	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/18/24 19:19	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/18/24 19:19	1000
Chlorobenzene	720	U	1000	720	ug/L			01/18/24 19:19	1000
Chloroethane	980	U	2000	980	ug/L			01/18/24 19:19	1000
Chloroform	800	U	5000	800	ug/L			01/18/24 19:19	1000
Chloromethane	820	U	2000	820	ug/L			01/18/24 19:19	1000
cis-1,2-Dichloroethene	**58000**		1000	530	ug/L			01/18/24 19:19	1000

Client Sample ID: LC34-DPT0601-043.0-20240115
Lab Sample ID: 670-33262-8

Date Collected: 01/15/24 11:30
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/18/24 19:19	1000
Cyclohexane	930	U	5000	930	ug/L			01/18/24 19:19	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/18/24 19:19	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/18/24 19:19	1000
Ethylbenzene	690	U	1000	690	ug/L			01/18/24 19:19	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/18/24 19:19	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/18/24 19:19	1000
Methyl acetate	950	U	10000	950	ug/L			01/18/24 19:19	1000
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/18/24 19:19	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/18/24 19:19	1000
o-Xylene	530	U	1000	530	ug/L			01/18/24 19:19	1000
Styrene	610	U	1000	610	ug/L			01/18/24 19:19	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/18/24 19:19	1000
Toluene	720	U	1000	720	ug/L			01/18/24 19:19	1000
trans-1,2-Dichloroethene	**2200**		1000	730	ug/L			01/18/24 19:19	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/18/24 19:19	1000
Trichloroethene	**4700**		1000	890	ug/L			01/18/24 19:19	1000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/18/24 19:19	1000
Vinyl chloride	**6200**		1000	710	ug/L			01/18/24 19:19	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/18/24 19:19	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/18/24 19:19*	*1000*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*01/18/24 19:19*	*1000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/18/24 19:19*	*1000*

Client Sample ID: LC34-DPT0601-048.0-20240115
Lab Sample ID: 670-33262-9

Date Collected: 01/15/24 11:50
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/18/24 19:36	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/18/24 19:36	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/18/24 19:36	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/18/24 19:36	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/18/24 19:36	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/18/24 19:36	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/18/24 19:36	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/18/24 19:36	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/18/24 19:36	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/18/24 19:36	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/18/24 19:36	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/18/24 19:36	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/18/24 19:36	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/18/24 19:36	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/18/24 19:36	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/18/24 19:36	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/18/24 19:36	1000
Acetone	25000	U	50000	25000	ug/L			01/18/24 19:36	1000

Client Sample ID: LC34-DPT0601-048.0-20240115
Lab Sample ID: 670-33262-9

Date Collected: 01/15/24 11:50
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	710	U	1000	710	ug/L			01/18/24 19:36	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/18/24 19:36	1000
Bromoform	750	U	1000	750	ug/L			01/18/24 19:36	1000
Bromomethane	950	U	2000	950	ug/L			01/18/24 19:36	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/18/24 19:36	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/18/24 19:36	1000
Chlorobenzene	720	U	1000	720	ug/L			01/18/24 19:36	1000
Chloroethane	980	U	2000	980	ug/L			01/18/24 19:36	1000
Chloroform	800	U	5000	800	ug/L			01/18/24 19:36	1000
Chloromethane	820	U	2000	820	ug/L			01/18/24 19:36	1000
cis-1,2-Dichloroethene	**120000**		2000	1100	ug/L			01/19/24 16:57	2000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/18/24 19:36	1000
Cyclohexane	930	U	5000	930	ug/L			01/18/24 19:36	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/18/24 19:36	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/18/24 19:36	1000
Ethylbenzene	690	U	1000	690	ug/L			01/18/24 19:36	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/18/24 19:36	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/18/24 19:36	1000
Methyl acetate	950	U	10000	950	ug/L			01/18/24 19:36	1000
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/18/24 19:36	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/18/24 19:36	1000
o-Xylene	530	U	1000	530	ug/L			01/18/24 19:36	1000
Styrene	610	U	1000	610	ug/L			01/18/24 19:36	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/18/24 19:36	1000
Toluene	720	U	1000	720	ug/L			01/18/24 19:36	1000
trans-1,2-Dichloroethene	**4100**		1000	730	ug/L			01/18/24 19:36	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/18/24 19:36	1000
Trichloroethene	**44000**		1000	890	ug/L			01/18/24 19:36	1000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/18/24 19:36	1000
Vinyl chloride	**3800**		1000	710	ug/L			01/18/24 19:36	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/18/24 19:36	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/18/24 19:36*	*1000*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/19/24 16:57*	*2000*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/18/24 19:36*	*1000*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/19/24 16:57*	*2000*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/18/24 19:36*	*1000*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/19/24 16:57*	*2000*

Client Sample ID: LC34-DPT0601-053.0-20240115
Lab Sample ID: 670-33262-10

Date Collected: 01/15/24 12:10
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/18/24 19:01	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/18/24 19:01	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/18/24 19:01	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/18/24 19:01	100

Client Sample ID: LC34-DPT0601-053.0-20240115
Lab Sample ID: 670-33262-10
Date Collected: 01/15/24 12:10
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	62	U	100	62	ug/L			01/18/24 19:01	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/18/24 19:01	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/18/24 19:01	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/18/24 19:01	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/18/24 19:01	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/18/24 19:01	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/18/24 19:01	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/18/24 19:01	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/18/24 19:01	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/18/24 19:01	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/18/24 19:01	100
2-Hexanone	250	U	2000	250	ug/L			01/18/24 19:01	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/18/24 19:01	100
Acetone	2500	U	5000	2500	ug/L			01/18/24 19:01	100
Benzene	71	U	100	71	ug/L			01/18/24 19:01	100
Bromodichloromethane	52	U	100	52	ug/L			01/18/24 19:01	100
Bromoform	75	U	100	75	ug/L			01/18/24 19:01	100
Bromomethane	95	U	200	95	ug/L			01/18/24 19:01	100
Carbon disulfide	250	U	500	250	ug/L			01/18/24 19:01	100
Carbon tetrachloride	94	U	100	94	ug/L			01/18/24 19:01	100
Chlorobenzene	72	U	100	72	ug/L			01/18/24 19:01	100
Chloroethane	98	U	200	98	ug/L			01/18/24 19:01	100
Chloroform	80	U	500	80	ug/L			01/18/24 19:01	100
Chloromethane	82	U	200	82	ug/L			01/18/24 19:01	100
cis-1,2-Dichloroethene	**7200**		100	53	ug/L			01/18/24 19:01	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/18/24 19:01	100
Cyclohexane	93	U	500	93	ug/L			01/18/24 19:01	100
Dibromochloromethane	50	U	100	50	ug/L			01/18/24 19:01	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/18/24 19:01	100
Ethylbenzene	69	U	100	69	ug/L			01/18/24 19:01	100
Isopropylbenzene	67	U	200	67	ug/L			01/18/24 19:01	100
m,p-Xylenes	130	U	200	130	ug/L			01/18/24 19:01	100
Methyl acetate	95	U	1000	95	ug/L			01/18/24 19:01	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/18/24 19:01	100
Methylene Chloride	500	U	1000	500	ug/L			01/18/24 19:01	100
o-Xylene	53	U	100	53	ug/L			01/18/24 19:01	100
Styrene	61	U	100	61	ug/L			01/18/24 19:01	100
Tetrachloroethene	76	U	100	76	ug/L			01/18/24 19:01	100
Toluene	72	U	100	72	ug/L			01/18/24 19:01	100
trans-1,2-Dichloroethene	**86**	**I**	100	73	ug/L			01/18/24 19:01	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/18/24 19:01	100
Trichloroethene	89	U	100	89	ug/L			01/18/24 19:01	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/18/24 19:01	100
Vinyl chloride	**3600**		100	71	ug/L			01/18/24 19:01	100
Xylenes, Total	130	U	200	130	ug/L			01/18/24 19:01	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/18/24 19:01*	*100*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/18/24 19:01*	*100*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/18/24 19:01*	*100*

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0601-058.0-20240115
Lab Sample ID: 670-33262-11
Date Collected: 01/15/24 12:35
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 13:24	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 13:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 13:24	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 13:24	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 13:24	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 13:24	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 13:24	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 13:24	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 13:24	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 13:24	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 13:24	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 13:24	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 13:24	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 13:24	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 13:24	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 13:24	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 13:24	1
Acetone	25	U	50	25	ug/L			01/19/24 13:24	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 13:24	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 13:24	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 13:24	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 13:24	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 13:24	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 13:24	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 13:24	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 13:24	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 13:24	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 13:24	1
cis-1,2-Dichloroethene	**33**		1.0	0.53	ug/L			01/19/24 13:24	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 13:24	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 13:24	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 13:24	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 13:24	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 13:24	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 13:24	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 13:24	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 13:24	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 13:24	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 13:24	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 13:24	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 13:24	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 13:24	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 13:24	1
trans-1,2-Dichloroethene	**3.1**		1.0	0.73	ug/L			01/19/24 13:24	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 13:24	1
Trichloroethene	**2.3**		1.0	0.89	ug/L			01/19/24 13:24	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 13:24	1
Vinyl chloride	**64**		1.0	0.71	ug/L			01/19/24 13:24	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 13:24	1

Client Sample ID: LC34-DPT0601-058.0-20240115
Lab Sample ID: 670-33262-11

Date Collected: 01/15/24 12:35
Matrix: Water
Date Received: 01/17/24 13:20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/19/24 13:24*	*1*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/19/24 13:24*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/19/24 13:24*	*1*

Client Sample ID: LC34-DPT0601-063.0-20240115
Lab Sample ID: 670-33262-12

Date Collected: 01/15/24 13:25
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			01/18/24 16:39	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			01/18/24 16:39	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			01/18/24 16:39	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			01/18/24 16:39	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			01/18/24 16:39	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			01/18/24 16:39	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			01/18/24 16:39	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			01/18/24 16:39	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			01/18/24 16:39	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			01/18/24 16:39	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			01/18/24 16:39	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			01/18/24 16:39	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			01/18/24 16:39	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			01/18/24 16:39	5
2-Butanone (MEK)	23	U	50	23	ug/L			01/18/24 16:39	5
2-Hexanone	13	U	100	13	ug/L			01/18/24 16:39	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			01/18/24 16:39	5
Acetone	130	U	250	130	ug/L			01/18/24 16:39	5
Benzene	3.6	U	5.0	3.6	ug/L			01/18/24 16:39	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			01/18/24 16:39	5
Bromoform	3.8	U	5.0	3.8	ug/L			01/18/24 16:39	5
Bromomethane	4.8	U	10	4.8	ug/L			01/18/24 16:39	5
Carbon disulfide	13	U	25	13	ug/L			01/18/24 16:39	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			01/18/24 16:39	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			01/18/24 16:39	5
Chloroethane	4.9	U	10	4.9	ug/L			01/18/24 16:39	5
Chloroform	4.0	U	25	4.0	ug/L			01/18/24 16:39	5
Chloromethane	4.1	U	10	4.1	ug/L			01/18/24 16:39	5
cis-1,2-Dichloroethene	**110**		5.0	2.7	ug/L			01/18/24 16:39	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			01/18/24 16:39	5
Cyclohexane	4.7	U	25	4.7	ug/L			01/18/24 16:39	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			01/18/24 16:39	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			01/18/24 16:39	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			01/18/24 16:39	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			01/18/24 16:39	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			01/18/24 16:39	5
Methyl acetate	4.8	U	50	4.8	ug/L			01/18/24 16:39	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			01/18/24 16:39	5
Methylene Chloride	25	U	50	25	ug/L			01/18/24 16:39	5
o-Xylene	2.7	U	5.0	2.7	ug/L			01/18/24 16:39	5

Client Sample ID: LC34-DPT0601-063.0-20240115
Lab Sample ID: 670-33262-12

Date Collected: 01/15/24 13:25
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	3.1	U	5.0	3.1	ug/L			01/18/24 16:39	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			01/18/24 16:39	5
Toluene	3.6	U	5.0	3.6	ug/L			01/18/24 16:39	5
trans-1,2-Dichloroethene	**5.9**		5.0	3.7	ug/L			01/18/24 16:39	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			01/18/24 16:39	5
Trichloroethene	**10**		5.0	4.5	ug/L			01/18/24 16:39	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			01/18/24 16:39	5
Vinyl chloride	**34**		5.0	3.6	ug/L			01/18/24 16:39	5
Xylenes, Total	6.5	U	10	6.5	ug/L			01/18/24 16:39	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/18/24 16:39*	*5*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*01/18/24 16:39*	*5*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/18/24 16:39*	*5*

Client Sample ID: LC34-DPT0601-068.0-20240115
Lab Sample ID: 670-33262-13

Date Collected: 01/15/24 13:55
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 13:42	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 13:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 13:42	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 13:42	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 13:42	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 13:42	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 13:42	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 13:42	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 13:42	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 13:42	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 13:42	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 13:42	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 13:42	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 13:42	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 13:42	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 13:42	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 13:42	1
Acetone	25	U	50	25	ug/L			01/19/24 13:42	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 13:42	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 13:42	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 13:42	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 13:42	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 13:42	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 13:42	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 13:42	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 13:42	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 13:42	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 13:42	1
cis-1,2-Dichloroethene	**3.1**		1.0	0.53	ug/L			01/19/24 13:42	1

Client Sample ID: LC34-DPT0601-068.0-20240115
Lab Sample ID: 670-33262-13

Date Collected: 01/15/24 13:55
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 13:42	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 13:42	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 13:42	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 13:42	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 13:42	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 13:42	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 13:42	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 13:42	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 13:42	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 13:42	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 13:42	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 13:42	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 13:42	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 13:42	1
trans-1,2-Dichloroethene	**1.3**		1.0	0.73	ug/L			01/19/24 13:42	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 13:42	1
Trichloroethene	**2.0**		1.0	0.89	ug/L			01/19/24 13:42	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 13:42	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/19/24 13:42	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/19/24 13:42*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/19/24 13:42*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/19/24 13:42*	*1*

Client Sample ID: LC34-DPT0601-073.0-20240115
Lab Sample ID: 670-33262-14

Date Collected: 01/15/24 14:40
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/18/24 14:21	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/18/24 14:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/18/24 14:21	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/18/24 14:21	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/18/24 14:21	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/18/24 14:21	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/18/24 14:21	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/18/24 14:21	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/18/24 14:21	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/18/24 14:21	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/18/24 14:21	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/18/24 14:21	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/18/24 14:21	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/18/24 14:21	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/18/24 14:21	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/18/24 14:21	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/18/24 14:21	1
Acetone	25	U	50	25	ug/L			01/18/24 14:21	1

Client Sample ID: LC34-DPT0601-073.0-20240115
Lab Sample ID: 670-33262-14

Date Collected: 01/15/24 14:40
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			01/18/24 14:21	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/18/24 14:21	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/18/24 14:21	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/18/24 14:21	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/18/24 14:21	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/18/24 14:21	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/18/24 14:21	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/18/24 14:21	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/18/24 14:21	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/18/24 14:21	1
cis-1,2-Dichloroethene	**25**		1.0	0.53	ug/L			01/18/24 14:21	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/18/24 14:21	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/18/24 14:21	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/18/24 14:21	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/18/24 14:21	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/18/24 14:21	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/18/24 14:21	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/18/24 14:21	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/18/24 14:21	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/18/24 14:21	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/18/24 14:21	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/18/24 14:21	1
Styrene	0.61	U	1.0	0.61	ug/L			01/18/24 14:21	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/18/24 14:21	1
Toluene	0.72	U	1.0	0.72	ug/L			01/18/24 14:21	1
trans-1,2-Dichloroethene	**1.6**		1.0	0.73	ug/L			01/18/24 14:21	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/18/24 14:21	1
Trichloroethene	**10**		1.0	0.89	ug/L			01/18/24 14:21	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/18/24 14:21	1
Vinyl chloride	**1.9**		1.0	0.71	ug/L			01/18/24 14:21	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/18/24 14:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*01/18/24 14:21*	*1*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/18/24 14:21*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/18/24 14:21*	*1*

Client Sample ID: LC34-DPT0601-078.0-20240115
Lab Sample ID: 670-33262-15

Date Collected: 01/15/24 15:45
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/18/24 18:40	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/18/24 18:40	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/18/24 18:40	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/18/24 18:40	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/18/24 18:40	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/18/24 18:40	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/18/24 18:40	100

Client Sample ID: LC34-DPT0601-078.0-20240115
Lab Sample ID: 670-33262-15
Date Collected: 01/15/24 15:45
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/18/24 18:40	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/18/24 18:40	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/18/24 18:40	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/18/24 18:40	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/18/24 18:40	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/18/24 18:40	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/18/24 18:40	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/18/24 18:40	100
2-Hexanone	250	U	2000	250	ug/L			01/18/24 18:40	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/18/24 18:40	100
Acetone	2500	U	5000	2500	ug/L			01/18/24 18:40	100
Benzene	71	U	100	71	ug/L			01/18/24 18:40	100
Bromodichloromethane	52	U	100	52	ug/L			01/18/24 18:40	100
Bromoform	75	U	100	75	ug/L			01/18/24 18:40	100
Bromomethane	95	U	200	95	ug/L			01/18/24 18:40	100
Carbon disulfide	250	U	500	250	ug/L			01/18/24 18:40	100
Carbon tetrachloride	94	U	100	94	ug/L			01/18/24 18:40	100
Chlorobenzene	72	U	100	72	ug/L			01/18/24 18:40	100
Chloroethane	98	U	200	98	ug/L			01/18/24 18:40	100
Chloroform	80	U	500	80	ug/L			01/18/24 18:40	100
Chloromethane	82	U	200	82	ug/L			01/18/24 18:40	100
cis-1,2-Dichloroethene	**7400**		100	53	ug/L			01/18/24 18:40	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/18/24 18:40	100
Cyclohexane	93	U	500	93	ug/L			01/18/24 18:40	100
Dibromochloromethane	50	U	100	50	ug/L			01/18/24 18:40	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/18/24 18:40	100
Ethylbenzene	69	U	100	69	ug/L			01/18/24 18:40	100
Isopropylbenzene	67	U	200	67	ug/L			01/18/24 18:40	100
m,p-Xylenes	130	U	200	130	ug/L			01/18/24 18:40	100
Methyl acetate	95	U	1000	95	ug/L			01/18/24 18:40	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/18/24 18:40	100
Methylene Chloride	500	U	1000	500	ug/L			01/18/24 18:40	100
o-Xylene	53	U	100	53	ug/L			01/18/24 18:40	100
Styrene	61	U	100	61	ug/L			01/18/24 18:40	100
Tetrachloroethene	76	U	100	76	ug/L			01/18/24 18:40	100
Toluene	72	U	100	72	ug/L			01/18/24 18:40	100
trans-1,2-Dichloroethene	**150**		100	73	ug/L			01/18/24 18:40	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/18/24 18:40	100
Trichloroethene	**1000**		100	89	ug/L			01/18/24 18:40	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/18/24 18:40	100
Vinyl chloride	71	U	100	71	ug/L			01/18/24 18:40	100
Xylenes, Total	130	U	200	130	ug/L			01/18/24 18:40	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/18/24 18:40*	*100*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*01/18/24 18:40*	*100*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/18/24 18:40*	*100*

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0601-083.0-20240115
Lab Sample ID: 670-33262-16
Date Collected: 01/15/24 16:20
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 14:00	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 14:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 14:00	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 14:00	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 14:00	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 14:00	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 14:00	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 14:00	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 14:00	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 14:00	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 14:00	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 14:00	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 14:00	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 14:00	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 14:00	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 14:00	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 14:00	1
Acetone	25	U	50	25	ug/L			01/19/24 14:00	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 14:00	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 14:00	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 14:00	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 14:00	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 14:00	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 14:00	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 14:00	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 14:00	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 14:00	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 14:00	1
cis-1,2-Dichloroethene	**19**		1.0	0.53	ug/L			01/19/24 14:00	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 14:00	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 14:00	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 14:00	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 14:00	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 14:00	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 14:00	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 14:00	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 14:00	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 14:00	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 14:00	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 14:00	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 14:00	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 14:00	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 14:00	1
trans-1,2-Dichloroethene	**1.6**		1.0	0.73	ug/L			01/19/24 14:00	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 14:00	1
Trichloroethene	**1.2**		1.0	0.89	ug/L			01/19/24 14:00	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 14:00	1
Vinyl chloride	**3.0**		1.0	0.71	ug/L			01/19/24 14:00	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 14:00	1

Client Sample ID: LC34-DPT0601-083.0-20240115

Lab Sample ID: 670-33262-16

Date Collected: 01/15/24 16:20

Matrix: Water

Date Received: 01/17/24 13:20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/19/24 14:00*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/19/24 14:00*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/19/24 14:00*	*1*

Client Sample ID: LC34-DPT0601-088.0-20240115

Lab Sample ID: 670-33262-17

Date Collected: 01/15/24 16:50

Matrix: Water

Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/18/24 14:39	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/18/24 14:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/18/24 14:39	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/18/24 14:39	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/18/24 14:39	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/18/24 14:39	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/18/24 14:39	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/18/24 14:39	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/18/24 14:39	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/18/24 14:39	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/18/24 14:39	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/18/24 14:39	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/18/24 14:39	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/18/24 14:39	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/18/24 14:39	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/18/24 14:39	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/18/24 14:39	1
Acetone	25	U	50	25	ug/L			01/18/24 14:39	1
Benzene	0.71	U	1.0	0.71	ug/L			01/18/24 14:39	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/18/24 14:39	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/18/24 14:39	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/18/24 14:39	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/18/24 14:39	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/18/24 14:39	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/18/24 14:39	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/18/24 14:39	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/18/24 14:39	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/18/24 14:39	1
cis-1,2-Dichloroethene	**1.7**		1.0	0.53	ug/L			01/18/24 14:39	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/18/24 14:39	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/18/24 14:39	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/18/24 14:39	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/18/24 14:39	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/18/24 14:39	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/18/24 14:39	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/18/24 14:39	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/18/24 14:39	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/18/24 14:39	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/18/24 14:39	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/18/24 14:39	1

Client Sample ID: LC34-DPT0601-088.0-20240115
Lab Sample ID: 670-33262-17

Date Collected: 01/15/24 16:50
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			01/18/24 14:39	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/18/24 14:39	1
Toluene	0.72	U	1.0	0.72	ug/L			01/18/24 14:39	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/18/24 14:39	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/18/24 14:39	1
Trichloroethene	**1.9**		1.0	0.89	ug/L			01/18/24 14:39	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/18/24 14:39	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/18/24 14:39	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/18/24 14:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/18/24 14:39*	*1*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/18/24 14:39*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/18/24 14:39*	*1*

Client Sample ID: LC34-DPT0601-093.0-20240116
Lab Sample ID: 670-33262-18

Date Collected: 01/16/24 08:35
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/18/24 14:57	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/18/24 14:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/18/24 14:57	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/18/24 14:57	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/18/24 14:57	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/18/24 14:57	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/18/24 14:57	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/18/24 14:57	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/18/24 14:57	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/18/24 14:57	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/18/24 14:57	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/18/24 14:57	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/18/24 14:57	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/18/24 14:57	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/18/24 14:57	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/18/24 14:57	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/18/24 14:57	1
Acetone	25	U	50	25	ug/L			01/18/24 14:57	1
Benzene	0.71	U	1.0	0.71	ug/L			01/18/24 14:57	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/18/24 14:57	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/18/24 14:57	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/18/24 14:57	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/18/24 14:57	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/18/24 14:57	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/18/24 14:57	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/18/24 14:57	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/18/24 14:57	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/18/24 14:57	1
cis-1,2-Dichloroethene	**27**		1.0	0.53	ug/L			01/18/24 14:57	1

Client Sample ID: LC34-DPT0601-093.0-20240116
Lab Sample ID: 670-33262-18

Date Collected: 01/16/24 08:35
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/18/24 14:57	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/18/24 14:57	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/18/24 14:57	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/18/24 14:57	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/18/24 14:57	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/18/24 14:57	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/18/24 14:57	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/18/24 14:57	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/18/24 14:57	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/18/24 14:57	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/18/24 14:57	1
Styrene	0.61	U	1.0	0.61	ug/L			01/18/24 14:57	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/18/24 14:57	1
Toluene	0.72	U	1.0	0.72	ug/L			01/18/24 14:57	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/18/24 14:57	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/18/24 14:57	1
Trichloroethene	**7.1**		1.0	0.89	ug/L			01/18/24 14:57	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/18/24 14:57	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/18/24 14:57	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/18/24 14:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/18/24 14:57*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/18/24 14:57*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/18/24 14:57*	*1*

Client Sample ID: LC34-DPT0601-098.0-20240116
Lab Sample ID: 670-33262-19

Date Collected: 01/16/24 09:15
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/18/24 14:03	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/18/24 14:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/18/24 14:03	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/18/24 14:03	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/18/24 14:03	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/18/24 14:03	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/18/24 14:03	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/18/24 14:03	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/18/24 14:03	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/18/24 14:03	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/18/24 14:03	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/18/24 14:03	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/18/24 14:03	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/18/24 14:03	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/18/24 14:03	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/18/24 14:03	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/18/24 14:03	1
Acetone	25	U	50	25	ug/L			01/18/24 14:03	1

Client Sample ID: LC34-DPT0601-098.0-20240116
Lab Sample ID: 670-33262-19

Date Collected: 01/16/24 09:15
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			01/18/24 14:03	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/18/24 14:03	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/18/24 14:03	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/18/24 14:03	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/18/24 14:03	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/18/24 14:03	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/18/24 14:03	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/18/24 14:03	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/18/24 14:03	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/18/24 14:03	1
cis-1,2-Dichloroethene	**25**		1.0	0.53	ug/L			01/18/24 14:03	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/18/24 14:03	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/18/24 14:03	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/18/24 14:03	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/18/24 14:03	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/18/24 14:03	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/18/24 14:03	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/18/24 14:03	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/18/24 14:03	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/18/24 14:03	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/18/24 14:03	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/18/24 14:03	1
Styrene	0.61	U	1.0	0.61	ug/L			01/18/24 14:03	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/18/24 14:03	1
Toluene	0.72	U	1.0	0.72	ug/L			01/18/24 14:03	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/18/24 14:03	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/18/24 14:03	1
Trichloroethene	**11**		1.0	0.89	ug/L			01/18/24 14:03	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/18/24 14:03	1
Vinyl chloride	**1.0**		1.0	0.71	ug/L			01/18/24 14:03	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/18/24 14:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*41 - 142*		*01/18/24 14:03*	*1*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/18/24 14:03*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/18/24 14:03*	*1*

Client Sample ID: LC34-DPT0599-008.0-20240116
Lab Sample ID: 670-33262-20

Date Collected: 01/16/24 10:15
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/18/24 14:20	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/18/24 14:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/18/24 14:20	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/18/24 14:20	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/18/24 14:20	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/18/24 14:20	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/18/24 14:20	1

Client Sample ID: LC34-DPT0599-008.0-20240116
Lab Sample ID: 670-33262-20
Date Collected: 01/16/24 10:15
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/18/24 14:20	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/18/24 14:20	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/18/24 14:20	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/18/24 14:20	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/18/24 14:20	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/18/24 14:20	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/18/24 14:20	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/18/24 14:20	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/18/24 14:20	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/18/24 14:20	1
Acetone	25	U	50	25	ug/L			01/18/24 14:20	1
Benzene	0.71	U	1.0	0.71	ug/L			01/18/24 14:20	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/18/24 14:20	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/18/24 14:20	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/18/24 14:20	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/18/24 14:20	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/18/24 14:20	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/18/24 14:20	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/18/24 14:20	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/18/24 14:20	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/18/24 14:20	1
cis-1,2-Dichloroethene	**2.1**		1.0	0.53	ug/L			01/18/24 14:20	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/18/24 14:20	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/18/24 14:20	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/18/24 14:20	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/18/24 14:20	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/18/24 14:20	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/18/24 14:20	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/18/24 14:20	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/18/24 14:20	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/18/24 14:20	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/18/24 14:20	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/18/24 14:20	1
Styrene	0.61	U	1.0	0.61	ug/L			01/18/24 14:20	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/18/24 14:20	1
Toluene	0.72	U	1.0	0.72	ug/L			01/18/24 14:20	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/18/24 14:20	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/18/24 14:20	1
Trichloroethene	**11**		1.0	0.89	ug/L			01/18/24 14:20	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/18/24 14:20	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/18/24 14:20	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/18/24 14:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/18/24 14:20*	*1*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*01/18/24 14:20*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/18/24 14:20*	*1*

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0600-008.0-20240116
Lab Sample ID: 670-33262-21
Date Collected: 01/16/24 10:20
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	40	U	50	40	ug/L			01/18/24 16:10	50
1,1,2,2-Tetrachloroethane	27	U	50	27	ug/L			01/18/24 16:10	50
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	100	37	ug/L			01/18/24 16:10	50
1,1,2-Trichloroethane	38	U	100	38	ug/L			01/18/24 16:10	50
1,1-Dichloroethane	31	U	50	31	ug/L			01/18/24 16:10	50
1,1-Dichloroethene	47	U	50	47	ug/L			01/18/24 16:10	50
1,2,4-Trichlorobenzene	35	U	100	35	ug/L			01/18/24 16:10	50
1,2-Dibromo-3-Chloropropane	48	U	500	48	ug/L			01/18/24 16:10	50
1,2-Dibromoethane (EDB)	39	U	600	39	ug/L			01/18/24 16:10	50
1,2-Dichlorobenzene	37	U	50	37	ug/L			01/18/24 16:10	50
1,2-Dichloroethane	32	U	50	32	ug/L			01/18/24 16:10	50
1,2-Dichloropropane	40	U	50	40	ug/L			01/18/24 16:10	50
1,3-Dichlorobenzene	39	U	50	39	ug/L			01/18/24 16:10	50
1,4-Dichlorobenzene	38	U	50	38	ug/L			01/18/24 16:10	50
2-Butanone (MEK)	230	U	500	230	ug/L			01/18/24 16:10	50
2-Hexanone	130	U	1000	130	ug/L			01/18/24 16:10	50
4-Methyl-2-pentanone	250	U	1000	250	ug/L			01/18/24 16:10	50
Acetone	1300	U	2500	1300	ug/L			01/18/24 16:10	50
Benzene	36	U	50	36	ug/L			01/18/24 16:10	50
Bromodichloromethane	26	U	50	26	ug/L			01/18/24 16:10	50
Bromoform	38	U	50	38	ug/L			01/18/24 16:10	50
Bromomethane	48	U	100	48	ug/L			01/18/24 16:10	50
Carbon disulfide	130	U	250	130	ug/L			01/18/24 16:10	50
Carbon tetrachloride	47	U	50	47	ug/L			01/18/24 16:10	50
Chlorobenzene	36	U	50	36	ug/L			01/18/24 16:10	50
Chloroethane	49	U	100	49	ug/L			01/18/24 16:10	50
Chloroform	40	U	250	40	ug/L			01/18/24 16:10	50
Chloromethane	41	U	100	41	ug/L			01/18/24 16:10	50
cis-1,2-Dichloroethene	**230**		50	27	ug/L			01/18/24 16:10	50
cis-1,3-Dichloropropene	30	U	50	30	ug/L			01/18/24 16:10	50
Cyclohexane	47	U	250	47	ug/L			01/18/24 16:10	50
Dibromochloromethane	25	U	50	25	ug/L			01/18/24 16:10	50
Dichlorodifluoromethane	37	U	50	37	ug/L			01/18/24 16:10	50
Ethylbenzene	35	U	50	35	ug/L			01/18/24 16:10	50
Isopropylbenzene	34	U	100	34	ug/L			01/18/24 16:10	50
m,p-Xylenes	65	U	100	65	ug/L			01/18/24 16:10	50
Methyl acetate	48	U	500	48	ug/L			01/18/24 16:10	50
Methyl tert-butyl ether	30	U	100	30	ug/L			01/18/24 16:10	50
Methylene Chloride	250	U	500	250	ug/L			01/18/24 16:10	50
o-Xylene	27	U	50	27	ug/L			01/18/24 16:10	50
Styrene	31	U	50	31	ug/L			01/18/24 16:10	50
Tetrachloroethene	38	U	50	38	ug/L			01/18/24 16:10	50
Toluene	36	U	50	36	ug/L			01/18/24 16:10	50
trans-1,2-Dichloroethene	37	U	50	37	ug/L			01/18/24 16:10	50
trans-1,3-Dichloropropene	37	U	50	37	ug/L			01/18/24 16:10	50
Trichloroethene	**990**		50	45	ug/L			01/18/24 16:10	50
Trichlorofluoromethane	47	U	50	47	ug/L			01/18/24 16:10	50
Vinyl chloride	**140**		50	36	ug/L			01/18/24 16:10	50
Xylenes, Total	65	U	100	65	ug/L			01/18/24 16:10	50

Client Sample ID: LC34-DPT0600-008.0-20240116
Lab Sample ID: 670-33262-21

Date Collected: 01/16/24 10:20
Matrix: Water
Date Received: 01/17/24 13:20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		41 - 142		01/18/24 16:10	50
Dibromofluoromethane (Surr)	105		53 - 146		01/18/24 16:10	50
Toluene-d8 (Surr)	102		40 - 146		01/18/24 16:10	50

Client Sample ID: LC34-DPT0599-013.0-20240116
Lab Sample ID: 670-33262-22

Date Collected: 01/16/24 10:25
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/18/24 14:38	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/18/24 14:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/18/24 14:38	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/18/24 14:38	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/18/24 14:38	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/18/24 14:38	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/18/24 14:38	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/18/24 14:38	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/18/24 14:38	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/18/24 14:38	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/18/24 14:38	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/18/24 14:38	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/18/24 14:38	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/18/24 14:38	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/18/24 14:38	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/18/24 14:38	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/18/24 14:38	1
Acetone	25	U	50	25	ug/L			01/18/24 14:38	1
Benzene	0.71	U	1.0	0.71	ug/L			01/18/24 14:38	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/18/24 14:38	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/18/24 14:38	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/18/24 14:38	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/18/24 14:38	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/18/24 14:38	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/18/24 14:38	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/18/24 14:38	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/18/24 14:38	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/18/24 14:38	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/18/24 14:38	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/18/24 14:38	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/18/24 14:38	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/18/24 14:38	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/18/24 14:38	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/18/24 14:38	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/18/24 14:38	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/18/24 14:38	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/18/24 14:38	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/18/24 14:38	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/18/24 14:38	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/18/24 14:38	1

Client Sample ID: LC34-DPT0599-013.0-20240116
Lab Sample ID: 670-33262-22

Date Collected: 01/16/24 10:25
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			01/18/24 14:38	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/18/24 14:38	1
Toluene	0.72	U	1.0	0.72	ug/L			01/18/24 14:38	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/18/24 14:38	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/18/24 14:38	1
Trichloroethene	**0.93**	**I**	1.0	0.89	ug/L			01/18/24 14:38	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/18/24 14:38	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/18/24 14:38	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/18/24 14:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*01/18/24 14:38*	*1*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/18/24 14:38*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/18/24 14:38*	*1*

Client Sample ID: LC34-DPT0600-013.0-20240116
Lab Sample ID: 670-33262-23

Date Collected: 01/16/24 10:30
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	40	U	50	40	ug/L			01/18/24 12:53	50
1,1,2,2-Tetrachloroethane	27	U	50	27	ug/L			01/18/24 12:53	50
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	100	37	ug/L			01/18/24 12:53	50
1,1,2-Trichloroethane	38	U	100	38	ug/L			01/18/24 12:53	50
1,1-Dichloroethane	31	U	50	31	ug/L			01/18/24 12:53	50
1,1-Dichloroethene	47	U J3	50	47	ug/L			01/18/24 12:53	50
1,2,4-Trichlorobenzene	35	U	100	35	ug/L			01/18/24 12:53	50
1,2-Dibromo-3-Chloropropane	48	U	500	48	ug/L			01/18/24 12:53	50
1,2-Dibromoethane (EDB)	39	U	600	39	ug/L			01/18/24 12:53	50
1,2-Dichlorobenzene	37	U	50	37	ug/L			01/18/24 12:53	50
1,2-Dichloroethane	32	U	50	32	ug/L			01/18/24 12:53	50
1,2-Dichloropropane	40	U	50	40	ug/L			01/18/24 12:53	50
1,3-Dichlorobenzene	39	U	50	39	ug/L			01/18/24 12:53	50
1,4-Dichlorobenzene	38	U	50	38	ug/L			01/18/24 12:53	50
2-Butanone (MEK)	230	U	500	230	ug/L			01/18/24 12:53	50
2-Hexanone	130	U	1000	130	ug/L			01/18/24 12:53	50
4-Methyl-2-pentanone	250	U	1000	250	ug/L			01/18/24 12:53	50
Acetone	1300	U	2500	1300	ug/L			01/18/24 12:53	50
Benzene	36	U	50	36	ug/L			01/18/24 12:53	50
Bromodichloromethane	26	U	50	26	ug/L			01/18/24 12:53	50
Bromoform	38	U	50	38	ug/L			01/18/24 12:53	50
Bromomethane	48	U	100	48	ug/L			01/18/24 12:53	50
Carbon disulfide	130	U J3	250	130	ug/L			01/18/24 12:53	50
Carbon tetrachloride	47	U	50	47	ug/L			01/18/24 12:53	50
Chlorobenzene	36	U	50	36	ug/L			01/18/24 12:53	50
Chloroethane	49	U	100	49	ug/L			01/18/24 12:53	50
Chloroform	40	U	250	40	ug/L			01/18/24 12:53	50
Chloromethane	41	U	100	41	ug/L			01/18/24 12:53	50
cis-1,2-Dichloroethene	**1900**		50	27	ug/L			01/18/24 12:53	50

Client Sample ID: LC34-DPT0600-013.0-20240116
Lab Sample ID: 670-33262-23

Date Collected: 01/16/24 10:30
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	30	U	50	30	ug/L			01/18/24 12:53	50
Cyclohexane	47	U	250	47	ug/L			01/18/24 12:53	50
Dibromochloromethane	25	U	50	25	ug/L			01/18/24 12:53	50
Dichlorodifluoromethane	37	U	50	37	ug/L			01/18/24 12:53	50
Ethylbenzene	35	U	50	35	ug/L			01/18/24 12:53	50
Isopropylbenzene	34	U	100	34	ug/L			01/18/24 12:53	50
m,p-Xylenes	65	U	100	65	ug/L			01/18/24 12:53	50
Methyl acetate	48	U	500	48	ug/L			01/18/24 12:53	50
Methyl tert-butyl ether	30	U J3	100	30	ug/L			01/18/24 12:53	50
Methylene Chloride	250	U J3	500	250	ug/L			01/18/24 12:53	50
o-Xylene	27	U	50	27	ug/L			01/18/24 12:53	50
Styrene	31	U	50	31	ug/L			01/18/24 12:53	50
Tetrachloroethene	38	U	50	38	ug/L			01/18/24 12:53	50
Toluene	36	U	50	36	ug/L			01/18/24 12:53	50
trans-1,2-Dichloroethene	37	U J3	50	37	ug/L			01/18/24 12:53	50
trans-1,3-Dichloropropene	37	U	50	37	ug/L			01/18/24 12:53	50
Trichloroethene	**2100**		50	45	ug/L			01/18/24 12:53	50
Trichlorofluoromethane	47	U	50	47	ug/L			01/18/24 12:53	50
Vinyl chloride	**120**		50	36	ug/L			01/18/24 12:53	50
Xylenes, Total	65	U	100	65	ug/L			01/18/24 12:53	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*41 - 142*		*01/18/24 12:53*	*50*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*01/18/24 12:53*	*50*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/18/24 12:53*	*50*

Client Sample ID: LC34-DPT0599-018.0-20240116
Lab Sample ID: 670-33262-24

Date Collected: 01/16/24 10:40
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/18/24 14:55	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/18/24 14:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/18/24 14:55	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/18/24 14:55	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/18/24 14:55	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/18/24 14:55	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/18/24 14:55	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/18/24 14:55	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/18/24 14:55	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/18/24 14:55	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/18/24 14:55	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/18/24 14:55	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/18/24 14:55	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/18/24 14:55	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/18/24 14:55	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/18/24 14:55	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/18/24 14:55	1
Acetone	25	U	50	25	ug/L			01/18/24 14:55	1

Client Sample ID: LC34-DPT0599-018.0-20240116
Lab Sample ID: 670-33262-24

Date Collected: 01/16/24 10:40
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			01/18/24 14:55	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/18/24 14:55	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/18/24 14:55	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/18/24 14:55	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/18/24 14:55	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/18/24 14:55	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/18/24 14:55	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/18/24 14:55	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/18/24 14:55	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/18/24 14:55	1
cis-1,2-Dichloroethene	**3.6**		1.0	0.53	ug/L			01/18/24 14:55	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/18/24 14:55	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/18/24 14:55	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/18/24 14:55	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/18/24 14:55	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/18/24 14:55	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/18/24 14:55	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/18/24 14:55	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/18/24 14:55	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/18/24 14:55	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/18/24 14:55	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/18/24 14:55	1
Styrene	0.61	U	1.0	0.61	ug/L			01/18/24 14:55	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/18/24 14:55	1
Toluene	0.72	U	1.0	0.72	ug/L			01/18/24 14:55	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/18/24 14:55	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/18/24 14:55	1
Trichloroethene	**1.7**		1.0	0.89	ug/L			01/18/24 14:55	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/18/24 14:55	1
Vinyl chloride	**8.9**		1.0	0.71	ug/L			01/18/24 14:55	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/18/24 14:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*41 - 142*		*01/18/24 14:55*	*1*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/18/24 14:55*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/18/24 14:55*	*1*

Client Sample ID: LC34-DPT0600-018.0-20240116
Lab Sample ID: 670-33262-25

Date Collected: 01/16/24 10:40
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/18/24 15:13	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/18/24 15:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/18/24 15:13	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/18/24 15:13	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/18/24 15:13	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/18/24 15:13	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/18/24 15:13	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33262-1

Client Sample ID: LC34-DPT0600-018.0-20240116
Date Collected: 01/16/24 10:40
Date Received: 01/17/24 13:20

Lab Sample ID: 670-33262-25
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/18/24 15:13	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/18/24 15:13	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/18/24 15:13	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/18/24 15:13	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/18/24 15:13	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/18/24 15:13	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/18/24 15:13	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/18/24 15:13	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/18/24 15:13	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/18/24 15:13	1
Acetone	25	U	50	25	ug/L			01/18/24 15:13	1
Benzene	0.71	U	1.0	0.71	ug/L			01/18/24 15:13	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/18/24 15:13	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/18/24 15:13	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/18/24 15:13	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/18/24 15:13	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/18/24 15:13	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/18/24 15:13	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/18/24 15:13	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/18/24 15:13	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/18/24 15:13	1
cis-1,2-Dichloroethene	**37**		1.0	0.53	ug/L			01/18/24 15:13	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/18/24 15:13	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/18/24 15:13	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/18/24 15:13	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/18/24 15:13	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/18/24 15:13	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/18/24 15:13	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/18/24 15:13	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/18/24 15:13	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/18/24 15:13	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/18/24 15:13	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/18/24 15:13	1
Styrene	0.61	U	1.0	0.61	ug/L			01/18/24 15:13	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/18/24 15:13	1
Toluene	0.72	U	1.0	0.72	ug/L			01/18/24 15:13	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/18/24 15:13	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/18/24 15:13	1
Trichloroethene	**1.6**		1.0	0.89	ug/L			01/18/24 15:13	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/18/24 15:13	1
Vinyl chloride	**60**		1.0	0.71	ug/L			01/18/24 15:13	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/18/24 15:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*01/18/24 15:13*	*1*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/18/24 15:13*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/18/24 15:13*	*1*

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0599-023.0-20240116
Lab Sample ID: 670-33262-26
Date Collected: 01/16/24 10:55
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/18/24 15:30	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/18/24 15:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/18/24 15:30	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/18/24 15:30	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/18/24 15:30	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/18/24 15:30	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/18/24 15:30	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/18/24 15:30	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/18/24 15:30	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/18/24 15:30	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/18/24 15:30	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/18/24 15:30	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/18/24 15:30	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/18/24 15:30	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/18/24 15:30	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/18/24 15:30	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/18/24 15:30	1
Acetone	25	U	50	25	ug/L			01/18/24 15:30	1
Benzene	0.71	U	1.0	0.71	ug/L			01/18/24 15:30	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/18/24 15:30	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/18/24 15:30	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/18/24 15:30	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/18/24 15:30	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/18/24 15:30	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/18/24 15:30	1
Chloroethane	**1.9**	**I**	2.0	0.98	ug/L			01/18/24 15:30	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/18/24 15:30	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/18/24 15:30	1
cis-1,2-Dichloroethene	**25**		1.0	0.53	ug/L			01/18/24 15:30	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/18/24 15:30	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/18/24 15:30	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/18/24 15:30	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/18/24 15:30	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/18/24 15:30	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/18/24 15:30	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/18/24 15:30	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/18/24 15:30	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/18/24 15:30	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/18/24 15:30	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/18/24 15:30	1
Styrene	0.61	U	1.0	0.61	ug/L			01/18/24 15:30	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/18/24 15:30	1
Toluene	0.72	U	1.0	0.72	ug/L			01/18/24 15:30	1
trans-1,2-Dichloroethene	**2.6**		1.0	0.73	ug/L			01/19/24 14:18	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/18/24 15:30	1
Trichloroethene	**5.7**		1.0	0.89	ug/L			01/18/24 15:30	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/18/24 15:30	1
Vinyl chloride	**81**		1.0	0.71	ug/L			01/18/24 15:30	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/18/24 15:30	1

Client Sample ID: LC34-DPT0599-023.0-20240116
Lab Sample ID: 670-33262-26

Date Collected: 01/16/24 10:55
Matrix: Water
Date Received: 01/17/24 13:20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*41 - 142*		*01/18/24 15:30*	*1*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/19/24 14:18*	*1*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/18/24 15:30*	*1*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/19/24 14:18*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/18/24 15:30*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/19/24 14:18*	*1*

Client Sample ID: LC34-DPT0600-023.0-20240116
Lab Sample ID: 670-33262-27

Date Collected: 01/16/24 10:55
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			01/18/24 15:50	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			01/18/24 15:50	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			01/18/24 15:50	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			01/18/24 15:50	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			01/18/24 15:50	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			01/18/24 15:50	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			01/18/24 15:50	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			01/18/24 15:50	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			01/18/24 15:50	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			01/18/24 15:50	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			01/18/24 15:50	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			01/18/24 15:50	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			01/18/24 15:50	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			01/18/24 15:50	10
2-Butanone (MEK)	45	U	100	45	ug/L			01/18/24 15:50	10
2-Hexanone	25	U	200	25	ug/L			01/18/24 15:50	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			01/18/24 15:50	10
Acetone	250	U	500	250	ug/L			01/18/24 15:50	10
Benzene	7.1	U	10	7.1	ug/L			01/18/24 15:50	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			01/18/24 15:50	10
Bromoform	7.5	U	10	7.5	ug/L			01/18/24 15:50	10
Bromomethane	9.5	U	20	9.5	ug/L			01/18/24 15:50	10
Carbon disulfide	25	U	50	25	ug/L			01/18/24 15:50	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			01/18/24 15:50	10
Chlorobenzene	7.2	U	10	7.2	ug/L			01/18/24 15:50	10
Chloroethane	9.8	U	20	9.8	ug/L			01/18/24 15:50	10
Chloroform	8.0	U	50	8.0	ug/L			01/18/24 15:50	10
Chloromethane	8.2	U	20	8.2	ug/L			01/18/24 15:50	10
cis-1,2-Dichloroethene	**480**		10	5.3	ug/L			01/18/24 15:50	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			01/18/24 15:50	10
Cyclohexane	9.3	U	50	9.3	ug/L			01/18/24 15:50	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			01/18/24 15:50	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			01/18/24 15:50	10
Ethylbenzene	6.9	U	10	6.9	ug/L			01/18/24 15:50	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			01/18/24 15:50	10
m,p-Xylenes	13	U	20	13	ug/L			01/18/24 15:50	10
Methyl acetate	9.5	U	100	9.5	ug/L			01/18/24 15:50	10

Client Sample ID: LC34-DPT0600-023.0-20240116
Lab Sample ID: 670-33262-27

Date Collected: 01/16/24 10:55
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			01/18/24 15:50	10
Methylene Chloride	50	U	100	50	ug/L			01/18/24 15:50	10
o-Xylene	5.3	U	10	5.3	ug/L			01/18/24 15:50	10
Styrene	6.1	U	10	6.1	ug/L			01/18/24 15:50	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			01/18/24 15:50	10
Toluene	7.2	U	10	7.2	ug/L			01/18/24 15:50	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			01/18/24 15:50	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			01/18/24 15:50	10
Trichloroethene	8.9	U	10	8.9	ug/L			01/18/24 15:50	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			01/18/24 15:50	10
Vinyl chloride	**400**		10	7.1	ug/L			01/18/24 15:50	10
Xylenes, Total	13	U	20	13	ug/L			01/18/24 15:50	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*01/18/24 15:50*	*10*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*01/18/24 15:50*	*10*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/18/24 15:50*	*10*

Client Sample ID: LC34-DPT0600-028.0-20240116
Lab Sample ID: 670-33262-28

Date Collected: 01/16/24 11:05
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/18/24 17:09	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/18/24 17:09	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/18/24 17:09	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/18/24 17:09	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/18/24 17:09	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/18/24 17:09	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/18/24 17:09	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/18/24 17:09	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/18/24 17:09	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/18/24 17:09	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/18/24 17:09	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/18/24 17:09	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/18/24 17:09	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/18/24 17:09	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/18/24 17:09	100
2-Hexanone	250	U	2000	250	ug/L			01/18/24 17:09	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/18/24 17:09	100
Acetone	2500	U	5000	2500	ug/L			01/18/24 17:09	100
Benzene	71	U	100	71	ug/L			01/18/24 17:09	100
Bromodichloromethane	52	U	100	52	ug/L			01/18/24 17:09	100
Bromoform	75	U	100	75	ug/L			01/18/24 17:09	100
Bromomethane	95	U	200	95	ug/L			01/18/24 17:09	100
Carbon disulfide	250	U	500	250	ug/L			01/18/24 17:09	100
Carbon tetrachloride	94	U	100	94	ug/L			01/18/24 17:09	100
Chlorobenzene	72	U	100	72	ug/L			01/18/24 17:09	100
Chloroethane	98	U	200	98	ug/L			01/18/24 17:09	100

Client Sample ID: LC34-DPT0600-028.0-20240116
Lab Sample ID: 670-33262-28

Date Collected: 01/16/24 11:05
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	80	U	500	80	ug/L			01/18/24 17:09	100
Chloromethane	82	U	200	82	ug/L			01/18/24 17:09	100
cis-1,2-Dichloroethene	**300**		100	53	ug/L			01/18/24 17:09	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/18/24 17:09	100
Cyclohexane	93	U	500	93	ug/L			01/18/24 17:09	100
Dibromochloromethane	50	U	100	50	ug/L			01/18/24 17:09	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/18/24 17:09	100
Ethylbenzene	69	U	100	69	ug/L			01/18/24 17:09	100
Isopropylbenzene	67	U	200	67	ug/L			01/18/24 17:09	100
m,p-Xylenes	130	U	200	130	ug/L			01/18/24 17:09	100
Methyl acetate	95	U	1000	95	ug/L			01/18/24 17:09	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/18/24 17:09	100
Methylene Chloride	500	U	1000	500	ug/L			01/18/24 17:09	100
o-Xylene	53	U	100	53	ug/L			01/18/24 17:09	100
Styrene	61	U	100	61	ug/L			01/18/24 17:09	100
Tetrachloroethene	76	U	100	76	ug/L			01/18/24 17:09	100
Toluene	72	U	100	72	ug/L			01/18/24 17:09	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			01/18/24 17:09	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/18/24 17:09	100
Trichloroethene	89	U	100	89	ug/L			01/18/24 17:09	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/18/24 17:09	100
Vinyl chloride	**110**		100	71	ug/L			01/18/24 17:09	100
Xylenes, Total	130	U	200	130	ug/L			01/18/24 17:09	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*41 - 142*		*01/18/24 17:09*	*100*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/18/24 17:09*	*100*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/18/24 17:09*	*100*

Client Sample ID: LC34-DPT0599-028.0-20240116
Lab Sample ID: 670-33262-29

Date Collected: 01/16/24 11:10
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/18/24 17:46	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/18/24 17:46	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/18/24 17:46	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/18/24 17:46	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/18/24 17:46	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/18/24 17:46	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/18/24 17:46	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/18/24 17:46	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/18/24 17:46	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/18/24 17:46	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/18/24 17:46	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/18/24 17:46	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/18/24 17:46	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/18/24 17:46	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/18/24 17:46	1000

Client Sample ID: LC34-DPT0599-028.0-20240116
Lab Sample ID: 670-33262-29

Date Collected: 01/16/24 11:10
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	2500	U	20000	2500	ug/L			01/18/24 17:46	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/18/24 17:46	1000
Acetone	25000	U	50000	25000	ug/L			01/18/24 17:46	1000
Benzene	710	U	1000	710	ug/L			01/18/24 17:46	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/18/24 17:46	1000
Bromoform	750	U	1000	750	ug/L			01/18/24 17:46	1000
Bromomethane	950	U	2000	950	ug/L			01/18/24 17:46	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/18/24 17:46	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/18/24 17:46	1000
Chlorobenzene	720	U	1000	720	ug/L			01/18/24 17:46	1000
Chloroethane	980	U	2000	980	ug/L			01/18/24 17:46	1000
Chloroform	800	U	5000	800	ug/L			01/18/24 17:46	1000
Chloromethane	820	U	2000	820	ug/L			01/18/24 17:46	1000
cis-1,2-Dichloroethene	**30000**		1000	530	ug/L			01/18/24 17:46	1000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/18/24 17:46	1000
Cyclohexane	930	U	5000	930	ug/L			01/18/24 17:46	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/18/24 17:46	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/18/24 17:46	1000
Ethylbenzene	690	U	1000	690	ug/L			01/18/24 17:46	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/18/24 17:46	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/18/24 17:46	1000
Methyl acetate	950	U	10000	950	ug/L			01/18/24 17:46	1000
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/18/24 17:46	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/18/24 17:46	1000
o-Xylene	530	U	1000	530	ug/L			01/18/24 17:46	1000
Styrene	610	U	1000	610	ug/L			01/18/24 17:46	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/18/24 17:46	1000
Toluene	720	U	1000	720	ug/L			01/18/24 17:46	1000
trans-1,2-Dichloroethene	**1500**		1000	730	ug/L			01/19/24 16:40	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/18/24 17:46	1000
Trichloroethene	**45000**		1000	890	ug/L			01/18/24 17:46	1000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/18/24 17:46	1000
Vinyl chloride	**2500**		1000	710	ug/L			01/18/24 17:46	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/18/24 17:46	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*41 - 142*		*01/18/24 17:46*	*1000*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/19/24 16:40*	*1000*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*01/18/24 17:46*	*1000*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*01/19/24 16:40*	*1000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/18/24 17:46*	*1000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/19/24 16:40*	*1000*

Client Sample ID: LC34-DPT0600-033.0-20240116
Lab Sample ID: 670-33262-30

Date Collected: 01/16/24 11:25
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	40	U	50	40	ug/L			01/18/24 16:30	50

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0600-033.0-20240116
Lab Sample ID: 670-33262-30
Date Collected: 01/16/24 11:25
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	27	U	50	27	ug/L			01/18/24 16:30	50
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	100	37	ug/L			01/18/24 16:30	50
1,1,2-Trichloroethane	38	U	100	38	ug/L			01/18/24 16:30	50
1,1-Dichloroethane	31	U	50	31	ug/L			01/18/24 16:30	50
1,1-Dichloroethene	47	U	50	47	ug/L			01/18/24 16:30	50
1,2,4-Trichlorobenzene	35	U	100	35	ug/L			01/18/24 16:30	50
1,2-Dibromo-3-Chloropropane	48	U	500	48	ug/L			01/18/24 16:30	50
1,2-Dibromoethane (EDB)	39	U	600	39	ug/L			01/18/24 16:30	50
1,2-Dichlorobenzene	37	U	50	37	ug/L			01/18/24 16:30	50
1,2-Dichloroethane	32	U	50	32	ug/L			01/18/24 16:30	50
1,2-Dichloropropane	40	U	50	40	ug/L			01/18/24 16:30	50
1,3-Dichlorobenzene	39	U	50	39	ug/L			01/18/24 16:30	50
1,4-Dichlorobenzene	38	U	50	38	ug/L			01/18/24 16:30	50
2-Butanone (MEK)	230	U	500	230	ug/L			01/18/24 16:30	50
2-Hexanone	130	U	1000	130	ug/L			01/18/24 16:30	50
4-Methyl-2-pentanone	250	U	1000	250	ug/L			01/18/24 16:30	50
Acetone	1300	U	2500	1300	ug/L			01/18/24 16:30	50
Benzene	36	U	50	36	ug/L			01/18/24 16:30	50
Bromodichloromethane	26	U	50	26	ug/L			01/18/24 16:30	50
Bromoform	38	U	50	38	ug/L			01/18/24 16:30	50
Bromomethane	48	U	100	48	ug/L			01/18/24 16:30	50
Carbon disulfide	130	U	250	130	ug/L			01/18/24 16:30	50
Carbon tetrachloride	47	U	50	47	ug/L			01/18/24 16:30	50
Chlorobenzene	36	U	50	36	ug/L			01/18/24 16:30	50
Chloroethane	49	U	100	49	ug/L			01/18/24 16:30	50
Chloroform	40	U	250	40	ug/L			01/18/24 16:30	50
Chloromethane	41	U	100	41	ug/L			01/18/24 16:30	50
cis-1,2-Dichloroethene	**1500**		50	27	ug/L			01/18/24 16:30	50
cis-1,3-Dichloropropene	30	U	50	30	ug/L			01/18/24 16:30	50
Cyclohexane	47	U	250	47	ug/L			01/18/24 16:30	50
Dibromochloromethane	25	U	50	25	ug/L			01/18/24 16:30	50
Dichlorodifluoromethane	37	U	50	37	ug/L			01/18/24 16:30	50
Ethylbenzene	35	U	50	35	ug/L			01/18/24 16:30	50
Isopropylbenzene	34	U	100	34	ug/L			01/18/24 16:30	50
m,p-Xylenes	65	U	100	65	ug/L			01/18/24 16:30	50
Methyl acetate	48	U	500	48	ug/L			01/18/24 16:30	50
Methyl tert-butyl ether	30	U	100	30	ug/L			01/18/24 16:30	50
Methylene Chloride	250	U	500	250	ug/L			01/18/24 16:30	50
o-Xylene	27	U	50	27	ug/L			01/18/24 16:30	50
Styrene	31	U	50	31	ug/L			01/18/24 16:30	50
Tetrachloroethene	38	U	50	38	ug/L			01/18/24 16:30	50
Toluene	36	U	50	36	ug/L			01/18/24 16:30	50
trans-1,2-Dichloroethene	37	U	50	37	ug/L			01/18/24 16:30	50
trans-1,3-Dichloropropene	37	U	50	37	ug/L			01/18/24 16:30	50
Trichloroethene	45	U	50	45	ug/L			01/18/24 16:30	50
Trichlorofluoromethane	47	U	50	47	ug/L			01/18/24 16:30	50
Vinyl chloride	**430**		50	36	ug/L			01/18/24 16:30	50
Xylenes, Total	65	U	100	65	ug/L			01/18/24 16:30	50

Client Sample ID: LC34-DPT0600-033.0-20240116
Lab Sample ID: 670-33262-30

Date Collected: 01/16/24 11:25
Matrix: Water
Date Received: 01/17/24 13:20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*87*		*41 - 142*		*01/18/24 16:30*	*50*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*01/18/24 16:30*	*50*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/18/24 16:30*	*50*

Client Sample ID: LC34-DPT0599-033.0-20240116
Lab Sample ID: 670-33262-31

Date Collected: 01/16/24 11:25
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/18/24 18:04	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/18/24 18:04	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/18/24 18:04	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/18/24 18:04	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/18/24 18:04	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/18/24 18:04	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/18/24 18:04	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/18/24 18:04	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/18/24 18:04	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/18/24 18:04	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/18/24 18:04	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/18/24 18:04	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/18/24 18:04	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/18/24 18:04	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/18/24 18:04	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/18/24 18:04	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/18/24 18:04	1000
Acetone	25000	U	50000	25000	ug/L			01/18/24 18:04	1000
Benzene	710	U	1000	710	ug/L			01/18/24 18:04	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/18/24 18:04	1000
Bromoform	750	U	1000	750	ug/L			01/18/24 18:04	1000
Bromomethane	950	U	2000	950	ug/L			01/18/24 18:04	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/18/24 18:04	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/18/24 18:04	1000
Chlorobenzene	720	U	1000	720	ug/L			01/18/24 18:04	1000
Chloroethane	980	U	2000	980	ug/L			01/18/24 18:04	1000
Chloroform	800	U	5000	800	ug/L			01/18/24 18:04	1000
Chloromethane	820	U	2000	820	ug/L			01/18/24 18:04	1000
cis-1,2-Dichloroethene	**74000**		1000	530	ug/L			01/18/24 18:04	1000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/18/24 18:04	1000
Cyclohexane	930	U	5000	930	ug/L			01/18/24 18:04	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/18/24 18:04	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/18/24 18:04	1000
Ethylbenzene	690	U	1000	690	ug/L			01/18/24 18:04	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/18/24 18:04	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/18/24 18:04	1000
Methyl acetate	950	U	10000	950	ug/L			01/18/24 18:04	1000
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/18/24 18:04	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/18/24 18:04	1000
o-Xylene	530	U	1000	530	ug/L			01/18/24 18:04	1000

Client Sample ID: LC34-DPT0599-033.0-20240116
Lab Sample ID: 670-33262-31

Date Collected: 01/16/24 11:25
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	610	U	1000	610	ug/L			01/18/24 18:04	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/18/24 18:04	1000
Toluene	720	U	1000	720	ug/L			01/18/24 18:04	1000
trans-1,2-Dichloroethene	3700	U	5000	3700	ug/L			01/19/24 17:33	5000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/18/24 18:04	1000
Trichloroethene	**320000**		5000	4500	ug/L			01/19/24 17:33	5000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/18/24 18:04	1000
Vinyl chloride	**1300**		1000	710	ug/L			01/18/24 18:04	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/18/24 18:04	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*41 - 142*		*01/18/24 18:04*	*1000*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/19/24 17:33*	*5000*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/18/24 18:04*	*1000*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/19/24 17:33*	*5000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/18/24 18:04*	*1000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/19/24 17:33*	*5000*

Client Sample ID: LC34-DPT0599-038.0-20240116
Lab Sample ID: 670-33262-32

Date Collected: 01/16/24 11:45
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8000	U	10000	8000	ug/L			01/18/24 19:14	10000
1,1,2,2-Tetrachloroethane	5400	U	10000	5400	ug/L			01/18/24 19:14	10000
1,1,2-Trichloro-1,2,2-trifluoroethane	7300	U	20000	7300	ug/L			01/18/24 19:14	10000
1,1,2-Trichloroethane	7600	U	20000	7600	ug/L			01/18/24 19:14	10000
1,1-Dichloroethane	6200	U	10000	6200	ug/L			01/18/24 19:14	10000
1,1-Dichloroethene	9400	U	10000	9400	ug/L			01/18/24 19:14	10000
1,2,4-Trichlorobenzene	7000	U	20000	7000	ug/L			01/18/24 19:14	10000
1,2-Dibromo-3-Chloropropane	9600	U	100000	9600	ug/L			01/18/24 19:14	10000
1,2-Dibromoethane (EDB)	7800	U	120000	7800	ug/L			01/18/24 19:14	10000
1,2-Dichlorobenzene	7300	U	10000	7300	ug/L			01/18/24 19:14	10000
1,2-Dichloroethane	6300	U	10000	6300	ug/L			01/18/24 19:14	10000
1,2-Dichloropropane	8000	U	10000	8000	ug/L			01/18/24 19:14	10000
1,3-Dichlorobenzene	7700	U	10000	7700	ug/L			01/18/24 19:14	10000
1,4-Dichlorobenzene	7600	U	10000	7600	ug/L			01/18/24 19:14	10000
2-Butanone (MEK)	45000	U	100000	45000	ug/L			01/18/24 19:14	10000
2-Hexanone	25000	U	200000	25000	ug/L			01/18/24 19:14	10000
4-Methyl-2-pentanone	50000	U	200000	50000	ug/L			01/18/24 19:14	10000
Acetone	250000	U	500000	250000	ug/L			01/18/24 19:14	10000
Benzene	7100	U	10000	7100	ug/L			01/18/24 19:14	10000
Bromodichloromethane	5200	U	10000	5200	ug/L			01/18/24 19:14	10000
Bromoform	7500	U	10000	7500	ug/L			01/18/24 19:14	10000
Bromomethane	9500	U	20000	9500	ug/L			01/18/24 19:14	10000
Carbon disulfide	25000	U	50000	25000	ug/L			01/18/24 19:14	10000
Carbon tetrachloride	9400	U	10000	9400	ug/L			01/18/24 19:14	10000
Chlorobenzene	7200	U	10000	7200	ug/L			01/18/24 19:14	10000
Chloroethane	9800	U	20000	9800	ug/L			01/18/24 19:14	10000

Client Sample ID: LC34-DPT0599-038.0-20240116
Lab Sample ID: 670-33262-32

Date Collected: 01/16/24 11:45
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	8000	U	50000	8000	ug/L			01/18/24 19:14	10000
Chloromethane	8200	U	20000	8200	ug/L			01/18/24 19:14	10000
cis-1,2-Dichloroethene	**70000**		10000	5300	ug/L			01/18/24 19:14	10000
cis-1,3-Dichloropropene	5900	U	10000	5900	ug/L			01/18/24 19:14	10000
Cyclohexane	9300	U	50000	9300	ug/L			01/18/24 19:14	10000
Dibromochloromethane	5000	U	10000	5000	ug/L			01/18/24 19:14	10000
Dichlorodifluoromethane	7400	U	10000	7400	ug/L			01/18/24 19:14	10000
Ethylbenzene	6900	U	10000	6900	ug/L			01/18/24 19:14	10000
Isopropylbenzene	6700	U	20000	6700	ug/L			01/18/24 19:14	10000
m,p-Xylenes	13000	U	20000	13000	ug/L			01/18/24 19:14	10000
Methyl acetate	9500	U	100000	9500	ug/L			01/18/24 19:14	10000
Methyl tert-butyl ether	6000	U	20000	6000	ug/L			01/18/24 19:14	10000
Methylene Chloride	50000	U	100000	50000	ug/L			01/18/24 19:14	10000
o-Xylene	5300	U	10000	5300	ug/L			01/18/24 19:14	10000
Styrene	6100	U	10000	6100	ug/L			01/18/24 19:14	10000
Tetrachloroethene	7600	U	10000	7600	ug/L			01/18/24 19:14	10000
Toluene	7200	U	10000	7200	ug/L			01/18/24 19:14	10000
trans-1,2-Dichloroethene	7300	U	10000	7300	ug/L			01/18/24 19:14	10000
trans-1,3-Dichloropropene	7300	U	10000	7300	ug/L			01/18/24 19:14	10000
Trichloroethene	**510000**		10000	8900	ug/L			01/18/24 19:14	10000
Trichlorofluoromethane	9400	U	10000	9400	ug/L			01/18/24 19:14	10000
Vinyl chloride	7100	U	10000	7100	ug/L			01/18/24 19:14	10000
Xylenes, Total	13000	U	20000	13000	ug/L			01/18/24 19:14	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*41 - 142*		*01/18/24 19:14*	*10000*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/18/24 19:14*	*10000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/18/24 19:14*	*10000*

Client Sample ID: LC34-DPT0600-038.0-20240116
Lab Sample ID: 670-33262-33

Date Collected: 01/16/24 11:50
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/18/24 17:29	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/18/24 17:29	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/18/24 17:29	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/18/24 17:29	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/18/24 17:29	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/18/24 17:29	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/18/24 17:29	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/18/24 17:29	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/18/24 17:29	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/18/24 17:29	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/18/24 17:29	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/18/24 17:29	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/18/24 17:29	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/18/24 17:29	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/18/24 17:29	100

Client Sample ID: LC34-DPT0600-038.0-20240116
Lab Sample ID: 670-33262-33

Date Collected: 01/16/24 11:50
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	250	U	2000	250	ug/L			01/18/24 17:29	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/18/24 17:29	100
Acetone	2500	U	5000	2500	ug/L			01/18/24 17:29	100
Benzene	71	U	100	71	ug/L			01/18/24 17:29	100
Bromodichloromethane	52	U	100	52	ug/L			01/18/24 17:29	100
Bromoform	75	U	100	75	ug/L			01/18/24 17:29	100
Bromomethane	95	U	200	95	ug/L			01/18/24 17:29	100
Carbon disulfide	250	U	500	250	ug/L			01/18/24 17:29	100
Carbon tetrachloride	94	U	100	94	ug/L			01/18/24 17:29	100
Chlorobenzene	72	U	100	72	ug/L			01/18/24 17:29	100
Chloroethane	98	U	200	98	ug/L			01/18/24 17:29	100
Chloroform	80	U	500	80	ug/L			01/18/24 17:29	100
Chloromethane	82	U	200	82	ug/L			01/18/24 17:29	100
cis-1,2-Dichloroethene	**490**		100	53	ug/L			01/18/24 17:29	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/18/24 17:29	100
Cyclohexane	93	U	500	93	ug/L			01/18/24 17:29	100
Dibromochloromethane	50	U	100	50	ug/L			01/18/24 17:29	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/18/24 17:29	100
Ethylbenzene	69	U	100	69	ug/L			01/18/24 17:29	100
Isopropylbenzene	67	U	200	67	ug/L			01/18/24 17:29	100
m,p-Xylenes	130	U	200	130	ug/L			01/18/24 17:29	100
Methyl acetate	95	U	1000	95	ug/L			01/18/24 17:29	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/18/24 17:29	100
Methylene Chloride	500	U	1000	500	ug/L			01/18/24 17:29	100
o-Xylene	53	U	100	53	ug/L			01/18/24 17:29	100
Styrene	61	U	100	61	ug/L			01/18/24 17:29	100
Tetrachloroethene	76	U	100	76	ug/L			01/18/24 17:29	100
Toluene	72	U	100	72	ug/L			01/18/24 17:29	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			01/18/24 17:29	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/18/24 17:29	100
Trichloroethene	89	U	100	89	ug/L			01/18/24 17:29	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/18/24 17:29	100
Vinyl chloride	**460**		100	71	ug/L			01/18/24 17:29	100
Xylenes, Total	130	U	200	130	ug/L			01/18/24 17:29	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*41 - 142*		*01/18/24 17:29*	*100*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/18/24 17:29*	*100*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/18/24 17:29*	*100*

Client Sample ID: LC34-DPT0600-043.0-20240116
Lab Sample ID: 670-33262-34

Date Collected: 01/16/24 12:05
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	40	U	50	40	ug/L			01/18/24 16:49	50
1,1,2,2-Tetrachloroethane	27	U	50	27	ug/L			01/18/24 16:49	50
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	100	37	ug/L			01/18/24 16:49	50
1,1,2-Trichloroethane	38	U	100	38	ug/L			01/18/24 16:49	50

Client Sample ID: LC34-DPT0600-043.0-20240116
Lab Sample ID: 670-33262-34
Date Collected: 01/16/24 12:05
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	31	U	50	31	ug/L			01/18/24 16:49	50
1,1-Dichloroethene	47	U	50	47	ug/L			01/18/24 16:49	50
1,2,4-Trichlorobenzene	35	U	100	35	ug/L			01/18/24 16:49	50
1,2-Dibromo-3-Chloropropane	48	U	500	48	ug/L			01/18/24 16:49	50
1,2-Dibromoethane (EDB)	39	U	600	39	ug/L			01/18/24 16:49	50
1,2-Dichlorobenzene	37	U	50	37	ug/L			01/18/24 16:49	50
1,2-Dichloroethane	32	U	50	32	ug/L			01/18/24 16:49	50
1,2-Dichloropropane	40	U	50	40	ug/L			01/18/24 16:49	50
1,3-Dichlorobenzene	39	U	50	39	ug/L			01/18/24 16:49	50
1,4-Dichlorobenzene	38	U	50	38	ug/L			01/18/24 16:49	50
2-Butanone (MEK)	230	U	500	230	ug/L			01/18/24 16:49	50
2-Hexanone	130	U	1000	130	ug/L			01/18/24 16:49	50
4-Methyl-2-pentanone	250	U	1000	250	ug/L			01/18/24 16:49	50
Acetone	1300	U	2500	1300	ug/L			01/18/24 16:49	50
Benzene	36	U	50	36	ug/L			01/18/24 16:49	50
Bromodichloromethane	26	U	50	26	ug/L			01/18/24 16:49	50
Bromoform	38	U	50	38	ug/L			01/18/24 16:49	50
Bromomethane	48	U	100	48	ug/L			01/18/24 16:49	50
Carbon disulfide	130	U	250	130	ug/L			01/18/24 16:49	50
Carbon tetrachloride	47	U	50	47	ug/L			01/18/24 16:49	50
Chlorobenzene	36	U	50	36	ug/L			01/18/24 16:49	50
Chloroethane	49	U	100	49	ug/L			01/18/24 16:49	50
Chloroform	40	U	250	40	ug/L			01/18/24 16:49	50
Chloromethane	41	U	100	41	ug/L			01/18/24 16:49	50
cis-1,2-Dichloroethene	**370**		50	27	ug/L			01/18/24 16:49	50
cis-1,3-Dichloropropene	30	U	50	30	ug/L			01/18/24 16:49	50
Cyclohexane	47	U	250	47	ug/L			01/18/24 16:49	50
Dibromochloromethane	25	U	50	25	ug/L			01/18/24 16:49	50
Dichlorodifluoromethane	37	U	50	37	ug/L			01/18/24 16:49	50
Ethylbenzene	35	U	50	35	ug/L			01/18/24 16:49	50
Isopropylbenzene	34	U	100	34	ug/L			01/18/24 16:49	50
m,p-Xylenes	65	U	100	65	ug/L			01/18/24 16:49	50
Methyl acetate	48	U	500	48	ug/L			01/18/24 16:49	50
Methyl tert-butyl ether	30	U	100	30	ug/L			01/18/24 16:49	50
Methylene Chloride	250	U	500	250	ug/L			01/18/24 16:49	50
o-Xylene	27	U	50	27	ug/L			01/18/24 16:49	50
Styrene	31	U	50	31	ug/L			01/18/24 16:49	50
Tetrachloroethene	38	U	50	38	ug/L			01/18/24 16:49	50
Toluene	36	U	50	36	ug/L			01/18/24 16:49	50
trans-1,2-Dichloroethene	37	U	50	37	ug/L			01/18/24 16:49	50
trans-1,3-Dichloropropene	37	U	50	37	ug/L			01/18/24 16:49	50
Trichloroethene	45	U	50	45	ug/L			01/18/24 16:49	50
Trichlorofluoromethane	47	U	50	47	ug/L			01/18/24 16:49	50
Vinyl chloride	**1100**		50	36	ug/L			01/18/24 16:49	50
Xylenes, Total	65	U	100	65	ug/L			01/18/24 16:49	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*41 - 142*		*01/18/24 16:49*	*50*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*01/18/24 16:49*	*50*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/18/24 16:49*	*50*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33262-1

Client Sample ID: LC34-DPT0599-043.0-20240116
Date Collected: 01/16/24 12:10
Date Received: 01/17/24 13:20

Lab Sample ID: 670-33262-35
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	2000	U	2500	2000	ug/L			01/18/24 18:39	2500
1,1,2,2-Tetrachloroethane	1400	U	2500	1400	ug/L			01/18/24 18:39	2500
1,1,2-Trichloro-1,2,2-trifluoroethane	1800	U	5000	1800	ug/L			01/18/24 18:39	2500
1,1,2-Trichloroethane	1900	U	5000	1900	ug/L			01/18/24 18:39	2500
1,1-Dichloroethane	1600	U	2500	1600	ug/L			01/18/24 18:39	2500
1,1-Dichloroethene	2400	U	2500	2400	ug/L			01/18/24 18:39	2500
1,2,4-Trichlorobenzene	1800	U	5000	1800	ug/L			01/18/24 18:39	2500
1,2-Dibromo-3-Chloropropane	2400	U	25000	2400	ug/L			01/18/24 18:39	2500
1,2-Dibromoethane (EDB)	2000	U	30000	2000	ug/L			01/18/24 18:39	2500
1,2-Dichlorobenzene	1800	U	2500	1800	ug/L			01/18/24 18:39	2500
1,2-Dichloroethane	1600	U	2500	1600	ug/L			01/18/24 18:39	2500
1,2-Dichloropropane	2000	U	2500	2000	ug/L			01/18/24 18:39	2500
1,3-Dichlorobenzene	1900	U	2500	1900	ug/L			01/18/24 18:39	2500
1,4-Dichlorobenzene	1900	U	2500	1900	ug/L			01/18/24 18:39	2500
2-Butanone (MEK)	11000	U	25000	11000	ug/L			01/18/24 18:39	2500
2-Hexanone	6300	U	50000	6300	ug/L			01/18/24 18:39	2500
4-Methyl-2-pentanone	13000	U	50000	13000	ug/L			01/18/24 18:39	2500
Acetone	63000	U	130000	63000	ug/L			01/18/24 18:39	2500
Benzene	1800	U	2500	1800	ug/L			01/18/24 18:39	2500
Bromodichloromethane	1300	U	2500	1300	ug/L			01/18/24 18:39	2500
Bromoform	1900	U	2500	1900	ug/L			01/18/24 18:39	2500
Bromomethane	2400	U	5000	2400	ug/L			01/18/24 18:39	2500
Carbon disulfide	6300	U	13000	6300	ug/L			01/18/24 18:39	2500
Carbon tetrachloride	2400	U	2500	2400	ug/L			01/18/24 18:39	2500
Chlorobenzene	1800	U	2500	1800	ug/L			01/18/24 18:39	2500
Chloroethane	2500	U	5000	2500	ug/L			01/18/24 18:39	2500
Chloroform	2000	U	13000	2000	ug/L			01/18/24 18:39	2500
Chloromethane	2100	U	5000	2100	ug/L			01/18/24 18:39	2500
cis-1,2-Dichloroethene	**160000**		2500	1300	ug/L			01/18/24 18:39	2500
cis-1,3-Dichloropropene	1500	U	2500	1500	ug/L			01/18/24 18:39	2500
Cyclohexane	2300	U	13000	2300	ug/L			01/18/24 18:39	2500
Dibromochloromethane	1300	U	2500	1300	ug/L			01/18/24 18:39	2500
Dichlorodifluoromethane	1900	U	2500	1900	ug/L			01/18/24 18:39	2500
Ethylbenzene	1700	U	2500	1700	ug/L			01/18/24 18:39	2500
Isopropylbenzene	1700	U	5000	1700	ug/L			01/18/24 18:39	2500
m,p-Xylenes	3300	U	5000	3300	ug/L			01/18/24 18:39	2500
Methyl acetate	2400	U	25000	2400	ug/L			01/18/24 18:39	2500
Methyl tert-butyl ether	1500	U	5000	1500	ug/L			01/18/24 18:39	2500
Methylene Chloride	13000	U	25000	13000	ug/L			01/18/24 18:39	2500
o-Xylene	1300	U	2500	1300	ug/L			01/18/24 18:39	2500
Styrene	1500	U	2500	1500	ug/L			01/18/24 18:39	2500
Tetrachloroethene	1900	U	2500	1900	ug/L			01/18/24 18:39	2500
Toluene	1800	U	2500	1800	ug/L			01/18/24 18:39	2500
trans-1,2-Dichloroethene	**4100**		2500	1800	ug/L			01/19/24 17:15	2500
trans-1,3-Dichloropropene	1800	U	2500	1800	ug/L			01/18/24 18:39	2500
Trichloroethene	**22000**		2500	2200	ug/L			01/18/24 18:39	2500
Trichlorofluoromethane	2400	U	2500	2400	ug/L			01/18/24 18:39	2500
Vinyl chloride	**25000**		2500	1800	ug/L			01/18/24 18:39	2500
Xylenes, Total	3300	U	5000	3300	ug/L			01/18/24 18:39	2500

Client Sample ID: LC34-DPT0599-043.0-20240116
Lab Sample ID: 670-33262-35

Date Collected: 01/16/24 12:10
Matrix: Water
Date Received: 01/17/24 13:20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		41 - 142		01/18/24 18:39	2500
4-Bromofluorobenzene (Surr)	104		41 - 142		01/19/24 17:15	2500
Dibromofluoromethane (Surr)	107		53 - 146		01/18/24 18:39	2500
Dibromofluoromethane (Surr)	99		53 - 146		01/19/24 17:15	2500
Toluene-d8 (Surr)	101		40 - 146		01/18/24 18:39	2500
Toluene-d8 (Surr)	98		40 - 146		01/19/24 17:15	2500

Client Sample ID: LC34-DPT0599-048.0-20240116
Lab Sample ID: 670-33262-36

Date Collected: 01/16/24 12:35
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/18/24 18:21	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/18/24 18:21	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/18/24 18:21	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/18/24 18:21	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/18/24 18:21	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/18/24 18:21	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/18/24 18:21	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/18/24 18:21	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/18/24 18:21	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/18/24 18:21	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/18/24 18:21	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/18/24 18:21	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/18/24 18:21	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/18/24 18:21	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/18/24 18:21	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/18/24 18:21	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/18/24 18:21	1000
Acetone	25000	U	50000	25000	ug/L			01/18/24 18:21	1000
Benzene	710	U	1000	710	ug/L			01/18/24 18:21	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/18/24 18:21	1000
Bromoform	750	U	1000	750	ug/L			01/18/24 18:21	1000
Bromomethane	950	U	2000	950	ug/L			01/18/24 18:21	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/18/24 18:21	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/18/24 18:21	1000
Chlorobenzene	720	U	1000	720	ug/L			01/18/24 18:21	1000
Chloroethane	980	U	2000	980	ug/L			01/18/24 18:21	1000
Chloroform	800	U	5000	800	ug/L			01/18/24 18:21	1000
Chloromethane	820	U	2000	820	ug/L			01/18/24 18:21	1000
cis-1,2-Dichloroethene	**64000**		1000	530	ug/L			01/18/24 18:21	1000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/18/24 18:21	1000
Cyclohexane	930	U	5000	930	ug/L			01/18/24 18:21	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/18/24 18:21	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/18/24 18:21	1000
Ethylbenzene	690	U	1000	690	ug/L			01/18/24 18:21	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/18/24 18:21	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/18/24 18:21	1000
Methyl acetate	950	U	10000	950	ug/L			01/18/24 18:21	1000

Client Sample ID: LC34-DPT0599-048.0-20240116
Lab Sample ID: 670-33262-36

Date Collected: 01/16/24 12:35
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/18/24 18:21	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/18/24 18:21	1000
o-Xylene	530	U	1000	530	ug/L			01/18/24 18:21	1000
Styrene	610	U	1000	610	ug/L			01/18/24 18:21	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/18/24 18:21	1000
Toluene	720	U	1000	720	ug/L			01/18/24 18:21	1000
trans-1,2-Dichloroethene	**2300**		1000	730	ug/L			01/19/24 16:22	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/18/24 18:21	1000
Trichloroethene	**3400**		1000	890	ug/L			01/18/24 18:21	1000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/18/24 18:21	1000
Vinyl chloride	**15000**		1000	710	ug/L			01/18/24 18:21	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/18/24 18:21	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*41 - 142*		*01/18/24 18:21*	*1000*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/19/24 16:22*	*1000*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/18/24 18:21*	*1000*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/19/24 16:22*	*1000*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/18/24 18:21*	*1000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/19/24 16:22*	*1000*

Client Sample ID: LC34-DPT0600-048.0-20240116
Lab Sample ID: 670-33262-37

Date Collected: 01/16/24 12:35
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8000	U	10000	8000	ug/L			01/18/24 19:31	10000
1,1,2,2-Tetrachloroethane	5400	U	10000	5400	ug/L			01/18/24 19:31	10000
1,1,2-Trichloro-1,2,2-trifluoroethane	7300	U	20000	7300	ug/L			01/18/24 19:31	10000
1,1,2-Trichloroethane	7600	U	20000	7600	ug/L			01/18/24 19:31	10000
1,1-Dichloroethane	6200	U	10000	6200	ug/L			01/18/24 19:31	10000
1,1-Dichloroethene	9400	U	10000	9400	ug/L			01/18/24 19:31	10000
1,2,4-Trichlorobenzene	7000	U	20000	7000	ug/L			01/18/24 19:31	10000
1,2-Dibromo-3-Chloropropane	9600	U	100000	9600	ug/L			01/18/24 19:31	10000
1,2-Dibromoethane (EDB)	7800	U	120000	7800	ug/L			01/18/24 19:31	10000
1,2-Dichlorobenzene	7300	U	10000	7300	ug/L			01/18/24 19:31	10000
1,2-Dichloroethane	6300	U	10000	6300	ug/L			01/18/24 19:31	10000
1,2-Dichloropropane	8000	U	10000	8000	ug/L			01/18/24 19:31	10000
1,3-Dichlorobenzene	7700	U	10000	7700	ug/L			01/18/24 19:31	10000
1,4-Dichlorobenzene	7600	U	10000	7600	ug/L			01/18/24 19:31	10000
2-Butanone (MEK)	45000	U	100000	45000	ug/L			01/18/24 19:31	10000
2-Hexanone	25000	U	200000	25000	ug/L			01/18/24 19:31	10000
4-Methyl-2-pentanone	50000	U	200000	50000	ug/L			01/18/24 19:31	10000
Acetone	250000	U	500000	250000	ug/L			01/18/24 19:31	10000
Benzene	7100	U	10000	7100	ug/L			01/18/24 19:31	10000
Bromodichloromethane	5200	U	10000	5200	ug/L			01/18/24 19:31	10000
Bromoform	7500	U	10000	7500	ug/L			01/18/24 19:31	10000
Bromomethane	9500	U	20000	9500	ug/L			01/18/24 19:31	10000
Carbon disulfide	25000	U	50000	25000	ug/L			01/18/24 19:31	10000

Client Sample ID: LC34-DPT0600-048.0-20240116
Lab Sample ID: 670-33262-37

Date Collected: 01/16/24 12:35
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	9400	U	10000	9400	ug/L			01/18/24 19:31	10000
Chlorobenzene	7200	U	10000	7200	ug/L			01/18/24 19:31	10000
Chloroethane	9800	U	20000	9800	ug/L			01/18/24 19:31	10000
Chloroform	8000	U	50000	8000	ug/L			01/18/24 19:31	10000
Chloromethane	8200	U	20000	8200	ug/L			01/18/24 19:31	10000
cis-1,2-Dichloroethene	**70000**		10000	5300	ug/L			01/18/24 19:31	10000
cis-1,3-Dichloropropene	5900	U	10000	5900	ug/L			01/18/24 19:31	10000
Cyclohexane	9300	U	50000	9300	ug/L			01/18/24 19:31	10000
Dibromochloromethane	5000	U	10000	5000	ug/L			01/18/24 19:31	10000
Dichlorodifluoromethane	7400	U	10000	7400	ug/L			01/18/24 19:31	10000
Ethylbenzene	6900	U	10000	6900	ug/L			01/18/24 19:31	10000
Isopropylbenzene	6700	U	20000	6700	ug/L			01/18/24 19:31	10000
m,p-Xylenes	13000	U	20000	13000	ug/L			01/18/24 19:31	10000
Methyl acetate	9500	U	100000	9500	ug/L			01/18/24 19:31	10000
Methyl tert-butyl ether	6000	U	20000	6000	ug/L			01/18/24 19:31	10000
Methylene Chloride	50000	U	100000	50000	ug/L			01/18/24 19:31	10000
o-Xylene	5300	U	10000	5300	ug/L			01/18/24 19:31	10000
Styrene	6100	U	10000	6100	ug/L			01/18/24 19:31	10000
Tetrachloroethene	7600	U	10000	7600	ug/L			01/18/24 19:31	10000
Toluene	7200	U	10000	7200	ug/L			01/18/24 19:31	10000
trans-1,2-Dichloroethene	7300	U	10000	7300	ug/L			01/18/24 19:31	10000
trans-1,3-Dichloropropene	7300	U	10000	7300	ug/L			01/18/24 19:31	10000
Trichloroethene	**450000**		10000	8900	ug/L			01/18/24 19:31	10000
Trichlorofluoromethane	9400	U	10000	9400	ug/L			01/18/24 19:31	10000
Vinyl chloride	**13000**		10000	7100	ug/L			01/18/24 19:31	10000
Xylenes, Total	13000	U	20000	13000	ug/L			01/18/24 19:31	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*41 - 142*		*01/18/24 19:31*	*10000*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/18/24 19:31*	*10000*
Toluene-d8 (Surr)	*109*		*40 - 146*		*01/18/24 19:31*	*10000*

Client Sample ID: LC34-DPT0599-053.0-20240116
Lab Sample ID: 670-33262-38

Date Collected: 01/16/24 12:55
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4000	U	5000	4000	ug/L			01/18/24 18:56	5000
1,1,2,2-Tetrachloroethane	2700	U	5000	2700	ug/L			01/18/24 18:56	5000
1,1,2-Trichloro-1,2,2-trifluoroethane	3700	U	10000	3700	ug/L			01/18/24 18:56	5000
1,1,2-Trichloroethane	3800	U	10000	3800	ug/L			01/18/24 18:56	5000
1,1-Dichloroethane	3100	U	5000	3100	ug/L			01/18/24 18:56	5000
1,1-Dichloroethene	4700	U	5000	4700	ug/L			01/18/24 18:56	5000
1,2,4-Trichlorobenzene	3500	U	10000	3500	ug/L			01/18/24 18:56	5000
1,2-Dibromo-3-Chloropropane	4800	U	50000	4800	ug/L			01/18/24 18:56	5000
1,2-Dibromoethane (EDB)	3900	U	60000	3900	ug/L			01/18/24 18:56	5000
1,2-Dichlorobenzene	3700	U	5000	3700	ug/L			01/18/24 18:56	5000
1,2-Dichloroethane	3200	U	5000	3200	ug/L			01/18/24 18:56	5000
1,2-Dichloropropane	4000	U	5000	4000	ug/L			01/18/24 18:56	5000

Client Sample ID: LC34-DPT0599-053.0-20240116
Lab Sample ID: 670-33262-38

Date Collected: 01/16/24 12:55
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	3900	U	5000	3900	ug/L			01/18/24 18:56	5000
1,4-Dichlorobenzene	3800	U	5000	3800	ug/L			01/18/24 18:56	5000
2-Butanone (MEK)	23000	U	50000	23000	ug/L			01/18/24 18:56	5000
2-Hexanone	13000	U	100000	13000	ug/L			01/18/24 18:56	5000
4-Methyl-2-pentanone	25000	U	100000	25000	ug/L			01/18/24 18:56	5000
Acetone	130000	U	250000	130000	ug/L			01/18/24 18:56	5000
Benzene	3600	U	5000	3600	ug/L			01/18/24 18:56	5000
Bromodichloromethane	2600	U	5000	2600	ug/L			01/18/24 18:56	5000
Bromoform	3800	U	5000	3800	ug/L			01/18/24 18:56	5000
Bromomethane	4800	U	10000	4800	ug/L			01/18/24 18:56	5000
Carbon disulfide	13000	U	25000	13000	ug/L			01/18/24 18:56	5000
Carbon tetrachloride	4700	U	5000	4700	ug/L			01/18/24 18:56	5000
Chlorobenzene	3600	U	5000	3600	ug/L			01/18/24 18:56	5000
Chloroethane	4900	U	10000	4900	ug/L			01/18/24 18:56	5000
Chloroform	4000	U	25000	4000	ug/L			01/18/24 18:56	5000
Chloromethane	4100	U	10000	4100	ug/L			01/18/24 18:56	5000
cis-1,2-Dichloroethene	**120000**		5000	2700	ug/L			01/18/24 18:56	5000
cis-1,3-Dichloropropene	3000	U	5000	3000	ug/L			01/18/24 18:56	5000
Cyclohexane	4700	U	25000	4700	ug/L			01/18/24 18:56	5000
Dibromochloromethane	2500	U	5000	2500	ug/L			01/18/24 18:56	5000
Dichlorodifluoromethane	3700	U	5000	3700	ug/L			01/18/24 18:56	5000
Ethylbenzene	3500	U	5000	3500	ug/L			01/18/24 18:56	5000
Isopropylbenzene	3400	U	10000	3400	ug/L			01/18/24 18:56	5000
m,p-Xylenes	6500	U	10000	6500	ug/L			01/18/24 18:56	5000
Methyl acetate	4800	U	50000	4800	ug/L			01/18/24 18:56	5000
Methyl tert-butyl ether	3000	U	10000	3000	ug/L			01/18/24 18:56	5000
Methylene Chloride	25000	U	50000	25000	ug/L			01/18/24 18:56	5000
o-Xylene	2700	U	5000	2700	ug/L			01/18/24 18:56	5000
Styrene	3100	U	5000	3100	ug/L			01/18/24 18:56	5000
Tetrachloroethene	3800	U	5000	3800	ug/L			01/18/24 18:56	5000
Toluene	3600	U	5000	3600	ug/L			01/18/24 18:56	5000
trans-1,2-Dichloroethene	3700	U	5000	3700	ug/L			01/18/24 18:56	5000
trans-1,3-Dichloropropene	3700	U	5000	3700	ug/L			01/18/24 18:56	5000
Trichloroethene	**130000**		5000	4500	ug/L			01/18/24 18:56	5000
Trichlorofluoromethane	4700	U	5000	4700	ug/L			01/18/24 18:56	5000
Vinyl chloride	**9600**		5000	3600	ug/L			01/18/24 18:56	5000
Xylenes, Total	6500	U	10000	6500	ug/L			01/18/24 18:56	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*01/18/24 18:56*	*5000*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/18/24 18:56*	*5000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/18/24 18:56*	*5000*

Client Sample ID: LC34-DPT0600-053.0-20240116
Lab Sample ID: 670-33262-39

Date Collected: 01/16/24 12:55
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			01/23/24 16:20	10

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0600-053.0-20240116
Lab Sample ID: 670-33262-39
Date Collected: 01/16/24 12:55
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			01/23/24 16:20	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			01/23/24 16:20	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			01/23/24 16:20	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			01/23/24 16:20	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			01/23/24 16:20	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			01/23/24 16:20	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			01/23/24 16:20	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			01/23/24 16:20	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			01/23/24 16:20	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			01/23/24 16:20	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			01/23/24 16:20	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			01/23/24 16:20	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			01/23/24 16:20	10
2-Butanone (MEK)	45	U	100	45	ug/L			01/23/24 16:20	10
2-Hexanone	25	U	200	25	ug/L			01/23/24 16:20	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			01/23/24 16:20	10
Acetone	250	U	500	250	ug/L			01/23/24 16:20	10
Benzene	7.1	U	10	7.1	ug/L			01/23/24 16:20	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			01/23/24 16:20	10
Bromoform	7.5	U	10	7.5	ug/L			01/23/24 16:20	10
Bromomethane	9.5	U	20	9.5	ug/L			01/23/24 16:20	10
Carbon disulfide	25	U	50	25	ug/L			01/23/24 16:20	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			01/23/24 16:20	10
Chlorobenzene	7.2	U	10	7.2	ug/L			01/23/24 16:20	10
Chloroethane	9.8	U	20	9.8	ug/L			01/23/24 16:20	10
Chloroform	8.0	U	50	8.0	ug/L			01/23/24 16:20	10
Chloromethane	8.2	U	20	8.2	ug/L			01/23/24 16:20	10
cis-1,2-Dichloroethene	**590**		10	5.3	ug/L			01/23/24 16:20	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			01/23/24 16:20	10
Cyclohexane	9.3	U	50	9.3	ug/L			01/23/24 16:20	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			01/23/24 16:20	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			01/23/24 16:20	10
Ethylbenzene	6.9	U	10	6.9	ug/L			01/23/24 16:20	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			01/23/24 16:20	10
m,p-Xylenes	13	U	20	13	ug/L			01/23/24 16:20	10
Methyl acetate	9.5	U	100	9.5	ug/L			01/23/24 16:20	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			01/23/24 16:20	10
Methylene Chloride	50	U	100	50	ug/L			01/23/24 16:20	10
o-Xylene	5.3	U	10	5.3	ug/L			01/23/24 16:20	10
Styrene	6.1	U	10	6.1	ug/L			01/23/24 16:20	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			01/23/24 16:20	10
Toluene	7.2	U	10	7.2	ug/L			01/23/24 16:20	10
trans-1,2-Dichloroethene	**26**		10	7.3	ug/L			01/23/24 16:20	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			01/23/24 16:20	10
Trichloroethene	8.9	U	10	8.9	ug/L			01/23/24 16:20	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			01/23/24 16:20	10
Vinyl chloride	**1800**		50	36	ug/L			01/22/24 19:21	50
Xylenes, Total	13	U	20	13	ug/L			01/23/24 16:20	10

Client Sample ID: LC34-DPT0600-053.0-20240116

Lab Sample ID: 670-33262-39

Date Collected: 01/16/24 12:55

Matrix: Water

Date Received: 01/17/24 13:20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/22/24 19:21*	*50*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*01/23/24 16:20*	*10*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/22/24 19:21*	*50*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*01/23/24 16:20*	*10*
Toluene-d8 (Surr)	*106*		*40 - 146*		*01/22/24 19:21*	*50*
Toluene-d8 (Surr)	*106*		*40 - 146*		*01/23/24 16:20*	*10*

Client Sample ID: LC34-DPT0599-058.0-20240116

Lab Sample ID: 670-33262-40

Date Collected: 01/16/24 13:30

Matrix: Water

Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/22/24 21:06	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/22/24 21:06	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/22/24 21:06	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/22/24 21:06	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/22/24 21:06	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/22/24 21:06	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/22/24 21:06	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/22/24 21:06	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/22/24 21:06	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/22/24 21:06	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/22/24 21:06	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/22/24 21:06	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/22/24 21:06	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/22/24 21:06	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/22/24 21:06	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/22/24 21:06	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/22/24 21:06	1000
Acetone	25000	U	50000	25000	ug/L			01/22/24 21:06	1000
Benzene	710	U	1000	710	ug/L			01/22/24 21:06	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/22/24 21:06	1000
Bromoform	750	U	1000	750	ug/L			01/22/24 21:06	1000
Bromomethane	950	U	2000	950	ug/L			01/22/24 21:06	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/22/24 21:06	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/22/24 21:06	1000
Chlorobenzene	720	U	1000	720	ug/L			01/22/24 21:06	1000
Chloroethane	980	U	2000	980	ug/L			01/22/24 21:06	1000
Chloroform	800	U	5000	800	ug/L			01/22/24 21:06	1000
Chloromethane	820	U	2000	820	ug/L			01/22/24 21:06	1000
cis-1,2-Dichloroethene	**48000**		1000	530	ug/L			01/22/24 21:06	1000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/22/24 21:06	1000
Cyclohexane	930	U	5000	930	ug/L			01/22/24 21:06	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/22/24 21:06	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/22/24 21:06	1000
Ethylbenzene	690	U	1000	690	ug/L			01/22/24 21:06	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/22/24 21:06	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/22/24 21:06	1000
Methyl acetate	950	U	10000	950	ug/L			01/22/24 21:06	1000

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0599-058.0-20240116
Lab Sample ID: 670-33262-40
Date Collected: 01/16/24 13:30
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/22/24 21:06	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/22/24 21:06	1000
o-Xylene	530	U	1000	530	ug/L			01/22/24 21:06	1000
Styrene	610	U	1000	610	ug/L			01/22/24 21:06	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/22/24 21:06	1000
Toluene	720	U	1000	720	ug/L			01/22/24 21:06	1000
trans-1,2-Dichloroethene	**890**	**I**	1000	730	ug/L			01/22/24 21:06	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/22/24 21:06	1000
Trichloroethene	**7100**		1000	890	ug/L			01/22/24 21:06	1000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/22/24 21:06	1000
Vinyl chloride	**2700**		1000	710	ug/L			01/22/24 21:06	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/22/24 21:06	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/22/24 21:06*	*1000*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/22/24 21:06*	*1000*
Toluene-d8 (Surr)	*109*		*40 - 146*		*01/22/24 21:06*	*1000*

Client Sample ID: LC34-DPT0600-058.0-20240116
Lab Sample ID: 670-33262-41
Date Collected: 01/16/24 13:30
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			01/23/24 18:11	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			01/23/24 18:11	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			01/23/24 18:11	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			01/23/24 18:11	25
1,1-Dichloroethane	16	U	25	16	ug/L			01/23/24 18:11	25
1,1-Dichloroethene	24	U	25	24	ug/L			01/23/24 18:11	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			01/23/24 18:11	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			01/23/24 18:11	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			01/23/24 18:11	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			01/23/24 18:11	25
1,2-Dichloroethane	16	U	25	16	ug/L			01/23/24 18:11	25
1,2-Dichloropropane	20	U	25	20	ug/L			01/23/24 18:11	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			01/23/24 18:11	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			01/23/24 18:11	25
2-Butanone (MEK)	110	U	250	110	ug/L			01/23/24 18:11	25
2-Hexanone	63	U	500	63	ug/L			01/23/24 18:11	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			01/23/24 18:11	25
Acetone	630	U	1300	630	ug/L			01/23/24 18:11	25
Benzene	18	U	25	18	ug/L			01/23/24 18:11	25
Bromodichloromethane	13	U	25	13	ug/L			01/23/24 18:11	25
Bromoform	19	U	25	19	ug/L			01/23/24 18:11	25
Bromomethane	24	U	50	24	ug/L			01/23/24 18:11	25
Carbon disulfide	63	U	130	63	ug/L			01/23/24 18:11	25
Carbon tetrachloride	24	U	25	24	ug/L			01/23/24 18:11	25
Chlorobenzene	18	U	25	18	ug/L			01/23/24 18:11	25
Chloroethane	25	U	50	25	ug/L			01/23/24 18:11	25

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33262-1

Client Sample ID: LC34-DPT0600-058.0-20240116

Lab Sample ID: 670-33262-41

Date Collected: 01/16/24 13:30

Matrix: Water

Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	20	U	130	20	ug/L			01/23/24 18:11	25
Chloromethane	21	U	50	21	ug/L			01/23/24 18:11	25
cis-1,2-Dichloroethene	**940**		25	13	ug/L			01/23/24 18:11	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			01/23/24 18:11	25
Cyclohexane	23	U	130	23	ug/L			01/23/24 18:11	25
Dibromochloromethane	13	U	25	13	ug/L			01/23/24 18:11	25
Dichlorodifluoromethane	19	U	25	19	ug/L			01/23/24 18:11	25
Ethylbenzene	17	U	25	17	ug/L			01/23/24 18:11	25
Isopropylbenzene	17	U	50	17	ug/L			01/23/24 18:11	25
m,p-Xylenes	33	U	50	33	ug/L			01/23/24 18:11	25
Methyl acetate	24	U	250	24	ug/L			01/23/24 18:11	25
Methyl tert-butyl ether	15	U	50	15	ug/L			01/23/24 18:11	25
Methylene Chloride	130	U	250	130	ug/L			01/23/24 18:11	25
o-Xylene	13	U	25	13	ug/L			01/23/24 18:11	25
Styrene	15	U	25	15	ug/L			01/23/24 18:11	25
Tetrachloroethene	19	U	25	19	ug/L			01/23/24 18:11	25
Toluene	18	U	25	18	ug/L			01/23/24 18:11	25
trans-1,2-Dichloroethene	**52**		25	18	ug/L			01/23/24 18:11	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			01/23/24 18:11	25
Trichloroethene	22	U	25	22	ug/L			01/23/24 18:11	25
Trichlorofluoromethane	24	U	25	24	ug/L			01/23/24 18:11	25
Vinyl chloride	**2700**		100	71	ug/L			01/22/24 19:42	100
Xylenes, Total	33	U	50	33	ug/L			01/23/24 18:11	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/22/24 19:42*	*100*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*01/23/24 18:11*	*25*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/22/24 19:42*	*100*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*01/23/24 18:11*	*25*
Toluene-d8 (Surr)	*104*		*40 - 146*		*01/22/24 19:42*	*100*
Toluene-d8 (Surr)	*105*		*40 - 146*		*01/23/24 18:11*	*25*

Client Sample ID: LC34-DPT0600-063.0-20240116

Lab Sample ID: 670-33262-42

Date Collected: 01/16/24 13:55

Matrix: Water

Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/23/24 14:03	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/23/24 14:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/23/24 14:03	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/23/24 14:03	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/23/24 14:03	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/23/24 14:03	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/23/24 14:03	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/23/24 14:03	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/23/24 14:03	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/23/24 14:03	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/23/24 14:03	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/23/24 14:03	1

Client Sample ID: LC34-DPT0600-063.0-20240116
Lab Sample ID: 670-33262-42

Date Collected: 01/16/24 13:55
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/23/24 14:03	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/23/24 14:03	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/23/24 14:03	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/23/24 14:03	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/23/24 14:03	1
Acetone	25	U	50	25	ug/L			01/23/24 14:03	1
Benzene	0.71	U	1.0	0.71	ug/L			01/23/24 14:03	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/23/24 14:03	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/23/24 14:03	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/23/24 14:03	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/23/24 14:03	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/23/24 14:03	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/23/24 14:03	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/23/24 14:03	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/23/24 14:03	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/23/24 14:03	1
cis-1,2-Dichloroethene	**90**		1.0	0.53	ug/L			01/23/24 14:03	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/23/24 14:03	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/23/24 14:03	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/23/24 14:03	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/23/24 14:03	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/23/24 14:03	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/23/24 14:03	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/23/24 14:03	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/23/24 14:03	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/23/24 14:03	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/23/24 14:03	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/23/24 14:03	1
Styrene	0.61	U	1.0	0.61	ug/L			01/23/24 14:03	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/23/24 14:03	1
Toluene	0.72	U	1.0	0.72	ug/L			01/23/24 14:03	1
trans-1,2-Dichloroethene	**3.4**		1.0	0.73	ug/L			01/23/24 14:03	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/23/24 14:03	1
Trichloroethene	**1.5**		1.0	0.89	ug/L			01/23/24 14:03	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/23/24 14:03	1
Vinyl chloride	**29**		1.0	0.71	ug/L			01/23/24 14:03	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/23/24 14:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*01/23/24 14:03*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*01/23/24 14:03*	*1*
Toluene-d8 (Surr)	*107*		*40 - 146*		*01/23/24 14:03*	*1*

Client Sample ID: LC34-DPT0599-063.0-20240116
Lab Sample ID: 670-33262-43

Date Collected: 01/16/24 13:55
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/22/24 20:24	100

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0599-063.0-20240116
Lab Sample ID: 670-33262-43
Date Collected: 01/16/24 13:55
Matrix: Water
Date Received: 01/17/24 13:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/22/24 20:24	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/22/24 20:24	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/22/24 20:24	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/22/24 20:24	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/22/24 20:24	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/22/24 20:24	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/22/24 20:24	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/22/24 20:24	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/22/24 20:24	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/22/24 20:24	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/22/24 20:24	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/22/24 20:24	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/22/24 20:24	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/22/24 20:24	100
2-Hexanone	250	U	2000	250	ug/L			01/22/24 20:24	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/22/24 20:24	100
Acetone	2500	U	5000	2500	ug/L			01/22/24 20:24	100
Benzene	71	U	100	71	ug/L			01/22/24 20:24	100
Bromodichloromethane	52	U	100	52	ug/L			01/22/24 20:24	100
Bromoform	75	U	100	75	ug/L			01/22/24 20:24	100
Bromomethane	95	U	200	95	ug/L			01/22/24 20:24	100
Carbon disulfide	250	U	500	250	ug/L			01/22/24 20:24	100
Carbon tetrachloride	94	U	100	94	ug/L			01/22/24 20:24	100
Chlorobenzene	72	U	100	72	ug/L			01/22/24 20:24	100
Chloroethane	98	U	200	98	ug/L			01/22/24 20:24	100
Chloroform	80	U	500	80	ug/L			01/22/24 20:24	100
Chloromethane	82	U	200	82	ug/L			01/22/24 20:24	100
cis-1,2-Dichloroethene	**4100**		100	53	ug/L			01/22/24 20:24	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/22/24 20:24	100
Cyclohexane	93	U	500	93	ug/L			01/22/24 20:24	100
Dibromochloromethane	50	U	100	50	ug/L			01/22/24 20:24	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/22/24 20:24	100
Ethylbenzene	69	U	100	69	ug/L			01/22/24 20:24	100
Isopropylbenzene	67	U	200	67	ug/L			01/22/24 20:24	100
m,p-Xylenes	130	U	200	130	ug/L			01/22/24 20:24	100
Methyl acetate	95	U	1000	95	ug/L			01/22/24 20:24	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/22/24 20:24	100
Methylene Chloride	500	U	1000	500	ug/L			01/22/24 20:24	100
o-Xylene	53	U	100	53	ug/L			01/22/24 20:24	100
Styrene	61	U	100	61	ug/L			01/22/24 20:24	100
Tetrachloroethene	76	U	100	76	ug/L			01/22/24 20:24	100
Toluene	72	U	100	72	ug/L			01/22/24 20:24	100
trans-1,2-Dichloroethene	**79**	**I**	100	73	ug/L			01/22/24 20:24	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/22/24 20:24	100
Trichloroethene	**560**		100	89	ug/L			01/22/24 20:24	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/22/24 20:24	100
Vinyl chloride	**900**		100	71	ug/L			01/22/24 20:24	100
Xylenes, Total	130	U	200	130	ug/L			01/22/24 20:24	100

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0599-063.0-20240116
Lab Sample ID: 670-33262-43
Date Collected: 01/16/24 13:55
Matrix: Water
Date Received: 01/17/24 13:20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		41 - 142		01/22/24 20:24	100
Dibromofluoromethane (Surr)	105		53 - 146		01/22/24 20:24	100
Toluene-d8 (Surr)	105		40 - 146		01/22/24 20:24	100

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33262-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
		BFB	DBFM	TOL						
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)						
670-33262-1 - DL	LC34-DPT0601-008.0-20240115	104	99	101						
670-33262-1 MS - DL	LC34-DPT0601-008.0-2024011 5	100	99	99						
670-33262-1 MSD - DL	LC34-DPT0601-008.0-2024011 5	100	100	100						
670-33262-2	LC34-DPT0601-013.0-2024011 5	102	99	100						
670-33262-3 - DL	LC34-DPT0601-018.0-2024011 5	103	97	99						
670-33262-4 - DL	LC34-DPT0601-023.0-2024011 5	103	98	100						
670-33262-5 - DL	LC34-DPT0601-028.0-2024011 5	103	99	98						
670-33262-6	LC34-DPT0601-033.0-2024011 5	103	100	100						
670-33262-7 - DL	LC34-DPT0601-038.0-2024011 5	105	98	98						
670-33262-8 - DL	LC34-DPT0601-043.0-2024011 5	104	98	100						
670-33262-9 - DL	LC34-DPT0601-048.0-2024011 5	103	99	101						
670-33262-9 - DL	LC34-DPT0601-048.0-2024011 5	103	99	101						
670-33262-10 - DL	LC34-DPT0601-053.0-2024011 5	102	100	101						
670-33262-11	LC34-DPT0601-058.0-2024011 5	103	99	100						
670-33262-12 - DL	LC34-DPT0601-063.0-2024011 5	103	98	99						
670-33262-13	LC34-DPT0601-068.0-2024011 5	104	100	99						
670-33262-14	LC34-DPT0601-073.0-2024011 5	105	99	100						
670-33262-15 - DL	LC34-DPT0601-078.0-2024011 5	102	98	99						
670-33262-16	LC34-DPT0601-083.0-2024011 5	104	101	101						
670-33262-17	LC34-DPT0601-088.0-2024011 5	103	99	98						
670-33262-18	LC34-DPT0601-093.0-2024011 6	104	100	100						
670-33262-19	LC34-DPT0601-098.0-2024011 6	90	105	101						
670-33262-20	LC34-DPT0599-008.0-2024011 6	103	107	100						
670-33262-21 - DL	LC34-DPT0600-008.0-2024011 6	93	105	102						
670-33262-22	LC34-DPT0599-013.0-2024011 6	97	105	98						
670-33262-23 - DL	LC34-DPT0600-013.0-2024011 6	84	107	101						
670-33262-23 MS	LC34-DPT0600-013.0-2024011 6	89	106	102						
670-33262-23 MSD	LC34-DPT0600-013.0-2024011 6	84	106	103						

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-33262-24	LC34-DPT0599-018.0-20240116	91	105	99
670-33262-25	LC34-DPT0600-018.0-20240116	94	104	99
670-33262-26	LC34-DPT0599-023.0-20240116	88	105	101
670-33262-26	LC34-DPT0599-023.0-20240116	104	99	99
670-33262-27 - DL	LC34-DPT0600-023.0-20240116	94	106	98
670-33262-28 - DL	LC34-DPT0600-028.0-20240116	87	104	100
670-33262-29 - DL	LC34-DPT0599-028.0-20240116	92	106	100
670-33262-29 - DL	LC34-DPT0599-028.0-20240116	102	98	100
670-33262-30 - DL	LC34-DPT0600-033.0-20240116	87	107	100
670-33262-31 - DL	LC34-DPT0599-033.0-20240116	91	104	100
670-33262-31 - DL	LC34-DPT0599-033.0-20240116	102	99	100
670-33262-32 - DL	LC34-DPT0599-038.0-20240116	84	105	100
670-33262-33 - DL	LC34-DPT0600-038.0-20240116	91	104	101
670-33262-34 - DL	LC34-DPT0600-043.0-20240116	92	106	100
670-33262-35 - DL	LC34-DPT0599-043.0-20240116	87	107	101
670-33262-35 - DL	LC34-DPT0599-043.0-20240116	104	99	98
670-33262-36 - DL	LC34-DPT0599-048.0-20240116	89	105	99
670-33262-36 - DL	LC34-DPT0599-048.0-20240116	102	100	100
670-33262-37 - DL	LC34-DPT0600-048.0-20240116	74	105	109
670-33262-38 - DL	LC34-DPT0599-053.0-20240116	94	105	100
670-33262-39 - DL	LC34-DPT0600-053.0-20240116	100	101	106
670-33262-39 - DL	LC34-DPT0600-053.0-20240116	97	106	106
670-33262-40 - DL	LC34-DPT0599-058.0-20240116	100	103	109
670-33262-41 - DL	LC34-DPT0600-058.0-20240116	101	100	104
670-33262-41 - DL	LC34-DPT0600-058.0-20240116	94	108	105
670-33262-42	LC34-DPT0600-063.0-20240116	97	108	107
670-33262-43 - DL	LC34-DPT0599-063.0-20240116	97	105	105
674-7472-D-1 MS	Matrix Spike	99	98	96
674-7472-D-1 MSD	Matrix Spike Duplicate	102	98	98
LB 670-72166/1-A - DL	Method Blank	97	108	106

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
LB 670-72408/1-A	Method Blank	98	105	105
LCS 670-72072/4	Lab Control Sample	100	98	100
LCS 670-72090/4	Lab Control Sample	89	103	103
LCS 670-72247/5	Lab Control Sample	102	100	101
LCS 670-72523/5	Lab Control Sample	99	103	105
LCS 670-72672/4	Lab Control Sample	97	102	104
MB 670-72072/7	Method Blank	101	100	99
MB 670-72090/7	Method Blank	87	106	99
MB 670-72247/8	Method Blank	106	100	100
MB 670-72523/8	Method Blank	99	107	102
MB 670-72672/7	Method Blank	100	105	105

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
660-133999-A-1-A MS	Matrix Spike	99	107	102
660-133999-A-1-A MSD	Matrix Spike Duplicate	104	98	101
670-33365-C-1-B MS	Matrix Spike	100	102	102
670-33365-C-1-B MSD	Matrix Spike Duplicate	103	100	101

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-72072/7
Matrix: Water
Analysis Batch: 72072

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/18/24 11:48	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/18/24 11:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/18/24 11:48	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/18/24 11:48	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/18/24 11:48	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/18/24 11:48	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/18/24 11:48	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/18/24 11:48	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/18/24 11:48	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/18/24 11:48	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/18/24 11:48	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/18/24 11:48	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/18/24 11:48	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/18/24 11:48	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/18/24 11:48	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/18/24 11:48	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/18/24 11:48	1
Acetone	25	U	50	25	ug/L			01/18/24 11:48	1
Benzene	0.71	U	1.0	0.71	ug/L			01/18/24 11:48	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/18/24 11:48	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/18/24 11:48	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/18/24 11:48	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/18/24 11:48	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/18/24 11:48	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/18/24 11:48	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/18/24 11:48	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/18/24 11:48	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/18/24 11:48	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/18/24 11:48	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/18/24 11:48	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/18/24 11:48	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/18/24 11:48	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/18/24 11:48	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/18/24 11:48	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/18/24 11:48	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/18/24 11:48	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/18/24 11:48	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/18/24 11:48	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/18/24 11:48	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/18/24 11:48	1
Styrene	0.61	U	1.0	0.61	ug/L			01/18/24 11:48	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/18/24 11:48	1
Toluene	0.72	U	1.0	0.72	ug/L			01/18/24 11:48	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/18/24 11:48	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/18/24 11:48	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/18/24 11:48	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/18/24 11:48	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/18/24 11:48	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72072/7
Matrix: Water
Analysis Batch: 72072

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/18/24 11:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/18/24 11:48*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/18/24 11:48*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/18/24 11:48*	*1*

Lab Sample ID: LCS 670-72072/4
Matrix: Water
Analysis Batch: 72072

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	19.9		ug/L		99	57 - 148
1,1,2,2-Tetrachloroethane	20.0	19.3		ug/L		97	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	18.5		ug/L		92	47 - 173
1,1,2-Trichloroethane	20.0	20.0		ug/L		100	57 - 141
1,1-Dichloroethane	20.0	20.9		ug/L		105	57 - 142
1,1-Dichloroethene	20.0	22.1		ug/L		110	47 - 139
1,2,4-Trichlorobenzene	20.0	18.5		ug/L		92	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	17.5		ug/L		87	48 - 150
1,2-Dibromoethane (EDB)	20.0	18.5		ug/L		93	57 - 140
1,2-Dichlorobenzene	20.0	19.6		ug/L		98	63 - 131
1,2-Dichloroethane	20.0	20.3		ug/L		101	50 - 156
1,2-Dichloropropane	20.0	20.7		ug/L		103	61 - 133
1,3-Dichlorobenzene	20.0	19.1		ug/L		95	66 - 129
1,4-Dichlorobenzene	20.0	17.0		ug/L		85	65 - 133
2-Butanone (MEK)	200	191		ug/L		95	10 - 180
2-Hexanone	200	192		ug/L		96	12 - 180
4-Methyl-2-pentanone	200	199		ug/L		100	19 - 180
Acetone	200	196		ug/L		98	10 - 180
Benzene	20.0	20.2		ug/L		101	56 - 136
Bromodichloromethane	20.0	20.2		ug/L		101	58 - 135
Bromoform	20.0	18.7		ug/L		93	46 - 148
Bromomethane	20.0	18.8		ug/L		94	10 - 173
Carbon disulfide	20.0	19.1		ug/L		96	43 - 153
Carbon tetrachloride	20.0	20.6		ug/L		103	54 - 156
Chlorobenzene	20.0	20.1		ug/L		101	51 - 139
Chloroethane	20.0	24.0		ug/L		120	27 - 180
Chloroform	20.0	21.2		ug/L		106	58 - 139
Chloromethane	20.0	23.6		ug/L		118	33 - 154
cis-1,2-Dichloroethene	20.0	22.2		ug/L		111	56 - 128
cis-1,3-Dichloropropene	20.0	20.1		ug/L		100	64 - 128
Cyclohexane	20.0	21.3		ug/L		107	14 - 151
Dibromochloromethane	20.0	19.2		ug/L		96	50 - 140
Dichlorodifluoromethane	20.0	24.8		ug/L		124	10 - 180
Ethylbenzene	20.0	19.5		ug/L		97	63 - 133
Isopropylbenzene	20.0	20.1		ug/L		100	60 - 132
m,p-Xylenes	20.0	18.2		ug/L		91	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72072/4
Matrix: Water
Analysis Batch: 72072

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	40.5		ug/L		101	70 - 130
Methyl tert-butyl ether	20.0	19.6		ug/L		98	51 - 145
Methylene Chloride	20.0	18.9		ug/L		95	43 - 142
o-Xylene	20.0	19.8		ug/L		99	61 - 129
Styrene	20.0	19.5		ug/L		97	59 - 136
Tetrachloroethene	20.0	19.8		ug/L		99	60 - 147
Toluene	20.0	18.4		ug/L		92	64 - 131
trans-1,2-Dichloroethene	20.0	20.0		ug/L		100	54 - 134
trans-1,3-Dichloropropene	20.0	20.0		ug/L		100	65 - 149
Trichloroethene	20.0	20.4		ug/L		102	62 - 135
Trichlorofluoromethane	20.0	21.2		ug/L		106	56 - 155
Vinyl chloride	20.0	24.5		ug/L		123	20 - 167
Xylenes, Total	40.0	38.0		ug/L		95	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*
Dibromofluoromethane (Surr)	*98*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: MB 670-72090/7
Matrix: Water
Analysis Batch: 72090

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/18/24 12:35	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/18/24 12:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/18/24 12:35	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/18/24 12:35	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/18/24 12:35	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/18/24 12:35	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/18/24 12:35	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/18/24 12:35	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/18/24 12:35	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/18/24 12:35	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/18/24 12:35	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/18/24 12:35	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/18/24 12:35	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/18/24 12:35	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/18/24 12:35	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/18/24 12:35	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/18/24 12:35	1
Acetone	25	U	50	25	ug/L			01/18/24 12:35	1
Benzene	0.71	U	1.0	0.71	ug/L			01/18/24 12:35	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/18/24 12:35	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/18/24 12:35	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/18/24 12:35	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/18/24 12:35	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/18/24 12:35	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72090/7
Matrix: Water
Analysis Batch: 72090

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/18/24 12:35	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/18/24 12:35	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/18/24 12:35	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/18/24 12:35	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/18/24 12:35	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/18/24 12:35	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/18/24 12:35	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/18/24 12:35	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/18/24 12:35	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/18/24 12:35	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/18/24 12:35	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/18/24 12:35	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/18/24 12:35	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/18/24 12:35	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/18/24 12:35	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/18/24 12:35	1
Styrene	0.61	U	1.0	0.61	ug/L			01/18/24 12:35	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/18/24 12:35	1
Toluene	0.72	U	1.0	0.72	ug/L			01/18/24 12:35	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/18/24 12:35	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/18/24 12:35	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/18/24 12:35	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/18/24 12:35	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/18/24 12:35	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/18/24 12:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*41 - 142*		*01/18/24 12:35*	*1*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*01/18/24 12:35*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/18/24 12:35*	*1*

Lab Sample ID: LCS 670-72090/4
Matrix: Water
Analysis Batch: 72090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.8		ug/L		104	57 - 148
1,1,2,2-Tetrachloroethane	20.0	18.0		ug/L		90	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	24.9		ug/L		125	47 - 173
1,1,2-Trichloroethane	20.0	20.1		ug/L		100	57 - 141
1,1-Dichloroethane	20.0	22.1		ug/L		111	57 - 142
1,1-Dichloroethene	20.0	26.2		ug/L		131	47 - 139
1,2,4-Trichlorobenzene	20.0	19.3		ug/L		97	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	18.1		ug/L		90	48 - 150
1,2-Dibromoethane (EDB)	20.0	19.5		ug/L		98	57 - 140
1,2-Dichlorobenzene	20.0	20.8		ug/L		104	63 - 131
1,2-Dichloroethane	20.0	20.0		ug/L		100	50 - 156
1,2-Dichloropropane	20.0	19.7		ug/L		98	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72090/4
Matrix: Water
Analysis Batch: 72090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	20.0	20.0		ug/L		100	66 - 129
1,4-Dichlorobenzene	20.0	18.7		ug/L		93	65 - 133
2-Butanone (MEK)	200	182		ug/L		91	10 - 180
2-Hexanone	200	168		ug/L		84	12 - 180
4-Methyl-2-pentanone	200	166		ug/L		83	19 - 180
Acetone	200	160		ug/L		80	10 - 180
Benzene	20.0	20.0		ug/L		100	56 - 136
Bromodichloromethane	20.0	19.9		ug/L		100	58 - 135
Bromoform	20.0	18.1		ug/L		90	46 - 148
Bromomethane	20.0	20.4		ug/L		102	10 - 173
Carbon disulfide	20.0	27.4		ug/L		137	43 - 153
Carbon tetrachloride	20.0	19.6		ug/L		98	54 - 156
Chlorobenzene	20.0	20.5		ug/L		102	51 - 139
Chloroethane	20.0	21.7		ug/L		109	27 - 180
Chloroform	20.0	22.0		ug/L		110	58 - 139
Chloromethane	20.0	25.2		ug/L		126	33 - 154
cis-1,2-Dichloroethene	20.0	22.4		ug/L		112	56 - 128
cis-1,3-Dichloropropene	20.0	18.7		ug/L		94	64 - 128
Cyclohexane	20.0	19.2		ug/L		96	14 - 151
Dibromochloromethane	20.0	19.4		ug/L		97	50 - 140
Dichlorodifluoromethane	20.0	26.2		ug/L		131	10 - 180
Ethylbenzene	20.0	19.6		ug/L		98	63 - 133
Isopropylbenzene	20.0	18.4		ug/L		92	60 - 132
m,p-Xylenes	20.0	19.1		ug/L		95	64 - 133
Methyl acetate	40.0	50.0		ug/L		125	70 - 130
Methyl tert-butyl ether	20.0	23.9		ug/L		119	51 - 145
Methylene Chloride	20.0	27.7		ug/L		139	43 - 142
o-Xylene	20.0	18.6		ug/L		93	61 - 129
Styrene	20.0	18.0		ug/L		90	59 - 136
Tetrachloroethene	20.0	19.8		ug/L		99	60 - 147
Toluene	20.0	20.0		ug/L		100	64 - 131
trans-1,2-Dichloroethene	20.0	29.3	J3	ug/L		147	54 - 134
trans-1,3-Dichloropropene	20.0	19.4		ug/L		97	65 - 149
Trichloroethene	20.0	20.8		ug/L		104	62 - 135
Trichlorofluoromethane	20.0	23.4		ug/L		117	56 - 155
Vinyl chloride	20.0	28.6		ug/L		143	20 - 167
Xylenes, Total	40.0	37.7		ug/L		94	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*41 - 142*
Dibromofluoromethane (Surr)	*103*		*53 - 146*
Toluene-d8 (Surr)	*103*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33262-23 MS
Matrix: Water
Analysis Batch: 72090

Client Sample ID: LC34-DPT0600-013.0-20240116
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	40	U	1000	1060		ug/L		106	57 - 148
1,1,2,2-Tetrachloroethane	27	U	1000	931		ug/L		93	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	1000	1310		ug/L		131	50 - 150
1,1,2-Trichloroethane	38	U	1000	960		ug/L		96	57 - 141
1,1-Dichloroethane	31	U	1000	1130		ug/L		113	57 - 142
1,1-Dichloroethene	47	U J3	1000	1360		ug/L		136	49 - 139
1,2,4-Trichlorobenzene	35	U	1000	976		ug/L		98	52 - 159
1,2-Dibromo-3-Chloropropane	48	U	1000	922		ug/L		92	48 - 150
1,2-Dibromoethane (EDB)	39	U	1000	910		ug/L		91	50 - 150
1,2-Dichlorobenzene	37	U	1000	1000		ug/L		100	63 - 131
1,2-Dichloroethane	32	U	1000	974		ug/L		97	50 - 156
1,2-Dichloropropane	40	U	1000	947		ug/L		95	61 - 133
1,3-Dichlorobenzene	39	U	1000	909		ug/L		91	66 - 129
1,4-Dichlorobenzene	38	U	1000	886		ug/L		89	65 - 133
2-Butanone (MEK)	230	U	10000	9960		ug/L		100	10 - 180
2-Hexanone	130	U	10000	9060		ug/L		91	12 - 180
4-Methyl-2-pentanone	250	U	10000	8920		ug/L		89	19 - 180
Acetone	1300	U	10000	9290		ug/L		93	10 - 180
Benzene	36	U	1000	982		ug/L		98	56 - 136
Bromodichloromethane	26	U	1000	958		ug/L		96	58 - 135
Bromoform	38	U	1000	903		ug/L		90	46 - 148
Bromomethane	48	U	1000	1120		ug/L		112	10 - 173
Carbon disulfide	130	U J3	1000	1420		ug/L		142	43 - 153
Carbon tetrachloride	47	U	1000	977		ug/L		98	54 - 156
Chlorobenzene	36	U	1000	970		ug/L		97	51 - 139
Chloroethane	49	U	1000	1120		ug/L		112	27 - 180
Chloroform	40	U	1000	1060		ug/L		106	59 - 139
Chloromethane	41	U	1000	1300		ug/L		130	33 - 154
cis-1,2-Dichloroethene	1900		1000	2920		ug/L		106	56 - 128
cis-1,3-Dichloropropene	30	U	1000	889		ug/L		89	64 - 128
Cyclohexane	47	U	1000	1030		ug/L		103	14 - 141
Dibromochloromethane	25	U	1000	964		ug/L		96	50 - 150
Dichlorodifluoromethane	37	U	1000	1430		ug/L		143	10 - 180
Ethylbenzene	35	U	1000	952		ug/L		95	63 - 133
Isopropylbenzene	34	U	1000	906		ug/L		91	60 - 132
m,p-Xylenes	65	U	1000	938		ug/L		94	64 - 133
Methyl acetate	48	U	2000	2690		ug/L		135	50 - 150
Methyl tert-butyl ether	30	U J3	1000	1210		ug/L		121	50 - 150
Methylene Chloride	250	U J3	1000	1450	J3	ug/L		145	43 - 142
o-Xylene	27	U	1000	887		ug/L		89	61 - 129
Styrene	31	U	1000	863		ug/L		86	59 - 136
Tetrachloroethene	38	U	1000	967		ug/L		97	60 - 147
Toluene	36	U	1000	960		ug/L		96	64 - 131
trans-1,2-Dichloroethene	37	U J3	1000	1450	J3	ug/L		145	54 - 134
trans-1,3-Dichloropropene	37	U	1000	906		ug/L		91	65 - 149
Trichloroethene	2100		1000	3060		ug/L		97	62 - 135
Trichlorofluoromethane	47	U	1000	1260		ug/L		126	56 - 155
Vinyl chloride	120		1000	1660		ug/L		153	20 - 167

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33262-23 MS
Client Sample ID: LC34-DPT0600-013.0-20240116
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 72090

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Xylenes, Total	65	U	2000	1830		ug/L		91	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*41 - 142*
Dibromofluoromethane (Surr)	*106*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Lab Sample ID: 670-33262-23 MSD
Client Sample ID: LC34-DPT0600-013.0-20240116
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 72090

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	40	U	1000	1030		ug/L		103	57 - 148	3	25
1,1,2,2-Tetrachloroethane	27	U	1000	839		ug/L		84	60 - 139	10	17
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	1000	1050		ug/L		105	50 - 150	22	30
1,1,2-Trichloroethane	38	U	1000	1030		ug/L		103	57 - 141	7	16
1,1-Dichloroethane	31	U	1000	1090		ug/L		109	57 - 142	4	24
1,1-Dichloroethene	47	U J3	1000	1050	J3	ug/L		105	49 - 139	25	16
1,2,4-Trichlorobenzene	35	U	1000	1100		ug/L		110	52 - 159	12	24
1,2-Dibromo-3-Chloropropane	48	U	1000	962		ug/L		96	48 - 150	4	21
1,2-Dibromoethane (EDB)	39	U	1000	956		ug/L		96	50 - 150	5	16
1,2-Dichlorobenzene	37	U	1000	1020		ug/L		102	63 - 131	2	25
1,2-Dichloroethane	32	U	1000	949		ug/L		95	50 - 156	3	18
1,2-Dichloropropane	40	U	1000	983		ug/L		98	61 - 133	4	26
1,3-Dichlorobenzene	39	U	1000	990		ug/L		99	66 - 129	9	23
1,4-Dichlorobenzene	38	U	1000	946		ug/L		95	65 - 133	7	23
2-Butanone (MEK)	230	U	10000	9410		ug/L		94	10 - 180	6	29
2-Hexanone	130	U	10000	9180		ug/L		92	12 - 180	1	28
4-Methyl-2-pentanone	250	U	10000	8860		ug/L		89	19 - 180	1	24
Acetone	1300	U	10000	8060		ug/L		81	10 - 180	14	19
Benzene	36	U	1000	990		ug/L		99	56 - 136	1	14
Bromodichloromethane	26	U	1000	950		ug/L		95	58 - 135	1	19
Bromoform	38	U	1000	813		ug/L		81	46 - 148	10	18
Bromomethane	48	U	1000	1120		ug/L		112	10 - 173	1	29
Carbon disulfide	130	U J3	1000	1080	J3	ug/L		108	43 - 153	27	26
Carbon tetrachloride	47	U	1000	1010		ug/L		101	54 - 156	3	27
Chlorobenzene	36	U	1000	1000		ug/L		100	51 - 139	3	13
Chloroethane	49	U	1000	1070		ug/L		107	27 - 180	4	22
Chloroform	40	U	1000	1050		ug/L		105	59 - 139	2	17
Chloromethane	41	U	1000	1310		ug/L		131	33 - 154	0	31
cis-1,2-Dichloroethene	1900		1000	2830		ug/L		97	56 - 128	3	17
cis-1,3-Dichloropropene	30	U	1000	894		ug/L		89	64 - 128	1	20
Cyclohexane	47	U	1000	1010		ug/L		101	14 - 141	2	30
Dibromochloromethane	25	U	1000	997		ug/L		100	50 - 150	3	18
Dichlorodifluoromethane	37	U	1000	1410		ug/L		141	10 - 180	1	26
Ethylbenzene	35	U	1000	849		ug/L		85	63 - 133	12	18
Isopropylbenzene	34	U	1000	868		ug/L		87	60 - 132	4	23
m,p-Xylenes	65	U	1000	823		ug/L		82	64 - 133	13	18

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33262-23 MSD
Matrix: Water
Analysis Batch: 72090

Client Sample ID: LC34-DPT0600-013.0-20240116
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methyl acetate	48	U	2000	2020		ug/L		101	50 - 150	29	30
Methyl tert-butyl ether	30	U J3	1000	924	J3	ug/L		92	50 - 150	27	22
Methylene Chloride	250	U J3	1000	1110	J3	ug/L		111	43 - 142	27	23
o-Xylene	27	U	1000	778		ug/L		78	61 - 129	13	16
Styrene	31	U	1000	761		ug/L		76	59 - 136	13	32
Tetrachloroethene	38	U	1000	1030		ug/L		103	60 - 147	6	21
Toluene	36	U	1000	998		ug/L		100	64 - 131	4	16
trans-1,2-Dichloroethene	37	U J3	1000	1030	J3	ug/L		103	54 - 134	34	20
trans-1,3-Dichloropropene	37	U	1000	930		ug/L		93	65 - 149	3	17
Trichloroethene	2100		1000	3140		ug/L		104	62 - 135	2	20
Trichlorofluoromethane	47	U	1000	1220		ug/L		122	56 - 155	3	22
Vinyl chloride	120		1000	1630		ug/L		151	20 - 167	2	24
Xylenes, Total	65	U	2000	1600		ug/L		80	50 - 150	13	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*41 - 142*
Dibromofluoromethane (Surr)	*106*		*53 - 146*
Toluene-d8 (Surr)	*103*		*40 - 146*

Lab Sample ID: MB 670-72247/8
Matrix: Water
Analysis Batch: 72247

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 11:03	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 11:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 11:03	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 11:03	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 11:03	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 11:03	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 11:03	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 11:03	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 11:03	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 11:03	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 11:03	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 11:03	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 11:03	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 11:03	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 11:03	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 11:03	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 11:03	1
Acetone	25	U	50	25	ug/L			01/19/24 11:03	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 11:03	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 11:03	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 11:03	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 11:03	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 11:03	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 11:03	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72247/8
Matrix: Water
Analysis Batch: 72247

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 11:03	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 11:03	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 11:03	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 11:03	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/19/24 11:03	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 11:03	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 11:03	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 11:03	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 11:03	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 11:03	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 11:03	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 11:03	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 11:03	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 11:03	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 11:03	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 11:03	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 11:03	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 11:03	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 11:03	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/19/24 11:03	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 11:03	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/19/24 11:03	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 11:03	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/19/24 11:03	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 11:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*41 - 142*		*01/19/24 11:03*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/19/24 11:03*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/19/24 11:03*	*1*

Lab Sample ID: LCS 670-72247/5
Matrix: Water
Analysis Batch: 72247

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	21.6		ug/L		108	57 - 148
1,1,2,2-Tetrachloroethane	20.0	22.6		ug/L		113	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	19.6		ug/L		98	47 - 173
1,1,2-Trichloroethane	20.0	22.8		ug/L		114	57 - 141
1,1-Dichloroethane	20.0	23.7		ug/L		119	57 - 142
1,1-Dichloroethene	20.0	24.5		ug/L		122	47 - 139
1,2,4-Trichlorobenzene	20.0	20.2		ug/L		101	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	20.2		ug/L		101	48 - 150
1,2-Dibromoethane (EDB)	20.0	20.8		ug/L		104	57 - 140
1,2-Dichlorobenzene	20.0	21.3		ug/L		107	63 - 131
1,2-Dichloroethane	20.0	21.5		ug/L		107	50 - 156
1,2-Dichloropropane	20.0	23.3		ug/L		117	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72247/5
Matrix: Water
Analysis Batch: 72247

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	20.0	20.6		ug/L		103	66 - 129
1,4-Dichlorobenzene	20.0	18.6		ug/L		93	65 - 133
2-Butanone (MEK)	200	227		ug/L		114	10 - 180
2-Hexanone	200	231		ug/L		116	12 - 180
4-Methyl-2-pentanone	200	230		ug/L		115	19 - 180
Acetone	200	239		ug/L		119	10 - 180
Benzene	20.0	22.6		ug/L		113	56 - 136
Bromodichloromethane	20.0	21.5		ug/L		108	58 - 135
Bromoform	20.0	20.7		ug/L		103	46 - 148
Bromomethane	20.0	22.0		ug/L		110	10 - 173
Carbon disulfide	20.0	20.6		ug/L		103	43 - 153
Carbon tetrachloride	20.0	21.6		ug/L		108	54 - 156
Chlorobenzene	20.0	21.9		ug/L		109	51 - 139
Chloroethane	20.0	25.4		ug/L		127	27 - 180
Chloroform	20.0	22.0		ug/L		110	58 - 139
Chloromethane	20.0	25.7		ug/L		128	33 - 154
cis-1,2-Dichloroethene	20.0	24.5		ug/L		123	56 - 128
cis-1,3-Dichloropropene	20.0	22.2		ug/L		111	64 - 128
Cyclohexane	20.0	23.4		ug/L		117	14 - 151
Dibromochloromethane	20.0	20.9		ug/L		104	50 - 140
Dichlorodifluoromethane	20.0	25.3		ug/L		126	10 - 180
Ethylbenzene	20.0	21.6		ug/L		108	63 - 133
Isopropylbenzene	20.0	22.2		ug/L		111	60 - 132
m,p-Xylenes	20.0	19.9		ug/L		99	64 - 133
Methyl acetate	40.0	49.2		ug/L		123	70 - 130
Methyl tert-butyl ether	20.0	22.0		ug/L		110	51 - 145
Methylene Chloride	20.0	21.1		ug/L		106	43 - 142
o-Xylene	20.0	21.3		ug/L		107	61 - 129
Styrene	20.0	21.3		ug/L		107	59 - 136
Tetrachloroethene	20.0	21.0		ug/L		105	60 - 147
Toluene	20.0	19.8		ug/L		99	64 - 131
trans-1,2-Dichloroethene	20.0	21.7		ug/L		108	54 - 134
trans-1,3-Dichloropropene	20.0	21.8		ug/L		109	65 - 149
Trichloroethene	20.0	21.8		ug/L		109	62 - 135
Trichlorofluoromethane	20.0	21.5		ug/L		108	56 - 155
Vinyl chloride	20.0	25.5		ug/L		127	20 - 167
Xylenes, Total	40.0	41.2		ug/L		103	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 674-7472-D-1 MS
Matrix: Water
Analysis Batch: 72247

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	23.8		ug/L		119	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	23.6		ug/L		118	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	20.6		ug/L		103	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	22.7		ug/L		114	57 - 141
1,1-Dichloroethane	0.62	U	20.0	25.4		ug/L		127	57 - 142
1,1-Dichloroethene	0.94	U	20.0	25.3		ug/L		127	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	19.0		ug/L		95	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	21.0		ug/L		105	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	21.5		ug/L		108	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	21.5		ug/L		108	63 - 131
1,2-Dichloroethane	0.63	U	20.0	23.0		ug/L		115	50 - 156
1,2-Dichloropropane	0.80	U	20.0	24.3		ug/L		121	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	20.7		ug/L		104	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	18.6		ug/L		93	65 - 133
2-Butanone (MEK)	4.5	U	200	240		ug/L		120	10 - 180
2-Hexanone	2.5	U	200	241		ug/L		120	12 - 180
4-Methyl-2-pentanone	5.0	U	200	246		ug/L		123	19 - 180
Acetone	25	U	200	229		ug/L		114	10 - 180
Benzene	0.71	U	20.0	23.6		ug/L		118	56 - 136
Bromodichloromethane	0.52	U	20.0	22.5		ug/L		113	58 - 135
Bromoform	0.75	U	20.0	21.3		ug/L		107	46 - 148
Bromomethane	0.95	U	20.0	23.5		ug/L		117	10 - 173
Carbon disulfide	2.5	U	20.0	22.0		ug/L		110	43 - 153
Carbon tetrachloride	0.94	U	20.0	24.4		ug/L		122	54 - 156
Chlorobenzene	0.72	U	20.0	22.5		ug/L		113	51 - 139
Chloroethane	0.98	U	20.0	29.3		ug/L		147	27 - 180
Chloroform	0.80	U	20.0	24.2		ug/L		121	59 - 139
Chloromethane	0.82	U	20.0	28.0		ug/L		140	33 - 154
cis-1,2-Dichloroethene	0.53	U J3	20.0	26.3	J3	ug/L		132	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	22.2		ug/L		111	64 - 128
Cyclohexane	0.93	U	20.0	27.5		ug/L		137	14 - 141
Dibromochloromethane	0.50	U	20.0	21.4		ug/L		107	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	28.8		ug/L		144	10 - 180
Ethylbenzene	0.69	U	20.0	23.0		ug/L		115	63 - 133
Isopropylbenzene	0.67	U	20.0	22.8		ug/L		114	60 - 132
m,p-Xylenes	1.3	U	20.0	21.1		ug/L		105	64 - 133
Methyl acetate	0.95	U	40.0	50.7		ug/L		127	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	23.3		ug/L		117	50 - 150
Methylene Chloride	5.0	U	20.0	21.4		ug/L		107	43 - 142
o-Xylene	0.53	U	20.0	22.0		ug/L		110	61 - 129
Styrene	0.61	U	20.0	21.6		ug/L		108	59 - 136
Tetrachloroethene	0.76	U	20.0	22.0		ug/L		110	60 - 147
Toluene	0.72	U	20.0	21.1		ug/L		106	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	23.1		ug/L		115	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	22.3		ug/L		111	65 - 149
Trichloroethene	0.89	U	20.0	22.9		ug/L		114	62 - 135
Trichlorofluoromethane	0.94	U	20.0	24.5		ug/L		123	56 - 155
Vinyl chloride	0.71	U	20.0	29.2		ug/L		146	20 - 167

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 674-7472-D-1 MS
Matrix: Water
Analysis Batch: 72247

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Xylenes, Total	1.3	U	40.0	43.1		ug/L		108	50 - 150		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*
Dibromofluoromethane (Surr)	*98*		*53 - 146*
Toluene-d8 (Surr)	*96*		*40 - 146*

Lab Sample ID: 674-7472-D-1 MSD
Matrix: Water
Analysis Batch: 72247

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	21.7		ug/L		108	57 - 148	9	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	22.2		ug/L		111	60 - 139	6	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	19.6		ug/L		98	50 - 150	5	30
1,1,2-Trichloroethane	0.76	U	20.0	22.3		ug/L		112	57 - 141	2	16
1,1-Dichloroethane	0.62	U	20.0	23.5		ug/L		117	57 - 142	8	24
1,1-Dichloroethene	0.94	U	20.0	24.1		ug/L		121	49 - 139	5	16
1,2,4-Trichlorobenzene	0.70	U	20.0	19.2		ug/L		96	52 - 159	1	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	20.8		ug/L		104	48 - 150	1	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	20.1		ug/L		100	50 - 150	7	16
1,2-Dichlorobenzene	0.73	U	20.0	21.0		ug/L		105	63 - 131	3	25
1,2-Dichloroethane	0.63	U	20.0	21.0		ug/L		105	50 - 156	9	18
1,2-Dichloropropane	0.80	U	20.0	22.5		ug/L		113	61 - 133	8	26
1,3-Dichlorobenzene	0.77	U	20.0	20.4		ug/L		102	66 - 129	1	23
1,4-Dichlorobenzene	0.76	U	20.0	18.0		ug/L		90	65 - 133	3	23
2-Butanone (MEK)	4.5	U	200	228		ug/L		114	10 - 180	5	29
2-Hexanone	2.5	U	200	227		ug/L		114	12 - 180	6	28
4-Methyl-2-pentanone	5.0	U	200	235		ug/L		118	19 - 180	4	24
Acetone	25	U	200	218		ug/L		109	10 - 180	5	19
Benzene	0.71	U	20.0	21.6		ug/L		108	56 - 136	9	14
Bromodichloromethane	0.52	U	20.0	20.9		ug/L		104	58 - 135	8	19
Bromoform	0.75	U	20.0	19.7		ug/L		99	46 - 148	8	18
Bromomethane	0.95	U	20.0	22.6		ug/L		113	10 - 173	4	29
Carbon disulfide	2.5	U	20.0	20.4		ug/L		102	43 - 153	8	26
Carbon tetrachloride	0.94	U	20.0	22.0		ug/L		110	54 - 156	10	27
Chlorobenzene	0.72	U	20.0	21.2		ug/L		106	51 - 139	6	13
Chloroethane	0.98	U	20.0	27.4		ug/L		137	27 - 180	7	22
Chloroform	0.80	U	20.0	21.6		ug/L		108	59 - 139	12	17
Chloromethane	0.82	U	20.0	25.8		ug/L		129	33 - 154	8	31
cis-1,2-Dichloroethene	0.53	U J3	20.0	23.4		ug/L		117	56 - 128	12	17
cis-1,3-Dichloropropene	0.59	U	20.0	20.8		ug/L		104	64 - 128	6	20
Cyclohexane	0.93	U	20.0	24.8		ug/L		124	14 - 141	10	30
Dibromochloromethane	0.50	U	20.0	19.7		ug/L		99	50 - 150	8	18
Dichlorodifluoromethane	0.74	U	20.0	26.5		ug/L		132	10 - 180	9	26
Ethylbenzene	0.69	U	20.0	21.2		ug/L		106	63 - 133	8	18
Isopropylbenzene	0.67	U	20.0	21.9		ug/L		110	60 - 132	4	23
m,p-Xylenes	1.3	U	20.0	19.2		ug/L		96	64 - 133	9	18

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 674-7472-D-1 MSD
Matrix: Water
Analysis Batch: 72247

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methyl acetate	0.95	U	40.0	46.5		ug/L		116	50 - 150	9	30
Methyl tert-butyl ether	0.60	U	20.0	21.7		ug/L		108	50 - 150	7	22
Methylene Chloride	5.0	U	20.0	20.3		ug/L		101	43 - 142	5	23
o-Xylene	0.53	U	20.0	20.4		ug/L		102	61 - 129	7	16
Styrene	0.61	U	20.0	20.1		ug/L		100	59 - 136	7	32
Tetrachloroethene	0.76	U	20.0	20.6		ug/L		103	60 - 147	7	21
Toluene	0.72	U	20.0	19.4		ug/L		97	64 - 131	8	16
trans-1,2-Dichloroethene	0.73	U	20.0	21.5		ug/L		107	54 - 134	7	20
trans-1,3-Dichloropropene	0.73	U	20.0	20.7		ug/L		104	65 - 149	7	17
Trichloroethene	0.89	U	20.0	21.8		ug/L		109	62 - 135	5	20
Trichlorofluoromethane	0.94	U	20.0	23.2		ug/L		116	56 - 155	6	22
Vinyl chloride	0.71	U	20.0	27.5		ug/L		138	20 - 167	6	24
Xylenes, Total	1.3	U	40.0	39.6		ug/L		99	50 - 150	8	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*98*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: MB 670-72523/8
Matrix: Water
Analysis Batch: 72523

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/22/24 13:00	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/22/24 13:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/22/24 13:00	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/22/24 13:00	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/22/24 13:00	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/22/24 13:00	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/22/24 13:00	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/22/24 13:00	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/22/24 13:00	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/22/24 13:00	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/22/24 13:00	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/22/24 13:00	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/22/24 13:00	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/22/24 13:00	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/22/24 13:00	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/22/24 13:00	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/22/24 13:00	1
Acetone	25	U	50	25	ug/L			01/22/24 13:00	1
Benzene	0.71	U	1.0	0.71	ug/L			01/22/24 13:00	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/22/24 13:00	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/22/24 13:00	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/22/24 13:00	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/22/24 13:00	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/22/24 13:00	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72523/8
Matrix: Water
Analysis Batch: 72523

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/22/24 13:00	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/22/24 13:00	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/22/24 13:00	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/22/24 13:00	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/22/24 13:00	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/22/24 13:00	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/22/24 13:00	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/22/24 13:00	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/22/24 13:00	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/22/24 13:00	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/22/24 13:00	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/22/24 13:00	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/22/24 13:00	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/22/24 13:00	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/22/24 13:00	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/22/24 13:00	1
Styrene	0.61	U	1.0	0.61	ug/L			01/22/24 13:00	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/22/24 13:00	1
Toluene	0.72	U	1.0	0.72	ug/L			01/22/24 13:00	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/22/24 13:00	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/22/24 13:00	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/22/24 13:00	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/22/24 13:00	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/22/24 13:00	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/22/24 13:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/22/24 13:00*	*1*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*01/22/24 13:00*	*1*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/22/24 13:00*	*1*

Lab Sample ID: LCS 670-72523/5
Matrix: Water
Analysis Batch: 72523

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.0		ug/L		100	57 - 148
1,1,2,2-Tetrachloroethane	20.0	18.6		ug/L		93	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	23.1		ug/L		116	47 - 173
1,1,2-Trichloroethane	20.0	19.1		ug/L		96	57 - 141
1,1-Dichloroethane	20.0	19.5		ug/L		97	57 - 142
1,1-Dichloroethene	20.0	22.3		ug/L		112	47 - 139
1,2,4-Trichlorobenzene	20.0	20.1		ug/L		100	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	16.0		ug/L		80	48 - 150
1,2-Dibromoethane (EDB)	20.0	19.5		ug/L		97	57 - 140
1,2-Dichlorobenzene	20.0	21.4		ug/L		107	63 - 131
1,2-Dichloroethane	20.0	19.1		ug/L		95	50 - 156
1,2-Dichloropropane	20.0	20.4		ug/L		102	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72523/5
Matrix: Water
Analysis Batch: 72523

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	20.0	21.6		ug/L		108	66 - 129
1,4-Dichlorobenzene	20.0	21.3		ug/L		106	65 - 133
2-Butanone (MEK)	200	165		ug/L		83	10 - 180
2-Hexanone	200	161		ug/L		80	12 - 180
4-Methyl-2-pentanone	200	181		ug/L		91	19 - 180
Acetone	200	151		ug/L		75	10 - 180
Benzene	20.0	21.1		ug/L		106	56 - 136
Bromodichloromethane	20.0	21.0		ug/L		105	58 - 135
Bromoform	20.0	19.4		ug/L		97	46 - 148
Bromomethane	20.0	21.2		ug/L		106	10 - 173
Carbon disulfide	20.0	19.9		ug/L		100	43 - 153
Carbon tetrachloride	20.0	21.1		ug/L		106	54 - 156
Chlorobenzene	20.0	20.7		ug/L		103	51 - 139
Chloroethane	20.0	21.4		ug/L		107	27 - 180
Chloroform	20.0	21.6		ug/L		108	58 - 139
Chloromethane	20.0	18.8		ug/L		94	33 - 154
cis-1,2-Dichloroethene	20.0	19.3		ug/L		97	56 - 128
cis-1,3-Dichloropropene	20.0	19.6		ug/L		98	64 - 128
Cyclohexane	20.0	20.9		ug/L		104	14 - 151
Dibromochloromethane	20.0	20.8		ug/L		104	50 - 140
Dichlorodifluoromethane	20.0	22.6		ug/L		113	10 - 180
Ethylbenzene	20.0	21.0		ug/L		105	63 - 133
Isopropylbenzene	20.0	23.6		ug/L		118	60 - 132
m,p-Xylenes	20.0	21.6		ug/L		108	64 - 133
Methyl acetate	40.0	39.5		ug/L		99	70 - 130
Methyl tert-butyl ether	20.0	18.1		ug/L		90	51 - 145
Methylene Chloride	20.0	20.2		ug/L		101	43 - 142
o-Xylene	20.0	20.3		ug/L		101	61 - 129
Styrene	20.0	19.9		ug/L		100	59 - 136
Tetrachloroethene	20.0	22.7		ug/L		114	60 - 147
Toluene	20.0	21.2		ug/L		106	64 - 131
trans-1,2-Dichloroethene	20.0	20.6		ug/L		103	54 - 134
trans-1,3-Dichloropropene	20.0	19.4		ug/L		97	65 - 149
Trichloroethene	20.0	21.3		ug/L		107	62 - 135
Trichlorofluoromethane	20.0	21.4		ug/L		107	56 - 155
Vinyl chloride	20.0	20.7		ug/L		104	20 - 167
Xylenes, Total	40.0	41.9		ug/L		105	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*
Dibromofluoromethane (Surr)	*103*		*53 - 146*
Toluene-d8 (Surr)	*105*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LB 670-72408/1-A
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/23/24 12:17	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/23/24 12:17	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/23/24 12:17	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/23/24 12:17	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/23/24 12:17	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/23/24 12:17	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/23/24 12:17	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/23/24 12:17	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/23/24 12:17	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/23/24 12:17	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/23/24 12:17	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/23/24 12:17	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/23/24 12:17	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/23/24 12:17	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/23/24 12:17	100
2-Hexanone	250	U	2000	250	ug/L			01/23/24 12:17	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/23/24 12:17	100
Acetone	2500	U	5000	2500	ug/L			01/23/24 12:17	100
Benzene	71	U	100	71	ug/L			01/23/24 12:17	100
Bromodichloromethane	52	U	100	52	ug/L			01/23/24 12:17	100
Bromoform	75	U	100	75	ug/L			01/23/24 12:17	100
Bromomethane	95	U	200	95	ug/L			01/23/24 12:17	100
Carbon disulfide	250	U	500	250	ug/L			01/23/24 12:17	100
Carbon tetrachloride	94	U	100	94	ug/L			01/23/24 12:17	100
Chlorobenzene	72	U	100	72	ug/L			01/23/24 12:17	100
Chloroethane	98	U	200	98	ug/L			01/23/24 12:17	100
Chloroform	80	U	500	80	ug/L			01/23/24 12:17	100
Chloromethane	82	U	200	82	ug/L			01/23/24 12:17	100
cis-1,2-Dichloroethene	53	U	100	53	ug/L			01/23/24 12:17	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/23/24 12:17	100
Cyclohexane	93	U	500	93	ug/L			01/23/24 12:17	100
Dibromochloromethane	50	U	100	50	ug/L			01/23/24 12:17	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/23/24 12:17	100
Ethylbenzene	69	U	100	69	ug/L			01/23/24 12:17	100
Isopropylbenzene	67	U	200	67	ug/L			01/23/24 12:17	100
m,p-Xylenes	130	U	200	130	ug/L			01/23/24 12:17	100
Methyl acetate	95	U	1000	95	ug/L			01/23/24 12:17	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/23/24 12:17	100
Methylene Chloride	500	U	1000	500	ug/L			01/23/24 12:17	100
o-Xylene	53	U	100	53	ug/L			01/23/24 12:17	100
Styrene	61	U	100	61	ug/L			01/23/24 12:17	100
Tetrachloroethene	76	U	100	76	ug/L			01/23/24 12:17	100
Toluene	72	U	100	72	ug/L			01/23/24 12:17	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			01/23/24 12:17	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/23/24 12:17	100
Trichloroethene	89	U	100	89	ug/L			01/23/24 12:17	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/23/24 12:17	100
Vinyl chloride	71	U	100	71	ug/L			01/23/24 12:17	100

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LB 670-72408/1-A
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	130	U	200	130	ug/L			01/23/24 12:17	100

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/23/24 12:17*	*100*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/23/24 12:17*	*100*
Toluene-d8 (Surr)	*105*		*40 - 146*		*01/23/24 12:17*	*100*

Lab Sample ID: MB 670-72672/7
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/23/24 11:56	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/23/24 11:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/23/24 11:56	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/23/24 11:56	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/23/24 11:56	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/23/24 11:56	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/23/24 11:56	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/23/24 11:56	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/23/24 11:56	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/23/24 11:56	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/23/24 11:56	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/23/24 11:56	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/23/24 11:56	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/23/24 11:56	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/23/24 11:56	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/23/24 11:56	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/23/24 11:56	1
Acetone	25	U	50	25	ug/L			01/23/24 11:56	1
Benzene	0.71	U	1.0	0.71	ug/L			01/23/24 11:56	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/23/24 11:56	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/23/24 11:56	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/23/24 11:56	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/23/24 11:56	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/23/24 11:56	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/23/24 11:56	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/23/24 11:56	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/23/24 11:56	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/23/24 11:56	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/23/24 11:56	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/23/24 11:56	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/23/24 11:56	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/23/24 11:56	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/23/24 11:56	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/23/24 11:56	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/23/24 11:56	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/23/24 11:56	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72672/7
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	0.95	U	10	0.95	ug/L			01/23/24 11:56	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/23/24 11:56	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/23/24 11:56	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/23/24 11:56	1
Styrene	0.61	U	1.0	0.61	ug/L			01/23/24 11:56	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/23/24 11:56	1
Toluene	0.72	U	1.0	0.72	ug/L			01/23/24 11:56	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/23/24 11:56	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/23/24 11:56	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/23/24 11:56	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/23/24 11:56	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/23/24 11:56	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/23/24 11:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/23/24 11:56*	*1*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/23/24 11:56*	*1*
Toluene-d8 (Surr)	*105*		*40 - 146*		*01/23/24 11:56*	*1*

Lab Sample ID: LCS 670-72672/4
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.8		ug/L		104	57 - 148
1,1,2,2-Tetrachloroethane	20.0	15.7		ug/L		78	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	23.4		ug/L		117	47 - 173
1,1,2-Trichloroethane	20.0	17.4		ug/L		87	57 - 141
1,1-Dichloroethane	20.0	20.0		ug/L		100	57 - 142
1,1-Dichloroethene	20.0	22.5		ug/L		113	47 - 139
1,2,4-Trichlorobenzene	20.0	19.0		ug/L		95	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	13.9		ug/L		70	48 - 150
1,2-Dibromoethane (EDB)	20.0	17.5		ug/L		87	57 - 140
1,2-Dichlorobenzene	20.0	20.4		ug/L		102	63 - 131
1,2-Dichloroethane	20.0	18.2		ug/L		91	50 - 156
1,2-Dichloropropane	20.0	19.2		ug/L		96	61 - 133
1,3-Dichlorobenzene	20.0	20.8		ug/L		104	66 - 129
1,4-Dichlorobenzene	20.0	20.8		ug/L		104	65 - 133
2-Butanone (MEK)	200	150		ug/L		75	10 - 180
2-Hexanone	200	139		ug/L		70	12 - 180
4-Methyl-2-pentanone	200	161		ug/L		80	19 - 180
Acetone	200	127		ug/L		64	10 - 180
Benzene	20.0	20.0		ug/L		100	56 - 136
Bromodichloromethane	20.0	20.2		ug/L		101	58 - 135
Bromoform	20.0	17.4		ug/L		87	46 - 148
Bromomethane	20.0	20.5		ug/L		102	10 - 173
Carbon disulfide	20.0	18.9		ug/L		95	43 - 153
Carbon tetrachloride	20.0	21.5		ug/L		107	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72672/4
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	20.0	20.3		ug/L		101	51 - 139
Chloroethane	20.0	17.8		ug/L		89	27 - 180
Chloroform	20.0	20.9		ug/L		105	58 - 139
Chloromethane	20.0	18.3		ug/L		91	33 - 154
cis-1,2-Dichloroethene	20.0	18.8		ug/L		94	56 - 128
cis-1,3-Dichloropropene	20.0	18.1		ug/L		91	64 - 128
Cyclohexane	20.0	20.7		ug/L		103	14 - 151
Dibromochloromethane	20.0	19.0		ug/L		95	50 - 140
Dichlorodifluoromethane	20.0	22.3		ug/L		112	10 - 180
Ethylbenzene	20.0	20.9		ug/L		104	63 - 133
Isopropylbenzene	20.0	23.0		ug/L		115	60 - 132
m,p-Xylenes	20.0	20.4		ug/L		102	64 - 133
Methyl acetate	40.0	31.9		ug/L		80	70 - 130
Methyl tert-butyl ether	20.0	17.0		ug/L		85	51 - 145
Methylene Chloride	20.0	19.6		ug/L		98	43 - 142
o-Xylene	20.0	19.8		ug/L		99	61 - 129
Styrene	20.0	20.1		ug/L		100	59 - 136
Tetrachloroethene	20.0	22.7		ug/L		114	60 - 147
Toluene	20.0	20.6		ug/L		103	64 - 131
trans-1,2-Dichloroethene	20.0	20.3		ug/L		101	54 - 134
trans-1,3-Dichloropropene	20.0	18.5		ug/L		93	65 - 149
Trichloroethene	20.0	19.6		ug/L		98	62 - 135
Trichlorofluoromethane	20.0	21.6		ug/L		108	56 - 155
Vinyl chloride	20.0	19.4		ug/L		97	20 - 167
Xylenes, Total	40.0	40.2		ug/L		101	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*104*		*40 - 146*

Lab Sample ID: 660-133999-A-1-A MS
Matrix: Water
Analysis Batch: 72523

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	80	U	2000	1880		ug/L		94	57 - 148
1,1,2,2-Tetrachloroethane	54	U	2000	1830		ug/L		91	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	2050		ug/L		103	50 - 150
1,1,2-Trichloroethane	76	U	2000	1970		ug/L		98	57 - 141
1,1-Dichloroethane	62	U	2000	1970		ug/L		99	57 - 142
1,1-Dichloroethene	94	U	2000	2010		ug/L		101	49 - 139
1,2,4-Trichlorobenzene	70	U	2000	1750		ug/L		87	52 - 159
1,2-Dibromo-3-Chloropropane	96	U	2000	1790		ug/L		90	48 - 150
1,2-Dibromoethane (EDB)	78	U	2000	1980		ug/L		99	50 - 150
1,2-Dichlorobenzene	73	U	2000	1960		ug/L		98	63 - 131
1,2-Dichloroethane	63	U	2000	1940		ug/L		97	50 - 156
1,2-Dichloropropane	80	U	2000	1940		ug/L		97	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-133999-A-1-A MS
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: TCLP
Analysis Batch: 72523

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	77	U	2000	1920		ug/L		96	66 - 129
1,4-Dichlorobenzene	76	U	2000	1850		ug/L		93	65 - 133
2-Butanone (MEK)	450	U	20000	20700		ug/L		103	10 - 180
2-Hexanone	250	U	20000	18300		ug/L		92	12 - 180
4-Methyl-2-pentanone	500	U	20000	21100		ug/L		105	19 - 180
Acetone	2500	U	20000	16800		ug/L		84	10 - 180
Benzene	71	U	2000	1920		ug/L		96	56 - 136
Bromodichloromethane	52	U	2000	1930		ug/L		96	58 - 135
Bromoform	75	U	2000	2030		ug/L		102	46 - 148
Bromomethane	95	U	2000	1840		ug/L		92	10 - 173
Carbon disulfide	250	U	2000	1790		ug/L		90	43 - 153
Carbon tetrachloride	94	U	2000	1880		ug/L		94	54 - 156
Chlorobenzene	72	U	2000	1930		ug/L		96	51 - 139
Chloroethane	98	U	2000	1750		ug/L		87	27 - 180
Chloroform	80	U	2000	1940		ug/L		97	59 - 139
Chloromethane	82	U	2000	1860		ug/L		93	33 - 154
cis-1,2-Dichloroethene	53	U	2000	1870		ug/L		93	56 - 128
cis-1,3-Dichloropropene	59	U	2000	1870		ug/L		94	64 - 128
Cyclohexane	93	U	2000	2040		ug/L		102	14 - 141
Dibromochloromethane	50	U	2000	2050		ug/L		103	50 - 150
Dichlorodifluoromethane	74	U	2000	1900		ug/L		95	10 - 180
Ethylbenzene	69	U	2000	2020		ug/L		101	63 - 133
Isopropylbenzene	67	U	2000	2100		ug/L		105	60 - 132
m,p-Xylenes	130	U	2000	2160		ug/L		108	64 - 133
Methyl acetate	95	U	4000	4490		ug/L		112	50 - 150
Methyl tert-butyl ether	60	U	2000	1870		ug/L		94	50 - 150
Methylene Chloride	500	U	2000	2140		ug/L		107	43 - 142
o-Xylene	73	I	2000	2040		ug/L		98	61 - 129
Styrene	61	U	2000	1930		ug/L		97	59 - 136
Tetrachloroethene	76	U	2000	2090		ug/L		104	60 - 147
Toluene	74	I	2000	2030		ug/L		98	64 - 131
trans-1,2-Dichloroethene	73	U	2000	2010		ug/L		101	54 - 134
trans-1,3-Dichloropropene	73	U	2000	2070		ug/L		104	65 - 149
Trichloroethene	89	U	2000	1940		ug/L		97	62 - 135
Trichlorofluoromethane	94	U	2000	1900		ug/L		95	56 - 155
Vinyl chloride	71	U	2000	1980		ug/L		99	20 - 167
Xylenes, Total	130	U	4000	4200		ug/L		105	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*
Dibromofluoromethane (Surr)	*107*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-133999-A-1-A MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: TCLP
Analysis Batch: 72523

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	80	U	2000	1950		ug/L		97	57 - 148	4	25
1,1,2,2-Tetrachloroethane	54	U	2000	1830		ug/L		91	60 - 139	0	17
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	2040		ug/L		102	50 - 150	0	30
1,1,2-Trichloroethane	76	U	2000	1840		ug/L		92	57 - 141	7	16
1,1-Dichloroethane	62	U	2000	1880		ug/L		94	57 - 142	5	24
1,1-Dichloroethene	94	U	2000	2020		ug/L		101	49 - 139	0	16
1,2,4-Trichlorobenzene	70	U	2000	1910		ug/L		96	52 - 159	9	24
1,2-Dibromo-3-Chloropropane	96	U	2000	1810		ug/L		91	48 - 150	1	21
1,2-Dibromoethane (EDB)	78	U	2000	1900		ug/L		95	50 - 150	5	16
1,2-Dichlorobenzene	73	U	2000	2170		ug/L		108	63 - 131	10	25
1,2-Dichloroethane	63	U	2000	1700		ug/L		85	50 - 156	13	18
1,2-Dichloropropane	80	U	2000	1880		ug/L		94	61 - 133	3	26
1,3-Dichlorobenzene	77	U	2000	2150		ug/L		108	66 - 129	12	23
1,4-Dichlorobenzene	76	U	2000	2050		ug/L		103	65 - 133	10	23
2-Butanone (MEK)	450	U	20000	16800		ug/L		84	10 - 180	21	29
2-Hexanone	250	U	20000	15800		ug/L		79	12 - 180	15	28
4-Methyl-2-pentanone	500	U	20000	17700		ug/L		89	19 - 180	17	24
Acetone	2500	U	20000	14800		ug/L		74	10 - 180	13	19
Benzene	71	U	2000	1930		ug/L		97	56 - 136	1	14
Bromodichloromethane	52	U	2000	1930		ug/L		97	58 - 135	0	19
Bromoform	75	U	2000	2100		ug/L		105	46 - 148	3	18
Bromomethane	95	U	2000	2050		ug/L		103	10 - 173	11	29
Carbon disulfide	250	U	2000	1890		ug/L		95	43 - 153	6	26
Carbon tetrachloride	94	U	2000	1920		ug/L		96	54 - 156	2	27
Chlorobenzene	72	U	2000	2020		ug/L		101	51 - 139	4	13
Chloroethane	98	U	2000	1850		ug/L		93	27 - 180	6	22
Chloroform	80	U	2000	1870		ug/L		94	59 - 139	4	17
Chloromethane	82	U	2000	1990		ug/L		100	33 - 154	7	31
cis-1,2-Dichloroethene	53	U	2000	1790		ug/L		90	56 - 128	4	17
cis-1,3-Dichloropropene	59	U	2000	1760		ug/L		88	64 - 128	6	20
Cyclohexane	93	U	2000	1940		ug/L		97	14 - 141	5	30
Dibromochloromethane	50	U	2000	2020		ug/L		101	50 - 150	2	18
Dichlorodifluoromethane	74	U	2000	1960		ug/L		98	10 - 180	3	26
Ethylbenzene	69	U	2000	2020		ug/L		101	63 - 133	0	18
Isopropylbenzene	67	U	2000	2300		ug/L		115	60 - 132	9	23
m,p-Xylenes	130	U	2000	2230		ug/L		111	64 - 133	3	18
Methyl acetate	95	U	4000	3740		ug/L		93	50 - 150	18	30
Methyl tert-butyl ether	60	U	2000	1650		ug/L		83	50 - 150	12	22
Methylene Chloride	500	U	2000	1850		ug/L		92	43 - 142	14	23
o-Xylene	73	I	2000	2070		ug/L		100	61 - 129	2	16
Styrene	61	U	2000	1960		ug/L		98	59 - 136	1	32
Tetrachloroethene	76	U	2000	2110		ug/L		105	60 - 147	1	21
Toluene	74	I	2000	2050		ug/L		99	64 - 131	1	16
trans-1,2-Dichloroethene	73	U	2000	1790		ug/L		90	54 - 134	11	20
trans-1,3-Dichloropropene	73	U	2000	1910		ug/L		95	65 - 149	8	17
Trichloroethene	89	U	2000	1940		ug/L		97	62 - 135	0	20
Trichlorofluoromethane	94	U	2000	1850		ug/L		93	56 - 155	3	22
Vinyl chloride	71	U	2000	2080		ug/L		104	20 - 167	5	24

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-133999-A-1-A MSD
Matrix: Water
Analysis Batch: 72523

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	130	U	4000	4300		ug/L		108	50 - 150	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*
Dibromofluoromethane (Surr)	*98*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Lab Sample ID: 670-33365-C-1-B MS
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	80	U	2000	1900		ug/L		95	57 - 148
1,1,2,2-Tetrachloroethane	54	U	2000	1570		ug/L		78	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	2130		ug/L		106	50 - 150
1,1,2-Trichloroethane	76	U	2000	1680		ug/L		84	57 - 141
1,1-Dichloroethane	62	U	2000	1890		ug/L		95	57 - 142
1,1-Dichloroethene	94	U	2000	2070		ug/L		104	49 - 139
1,2,4-Trichlorobenzene	70	U	2000	1740		ug/L		87	52 - 159
1,2-Dibromo-3-Chloropropane	96	U	2000	1410		ug/L		71	48 - 150
1,2-Dibromoethane (EDB)	78	U	2000	1680		ug/L		84	50 - 150
1,2-Dichlorobenzene	73	U	2000	2010		ug/L		100	63 - 131
1,2-Dichloroethane	63	U	2000	1830		ug/L		92	50 - 156
1,2-Dichloropropane	80	U	2000	1920		ug/L		96	61 - 133
1,3-Dichlorobenzene	77	U	2000	1940		ug/L		97	66 - 129
1,4-Dichlorobenzene	76	U	2000	1970		ug/L		98	65 - 133
2-Butanone (MEK)	450	U	20000	14000		ug/L		70	10 - 180
2-Hexanone	250	U	20000	14500		ug/L		73	12 - 180
4-Methyl-2-pentanone	500	U	20000	16900		ug/L		85	19 - 180
Acetone	2500	U	20000	12500		ug/L		62	10 - 180
Benzene	71	U	2000	1970		ug/L		99	56 - 136
Bromodichloromethane	52	U	2000	1910		ug/L		95	58 - 135
Bromoform	75	U	2000	1750		ug/L		88	46 - 148
Bromomethane	95	U	2000	2060		ug/L		103	10 - 173
Carbon disulfide	250	U	2000	1890		ug/L		94	43 - 153
Carbon tetrachloride	94	U	2000	1950		ug/L		97	54 - 156
Chlorobenzene	72	U	2000	1950		ug/L		97	51 - 139
Chloroethane	98	U	2000	1910		ug/L		95	27 - 180
Chloroform	80	U	2000	1990		ug/L		100	59 - 139
Chloromethane	82	U	2000	1780		ug/L		89	33 - 154
cis-1,2-Dichloroethene	53	U	2000	1900		ug/L		95	56 - 128
cis-1,3-Dichloropropene	59	U	2000	1720		ug/L		86	64 - 128
Cyclohexane	93	U	2000	1720		ug/L		86	14 - 141
Dibromochloromethane	50	U	2000	1950		ug/L		98	50 - 150
Dichlorodifluoromethane	74	U	2000	1930		ug/L		97	10 - 180
Ethylbenzene	69	U	2000	1910		ug/L		96	63 - 133
Isopropylbenzene	67	U	2000	2150		ug/L		108	60 - 132
m,p-Xylenes	130	U	2000	1980		ug/L		99	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33365-C-1-B MS
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	95	U	4000	3170		ug/L		79	50 - 150
Methyl tert-butyl ether	60	U	2000	1600		ug/L		80	50 - 150
Methylene Chloride	500	U	2000	1970		ug/L		99	43 - 142
o-Xylene	53	U	2000	1890		ug/L		94	61 - 129
Styrene	61	U	2000	1820		ug/L		91	59 - 136
Tetrachloroethene	76	U	2000	2000		ug/L		100	60 - 147
Toluene	72	U	2000	1880		ug/L		94	64 - 131
trans-1,2-Dichloroethene	73	U	2000	1830		ug/L		92	54 - 134
trans-1,3-Dichloropropene	73	U	2000	1890		ug/L		95	65 - 149
Trichloroethene	89	U	2000	1930		ug/L		96	62 - 135
Trichlorofluoromethane	94	U	2000	1920		ug/L		96	56 - 155
Vinyl chloride	71	U	2000	1870		ug/L		93	20 - 167
Xylenes, Total	130	U	4000	3870		ug/L		97	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Lab Sample ID: 670-33365-C-1-B MSD
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	80	U	2000	1940		ug/L		97	57 - 148	2	25
1,1,2,2-Tetrachloroethane	54	U	2000	1740		ug/L		87	60 - 139	11	17
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	2030		ug/L		101	50 - 150	5	30
1,1,2-Trichloroethane	76	U	2000	1770		ug/L		89	57 - 141	5	16
1,1-Dichloroethane	62	U	2000	1910		ug/L		96	57 - 142	1	24
1,1-Dichloroethene	94	U	2000	1910		ug/L		95	49 - 139	8	16
1,2,4-Trichlorobenzene	70	U	2000	1900		ug/L		95	52 - 159	9	24
1,2-Dibromo-3-Chloropropane	96	U	2000	1610		ug/L		80	48 - 150	13	21
1,2-Dibromoethane (EDB)	78	U	2000	1780		ug/L		89	50 - 150	5	16
1,2-Dichlorobenzene	73	U	2000	2080		ug/L		104	63 - 131	4	25
1,2-Dichloroethane	63	U	2000	1730		ug/L		87	50 - 156	6	18
1,2-Dichloropropane	80	U	2000	1940		ug/L		97	61 - 133	1	26
1,3-Dichlorobenzene	77	U	2000	2080		ug/L		104	66 - 129	7	23
1,4-Dichlorobenzene	76	U	2000	2060		ug/L		103	65 - 133	5	23
2-Butanone (MEK)	450	U	20000	15900		ug/L		79	10 - 180	12	29
2-Hexanone	250	U	20000	15600		ug/L		78	12 - 180	7	28
4-Methyl-2-pentanone	500	U	20000	17600		ug/L		88	19 - 180	4	24
Acetone	2500	U	20000	13500		ug/L		67	10 - 180	8	19
Benzene	71	U	2000	1940		ug/L		97	56 - 136	2	14
Bromodichloromethane	52	U	2000	1950		ug/L		98	58 - 135	2	19
Bromoform	75	U	2000	1940		ug/L		97	46 - 148	10	18
Bromomethane	95	U	2000	2110		ug/L		106	10 - 173	2	29
Carbon disulfide	250	U	2000	1820		ug/L		91	43 - 153	4	26
Carbon tetrachloride	94	U	2000	1980		ug/L		99	54 - 156	2	27

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33365-C-1-B MSD
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chlorobenzene	72	U	2000	1980		ug/L		99	51 - 139	2	13
Chloroethane	98	U	2000	1840		ug/L		92	27 - 180	3	22
Chloroform	80	U	2000	2080		ug/L		104	59 - 139	4	17
Chloromethane	82	U	2000	1800		ug/L		90	33 - 154	1	31
cis-1,2-Dichloroethene	53	U	2000	1850		ug/L		93	56 - 128	3	17
cis-1,3-Dichloropropene	59	U	2000	1770		ug/L		89	64 - 128	3	20
Cyclohexane	93	U	2000	1860		ug/L		93	14 - 141	8	30
Dibromochloromethane	50	U	2000	1990		ug/L		99	50 - 150	2	18
Dichlorodifluoromethane	74	U	2000	1920		ug/L		96	10 - 180	0	26
Ethylbenzene	69	U	2000	1990		ug/L		100	63 - 133	4	18
Isopropylbenzene	67	U	2000	2310		ug/L		116	60 - 132	7	23
m,p-Xylenes	130	U	2000	2050		ug/L		103	64 - 133	3	18
Methyl acetate	95	U	4000	3550		ug/L		89	50 - 150	12	30
Methyl tert-butyl ether	60	U	2000	1620		ug/L		81	50 - 150	2	22
Methylene Chloride	500	U	2000	1890		ug/L		94	43 - 142	4	23
o-Xylene	53	U	2000	1940		ug/L		97	61 - 129	2	16
Styrene	61	U	2000	1980		ug/L		99	59 - 136	9	32
Tetrachloroethene	76	U	2000	2070		ug/L		103	60 - 147	3	21
Toluene	72	U	2000	1970		ug/L		98	64 - 131	5	16
trans-1,2-Dichloroethene	73	U	2000	1950		ug/L		97	54 - 134	6	20
trans-1,3-Dichloropropene	73	U	2000	1870		ug/L		94	65 - 149	1	17
Trichloroethene	89	U	2000	1880		ug/L		94	62 - 135	2	20
Trichlorofluoromethane	94	U	2000	1960		ug/L		98	56 - 155	2	22
Vinyl chloride	71	U	2000	1940		ug/L		97	20 - 167	4	24
Xylenes, Total	130	U	4000	3990		ug/L		100	50 - 150	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Lab Sample ID: 670-33262-1 MS
Matrix: Water
Analysis Batch: 72072

Client Sample ID: LC34-DPT0601-008.0-20240115
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane - DL	40	U	1000	1060		ug/L		106	57 - 148
1,1,2,2-Tetrachloroethane - DL	27	U	1000	1080		ug/L		108	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	37	U	1000	837		ug/L		84	50 - 150
1,1,2-Trichloroethane - DL	38	U	1000	1090		ug/L		109	57 - 141
1,1-Dichloroethane - DL	31	U	1000	1140		ug/L		114	57 - 142
1,1-Dichloroethene - DL	47	U	1000	1190		ug/L		119	49 - 139
1,2,4-Trichlorobenzene - DL	35	U J3	1000	35	U J3	ug/L		0	52 - 159
1,2-Dibromo-3-Chloropropane - DL	48	U	1000	1020		ug/L		102	48 - 150
1,2-Dibromoethane (EDB) - DL	39	U	1000	1000		ug/L		100	50 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-33262-1 MS
Matrix: Water
Analysis Batch: 72072

Client Sample ID: LC34-DPT0601-008.0-20240115
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichlorobenzene - DL	37	U	1000	1010		ug/L		101	63 - 131
1,2-Dichloroethane - DL	32	U	1000	1060		ug/L		106	50 - 156
1,2-Dichloropropane - DL	40	U	1000	1110		ug/L		111	61 - 133
1,3-Dichlorobenzene - DL	39	U	1000	959		ug/L		96	66 - 129
1,4-Dichlorobenzene - DL	38	U	1000	858		ug/L		86	65 - 133
2-Butanone (MEK) - DL	460	I	10000	12200		ug/L		118	10 - 180
2-Hexanone - DL	130	U	10000	11800		ug/L		118	12 - 180
4-Methyl-2-pentanone - DL	250	U	10000	11900		ug/L		119	19 - 180
Acetone - DL	1300	U	10000	12400		ug/L		124	10 - 180
Benzene - DL	36	U	1000	1070		ug/L		107	56 - 136
Bromodichloromethane - DL	26	U	1000	1050		ug/L		105	58 - 135
Bromoform - DL	38	U	1000	990		ug/L		99	46 - 148
Bromomethane - DL	48	U	1000	960		ug/L		96	10 - 173
Carbon disulfide - DL	130	U	1000	983		ug/L		98	43 - 153
Carbon tetrachloride - DL	47	U	1000	1020		ug/L		102	54 - 156
Chlorobenzene - DL	36	U	1000	1030		ug/L		103	51 - 139
Chloroethane - DL	49	U	1000	1020		ug/L		102	27 - 180
Chloroform - DL	40	U	1000	1050		ug/L		105	59 - 139
Chloromethane - DL	41	U	1000	1280		ug/L		128	33 - 154
cis-1,2-Dichloroethene - DL	1600		1000	2710		ug/L		113	56 - 128
cis-1,3-Dichloropropene - DL	30	U	1000	1030		ug/L		103	64 - 128
Cyclohexane - DL	47	U	1000	1040		ug/L		104	14 - 141
Dibromochloromethane - DL	25	U	1000	988		ug/L		99	50 - 150
Dichlorodifluoromethane - DL	37	U	1000	1140		ug/L		114	10 - 180
Ethylbenzene - DL	35	U	1000	996		ug/L		100	63 - 133
Isopropylbenzene - DL	34	U	1000	997		ug/L		100	60 - 132
m,p-Xylenes - DL	65	U	1000	914		ug/L		91	64 - 133
Methyl acetate - DL	48	U	2000	2550		ug/L		128	50 - 150
Methyl tert-butyl ether - DL	30	U	1000	1070		ug/L		107	50 - 150
Methylene Chloride - DL	250	U	1000	1030		ug/L		103	43 - 142
o-Xylene - DL	27	U	1000	985		ug/L		99	61 - 129
Styrene - DL	31	U	1000	965		ug/L		97	59 - 136
Tetrachloroethene - DL	38	U	1000	957		ug/L		96	60 - 147
Toluene - DL	36	U	1000	938		ug/L		94	64 - 131
trans-1,2-Dichloroethene - DL	37	U	1000	1030		ug/L		103	54 - 134
trans-1,3-Dichloropropene - DL	37	U	1000	1030		ug/L		103	65 - 149
Trichloroethene - DL	45	U	1000	1070		ug/L		107	62 - 135
Trichlorofluoromethane - DL	47	U	1000	992		ug/L		99	56 - 155
Vinyl chloride - DL	250		1000	1480		ug/L		123	20 - 167
Xylenes, Total - DL	65	U	2000	1900		ug/L		95	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*100*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*99*		*53 - 146*
Toluene-d8 (Surr) - DL	*99*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-33262-1 MSD
Client Sample ID: LC34-DPT0601-008.0-20240115
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 72072

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane - DL	40	U	1000	1060		ug/L		106	57 - 148	0	25
1,1,2,2-Tetrachloroethane - DL	27	U	1000	1080		ug/L		108	60 - 139	1	17
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	37	U	1000	867		ug/L		87	50 - 150	4	30
1,1,2-Trichloroethane - DL	38	U	1000	1080		ug/L		108	57 - 141	0	16
1,1-Dichloroethane - DL	31	U	1000	1160		ug/L		116	57 - 142	2	24
1,1-Dichloroethene - DL	47	U	1000	1200		ug/L		120	49 - 139	1	16
1,2,4-Trichlorobenzene - DL	35	U J3	1000	35	U J3	ug/L		0	52 - 159	NC	24
1,2-Dibromo-3-Chloropropane - DL	48	U	1000	1010		ug/L		101	48 - 150	1	21
1,2-Dibromoethane (EDB) - DL	39	U	1000	983		ug/L		98	50 - 150	2	16
1,2-Dichlorobenzene - DL	37	U	1000	1040		ug/L		104	63 - 131	3	25
1,2-Dichloroethane - DL	32	U	1000	1070		ug/L		107	50 - 156	1	18
1,2-Dichloropropane - DL	40	U	1000	1140		ug/L		114	61 - 133	2	26
1,3-Dichlorobenzene - DL	39	U	1000	992		ug/L		99	66 - 129	3	23
1,4-Dichlorobenzene - DL	38	U	1000	881		ug/L		88	65 - 133	3	23
2-Butanone (MEK) - DL	460	I	10000	11800		ug/L		114	10 - 180	3	29
2-Hexanone - DL	130	U	10000	10900		ug/L		109	12 - 180	8	28
4-Methyl-2-pentanone - DL	250	U	10000	10900		ug/L		109	19 - 180	9	24
Acetone - DL	1300	U	10000	11500		ug/L		115	10 - 180	8	19
Benzene - DL	36	U	1000	1100		ug/L		110	56 - 136	3	14
Bromodichloromethane - DL	26	U	1000	1040		ug/L		104	58 - 135	1	19
Bromoform - DL	38	U	1000	982		ug/L		98	46 - 148	1	18
Bromomethane - DL	48	U	1000	1080		ug/L		108	10 - 173	11	29
Carbon disulfide - DL	130	U	1000	1010		ug/L		101	43 - 153	3	26
Carbon tetrachloride - DL	47	U	1000	1050		ug/L		105	54 - 156	3	27
Chlorobenzene - DL	36	U	1000	1040		ug/L		104	51 - 139	2	13
Chloroethane - DL	49	U	1000	1220		ug/L		122	27 - 180	17	22
Chloroform - DL	40	U	1000	1120		ug/L		112	59 - 139	7	17
Chloromethane - DL	41	U	1000	1290		ug/L		129	33 - 154	1	31
cis-1,2-Dichloroethene - DL	1600		1000	2760		ug/L		119	56 - 128	2	17
cis-1,3-Dichloropropene - DL	30	U	1000	1040		ug/L		104	64 - 128	1	20
Cyclohexane - DL	47	U	1000	1060		ug/L		106	14 - 141	1	30
Dibromochloromethane - DL	25	U	1000	981		ug/L		98	50 - 150	1	18
Dichlorodifluoromethane - DL	37	U	1000	1170		ug/L		117	10 - 180	3	26
Ethylbenzene - DL	35	U	1000	1020		ug/L		102	63 - 133	2	18
Isopropylbenzene - DL	34	U	1000	1040		ug/L		104	60 - 132	4	23
m,p-Xylenes - DL	65	U	1000	938		ug/L		94	64 - 133	3	18
Methyl acetate - DL	48	U	2000	2390		ug/L		120	50 - 150	7	30
Methyl tert-butyl ether - DL	30	U	1000	1070		ug/L		107	50 - 150	0	22
Methylene Chloride - DL	250	U	1000	1070		ug/L		107	43 - 142	3	23
o-Xylene - DL	27	U	1000	989		ug/L		99	61 - 129	0	16
Styrene - DL	31	U	1000	992		ug/L		99	59 - 136	3	32
Tetrachloroethene - DL	38	U	1000	948		ug/L		95	60 - 147	1	21
Toluene - DL	36	U	1000	947		ug/L		95	64 - 131	1	16
trans-1,2-Dichloroethene - DL	37	U	1000	1090		ug/L		109	54 - 134	5	20
trans-1,3-Dichloropropene - DL	37	U	1000	1030		ug/L		103	65 - 149	0	17
Trichloroethene - DL	45	U	1000	1080		ug/L		108	62 - 135	1	20
Trichlorofluoromethane - DL	47	U	1000	1020		ug/L		102	56 - 155	3	22

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-33262-1 MSD
Matrix: Water
Analysis Batch: 72072

Client Sample ID: LC34-DPT0601-008.0-20240115
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Vinyl chloride - DL	250		1000	1530		ug/L		128	20 - 167	3	24
Xylenes, Total - DL	65	U	2000	1930		ug/L		96	50 - 150	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*100*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*100*		*53 - 146*
Toluene-d8 (Surr) - DL	*100*		*40 - 146*

Lab Sample ID: LB 670-72166/1-A
Matrix: Water
Analysis Batch: 72523

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane - DL	80	U	100	80	ug/L			01/22/24 13:21	100
1,1,2,2-Tetrachloroethane - DL	54	U	100	54	ug/L			01/22/24 13:21	100
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	73	U	200	73	ug/L			01/22/24 13:21	100
1,1,2-Trichloroethane - DL	76	U	200	76	ug/L			01/22/24 13:21	100
1,1-Dichloroethane - DL	62	U	100	62	ug/L			01/22/24 13:21	100
1,1-Dichloroethene - DL	94	U	100	94	ug/L			01/22/24 13:21	100
1,2,4-Trichlorobenzene - DL	70	U	200	70	ug/L			01/22/24 13:21	100
1,2-Dibromo-3-Chloropropane - DL	96	U	1000	96	ug/L			01/22/24 13:21	100
1,2-Dibromoethane (EDB) - DL	78	U	1200	78	ug/L			01/22/24 13:21	100
1,2-Dichlorobenzene - DL	73	U	100	73	ug/L			01/22/24 13:21	100
1,2-Dichloroethane - DL	63	U	100	63	ug/L			01/22/24 13:21	100
1,2-Dichloropropane - DL	80	U	100	80	ug/L			01/22/24 13:21	100
1,3-Dichlorobenzene - DL	77	U	100	77	ug/L			01/22/24 13:21	100
1,4-Dichlorobenzene - DL	76	U	100	76	ug/L			01/22/24 13:21	100
2-Butanone (MEK) - DL	450	U	1000	450	ug/L			01/22/24 13:21	100
2-Hexanone - DL	250	U	2000	250	ug/L			01/22/24 13:21	100
4-Methyl-2-pentanone - DL	500	U	2000	500	ug/L			01/22/24 13:21	100
Acetone - DL	2500	U	5000	2500	ug/L			01/22/24 13:21	100
Benzene - DL	71	U	100	71	ug/L			01/22/24 13:21	100
Bromodichloromethane - DL	52	U	100	52	ug/L			01/22/24 13:21	100
Bromoform - DL	75	U	100	75	ug/L			01/22/24 13:21	100
Bromomethane - DL	95	U	200	95	ug/L			01/22/24 13:21	100
Carbon disulfide - DL	250	U	500	250	ug/L			01/22/24 13:21	100
Carbon tetrachloride - DL	94	U	100	94	ug/L			01/22/24 13:21	100
Chlorobenzene - DL	72	U	100	72	ug/L			01/22/24 13:21	100
Chloroethane - DL	98	U	200	98	ug/L			01/22/24 13:21	100
Chloroform - DL	80	U	500	80	ug/L			01/22/24 13:21	100
Chloromethane - DL	82	U	200	82	ug/L			01/22/24 13:21	100
cis-1,2-Dichloroethene - DL	53	U	100	53	ug/L			01/22/24 13:21	100
cis-1,3-Dichloropropene - DL	59	U	100	59	ug/L			01/22/24 13:21	100
Cyclohexane - DL	93	U	500	93	ug/L			01/22/24 13:21	100
Dibromochloromethane - DL	50	U	100	50	ug/L			01/22/24 13:21	100
Dichlorodifluoromethane - DL	74	U	100	74	ug/L			01/22/24 13:21	100

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: LB 670-72166/1-A
Matrix: Water
Analysis Batch: 72523

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene - DL	69	U	100	69	ug/L			01/22/24 13:21	100
Isopropylbenzene - DL	67	U	200	67	ug/L			01/22/24 13:21	100
m,p-Xylenes - DL	130	U	200	130	ug/L			01/22/24 13:21	100
Methyl acetate - DL	95	U	1000	95	ug/L			01/22/24 13:21	100
Methyl tert-butyl ether - DL	60	U	200	60	ug/L			01/22/24 13:21	100
Methylene Chloride - DL	500	U	1000	500	ug/L			01/22/24 13:21	100
o-Xylene - DL	53	U	100	53	ug/L			01/22/24 13:21	100
Styrene - DL	61	U	100	61	ug/L			01/22/24 13:21	100
Tetrachloroethene - DL	76	U	100	76	ug/L			01/22/24 13:21	100
Toluene - DL	72	U	100	72	ug/L			01/22/24 13:21	100
trans-1,2-Dichloroethene - DL	73	U	100	73	ug/L			01/22/24 13:21	100
trans-1,3-Dichloropropene - DL	73	U	100	73	ug/L			01/22/24 13:21	100
Trichloroethene - DL	89	U	100	89	ug/L			01/22/24 13:21	100
Trichlorofluoromethane - DL	94	U	100	94	ug/L			01/22/24 13:21	100
Vinyl chloride - DL	71	U	100	71	ug/L			01/22/24 13:21	100
Xylenes, Total - DL	130	U	200	130	ug/L			01/22/24 13:21	100

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr) - DL	*97*		*41 - 142*		*01/22/24 13:21*	*100*
Dibromofluoromethane (Surr) - DL	*108*		*53 - 146*		*01/22/24 13:21*	*100*
Toluene-d8 (Surr) - DL	*106*		*40 - 146*		*01/22/24 13:21*	*100*

GC/MS VOA

Analysis Batch: 72072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33262-1 - DL	LC34-DPT0601-008.0-20240115	Total/NA	Water	8260D	
670-33262-2	LC34-DPT0601-013.0-20240115	Total/NA	Water	8260D	
670-33262-3 - DL	LC34-DPT0601-018.0-20240115	Total/NA	Water	8260D	
670-33262-4 - DL	LC34-DPT0601-023.0-20240115	Total/NA	Water	8260D	
670-33262-5 - DL	LC34-DPT0601-028.0-20240115	Total/NA	Water	8260D	
670-33262-6	LC34-DPT0601-033.0-20240115	Total/NA	Water	8260D	
670-33262-7 - DL	LC34-DPT0601-038.0-20240115	Total/NA	Water	8260D	
670-33262-8 - DL	LC34-DPT0601-043.0-20240115	Total/NA	Water	8260D	
670-33262-9 - DL	LC34-DPT0601-048.0-20240115	Total/NA	Water	8260D	
670-33262-10 - DL	LC34-DPT0601-053.0-20240115	Total/NA	Water	8260D	
670-33262-12 - DL	LC34-DPT0601-063.0-20240115	Total/NA	Water	8260D	
670-33262-14	LC34-DPT0601-073.0-20240115	Total/NA	Water	8260D	
670-33262-15 - DL	LC34-DPT0601-078.0-20240115	Total/NA	Water	8260D	
670-33262-17	LC34-DPT0601-088.0-20240115	Total/NA	Water	8260D	
670-33262-18	LC34-DPT0601-093.0-20240116	Total/NA	Water	8260D	
MB 670-72072/7	Method Blank	Total/NA	Water	8260D	
LCS 670-72072/4	Lab Control Sample	Total/NA	Water	8260D	
670-33262-1 MS - DL	LC34-DPT0601-008.0-20240115	Total/NA	Water	8260D	
670-33262-1 MSD - DL	LC34-DPT0601-008.0-20240115	Total/NA	Water	8260D	

Analysis Batch: 72090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33262-19	LC34-DPT0601-098.0-20240116	Total/NA	Water	8260D	
670-33262-20	LC34-DPT0599-008.0-20240116	Total/NA	Water	8260D	
670-33262-21 - DL	LC34-DPT0600-008.0-20240116	Total/NA	Water	8260D	
670-33262-22	LC34-DPT0599-013.0-20240116	Total/NA	Water	8260D	
670-33262-23 - DL	LC34-DPT0600-013.0-20240116	Total/NA	Water	8260D	
670-33262-24	LC34-DPT0599-018.0-20240116	Total/NA	Water	8260D	
670-33262-25	LC34-DPT0600-018.0-20240116	Total/NA	Water	8260D	
670-33262-26	LC34-DPT0599-023.0-20240116	Total/NA	Water	8260D	
670-33262-27 - DL	LC34-DPT0600-023.0-20240116	Total/NA	Water	8260D	
670-33262-28 - DL	LC34-DPT0600-028.0-20240116	Total/NA	Water	8260D	
670-33262-29 - DL	LC34-DPT0599-028.0-20240116	Total/NA	Water	8260D	
670-33262-30 - DL	LC34-DPT0600-033.0-20240116	Total/NA	Water	8260D	
670-33262-31 - DL	LC34-DPT0599-033.0-20240116	Total/NA	Water	8260D	
670-33262-32 - DL	LC34-DPT0599-038.0-20240116	Total/NA	Water	8260D	
670-33262-33 - DL	LC34-DPT0600-038.0-20240116	Total/NA	Water	8260D	
670-33262-34 - DL	LC34-DPT0600-043.0-20240116	Total/NA	Water	8260D	
670-33262-35 - DL	LC34-DPT0599-043.0-20240116	Total/NA	Water	8260D	
670-33262-36 - DL	LC34-DPT0599-048.0-20240116	Total/NA	Water	8260D	
670-33262-37 - DL	LC34-DPT0600-048.0-20240116	Total/NA	Water	8260D	
670-33262-38 - DL	LC34-DPT0599-053.0-20240116	Total/NA	Water	8260D	
MB 670-72090/7	Method Blank	Total/NA	Water	8260D	
LCS 670-72090/4	Lab Control Sample	Total/NA	Water	8260D	
670-33262-23 MS	LC34-DPT0600-013.0-20240116	Total/NA	Water	8260D	
670-33262-23 MSD	LC34-DPT0600-013.0-20240116	Total/NA	Water	8260D	

Leach Batch: 72166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 670-72166/1-A - DL	Method Blank	Total/NA	Water	1311	
660-133999-A-1-A MS	Matrix Spike	TCLP	Water	1311	

GC/MS VOA (Continued)

Leach Batch: 72166 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-133999-A-1-A MSD	Matrix Spike Duplicate	TCLP	Water	1311	

Analysis Batch: 72247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33262-9 - DL	LC34-DPT0601-048.0-20240115	Total/NA	Water	8260D	
670-33262-11	LC34-DPT0601-058.0-20240115	Total/NA	Water	8260D	
670-33262-13	LC34-DPT0601-068.0-20240115	Total/NA	Water	8260D	
670-33262-16	LC34-DPT0601-083.0-20240115	Total/NA	Water	8260D	
670-33262-26	LC34-DPT0599-023.0-20240116	Total/NA	Water	8260D	
670-33262-29 - DL	LC34-DPT0599-028.0-20240116	Total/NA	Water	8260D	
670-33262-31 - DL	LC34-DPT0599-033.0-20240116	Total/NA	Water	8260D	
670-33262-35 - DL	LC34-DPT0599-043.0-20240116	Total/NA	Water	8260D	
670-33262-36 - DL	LC34-DPT0599-048.0-20240116	Total/NA	Water	8260D	
MB 670-72247/8	Method Blank	Total/NA	Water	8260D	
LCS 670-72247/5	Lab Control Sample	Total/NA	Water	8260D	
674-7472-D-1 MS	Matrix Spike	Total/NA	Water	8260D	
674-7472-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Leach Batch: 72408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 670-72408/1-A	Method Blank	Total/NA	Water	1311	
670-33365-C-1-B MS	Matrix Spike	TCLP	Water	1311	
670-33365-C-1-B MSD	Matrix Spike Duplicate	TCLP	Water	1311	

Analysis Batch: 72523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33262-39 - DL	LC34-DPT0600-053.0-20240116	Total/NA	Water	8260D	
670-33262-40 - DL	LC34-DPT0599-058.0-20240116	Total/NA	Water	8260D	
670-33262-41 - DL	LC34-DPT0600-058.0-20240116	Total/NA	Water	8260D	
670-33262-43 - DL	LC34-DPT0599-063.0-20240116	Total/NA	Water	8260D	
LB 670-72166/1-A - DL	Method Blank	Total/NA	Water	8260D	72166
MB 670-72523/8	Method Blank	Total/NA	Water	8260D	
LCS 670-72523/5	Lab Control Sample	Total/NA	Water	8260D	
660-133999-A-1-A MS	Matrix Spike	TCLP	Water	8260D	72166
660-133999-A-1-A MSD	Matrix Spike Duplicate	TCLP	Water	8260D	72166

Analysis Batch: 72672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33262-39 - DL	LC34-DPT0600-053.0-20240116	Total/NA	Water	8260D	
670-33262-41 - DL	LC34-DPT0600-058.0-20240116	Total/NA	Water	8260D	
670-33262-42	LC34-DPT0600-063.0-20240116	Total/NA	Water	8260D	
LB 670-72408/1-A	Method Blank	Total/NA	Water	8260D	72408
MB 670-72672/7	Method Blank	Total/NA	Water	8260D	
LCS 670-72672/4	Lab Control Sample	Total/NA	Water	8260D	
670-33365-C-1-B MS	Matrix Spike	TCLP	Water	8260D	72408
670-33365-C-1-B MSD	Matrix Spike Duplicate	TCLP	Water	8260D	72408

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0601-008.0-20240115
Lab Sample ID: 670-33262-1
Date Collected: 01/15/24 09:30
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	50	72072	KG	EET ORL	01/18/24 19:54

Client Sample ID: LC34-DPT0601-013.0-20240115
Lab Sample ID: 670-33262-2
Date Collected: 01/15/24 09:45
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72072	KG	EET ORL	01/18/24 13:46

Client Sample ID: LC34-DPT0601-018.0-20240115
Lab Sample ID: 670-33262-3
Date Collected: 01/15/24 10:00
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	72072	KG	EET ORL	01/18/24 15:58

Client Sample ID: LC34-DPT0601-023.0-20240115
Lab Sample ID: 670-33262-4
Date Collected: 01/15/24 10:15
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72072	KG	EET ORL	01/18/24 18:02

Client Sample ID: LC34-DPT0601-028.0-20240115
Lab Sample ID: 670-33262-5
Date Collected: 01/15/24 10:30
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	72072	KG	EET ORL	01/18/24 17:41

Client Sample ID: LC34-DPT0601-033.0-20240115
Lab Sample ID: 670-33262-6
Date Collected: 01/15/24 10:50
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72072	KG	EET ORL	01/18/24 14:04

Client Sample ID: LC34-DPT0601-038.0-20240115
Lab Sample ID: 670-33262-7
Date Collected: 01/15/24 11:10
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72072	KG	EET ORL	01/18/24 18:20

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0601-043.0-20240115
Lab Sample ID: 670-33262-8
Date Collected: 01/15/24 11:30
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72072	KG	EET ORL	01/18/24 19:19

Client Sample ID: LC34-DPT0601-048.0-20240115
Lab Sample ID: 670-33262-9
Date Collected: 01/15/24 11:50
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72072	KG	EET ORL	01/18/24 19:36
Total/NA	Analysis	8260D	DL	2000	72247	KG	EET ORL	01/19/24 16:57

Client Sample ID: LC34-DPT0601-053.0-20240115
Lab Sample ID: 670-33262-10
Date Collected: 01/15/24 12:10
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72072	KG	EET ORL	01/18/24 19:01

Client Sample ID: LC34-DPT0601-058.0-20240115
Lab Sample ID: 670-33262-11
Date Collected: 01/15/24 12:35
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72247	KG	EET ORL	01/19/24 13:24

Client Sample ID: LC34-DPT0601-063.0-20240115
Lab Sample ID: 670-33262-12
Date Collected: 01/15/24 13:25
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	72072	KG	EET ORL	01/18/24 16:39

Client Sample ID: LC34-DPT0601-068.0-20240115
Lab Sample ID: 670-33262-13
Date Collected: 01/15/24 13:55
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72247	KG	EET ORL	01/19/24 13:42

Client Sample ID: LC34-DPT0601-073.0-20240115
Lab Sample ID: 670-33262-14
Date Collected: 01/15/24 14:40
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72072	KG	EET ORL	01/18/24 14:21

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0601-078.0-20240115
Lab Sample ID: 670-33262-15
Date Collected: 01/15/24 15:45
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72072	KG	EET ORL	01/18/24 18:40

Client Sample ID: LC34-DPT0601-083.0-20240115
Lab Sample ID: 670-33262-16
Date Collected: 01/15/24 16:20
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72247	KG	EET ORL	01/19/24 14:00

Client Sample ID: LC34-DPT0601-088.0-20240115
Lab Sample ID: 670-33262-17
Date Collected: 01/15/24 16:50
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72072	KG	EET ORL	01/18/24 14:39

Client Sample ID: LC34-DPT0601-093.0-20240116
Lab Sample ID: 670-33262-18
Date Collected: 01/16/24 08:35
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72072	KG	EET ORL	01/18/24 14:57

Client Sample ID: LC34-DPT0601-098.0-20240116
Lab Sample ID: 670-33262-19
Date Collected: 01/16/24 09:15
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72090	KG	EET ORL	01/18/24 14:03

Client Sample ID: LC34-DPT0599-008.0-20240116
Lab Sample ID: 670-33262-20
Date Collected: 01/16/24 10:15
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72090	KG	EET ORL	01/18/24 14:20

Client Sample ID: LC34-DPT0600-008.0-20240116
Lab Sample ID: 670-33262-21
Date Collected: 01/16/24 10:20
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	50	72090	KG	EET ORL	01/18/24 16:10

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0599-013.0-20240116
Lab Sample ID: 670-33262-22
Date Collected: 01/16/24 10:25
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72090	KG	EET ORL	01/18/24 14:38

Client Sample ID: LC34-DPT0600-013.0-20240116
Lab Sample ID: 670-33262-23
Date Collected: 01/16/24 10:30
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	50	72090	KG	EET ORL	01/18/24 12:53

Client Sample ID: LC34-DPT0599-018.0-20240116
Lab Sample ID: 670-33262-24
Date Collected: 01/16/24 10:40
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72090	KG	EET ORL	01/18/24 14:55

Client Sample ID: LC34-DPT0600-018.0-20240116
Lab Sample ID: 670-33262-25
Date Collected: 01/16/24 10:40
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72090	KG	EET ORL	01/18/24 15:13

Client Sample ID: LC34-DPT0599-023.0-20240116
Lab Sample ID: 670-33262-26
Date Collected: 01/16/24 10:55
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72090	KG	EET ORL	01/18/24 15:30
Total/NA	Analysis	8260D		1	72247	KG	EET ORL	01/19/24 14:18

Client Sample ID: LC34-DPT0600-023.0-20240116
Lab Sample ID: 670-33262-27
Date Collected: 01/16/24 10:55
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	72090	KG	EET ORL	01/18/24 15:50

Client Sample ID: LC34-DPT0600-028.0-20240116
Lab Sample ID: 670-33262-28
Date Collected: 01/16/24 11:05
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72090	KG	EET ORL	01/18/24 17:09

Client Sample ID: LC34-DPT0599-028.0-20240116
Lab Sample ID: 670-33262-29
Date Collected: 01/16/24 11:10
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72090	KG	EET ORL	01/18/24 17:46
Total/NA	Analysis	8260D	DL	1000	72247	KG	EET ORL	01/19/24 16:40

Client Sample ID: LC34-DPT0600-033.0-20240116
Lab Sample ID: 670-33262-30
Date Collected: 01/16/24 11:25
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	50	72090	KG	EET ORL	01/18/24 16:30

Client Sample ID: LC34-DPT0599-033.0-20240116
Lab Sample ID: 670-33262-31
Date Collected: 01/16/24 11:25
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72090	KG	EET ORL	01/18/24 18:04
Total/NA	Analysis	8260D	DL	5000	72247	KG	EET ORL	01/19/24 17:33

Client Sample ID: LC34-DPT0599-038.0-20240116
Lab Sample ID: 670-33262-32
Date Collected: 01/16/24 11:45
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10000	72090	KG	EET ORL	01/18/24 19:14

Client Sample ID: LC34-DPT0600-038.0-20240116
Lab Sample ID: 670-33262-33
Date Collected: 01/16/24 11:50
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72090	KG	EET ORL	01/18/24 17:29

Client Sample ID: LC34-DPT0600-043.0-20240116
Lab Sample ID: 670-33262-34
Date Collected: 01/16/24 12:05
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	50	72090	KG	EET ORL	01/18/24 16:49

Client Sample ID: LC34-DPT0599-043.0-20240116
Lab Sample ID: 670-33262-35
Date Collected: 01/16/24 12:10
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2500	72090	KG	EET ORL	01/18/24 18:39
Total/NA	Analysis	8260D	DL	2500	72247	KG	EET ORL	01/19/24 17:15

Client Sample ID: LC34-DPT0599-048.0-20240116
Lab Sample ID: 670-33262-36
Date Collected: 01/16/24 12:35
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72090	KG	EET ORL	01/18/24 18:21
Total/NA	Analysis	8260D	DL	1000	72247	KG	EET ORL	01/19/24 16:22

Client Sample ID: LC34-DPT0600-048.0-20240116
Lab Sample ID: 670-33262-37
Date Collected: 01/16/24 12:35
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10000	72090	KG	EET ORL	01/18/24 19:31

Client Sample ID: LC34-DPT0599-053.0-20240116
Lab Sample ID: 670-33262-38
Date Collected: 01/16/24 12:55
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5000	72090	KG	EET ORL	01/18/24 18:56

Client Sample ID: LC34-DPT0600-053.0-20240116
Lab Sample ID: 670-33262-39
Date Collected: 01/16/24 12:55
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	50	72523	AAM	EET ORL	01/22/24 19:21
Total/NA	Analysis	8260D	DL	10	72672	AAM	EET ORL	01/23/24 16:20

Client Sample ID: LC34-DPT0599-058.0-20240116
Lab Sample ID: 670-33262-40
Date Collected: 01/16/24 13:30
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72523	AAM	EET ORL	01/22/24 21:06

Client Sample ID: LC34-DPT0600-058.0-20240116
Lab Sample ID: 670-33262-41
Date Collected: 01/16/24 13:30
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72523	AAM	EET ORL	01/22/24 19:42
Total/NA	Analysis	8260D	DL	25	72672	AAM	EET ORL	01/23/24 18:11

Client Sample ID: LC34-DPT0600-063.0-20240116
Lab Sample ID: 670-33262-42
Date Collected: 01/16/24 13:55
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72672	AAM	EET ORL	01/23/24 14:03

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0599-063.0-20240116
Lab Sample ID: 670-33262-43
Date Collected: 01/16/24 13:55
Matrix: Water
Date Received: 01/17/24 13:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72523	AAM	EET ORL	01/22/24 20:24

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-33262-1
Project/Site: NASA KSC LC34 DPT

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33262-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-33262-1	LC34-DPT0601-008.0-20240115	Water	01/15/24 09:30	01/17/24 13:20
670-33262-2	LC34-DPT0601-013.0-20240115	Water	01/15/24 09:45	01/17/24 13:20
670-33262-3	LC34-DPT0601-018.0-20240115	Water	01/15/24 10:00	01/17/24 13:20
670-33262-4	LC34-DPT0601-023.0-20240115	Water	01/15/24 10:15	01/17/24 13:20
670-33262-5	LC34-DPT0601-028.0-20240115	Water	01/15/24 10:30	01/17/24 13:20
670-33262-6	LC34-DPT0601-033.0-20240115	Water	01/15/24 10:50	01/17/24 13:20
670-33262-7	LC34-DPT0601-038.0-20240115	Water	01/15/24 11:10	01/17/24 13:20
670-33262-8	LC34-DPT0601-043.0-20240115	Water	01/15/24 11:30	01/17/24 13:20
670-33262-9	LC34-DPT0601-048.0-20240115	Water	01/15/24 11:50	01/17/24 13:20
670-33262-10	LC34-DPT0601-053.0-20240115	Water	01/15/24 12:10	01/17/24 13:20
670-33262-11	LC34-DPT0601-058.0-20240115	Water	01/15/24 12:35	01/17/24 13:20
670-33262-12	LC34-DPT0601-063.0-20240115	Water	01/15/24 13:25	01/17/24 13:20
670-33262-13	LC34-DPT0601-068.0-20240115	Water	01/15/24 13:55	01/17/24 13:20
670-33262-14	LC34-DPT0601-073.0-20240115	Water	01/15/24 14:40	01/17/24 13:20
670-33262-15	LC34-DPT0601-078.0-20240115	Water	01/15/24 15:45	01/17/24 13:20
670-33262-16	LC34-DPT0601-083.0-20240115	Water	01/15/24 16:20	01/17/24 13:20
670-33262-17	LC34-DPT0601-088.0-20240115	Water	01/15/24 16:50	01/17/24 13:20
670-33262-18	LC34-DPT0601-093.0-20240116	Water	01/16/24 08:35	01/17/24 13:20
670-33262-19	LC34-DPT0601-098.0-20240116	Water	01/16/24 09:15	01/17/24 13:20
670-33262-20	LC34-DPT0599-008.0-20240116	Water	01/16/24 10:15	01/17/24 13:20
670-33262-21	LC34-DPT0600-008.0-20240116	Water	01/16/24 10:20	01/17/24 13:20
670-33262-22	LC34-DPT0599-013.0-20240116	Water	01/16/24 10:25	01/17/24 13:20
670-33262-23	LC34-DPT0600-013.0-20240116	Water	01/16/24 10:30	01/17/24 13:20
670-33262-24	LC34-DPT0599-018.0-20240116	Water	01/16/24 10:40	01/17/24 13:20
670-33262-25	LC34-DPT0600-018.0-20240116	Water	01/16/24 10:40	01/17/24 13:20
670-33262-26	LC34-DPT0599-023.0-20240116	Water	01/16/24 10:55	01/17/24 13:20
670-33262-27	LC34-DPT0600-023.0-20240116	Water	01/16/24 10:55	01/17/24 13:20
670-33262-28	LC34-DPT0600-028.0-20240116	Water	01/16/24 11:05	01/17/24 13:20
670-33262-29	LC34-DPT0599-028.0-20240116	Water	01/16/24 11:10	01/17/24 13:20
670-33262-30	LC34-DPT0600-033.0-20240116	Water	01/16/24 11:25	01/17/24 13:20
670-33262-31	LC34-DPT0599-033.0-20240116	Water	01/16/24 11:25	01/17/24 13:20
670-33262-32	LC34-DPT0599-038.0-20240116	Water	01/16/24 11:45	01/17/24 13:20
670-33262-33	LC34-DPT0600-038.0-20240116	Water	01/16/24 11:50	01/17/24 13:20
670-33262-34	LC34-DPT0600-043.0-20240116	Water	01/16/24 12:05	01/17/24 13:20
670-33262-35	LC34-DPT0599-043.0-20240116	Water	01/16/24 12:10	01/17/24 13:20
670-33262-36	LC34-DPT0599-048.0-20240116	Water	01/16/24 12:35	01/17/24 13:20
670-33262-37	LC34-DPT0600-048.0-20240116	Water	01/16/24 12:35	01/17/24 13:20
670-33262-38	LC34-DPT0599-053.0-20240116	Water	01/16/24 12:55	01/17/24 13:20
670-33262-39	LC34-DPT0600-053.0-20240116	Water	01/16/24 12:55	01/17/24 13:20
670-33262-40	LC34-DPT0599-058.0-20240116	Water	01/16/24 13:30	01/17/24 13:20
670-33262-41	LC34-DPT0600-058.0-20240116	Water	01/16/24 13:30	01/17/24 13:20
670-33262-42	LC34-DPT0600-063.0-20240116	Water	01/16/24 13:55	01/17/24 13:20
670-33262-43	LC34-DPT0599-063.0-20240116	Water	01/16/24 13:55	01/17/24 13:20

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

Client Contact Info

Name:

Address :

Address 2:

City, State Zip: Merritt Island, Florida 32953

Phone:

Deliverables:

Special Instructions:

Client Contact Info

Company: Tetra Tech, Inc.

Project Manager Dylnicki, Kaitlin

Purchase Order: 1179322

Project Reference:

Work Order: 112G08985

Site Name: NASA KSC LC34

Email:

Sampler: Chuck Sorden/Natalie Fabbri

Proposed Due Date:

Description: LC34 Annual DPT

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-DPT0601-008.0-20240115	Grab	Water	1/15/2024 09:30	FL			X	X	2	2	4
2	LC34-DPT0601-013.0-20240115	Grab	Water	1/15/2024 09:45	FL			X	X	2	2	4
3	LC34-DPT0601-018.0-20240115	Grab	Water	1/15/2024 10:00	FL			X	X	2	2	4
4	LC34-DPT0601-023.0-20240115	Grab	Water	1/15/2024 10:15	FL			X	X	2	2	4
5	LC34-DPT0601-028.0-20240115	Grab	Water	1/15/2024 10:30	FL			X	X	2	2	4
6	LC34-DPT0601-033.0-20240115	Grab	Water	1/15/2024 10:50	FL			X	X	2	2	4
7	LC34-DPT0601-038.0-20240115	Grab	Water	1/15/2024 11:10	FL			X	X	2	2	4
8	LC34-DPT0601-043.0-20240115	Grab	Water	1/15/2024 11:30	FL			X	X	2	2	4
9	LC34-DPT0601-048.0-20240115	Grab	Water	1/15/2024 11:50	FL			X	X	2	2	4
10	LC34-DPT0601-053.0-20240115	Grab	Water	1/15/2024 12:10	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

Client Contact Info

Name:

Address :

Address 2:

City, State Zip: Merritt Island, Florida 32953

Phone:

Deliverables:

Special Instructions:

Client Contact Info

Company: Tetra Tech, Inc.

Project Manager Dylnicki, Kaitlin

Purchase Order: 1179322

Project Reference:

Work Order: 112G08985

Site Name: NASA KSC LC34

Email:

Sampler: Chuck Sorden/Natalie Fabbri

Proposed Due Date:

Description: LC34 Annual DPT

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
11	LC34-DPT0601-058.0-20240115	Grab	Water	1/15/2024 12:35	FL			X	X	2	2	4
12	LC34-DPT0601-063.0-20240115	Grab	Water	1/15/2024 13:25	FL			X	X	2	2	4
13	LC34-DPT0601-068.0-20240115	Grab	Water	1/15/2024 13:55	FL			X	X	2	2	4
14	LC34-DPT0601-073.0-20240115	Grab	Water	1/15/2024 14:40	FL			X	X	2	2	4
15	LC34-DPT0601-078.0-20240115	Grab	Water	1/15/2024 15:45	FL			X	X	2	2	4
16	LC34-DPT0601-083.0-20240115	Grab	Water	1/15/2024 16:20	FL			X	X	2	2	4
17	LC34-DPT0601-088.0-20240115	Grab	Water	1/15/2024 16:50	FL			X	X	2	2	4
18	LC34-DPT0601-093.0-20240116	Grab	Water	1/16/2024 08:35	FL			X	X	2	2	4
19	LC34-DPT0601-098.0-20240116	Grab	Water	1/16/2024 09:15	FL			X	X	2	2	4
20	LC34-DPT0599-008.0-20240116	Grab	Water	1/16/2024 10:15	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
21	LC34-DPT0600-008.0-20240116	Grab	Water	1/16/2024 10:20	FL							
22	LC34-DPT0599-013.0-20240116	Grab	Water	1/16/2024 10:25	FL							
23	LC34-DPT0600-013.0-20240116	Grab	Water	1/16/2024 10:30	FL							
24	LC34-DPT0599-018.0-20240116	Grab	Water	1/16/2024 10:40	FL							
25	LC34-DPT0600-018.0-20240116	Grab	Water	1/16/2024 10:40	FL							
26	LC34-DPT0599-023.0-20240116	Grab	Water	1/16/2024 10:55	FL							
27	LC34-DPT0600-023.0-20240116	Grab	Water	1/16/2024 10:55	FL							
28	LC34-DPT0600-028.0-20240116	Grab	Water	1/16/2024 11:05	FL							
29	LC34-DPT0599-028.0-20240116	Grab	Water	1/16/2024 11:10	FL							
30	LC34-DPT0600-033.0-20240116	Grab	Water	1/16/2024 11:25	FL			X	X	2	2	4
31	LC34-DPT0599-033.0-20240116	Grab	Water	1/16/2024 11:25	FL			X	X	2	2	4
32	LC34-DPT0599-038.0-20240116	Grab	Water	1/16/2024 11:45	FL			X	X	2	2	4
33	LC34-DPT0600-038.0-20240116	Grab	Water	1/16/2024 11:50	FL			X	X	2	2	4
34	LC34-DPT0600-043.0-20240116	Grab	Water	1/16/2024 12:05	FL			X	X	2	2	4
35	LC34-DPT0599-043.0-20240116	Grab	Water	1/16/2024 12:10	FL			X	X	2	2	4
36	LC34-DPT0599-048.0-20240116	Grab	Water	1/16/2024 12:35	FL			X	X	2	2	4
37	LC34-DPT0600-048.0-20240116	Grab	Water	1/16/2024 12:35	FL			X	X	2	2	4
38	LC34-DPT0599-053.0-20240116	Grab	Water	1/16/2024 12:55	FL			X	X	2	2	4
39	LC34-DPT0600-053.0-20240116	Grab	Water	1/16/2024 12:55	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
40	LC34-DPT0599-058.0-20240116	Grab	Water	1/16/2024 13:30	FL			X	X	2	2	4
41	LC34-DPT0600-058.0-20240116	Grab	Water	1/16/2024 13:30	FL			X	X	2	2	4
42	LC34-DPT0600-063.0-20240116	Grab	Water	1/16/2024 13:55	FL			X	X	2	2	4
43	LC34-DPT0599-063.0-20240116	Grab	Water	1/16/2024 13:55	FL			X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4

8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
X	X	2	2	4
X	X	2	2	4
X	X	2	2	4

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	1/16/24 14:45	Chuck Sorden	1/16/24 14:45	Clerisier, Meline	1/17/24 13:20

Chain of Custody Sample Data

LC34-DPT0601-008.0-20240115

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]: 01/15/2024 09:30 **Time Zone:** Eastern

LC34-DPT0601-033.0-20240115

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]: 01/15/2024 10:50 **Time Zone:** Eastern

[1] All collection times displayed in 24 hour format.

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ☐ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name:

Address :

Address 2:

City, State Zip: Merritt Island, Florida 32953

Phone:

Deliverables:

Special Instructions:

Client Contact Info

Company: Tetra Tech, Inc.

Project Manager: Dylnicki, Kaitlin

Purchase Order: 1179322

Project Reference:

Work Order: 112G08985

Site Name: NASA KSC LC34

Email:

Sampler: Chuck Sorden/Natalie Fabbri

Proposed Due Date:

Description: LC34 Annual DPT

Methods and Bottles

670-33262 Chain of Custody

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-DPT0601-008.0-20240115	Grab	Water	1/15/2024 09:30	FL			X	X	2	2	4
2	LC34-DPT0601-013.0-20240115	Grab	Water	1/15/2024 09:45	FL			X	X	2	2	4
3	LC34-DPT0601-018.0-20240115	Grab	Water	1/15/2024 10:00	FL			X	X	2	2	4
4	LC34-DPT0601-023.0-20240115	Grab	Water	1/15/2024 10:15	FL			X	X	2	2	4
5	LC34-DPT0601-028.0-20240115	Grab	Water	1/15/2024 10:30	FL			X	X	2	2	4
6	LC34-DPT0601-033.0-20240115	Grab	Water	1/15/2024 10:50	FL			X	X	2	2	4
7	LC34-DPT0601-038.0-20240115	Grab	Water	1/15/2024 11:10	FL			X	X	2	2	4
8	LC34-DPT0601-043.0-20240115	Grab	Water	1/15/2024 11:30	FL			X	X	2	2	4
9	LC34-DPT0601-048.0-20240115	Grab	Water	1/15/2024 11:50	FL			X	X	2	2	4
10	LC34-DPT0601-053.0-20240115	Grab	Water	1/15/2024 12:10	FL			X	X	2	2	4

Chain of Custody Number: **245576**

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ☐ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name:

Address :

Address 2:

City, State Zip: Merritt Island, Florida 32953

Phone:

Deliverables:

Special Instructions:

Client Contact Info

Company: Tetra Tech, Inc.

Project Manager: Dylnicki, Kaitlin

Purchase Order: 1179322

Project Reference:

Work Order: 112G08985

Site Name: NASA KSC LC34

Email:

Sampler: Chuck Sorden/Natalie Fabbri

Proposed Due Date:

Description: LC34 Annual DPT

Samples

Methods and Bottles

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
11	LC34-DPT0601-058.0-20240115	Grab	Water	1/15/2024 12:35	FL			X	X	2	2	4
12	LC34-DPT0601-063.0-20240115	Grab	Water	1/15/2024 13:25	FL			X	X	2	2	4
13	LC34-DPT0601-068.0-20240115	Grab	Water	1/15/2024 13:55	FL			X	X	2	2	4
14	LC34-DPT0601-073.0-20240115	Grab	Water	1/15/2024 14:40	FL			X	X	2	2	4
15	LC34-DPT0601-078.0-20240115	Grab	Water	1/15/2024 15:45	FL			X	X	2	2	4
16	LC34-DPT0601-083.0-20240115	Grab	Water	1/15/2024 16:20	FL			X	X	2	2	4
17	LC34-DPT0601-088.0-20240115	Grab	Water	1/15/2024 16:50	FL			X	X	2	2	4
18	LC34-DPT0601-093.0-20240116	Grab	Water	1/16/2024 08:35	FL			X	X	2	2	4
19	LC34-DPT0601-098.0-20240116	Grab	Water	1/16/2024 09:15	FL			X	X	2	2	4
20	LC34-DPT0599-008.0-20240116	Grab	Water	1/16/2024 10:15	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
21	LC34-DPT0600-008.0-20240116	Grab	Water	1/16/2024 10:20	FL							
22	LC34-DPT0599-013.0-20240116	Grab	Water	1/16/2024 10:25	FL							
23	LC34-DPT0600-013.0-20240116	Grab	Water	1/16/2024 10:30	FL							
24	LC34-DPT0599-018.0-20240116	Grab	Water	1/16/2024 10:40	FL							
25	LC34-DPT0600-018.0-20240116	Grab	Water	1/16/2024 10:40	FL							
26	LC34-DPT0599-023.0-20240116	Grab	Water	1/16/2024 10:55	FL							
27	LC34-DPT0600-023.0-20240116	Grab	Water	1/16/2024 10:55	FL							
28	LC34-DPT0600-028.0-20240116	Grab	Water	1/16/2024 11:05	FL							
29	LC34-DPT0599-028.0-20240116	Grab	Water	1/16/2024 11:10	FL							
30	LC34-DPT0600-033.0-20240116	Grab	Water	1/16/2024 11:25	FL			X	X	2	2	4
31	LC34-DPT0599-033.0-20240116	Grab	Water	1/16/2024 11:25	FL			X	X	2	2	4
32	LC34-DPT0599-038.0-20240116	Grab	Water	1/16/2024 11:45	FL			X	X	2	2	4
33	LC34-DPT0600-038.0-20240116	Grab	Water	1/16/2024 11:50	FL			X	X	2	2	4
34	LC34-DPT0600-043.0-20240116	Grab	Water	1/16/2024 12:05	FL			X	X	2	2	4
35	LC34-DPT0599-043.0-20240116	Grab	Water	1/16/2024 12:10	FL			X	X	2	2	4
36	LC34-DPT0599-048.0-20240116	Grab	Water	1/16/2024 12:35	FL			X	X	2	2	4
37	LC34-DPT0600-048.0-20240116	Grab	Water	1/16/2024 12:35	FL			X	X	2	2	4
38	LC34-DPT0599-053.0-20240116	Grab	Water	1/16/2024 12:55	FL			X	X	2	2	4
39	LC34-DPT0600-053.0-20240116	Grab	Water	1/16/2024 12:55	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
40	LC34-DPT0599-058.0-20240116	Grab	Water	1/16/2024 13:30	FL			X	X	2	2	4
41	LC34-DPT0600-058.0-20240116	Grab	Water	1/16/2024 13:30	FL			X	X	2	2	4
42	LC34-DPT0600-063.0-20240116	Grab	Water	1/16/2024 13:55	FL			X	X	2	2	4
43	LC34-DPT0599-063.0-20240116	Grab	Water	1/16/2024 13:55	FL			X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4

Chain of Custody Number: **245576**

8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
X	X	2	2	4
X	X	2	2	4
X	X	2	2	4

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month)

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:	
Chuck Sorden	1/16/24 14:45	Chuck Sorden	1/16/24 14:45	Clerisier, Meline	1/17/24 13:20	1.3/1.3 5960

Chain of Custody Sample Data

LC34-DPT0601-008.0-20240115

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]: 01/15/2024 09:30 **Time Zone:** Eastern

LC34-DPT0601-033.0-20240115

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]: 01/15/2024 10:50 **Time Zone:** Eastern

[1] All collection times displayed in 24 hour format.

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-33262-1

Login Number: 33262

List Number: 1

Creator: Clerisier, Meline

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 1/30/2024 5:45:00 PM

JOB DESCRIPTION

NASA KSC LC34 DPT

JOB NUMBER

670-33331-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

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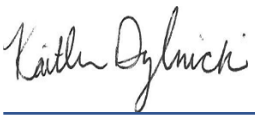

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Authorized for release by
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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-33331-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/18/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.7°C

GC/MS VOA
Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0599-073.0-20240116 (670-33331-4). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72258 recovered outside acceptance criteria, low biased, for Bromomethane and Chloromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0599-068.0-20240116 (670-33331-2), LC34-DPT0600-078.0-20240116 (670-33331-5), LC34-DPT0599-078.0-20240116 (670-33331-6) and LC34-DPT0599-088.0-20240116 (670-33331-8). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72266 recovered above the upper control limit for 1,1,2,2-Tetrachloroethane and Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-72266/3).

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 670-72266 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0599-093.0-20240117 (670-33331-15), LC34-DPT0596-028.0-20240117 (670-33331-17), LC34-DPT0599-098.0-20240117 (670-33331-18), LC34-DPT0596-033.0-20240117 (670-33331-19), LC34-DPT0596-038.0-20240117 (670-33331-20), LC34-DPT0596-048.0-20240117 (670-33331-21), LC34-DPT0596-048.0-20240117 (670-33331-22), LC34-DPT0598-008.0-20240117 (670-33331-23), LC34-DPT0596-053.0-20240117 (670-33331-25), LC34-DPT0596-058.0-20240117 (670-33331-27), LC34-DPT0596-063.0-20240117 (670-33331-29) and LC34-DPT0598-028.0-20230117 (670-33331-30). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72523 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0599-068.0-20240116 (670-33331-2), LC34-DPT0600-078.0-20240116 (670-33331-5), LC34-DPT0599-078.0-20240116 (670-33331-6), LC34-DPT0599-088.0-20240116 (670-33331-8), LC34-DPT0599-098.0-20240117 (670-33331-18), LC34-DPT0596-048.0-20240117 (670-33331-22), LC34-DPT0598-023.0-20240117 (670-33331-28) and LC34-DPT0596-063.0-20240117 (670-33331-29). Elevated reporting limits (RLs) are provided.

Job ID: 670-33331-1 (Continued) Eurofins Orlando

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33331-1

Client Sample ID: LC34-DPT0600-068.0-20240116 — Lab Sample ID: 670-33331-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.8		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	1.2		1.0	0.73	ug/L	1		8260D	Total/NA
Vinyl chloride	3.3		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0599-068.0-20240116 — Lab Sample ID: 670-33331-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	110		25	13	ug/L	25		8260D	Total/NA
Trichloroethene - DL	2400		50	45	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-DPT0600-073.0-20240116 — Lab Sample ID: 670-33331-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	10		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	1.2		1.0	0.73	ug/L	1		8260D	Total/NA
Trichloroethene	1.4		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	9.0		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0599-073.0-20240116 — Lab Sample ID: 670-33331-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	30		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	0.77	I	1.0	0.73	ug/L	1		8260D	Total/NA
Vinyl chloride	1.7		1.0	0.71	ug/L	1		8260D	Total/NA
Trichloroethene - DL	140		2.0	1.8	ug/L	2		8260D	Total/NA

Client Sample ID: LC34-DPT0600-078.0-20240116 — Lab Sample ID: 670-33331-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	510		10	5.3	ug/L	10		8260D	Total/NA
trans-1,2-Dichloroethene - DL	18		10	7.3	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	130		10	7.1	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-DPT0599-078.0-20240116 — Lab Sample ID: 670-33331-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	110		2.0	1.1	ug/L	2		8260D	Total/NA
trans-1,2-Dichloroethene - DL	3.5		2.0	1.5	ug/L	2		8260D	Total/NA
Trichloroethene - DL	220		5.0	4.5	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	3.7		2.0	1.4	ug/L	2		8260D	Total/NA

Client Sample ID: LC34-DPT0600-083.0-20240116 — Lab Sample ID: 670-33331-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	8.1		1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0599-088.0-20240116 — Lab Sample ID: 670-33331-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	44		2.0	1.1	ug/L	2		8260D	Total/NA
Trichloroethene - DL	180		5.0	4.5	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	2.9		2.0	1.4	ug/L	2		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33331-1

Client Sample ID: LC34-DPT0600-088.0-20240117 — Lab Sample ID: 670-33331-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.1		1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0600-093.0-20240117 — Lab Sample ID: 670-33331-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	14		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	1.4		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0600-098.0-20240117 — Lab Sample ID: 670-33331-11

No Detections.

Client Sample ID: LC34-DPT0596-008.0-20240117 — Lab Sample ID: 670-33331-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	64		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	15		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	21		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0596-013.0-20240117 — Lab Sample ID: 670-33331-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.2		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	2.2		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0596-018.0-20240117 — Lab Sample ID: 670-33331-14

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4.8		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	0.76	I	1.0	0.73	ug/L	1		8260D	Total/NA
Trichloroethene	1.4		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	4.9		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0599-093.0-20240117 — Lab Sample ID: 670-33331-15

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	95		10	5.3	ug/L	10		8260D	Total/NA
Trichloroethene - DL	890		10	8.9	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-DPT0596-023.0-20240117 — Lab Sample ID: 670-33331-16

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	6.7		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	1.4		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	10		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0596-028.0-20240117 — Lab Sample ID: 670-33331-17

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	8000		200	110	ug/L	200		8260D	Total/NA
Vinyl chloride - DL	2900		200	140	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-DPT0599-098.0-20240117 — Lab Sample ID: 670-33331-18

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	41		10	5.3	ug/L	10		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: LC34-DPT0599-098.0-20240117 (Continued) — Lab Sample ID: 670-33331-18

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene - DL	1600		25	22	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-DPT0596-033.0-20240117 — Lab Sample ID: 670-33331-19

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	34000		500	270	ug/L	500		8260D	Total/NA
Vinyl chloride - DL	9600		500	360	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-DPT0596-038.0-20240117 — Lab Sample ID: 670-33331-20

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	29000		500	270	ug/L	500		8260D	Total/NA
trans-1,2-Dichloroethene - DL	490	I	500	370	ug/L	500		8260D	Total/NA
Vinyl chloride - DL	12000		500	360	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-DPT0596-048.0-20240117 — Lab Sample ID: 670-33331-21

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	59000		1000	530	ug/L	1000		8260D	Total/NA
trans-1,2-Dichloroethene - DL	1400		1000	730	ug/L	1000		8260D	Total/NA
Vinyl chloride - DL	24000		1000	710	ug/L	1000		8260D	Total/NA

Client Sample ID: LC34-DPT0596-048.0-20240117 — Lab Sample ID: 670-33331-22

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	160000		10000	5300	ug/L	10000		8260D	Total/NA
Trichloroethene - DL	1300000		20000	18000	ug/L	20000		8260D	Total/NA
Vinyl chloride - DL	28000		10000	7100	ug/L	10000		8260D	Total/NA

Client Sample ID: LC34-DPT0598-008.0-20240117 — Lab Sample ID: 670-33331-23

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	960		50	27	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-DPT0598-013.0-20240117 — Lab Sample ID: 670-33331-24

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	32		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	1.9		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0596-053.0-20240117 — Lab Sample ID: 670-33331-25

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	160000		10000	5300	ug/L	10000		8260D	Total/NA
Trichloroethene - DL	600000		10000	8900	ug/L	10000		8260D	Total/NA
Vinyl chloride - DL	24000		10000	7100	ug/L	10000		8260D	Total/NA

Client Sample ID: LC34-DPT0598-018.0-20240117 — Lab Sample ID: 670-33331-26

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	90		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	1.7		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	11		1.0	0.71	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33331-1

Client Sample ID: LC34-DPT0596-058.0-20240117 — Lab Sample ID: 670-33331-27

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	270000		10000	5300	ug/L	10000		8260D	Total/NA
Trichloroethene - DL	620000		10000	8900	ug/L	10000		8260D	Total/NA
Vinyl chloride - DL	26000		10000	7100	ug/L	10000		8260D	Total/NA

Client Sample ID: LC34-DPT0598-023.0-20240117 — Lab Sample ID: 670-33331-28

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	200		5.0	2.7	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-DPT0596-063.0-20240117 — Lab Sample ID: 670-33331-29

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	17000		200	110	ug/L	200		8260D	Total/NA
trans-1,2-Dichloroethene - DL	180		100	73	ug/L	100		8260D	Total/NA
Trichloroethene - DL	9000		100	89	ug/L	100		8260D	Total/NA
Vinyl chloride - DL	1300		100	71	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-DPT0598-028.0-20230117 — Lab Sample ID: 670-33331-30

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	2000		50	27	ug/L	50		8260D	Total/NA
trans-1,2-Dichloroethene - DL	37	I	50	37	ug/L	50		8260D	Total/NA
Vinyl chloride - DL	140		50	36	ug/L	50		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33331-1

Client Sample ID: LC34-DPT0600-068.0-20240116
Date Collected: 01/16/24 14:20
Date Received: 01/18/24 08:00

Lab Sample ID: 670-33331-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 14:39	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 14:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 14:39	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 14:39	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 14:39	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 14:39	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 14:39	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 14:39	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 14:39	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 14:39	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 14:39	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 14:39	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 14:39	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 14:39	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 14:39	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 14:39	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 14:39	1
Acetone	25	U	50	25	ug/L			01/19/24 14:39	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 14:39	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 14:39	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 14:39	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 14:39	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 14:39	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 14:39	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 14:39	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 14:39	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 14:39	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 14:39	1
cis-1,2-Dichloroethene	**1.8**		1.0	0.53	ug/L			01/19/24 14:39	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 14:39	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 14:39	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 14:39	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 14:39	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 14:39	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 14:39	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 14:39	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 14:39	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 14:39	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 14:39	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 14:39	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 14:39	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 14:39	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 14:39	1
trans-1,2-Dichloroethene	**1.2**		1.0	0.73	ug/L			01/19/24 14:39	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 14:39	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/19/24 14:39	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 14:39	1
Vinyl chloride	**3.3**		1.0	0.71	ug/L			01/19/24 14:39	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 14:39	1

Client Sample ID: LC34-DPT0600-068.0-20240116
Lab Sample ID: 670-33331-1

Date Collected: 01/16/24 14:20
Matrix: Water
Date Received: 01/18/24 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/19/24 14:39*	*1*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/19/24 14:39*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/19/24 14:39*	*1*

Client Sample ID: LC34-DPT0599-068.0-20240116
Lab Sample ID: 670-33331-2

Date Collected: 01/16/24 14:30
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			01/19/24 17:51	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			01/19/24 17:51	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			01/19/24 17:51	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			01/19/24 17:51	25
1,1-Dichloroethane	16	U	25	16	ug/L			01/19/24 17:51	25
1,1-Dichloroethene	24	U	25	24	ug/L			01/19/24 17:51	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			01/19/24 17:51	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			01/19/24 17:51	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			01/19/24 17:51	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			01/19/24 17:51	25
1,2-Dichloroethane	16	U	25	16	ug/L			01/19/24 17:51	25
1,2-Dichloropropane	20	U	25	20	ug/L			01/19/24 17:51	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			01/19/24 17:51	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			01/19/24 17:51	25
2-Butanone (MEK)	110	U	250	110	ug/L			01/19/24 17:51	25
2-Hexanone	63	U	500	63	ug/L			01/19/24 17:51	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			01/19/24 17:51	25
Acetone	630	U	1300	630	ug/L			01/19/24 17:51	25
Benzene	18	U	25	18	ug/L			01/19/24 17:51	25
Bromodichloromethane	13	U	25	13	ug/L			01/19/24 17:51	25
Bromoform	19	U	25	19	ug/L			01/19/24 17:51	25
Bromomethane	24	U	50	24	ug/L			01/19/24 17:51	25
Carbon disulfide	63	U	130	63	ug/L			01/19/24 17:51	25
Carbon tetrachloride	24	U	25	24	ug/L			01/19/24 17:51	25
Chlorobenzene	18	U	25	18	ug/L			01/19/24 17:51	25
Chloroethane	25	U	50	25	ug/L			01/19/24 17:51	25
Chloroform	20	U	130	20	ug/L			01/19/24 17:51	25
Chloromethane	21	U	50	21	ug/L			01/19/24 17:51	25
cis-1,2-Dichloroethene	**110**		25	13	ug/L			01/19/24 17:51	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			01/19/24 17:51	25
Cyclohexane	23	U	130	23	ug/L			01/19/24 17:51	25
Dibromochloromethane	13	U	25	13	ug/L			01/19/24 17:51	25
Dichlorodifluoromethane	19	U	25	19	ug/L			01/19/24 17:51	25
Ethylbenzene	17	U	25	17	ug/L			01/19/24 17:51	25
Isopropylbenzene	17	U	50	17	ug/L			01/19/24 17:51	25
m,p-Xylenes	33	U	50	33	ug/L			01/19/24 17:51	25
Methyl acetate	24	U	250	24	ug/L			01/19/24 17:51	25
Methyl tert-butyl ether	15	U	50	15	ug/L			01/19/24 17:51	25
Methylene Chloride	130	U	250	130	ug/L			01/19/24 17:51	25
o-Xylene	13	U	25	13	ug/L			01/19/24 17:51	25

Client Sample ID: LC34-DPT0599-068.0-20240116
Lab Sample ID: 670-33331-2

Date Collected: 01/16/24 14:30
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	15	U	25	15	ug/L			01/19/24 17:51	25
Tetrachloroethene	19	U	25	19	ug/L			01/19/24 17:51	25
Toluene	18	U	25	18	ug/L			01/19/24 17:51	25
trans-1,2-Dichloroethene	18	U	25	18	ug/L			01/19/24 17:51	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			01/19/24 17:51	25
Trichloroethene	**2400**		50	45	ug/L			01/22/24 18:57	50
Trichlorofluoromethane	24	U	25	24	ug/L			01/19/24 17:51	25
Vinyl chloride	18	U	25	18	ug/L			01/19/24 17:51	25
Xylenes, Total	33	U	50	33	ug/L			01/19/24 17:51	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/19/24 17:51*	*25*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/22/24 18:57*	*50*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/19/24 17:51*	*25*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/22/24 18:57*	*50*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/19/24 17:51*	*25*
Toluene-d8 (Surr)	*105*		*40 - 146*		*01/22/24 18:57*	*50*

Client Sample ID: LC34-DPT0600-073.0-20240116
Lab Sample ID: 670-33331-3

Date Collected: 01/16/24 14:55
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 14:58	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 14:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 14:58	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 14:58	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 14:58	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 14:58	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 14:58	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 14:58	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 14:58	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 14:58	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 14:58	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 14:58	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 14:58	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 14:58	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 14:58	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 14:58	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 14:58	1
Acetone	25	U	50	25	ug/L			01/19/24 14:58	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 14:58	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 14:58	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 14:58	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 14:58	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 14:58	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 14:58	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 14:58	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 14:58	1

Client Sample ID: LC34-DPT0600-073.0-20240116
Lab Sample ID: 670-33331-3

Date Collected: 01/16/24 14:55
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 14:58	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 14:58	1
cis-1,2-Dichloroethene	**10**		1.0	0.53	ug/L			01/19/24 14:58	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 14:58	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 14:58	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 14:58	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 14:58	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 14:58	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 14:58	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 14:58	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 14:58	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 14:58	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 14:58	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 14:58	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 14:58	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 14:58	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 14:58	1
trans-1,2-Dichloroethene	**1.2**		1.0	0.73	ug/L			01/19/24 14:58	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 14:58	1
Trichloroethene	**1.4**		1.0	0.89	ug/L			01/19/24 14:58	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 14:58	1
Vinyl chloride	**9.0**		1.0	0.71	ug/L			01/19/24 14:58	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 14:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/19/24 14:58*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/19/24 14:58*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/19/24 14:58*	*1*

Client Sample ID: LC34-DPT0599-073.0-20240116
Lab Sample ID: 670-33331-4

Date Collected: 01/16/24 15:00
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 15:16	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 15:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 15:16	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 15:16	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 15:16	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 15:16	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 15:16	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 15:16	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 15:16	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 15:16	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 15:16	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 15:16	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 15:16	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 15:16	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 15:16	1

Client Sample ID: LC34-DPT0599-073.0-20240116
Lab Sample ID: 670-33331-4
Date Collected: 01/16/24 15:00
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 15:16	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 15:16	1
Acetone	25	U	50	25	ug/L			01/19/24 15:16	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 15:16	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 15:16	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 15:16	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 15:16	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 15:16	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 15:16	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 15:16	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 15:16	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 15:16	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 15:16	1
cis-1,2-Dichloroethene	**30**		1.0	0.53	ug/L			01/19/24 15:16	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 15:16	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 15:16	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 15:16	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 15:16	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 15:16	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 15:16	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 15:16	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 15:16	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 15:16	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 15:16	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 15:16	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 15:16	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 15:16	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 15:16	1
trans-1,2-Dichloroethene	**0.77**	**I**	1.0	0.73	ug/L			01/19/24 15:16	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 15:16	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 15:16	1
Vinyl chloride	**1.7**		1.0	0.71	ug/L			01/19/24 15:16	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 15:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/19/24 15:16*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/19/24 15:16*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/19/24 15:16*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**140**		2.0	1.8	ug/L			01/19/24 21:16	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/19/24 21:16*	*2*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/19/24 21:16*	*2*
Toluene-d8 (Surr)	*103*		*40 - 146*		*01/19/24 21:16*	*2*

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0600-078.0-20240116
Lab Sample ID: 670-33331-5
Date Collected: 01/16/24 15:30
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			01/19/24 17:31	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			01/19/24 17:31	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			01/19/24 17:31	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			01/19/24 17:31	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			01/19/24 17:31	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			01/19/24 17:31	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			01/19/24 17:31	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			01/19/24 17:31	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			01/19/24 17:31	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			01/19/24 17:31	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			01/19/24 17:31	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			01/19/24 17:31	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			01/19/24 17:31	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			01/19/24 17:31	10
2-Butanone (MEK)	45	U	100	45	ug/L			01/19/24 17:31	10
2-Hexanone	25	U	200	25	ug/L			01/19/24 17:31	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			01/19/24 17:31	10
Acetone	250	U	500	250	ug/L			01/19/24 17:31	10
Benzene	7.1	U	10	7.1	ug/L			01/19/24 17:31	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			01/19/24 17:31	10
Bromoform	7.5	U	10	7.5	ug/L			01/19/24 17:31	10
Bromomethane	9.5	U	20	9.5	ug/L			01/19/24 17:31	10
Carbon disulfide	25	U	50	25	ug/L			01/19/24 17:31	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			01/19/24 17:31	10
Chlorobenzene	7.2	U	10	7.2	ug/L			01/19/24 17:31	10
Chloroethane	9.8	U	20	9.8	ug/L			01/19/24 17:31	10
Chloroform	8.0	U	50	8.0	ug/L			01/19/24 17:31	10
Chloromethane	8.2	U	20	8.2	ug/L			01/19/24 17:31	10
cis-1,2-Dichloroethene	**510**		10	5.3	ug/L			01/19/24 17:31	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			01/19/24 17:31	10
Cyclohexane	9.3	U	50	9.3	ug/L			01/19/24 17:31	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			01/19/24 17:31	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			01/19/24 17:31	10
Ethylbenzene	6.9	U	10	6.9	ug/L			01/19/24 17:31	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			01/19/24 17:31	10
m,p-Xylenes	13	U	20	13	ug/L			01/19/24 17:31	10
Methyl acetate	9.5	U	100	9.5	ug/L			01/19/24 17:31	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			01/19/24 17:31	10
Methylene Chloride	50	U	100	50	ug/L			01/19/24 17:31	10
o-Xylene	5.3	U	10	5.3	ug/L			01/19/24 17:31	10
Styrene	6.1	U	10	6.1	ug/L			01/19/24 17:31	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			01/19/24 17:31	10
Toluene	7.2	U	10	7.2	ug/L			01/19/24 17:31	10
trans-1,2-Dichloroethene	**18**		10	7.3	ug/L			01/19/24 17:31	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			01/19/24 17:31	10
Trichloroethene	8.9	U	10	8.9	ug/L			01/22/24 17:45	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			01/19/24 17:31	10
Vinyl chloride	**130**		10	7.1	ug/L			01/19/24 17:31	10
Xylenes, Total	13	U	20	13	ug/L			01/19/24 17:31	10

Client Sample ID: LC34-DPT0600-078.0-20240116
Lab Sample ID: 670-33331-5

Date Collected: 01/16/24 15:30
Matrix: Water
Date Received: 01/18/24 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		41 - 142		01/19/24 17:31	10
4-Bromofluorobenzene (Surr)	98		41 - 142		01/22/24 17:45	10
Dibromofluoromethane (Surr)	100		53 - 146		01/19/24 17:31	10
Dibromofluoromethane (Surr)	109		53 - 146		01/22/24 17:45	10
Toluene-d8 (Surr)	101		40 - 146		01/19/24 17:31	10
Toluene-d8 (Surr)	107		40 - 146		01/22/24 17:45	10

Client Sample ID: LC34-DPT0599-078.0-20240116
Lab Sample ID: 670-33331-6

Date Collected: 01/16/24 15:35
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.6	U	2.0	1.6	ug/L			01/19/24 17:10	2
1,1,2,2-Tetrachloroethane	1.1	U	2.0	1.1	ug/L			01/19/24 17:10	2
1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	U	4.0	1.5	ug/L			01/19/24 17:10	2
1,1,2-Trichloroethane	1.5	U	4.0	1.5	ug/L			01/19/24 17:10	2
1,1-Dichloroethane	1.2	U	2.0	1.2	ug/L			01/19/24 17:10	2
1,1-Dichloroethene	1.9	U	2.0	1.9	ug/L			01/19/24 17:10	2
1,2,4-Trichlorobenzene	1.4	U	4.0	1.4	ug/L			01/19/24 17:10	2
1,2-Dibromo-3-Chloropropane	1.9	U	20	1.9	ug/L			01/19/24 17:10	2
1,2-Dibromoethane (EDB)	1.6	U	24	1.6	ug/L			01/19/24 17:10	2
1,2-Dichlorobenzene	1.5	U	2.0	1.5	ug/L			01/19/24 17:10	2
1,2-Dichloroethane	1.3	U	2.0	1.3	ug/L			01/19/24 17:10	2
1,2-Dichloropropane	1.6	U	2.0	1.6	ug/L			01/19/24 17:10	2
1,3-Dichlorobenzene	1.5	U	2.0	1.5	ug/L			01/19/24 17:10	2
1,4-Dichlorobenzene	1.5	U	2.0	1.5	ug/L			01/19/24 17:10	2
2-Butanone (MEK)	9.0	U	20	9.0	ug/L			01/19/24 17:10	2
2-Hexanone	5.0	U	40	5.0	ug/L			01/19/24 17:10	2
4-Methyl-2-pentanone	10	U	40	10	ug/L			01/19/24 17:10	2
Acetone	50	U	100	50	ug/L			01/19/24 17:10	2
Benzene	1.4	U	2.0	1.4	ug/L			01/19/24 17:10	2
Bromodichloromethane	1.0	U	2.0	1.0	ug/L			01/19/24 17:10	2
Bromoform	1.5	U	2.0	1.5	ug/L			01/19/24 17:10	2
Bromomethane	1.9	U	4.0	1.9	ug/L			01/19/24 17:10	2
Carbon disulfide	5.0	U	10	5.0	ug/L			01/19/24 17:10	2
Carbon tetrachloride	1.9	U	2.0	1.9	ug/L			01/19/24 17:10	2
Chlorobenzene	1.4	U	2.0	1.4	ug/L			01/19/24 17:10	2
Chloroethane	2.0	U	4.0	2.0	ug/L			01/19/24 17:10	2
Chloroform	1.6	U	10	1.6	ug/L			01/19/24 17:10	2
Chloromethane	1.6	U	4.0	1.6	ug/L			01/19/24 17:10	2
cis-1,2-Dichloroethene	**110**		2.0	1.1	ug/L			01/19/24 17:10	2
cis-1,3-Dichloropropene	1.2	U	2.0	1.2	ug/L			01/19/24 17:10	2
Cyclohexane	1.9	U	10	1.9	ug/L			01/19/24 17:10	2
Dibromochloromethane	1.0	U	2.0	1.0	ug/L			01/19/24 17:10	2
Dichlorodifluoromethane	1.5	U	2.0	1.5	ug/L			01/19/24 17:10	2
Ethylbenzene	1.4	U	2.0	1.4	ug/L			01/19/24 17:10	2
Isopropylbenzene	1.3	U	4.0	1.3	ug/L			01/19/24 17:10	2
m,p-Xylenes	2.6	U	4.0	2.6	ug/L			01/19/24 17:10	2
Methyl acetate	1.9	U	20	1.9	ug/L			01/19/24 17:10	2

Client Sample ID: LC34-DPT0599-078.0-20240116
Lab Sample ID: 670-33331-6

Date Collected: 01/16/24 15:35
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	1.2	U	4.0	1.2	ug/L			01/19/24 17:10	2
Methylene Chloride	10	U	20	10	ug/L			01/19/24 17:10	2
o-Xylene	1.1	U	2.0	1.1	ug/L			01/19/24 17:10	2
Styrene	1.2	U	2.0	1.2	ug/L			01/19/24 17:10	2
Tetrachloroethene	1.5	U	2.0	1.5	ug/L			01/19/24 17:10	2
Toluene	1.4	U	2.0	1.4	ug/L			01/19/24 17:10	2
trans-1,2-Dichloroethene	**3.5**		2.0	1.5	ug/L			01/19/24 17:10	2
trans-1,3-Dichloropropene	1.5	U	2.0	1.5	ug/L			01/19/24 17:10	2
Trichloroethene	**220**		5.0	4.5	ug/L			01/22/24 16:34	5
Trichlorofluoromethane	1.9	U	2.0	1.9	ug/L			01/19/24 17:10	2
Vinyl chloride	**3.7**		2.0	1.4	ug/L			01/19/24 17:10	2
Xylenes, Total	2.6	U	4.0	2.6	ug/L			01/19/24 17:10	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/19/24 17:10*	*2*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/22/24 16:34*	*5*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/19/24 17:10*	*2*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/22/24 16:34*	*5*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/19/24 17:10*	*2*
Toluene-d8 (Surr)	*104*		*40 - 146*		*01/22/24 16:34*	*5*

Client Sample ID: LC34-DPT0600-083.0-20240116
Lab Sample ID: 670-33331-7

Date Collected: 01/16/24 16:55
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 20:52	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 20:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 20:52	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 20:52	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 20:52	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 20:52	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 20:52	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 20:52	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 20:52	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 20:52	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 20:52	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 20:52	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 20:52	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 20:52	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 20:52	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 20:52	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 20:52	1
Acetone	25	U	50	25	ug/L			01/19/24 20:52	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 20:52	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 20:52	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 20:52	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 20:52	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 20:52	1

Client Sample ID: LC34-DPT0600-083.0-20240116
Lab Sample ID: 670-33331-7

Date Collected: 01/16/24 16:55
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 20:52	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 20:52	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 20:52	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 20:52	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 20:52	1
cis-1,2-Dichloroethene	**8.1**		1.0	0.53	ug/L			01/19/24 20:52	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 20:52	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 20:52	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 20:52	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 20:52	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 20:52	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 20:52	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 20:52	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 20:52	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 20:52	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 20:52	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 20:52	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 20:52	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 20:52	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 20:52	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/19/24 20:52	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 20:52	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/19/24 20:52	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 20:52	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/19/24 20:52	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 20:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/19/24 20:52*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/19/24 20:52*	*1*
Toluene-d8 (Surr)	*103*		*40 - 146*		*01/19/24 20:52*	*1*

Client Sample ID: LC34-DPT0599-088.0-20240116
Lab Sample ID: 670-33331-8

Date Collected: 01/16/24 16:55
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.6	U	2.0	1.6	ug/L			01/19/24 16:49	2
1,1,2,2-Tetrachloroethane	1.1	U	2.0	1.1	ug/L			01/19/24 16:49	2
1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	U	4.0	1.5	ug/L			01/19/24 16:49	2
1,1,2-Trichloroethane	1.5	U	4.0	1.5	ug/L			01/19/24 16:49	2
1,1-Dichloroethane	1.2	U	2.0	1.2	ug/L			01/19/24 16:49	2
1,1-Dichloroethene	1.9	U	2.0	1.9	ug/L			01/19/24 16:49	2
1,2,4-Trichlorobenzene	1.4	U	4.0	1.4	ug/L			01/19/24 16:49	2
1,2-Dibromo-3-Chloropropane	1.9	U	20	1.9	ug/L			01/19/24 16:49	2
1,2-Dibromoethane (EDB)	1.6	U	24	1.6	ug/L			01/19/24 16:49	2
1,2-Dichlorobenzene	1.5	U	2.0	1.5	ug/L			01/19/24 16:49	2
1,2-Dichloroethane	1.3	U	2.0	1.3	ug/L			01/19/24 16:49	2
1,2-Dichloropropane	1.6	U	2.0	1.6	ug/L			01/19/24 16:49	2

Client Sample ID: LC34-DPT0599-088.0-20240116
Lab Sample ID: 670-33331-8
Date Collected: 01/16/24 16:55
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	1.5	U	2.0	1.5	ug/L			01/19/24 16:49	2
1,4-Dichlorobenzene	1.5	U	2.0	1.5	ug/L			01/19/24 16:49	2
2-Butanone (MEK)	9.0	U	20	9.0	ug/L			01/19/24 16:49	2
2-Hexanone	5.0	U	40	5.0	ug/L			01/19/24 16:49	2
4-Methyl-2-pentanone	10	U	40	10	ug/L			01/19/24 16:49	2
Acetone	50	U	100	50	ug/L			01/19/24 16:49	2
Benzene	1.4	U	2.0	1.4	ug/L			01/19/24 16:49	2
Bromodichloromethane	1.0	U	2.0	1.0	ug/L			01/19/24 16:49	2
Bromoform	1.5	U	2.0	1.5	ug/L			01/19/24 16:49	2
Bromomethane	1.9	U	4.0	1.9	ug/L			01/19/24 16:49	2
Carbon disulfide	5.0	U	10	5.0	ug/L			01/19/24 16:49	2
Carbon tetrachloride	1.9	U	2.0	1.9	ug/L			01/19/24 16:49	2
Chlorobenzene	1.4	U	2.0	1.4	ug/L			01/19/24 16:49	2
Chloroethane	2.0	U	4.0	2.0	ug/L			01/19/24 16:49	2
Chloroform	1.6	U	10	1.6	ug/L			01/19/24 16:49	2
Chloromethane	1.6	U	4.0	1.6	ug/L			01/19/24 16:49	2
cis-1,2-Dichloroethene	**44**		2.0	1.1	ug/L			01/19/24 16:49	2
cis-1,3-Dichloropropene	1.2	U	2.0	1.2	ug/L			01/19/24 16:49	2
Cyclohexane	1.9	U	10	1.9	ug/L			01/19/24 16:49	2
Dibromochloromethane	1.0	U	2.0	1.0	ug/L			01/19/24 16:49	2
Dichlorodifluoromethane	1.5	U	2.0	1.5	ug/L			01/19/24 16:49	2
Ethylbenzene	1.4	U	2.0	1.4	ug/L			01/19/24 16:49	2
Isopropylbenzene	1.3	U	4.0	1.3	ug/L			01/19/24 16:49	2
m,p-Xylenes	2.6	U	4.0	2.6	ug/L			01/19/24 16:49	2
Methyl acetate	1.9	U	20	1.9	ug/L			01/19/24 16:49	2
Methyl tert-butyl ether	1.2	U	4.0	1.2	ug/L			01/19/24 16:49	2
Methylene Chloride	10	U	20	10	ug/L			01/19/24 16:49	2
o-Xylene	1.1	U	2.0	1.1	ug/L			01/19/24 16:49	2
Styrene	1.2	U	2.0	1.2	ug/L			01/19/24 16:49	2
Tetrachloroethene	1.5	U	2.0	1.5	ug/L			01/19/24 16:49	2
Toluene	1.4	U	2.0	1.4	ug/L			01/19/24 16:49	2
trans-1,2-Dichloroethene	1.5	U	2.0	1.5	ug/L			01/19/24 16:49	2
trans-1,3-Dichloropropene	1.5	U	2.0	1.5	ug/L			01/19/24 16:49	2
Trichloroethene	**180**		5.0	4.5	ug/L			01/22/24 16:58	5
Trichlorofluoromethane	1.9	U	2.0	1.9	ug/L			01/19/24 16:49	2
Vinyl chloride	**2.9**		2.0	1.4	ug/L			01/19/24 16:49	2
Xylenes, Total	2.6	U	4.0	2.6	ug/L			01/19/24 16:49	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/19/24 16:49*	*2*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*01/22/24 16:58*	*5*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/19/24 16:49*	*2*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/22/24 16:58*	*5*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/19/24 16:49*	*2*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/22/24 16:58*	*5*

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0600-088.0-20240117
Lab Sample ID: 670-33331-9
Date Collected: 01/17/24 08:00
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 15:52	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 15:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 15:52	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 15:52	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 15:52	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 15:52	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 15:52	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 15:52	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 15:52	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 15:52	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 15:52	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 15:52	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 15:52	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 15:52	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 15:52	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 15:52	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 15:52	1
Acetone	25	U	50	25	ug/L			01/19/24 15:52	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 15:52	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 15:52	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 15:52	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 15:52	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 15:52	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 15:52	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 15:52	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 15:52	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 15:52	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 15:52	1
cis-1,2-Dichloroethene	**1.1**		1.0	0.53	ug/L			01/19/24 15:52	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 15:52	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 15:52	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 15:52	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 15:52	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 15:52	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 15:52	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 15:52	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 15:52	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 15:52	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 15:52	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 15:52	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 15:52	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 15:52	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 15:52	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/19/24 15:52	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 15:52	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/19/24 15:52	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 15:52	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/19/24 15:52	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 15:52	1

Client Sample ID: LC34-DPT0600-088.0-20240117
Lab Sample ID: 670-33331-9

Date Collected: 01/17/24 08:00
Matrix: Water
Date Received: 01/18/24 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/19/24 15:52*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/19/24 15:52*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/19/24 15:52*	*1*

Client Sample ID: LC34-DPT0600-093.0-20240117
Lab Sample ID: 670-33331-10

Date Collected: 01/17/24 08:40
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 16:11	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 16:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 16:11	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 16:11	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 16:11	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 16:11	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 16:11	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 16:11	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 16:11	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 16:11	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 16:11	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 16:11	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 16:11	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 16:11	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 16:11	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 16:11	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 16:11	1
Acetone	25	U	50	25	ug/L			01/19/24 16:11	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 16:11	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 16:11	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 16:11	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 16:11	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 16:11	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 16:11	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 16:11	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 16:11	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 16:11	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 16:11	1
cis-1,2-Dichloroethene	**14**		1.0	0.53	ug/L			01/19/24 16:11	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 16:11	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 16:11	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 16:11	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 16:11	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 16:11	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 16:11	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 16:11	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 16:11	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 16:11	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 16:11	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 16:11	1

Client Sample ID: LC34-DPT0600-093.0-20240117
Lab Sample ID: 670-33331-10

Date Collected: 01/17/24 08:40
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 16:11	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 16:11	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 16:11	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/19/24 16:11	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 16:11	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/19/24 16:11	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 16:11	1
Vinyl chloride	**1.4**		1.0	0.71	ug/L			01/19/24 16:11	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 16:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/19/24 16:11*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/19/24 16:11*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/19/24 16:11*	*1*

Client Sample ID: LC34-DPT0600-098.0-20240117
Lab Sample ID: 670-33331-11

Date Collected: 01/17/24 09:30
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 16:29	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 16:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 16:29	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 16:29	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 16:29	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 16:29	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 16:29	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 16:29	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 16:29	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 16:29	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 16:29	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 16:29	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 16:29	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 16:29	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 16:29	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 16:29	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 16:29	1
Acetone	25	U	50	25	ug/L			01/19/24 16:29	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 16:29	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 16:29	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 16:29	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 16:29	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 16:29	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 16:29	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 16:29	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 16:29	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 16:29	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 16:29	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/19/24 16:29	1

Client Sample ID: LC34-DPT0600-098.0-20240117
Lab Sample ID: 670-33331-11

Date Collected: 01/17/24 09:30
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 16:29	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 16:29	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 16:29	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 16:29	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 16:29	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 16:29	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 16:29	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 16:29	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 16:29	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 16:29	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 16:29	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 16:29	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 16:29	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 16:29	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/19/24 16:29	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 16:29	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/19/24 16:29	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 16:29	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/19/24 16:29	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/19/24 16:29*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/19/24 16:29*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/19/24 16:29*	*1*

Client Sample ID: LC34-DPT0596-008.0-20240117
Lab Sample ID: 670-33331-12

Date Collected: 01/17/24 10:35
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 13:41	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 13:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 13:41	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 13:41	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 13:41	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 13:41	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 13:41	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 13:41	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 13:41	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 13:41	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 13:41	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 13:41	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 13:41	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 13:41	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 13:41	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 13:41	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 13:41	1
Acetone	25	U	50	25	ug/L			01/19/24 13:41	1

Client Sample ID: LC34-DPT0596-008.0-20240117
Lab Sample ID: 670-33331-12

Date Collected: 01/17/24 10:35
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 13:41	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 13:41	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 13:41	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 13:41	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 13:41	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 13:41	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 13:41	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 13:41	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 13:41	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 13:41	1
cis-1,2-Dichloroethene	**64**		1.0	0.53	ug/L			01/19/24 13:41	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 13:41	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 13:41	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 13:41	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 13:41	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 13:41	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 13:41	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 13:41	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 13:41	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 13:41	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 13:41	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 13:41	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 13:41	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 13:41	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 13:41	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/19/24 13:41	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 13:41	1
Trichloroethene	**15**		1.0	0.89	ug/L			01/19/24 13:41	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 13:41	1
Vinyl chloride	**21**		1.0	0.71	ug/L			01/19/24 13:41	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 13:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/19/24 13:41*	*1*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/19/24 13:41*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/19/24 13:41*	*1*

Client Sample ID: LC34-DPT0596-013.0-20240117
Lab Sample ID: 670-33331-13

Date Collected: 01/17/24 10:50
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 12:47	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 12:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 12:47	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 12:47	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 12:47	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 12:47	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 12:47	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33331-1

Client Sample ID: LC34-DPT0596-013.0-20240117
Date Collected: 01/17/24 10:50
Date Received: 01/18/24 08:00

Lab Sample ID: 670-33331-13
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 12:47	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 12:47	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 12:47	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 12:47	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 12:47	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 12:47	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 12:47	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 12:47	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 12:47	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 12:47	1
Acetone	25	U	50	25	ug/L			01/19/24 12:47	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 12:47	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 12:47	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 12:47	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 12:47	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 12:47	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 12:47	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 12:47	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 12:47	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 12:47	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 12:47	1
cis-1,2-Dichloroethene	**2.2**		1.0	0.53	ug/L			01/19/24 12:47	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 12:47	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 12:47	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 12:47	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 12:47	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 12:47	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 12:47	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 12:47	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 12:47	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 12:47	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 12:47	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 12:47	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 12:47	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 12:47	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 12:47	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/19/24 12:47	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 12:47	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/19/24 12:47	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 12:47	1
Vinyl chloride	**2.2**		1.0	0.71	ug/L			01/19/24 12:47	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 12:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*41 - 142*		*01/19/24 12:47*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/19/24 12:47*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/19/24 12:47*	*1*

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0596-018.0-20240117
Lab Sample ID: 670-33331-14
Date Collected: 01/17/24 11:05
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 13:05	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 13:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 13:05	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 13:05	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 13:05	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 13:05	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 13:05	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 13:05	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 13:05	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 13:05	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 13:05	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 13:05	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 13:05	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 13:05	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 13:05	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 13:05	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 13:05	1
Acetone	25	U	50	25	ug/L			01/19/24 13:05	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 13:05	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 13:05	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 13:05	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 13:05	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 13:05	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 13:05	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 13:05	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 13:05	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 13:05	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 13:05	1
cis-1,2-Dichloroethene	**4.8**		1.0	0.53	ug/L			01/19/24 13:05	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 13:05	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 13:05	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 13:05	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 13:05	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 13:05	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 13:05	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 13:05	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 13:05	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 13:05	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 13:05	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 13:05	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 13:05	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 13:05	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 13:05	1
trans-1,2-Dichloroethene	**0.76**	**I**	1.0	0.73	ug/L			01/19/24 13:05	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 13:05	1
Trichloroethene	**1.4**		1.0	0.89	ug/L			01/19/24 13:05	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 13:05	1
Vinyl chloride	**4.9**		1.0	0.71	ug/L			01/19/24 13:05	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 13:05	1

Client Sample ID: LC34-DPT0596-018.0-20240117
Lab Sample ID: 670-33331-14

Date Collected: 01/17/24 11:05
Matrix: Water
Date Received: 01/18/24 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/19/24 13:05*	*1*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/19/24 13:05*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/19/24 13:05*	*1*

Client Sample ID: LC34-DPT0599-093.0-20240117
Lab Sample ID: 670-33331-15

Date Collected: 01/17/24 11:15
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			01/19/24 14:00	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			01/19/24 14:00	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			01/19/24 14:00	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			01/19/24 14:00	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			01/19/24 14:00	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			01/19/24 14:00	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			01/19/24 14:00	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			01/19/24 14:00	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			01/19/24 14:00	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			01/19/24 14:00	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			01/19/24 14:00	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			01/19/24 14:00	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			01/19/24 14:00	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			01/19/24 14:00	10
2-Butanone (MEK)	45	U	100	45	ug/L			01/19/24 14:00	10
2-Hexanone	25	U	200	25	ug/L			01/19/24 14:00	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			01/19/24 14:00	10
Acetone	250	U	500	250	ug/L			01/19/24 14:00	10
Benzene	7.1	U	10	7.1	ug/L			01/19/24 14:00	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			01/19/24 14:00	10
Bromoform	7.5	U	10	7.5	ug/L			01/19/24 14:00	10
Bromomethane	9.5	U	20	9.5	ug/L			01/19/24 14:00	10
Carbon disulfide	25	U	50	25	ug/L			01/19/24 14:00	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			01/19/24 14:00	10
Chlorobenzene	7.2	U	10	7.2	ug/L			01/19/24 14:00	10
Chloroethane	9.8	U	20	9.8	ug/L			01/19/24 14:00	10
Chloroform	8.0	U	50	8.0	ug/L			01/19/24 14:00	10
Chloromethane	8.2	U	20	8.2	ug/L			01/19/24 14:00	10
cis-1,2-Dichloroethene	**95**		10	5.3	ug/L			01/19/24 14:00	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			01/19/24 14:00	10
Cyclohexane	9.3	U	50	9.3	ug/L			01/19/24 14:00	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			01/19/24 14:00	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			01/19/24 14:00	10
Ethylbenzene	6.9	U	10	6.9	ug/L			01/19/24 14:00	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			01/19/24 14:00	10
m,p-Xylenes	13	U	20	13	ug/L			01/19/24 14:00	10
Methyl acetate	9.5	U	100	9.5	ug/L			01/19/24 14:00	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			01/19/24 14:00	10
Methylene Chloride	50	U	100	50	ug/L			01/19/24 14:00	10
o-Xylene	5.3	U	10	5.3	ug/L			01/19/24 14:00	10

Client Sample ID: LC34-DPT0599-093.0-20240117
Lab Sample ID: 670-33331-15

Date Collected: 01/17/24 11:15
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	6.1	U	10	6.1	ug/L			01/19/24 14:00	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			01/19/24 14:00	10
Toluene	7.2	U	10	7.2	ug/L			01/19/24 14:00	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			01/19/24 14:00	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			01/19/24 14:00	10
Trichloroethene	**890**		10	8.9	ug/L			01/19/24 14:00	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			01/19/24 14:00	10
Vinyl chloride	7.1	U	10	7.1	ug/L			01/19/24 14:00	10
Xylenes, Total	13	U	20	13	ug/L			01/19/24 14:00	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*41 - 142*		*01/19/24 14:00*	*10*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/19/24 14:00*	*10*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/19/24 14:00*	*10*

Client Sample ID: LC34-DPT0596-023.0-20240117
Lab Sample ID: 670-33331-16

Date Collected: 01/17/24 11:20
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 13:23	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 13:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 13:23	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 13:23	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 13:23	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 13:23	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 13:23	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 13:23	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 13:23	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 13:23	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 13:23	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 13:23	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 13:23	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 13:23	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 13:23	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 13:23	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 13:23	1
Acetone	25	U	50	25	ug/L			01/19/24 13:23	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 13:23	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 13:23	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 13:23	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 13:23	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 13:23	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 13:23	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 13:23	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 13:23	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 13:23	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 13:23	1
cis-1,2-Dichloroethene	**6.7**		1.0	0.53	ug/L			01/19/24 13:23	1

Client Sample ID: LC34-DPT0596-023.0-20240117
Lab Sample ID: 670-33331-16

Date Collected: 01/17/24 11:20
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 13:23	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 13:23	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 13:23	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 13:23	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 13:23	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 13:23	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 13:23	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 13:23	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 13:23	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 13:23	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 13:23	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 13:23	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 13:23	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 13:23	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/19/24 13:23	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 13:23	1
Trichloroethene	**1.4**		1.0	0.89	ug/L			01/19/24 13:23	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 13:23	1
Vinyl chloride	**10**		1.0	0.71	ug/L			01/19/24 13:23	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 13:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*01/19/24 13:23*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/19/24 13:23*	*1*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/19/24 13:23*	*1*

Client Sample ID: LC34-DPT0596-028.0-20240117
Lab Sample ID: 670-33331-17

Date Collected: 01/17/24 11:40
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	160	U	200	160	ug/L			01/19/24 16:32	200
1,1,2,2-Tetrachloroethane	110	U	200	110	ug/L			01/19/24 16:32	200
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	400	150	ug/L			01/19/24 16:32	200
1,1,2-Trichloroethane	150	U	400	150	ug/L			01/19/24 16:32	200
1,1-Dichloroethane	120	U	200	120	ug/L			01/19/24 16:32	200
1,1-Dichloroethene	190	U	200	190	ug/L			01/19/24 16:32	200
1,2,4-Trichlorobenzene	140	U	400	140	ug/L			01/19/24 16:32	200
1,2-Dibromo-3-Chloropropane	190	U	2000	190	ug/L			01/19/24 16:32	200
1,2-Dibromoethane (EDB)	160	U	2400	160	ug/L			01/19/24 16:32	200
1,2-Dichlorobenzene	150	U	200	150	ug/L			01/19/24 16:32	200
1,2-Dichloroethane	130	U	200	130	ug/L			01/19/24 16:32	200
1,2-Dichloropropane	160	U	200	160	ug/L			01/19/24 16:32	200
1,3-Dichlorobenzene	150	U	200	150	ug/L			01/19/24 16:32	200
1,4-Dichlorobenzene	150	U	200	150	ug/L			01/19/24 16:32	200
2-Butanone (MEK)	900	U	2000	900	ug/L			01/19/24 16:32	200
2-Hexanone	500	U	4000	500	ug/L			01/19/24 16:32	200
4-Methyl-2-pentanone	1000	U	4000	1000	ug/L			01/19/24 16:32	200
Acetone	5000	U	10000	5000	ug/L			01/19/24 16:32	200

Client Sample ID: LC34-DPT0596-028.0-20240117
Lab Sample ID: 670-33331-17

Date Collected: 01/17/24 11:40
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	140	U	200	140	ug/L			01/19/24 16:32	200
Bromodichloromethane	100	U	200	100	ug/L			01/19/24 16:32	200
Bromoform	150	U	200	150	ug/L			01/19/24 16:32	200
Bromomethane	190	U	400	190	ug/L			01/19/24 16:32	200
Carbon disulfide	500	U	1000	500	ug/L			01/19/24 16:32	200
Carbon tetrachloride	190	U	200	190	ug/L			01/19/24 16:32	200
Chlorobenzene	140	U	200	140	ug/L			01/19/24 16:32	200
Chloroethane	200	U	400	200	ug/L			01/19/24 16:32	200
Chloroform	160	U	1000	160	ug/L			01/19/24 16:32	200
Chloromethane	160	U	400	160	ug/L			01/19/24 16:32	200
cis-1,2-Dichloroethene	**8000**		200	110	ug/L			01/19/24 16:32	200
cis-1,3-Dichloropropene	120	U	200	120	ug/L			01/19/24 16:32	200
Cyclohexane	190	U	1000	190	ug/L			01/19/24 16:32	200
Dibromochloromethane	100	U	200	100	ug/L			01/19/24 16:32	200
Dichlorodifluoromethane	150	U	200	150	ug/L			01/19/24 16:32	200
Ethylbenzene	140	U	200	140	ug/L			01/19/24 16:32	200
Isopropylbenzene	130	U	400	130	ug/L			01/19/24 16:32	200
m,p-Xylenes	260	U	400	260	ug/L			01/19/24 16:32	200
Methyl acetate	190	U	2000	190	ug/L			01/19/24 16:32	200
Methyl tert-butyl ether	120	U	400	120	ug/L			01/19/24 16:32	200
Methylene Chloride	1000	U	2000	1000	ug/L			01/19/24 16:32	200
o-Xylene	110	U	200	110	ug/L			01/19/24 16:32	200
Styrene	120	U	200	120	ug/L			01/19/24 16:32	200
Tetrachloroethene	150	U	200	150	ug/L			01/19/24 16:32	200
Toluene	140	U	200	140	ug/L			01/19/24 16:32	200
trans-1,2-Dichloroethene	150	U	200	150	ug/L			01/19/24 16:32	200
trans-1,3-Dichloropropene	150	U	200	150	ug/L			01/19/24 16:32	200
Trichloroethene	180	U	200	180	ug/L			01/19/24 16:32	200
Trichlorofluoromethane	190	U	200	190	ug/L			01/19/24 16:32	200
Vinyl chloride	**2900**		200	140	ug/L			01/19/24 16:32	200
Xylenes, Total	260	U	400	260	ug/L			01/19/24 16:32	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/19/24 16:32*	*200*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/19/24 16:32*	*200*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/19/24 16:32*	*200*

Client Sample ID: LC34-DPT0599-098.0-20240117
Lab Sample ID: 670-33331-18

Date Collected: 01/17/24 11:50
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			01/19/24 14:20	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			01/19/24 14:20	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			01/19/24 14:20	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			01/19/24 14:20	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			01/19/24 14:20	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			01/19/24 14:20	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			01/19/24 14:20	10

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33331-1

Client Sample ID: LC34-DPT0599-098.0-20240117
Date Collected: 01/17/24 11:50
Date Received: 01/18/24 08:00

Lab Sample ID: 670-33331-18
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			01/19/24 14:20	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			01/19/24 14:20	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			01/19/24 14:20	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			01/19/24 14:20	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			01/19/24 14:20	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			01/19/24 14:20	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			01/19/24 14:20	10
2-Butanone (MEK)	45	U	100	45	ug/L			01/19/24 14:20	10
2-Hexanone	25	U	200	25	ug/L			01/19/24 14:20	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			01/19/24 14:20	10
Acetone	250	U	500	250	ug/L			01/19/24 14:20	10
Benzene	7.1	U	10	7.1	ug/L			01/19/24 14:20	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			01/19/24 14:20	10
Bromoform	7.5	U	10	7.5	ug/L			01/19/24 14:20	10
Bromomethane	9.5	U	20	9.5	ug/L			01/19/24 14:20	10
Carbon disulfide	25	U	50	25	ug/L			01/19/24 14:20	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			01/19/24 14:20	10
Chlorobenzene	7.2	U	10	7.2	ug/L			01/19/24 14:20	10
Chloroethane	9.8	U	20	9.8	ug/L			01/19/24 14:20	10
Chloroform	8.0	U	50	8.0	ug/L			01/19/24 14:20	10
Chloromethane	8.2	U	20	8.2	ug/L			01/19/24 14:20	10
cis-1,2-Dichloroethene	**41**		10	5.3	ug/L			01/19/24 14:20	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			01/19/24 14:20	10
Cyclohexane	9.3	U	50	9.3	ug/L			01/19/24 14:20	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			01/19/24 14:20	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			01/19/24 14:20	10
Ethylbenzene	6.9	U	10	6.9	ug/L			01/19/24 14:20	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			01/19/24 14:20	10
m,p-Xylenes	13	U	20	13	ug/L			01/19/24 14:20	10
Methyl acetate	9.5	U	100	9.5	ug/L			01/19/24 14:20	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			01/19/24 14:20	10
Methylene Chloride	50	U	100	50	ug/L			01/19/24 14:20	10
o-Xylene	5.3	U	10	5.3	ug/L			01/19/24 14:20	10
Styrene	6.1	U	10	6.1	ug/L			01/19/24 14:20	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			01/19/24 14:20	10
Toluene	7.2	U	10	7.2	ug/L			01/19/24 14:20	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			01/19/24 14:20	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			01/19/24 14:20	10
Trichloroethene	**1600**		25	22	ug/L			01/22/24 18:09	25
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			01/19/24 14:20	10
Vinyl chloride	7.1	U	10	7.1	ug/L			01/19/24 14:20	10
Xylenes, Total	13	U	20	13	ug/L			01/19/24 14:20	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*41 - 142*		*01/19/24 14:20*	*10*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/22/24 18:09*	*25*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*01/19/24 14:20*	*10*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*01/22/24 18:09*	*25*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/19/24 14:20*	*10*
Toluene-d8 (Surr)	*107*		*40 - 146*		*01/22/24 18:09*	*25*

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0596-033.0-20240117
Lab Sample ID: 670-33331-19
Date Collected: 01/17/24 11:55
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			01/19/24 16:49	500
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			01/19/24 16:49	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			01/19/24 16:49	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			01/19/24 16:49	500
1,1-Dichloroethane	310	U	500	310	ug/L			01/19/24 16:49	500
1,1-Dichloroethene	470	U	500	470	ug/L			01/19/24 16:49	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			01/19/24 16:49	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			01/19/24 16:49	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			01/19/24 16:49	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			01/19/24 16:49	500
1,2-Dichloroethane	320	U	500	320	ug/L			01/19/24 16:49	500
1,2-Dichloropropane	400	U	500	400	ug/L			01/19/24 16:49	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			01/19/24 16:49	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			01/19/24 16:49	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			01/19/24 16:49	500
2-Hexanone	1300	U	10000	1300	ug/L			01/19/24 16:49	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			01/19/24 16:49	500
Acetone	13000	U	25000	13000	ug/L			01/19/24 16:49	500
Benzene	360	U	500	360	ug/L			01/19/24 16:49	500
Bromodichloromethane	260	U	500	260	ug/L			01/19/24 16:49	500
Bromoform	380	U	500	380	ug/L			01/19/24 16:49	500
Bromomethane	480	U	1000	480	ug/L			01/19/24 16:49	500
Carbon disulfide	1300	U	2500	1300	ug/L			01/19/24 16:49	500
Carbon tetrachloride	470	U	500	470	ug/L			01/19/24 16:49	500
Chlorobenzene	360	U	500	360	ug/L			01/19/24 16:49	500
Chloroethane	490	U	1000	490	ug/L			01/19/24 16:49	500
Chloroform	400	U	2500	400	ug/L			01/19/24 16:49	500
Chloromethane	410	U	1000	410	ug/L			01/19/24 16:49	500
cis-1,2-Dichloroethene	**34000**		500	270	ug/L			01/19/24 16:49	500
cis-1,3-Dichloropropene	300	U	500	300	ug/L			01/19/24 16:49	500
Cyclohexane	470	U	2500	470	ug/L			01/19/24 16:49	500
Dibromochloromethane	250	U	500	250	ug/L			01/19/24 16:49	500
Dichlorodifluoromethane	370	U	500	370	ug/L			01/19/24 16:49	500
Ethylbenzene	350	U	500	350	ug/L			01/19/24 16:49	500
Isopropylbenzene	340	U	1000	340	ug/L			01/19/24 16:49	500
m,p-Xylenes	650	U	1000	650	ug/L			01/19/24 16:49	500
Methyl acetate	480	U	5000	480	ug/L			01/19/24 16:49	500
Methyl tert-butyl ether	300	U	1000	300	ug/L			01/19/24 16:49	500
Methylene Chloride	2500	U	5000	2500	ug/L			01/19/24 16:49	500
o-Xylene	270	U	500	270	ug/L			01/19/24 16:49	500
Styrene	310	U	500	310	ug/L			01/19/24 16:49	500
Tetrachloroethene	380	U	500	380	ug/L			01/19/24 16:49	500
Toluene	360	U	500	360	ug/L			01/19/24 16:49	500
trans-1,2-Dichloroethene	370	U	500	370	ug/L			01/19/24 16:49	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			01/19/24 16:49	500
Trichloroethene	450	U	500	450	ug/L			01/19/24 16:49	500
Trichlorofluoromethane	470	U	500	470	ug/L			01/19/24 16:49	500
Vinyl chloride	**9600**		500	360	ug/L			01/19/24 16:49	500
Xylenes, Total	650	U	1000	650	ug/L			01/19/24 16:49	500

Client Sample ID: LC34-DPT0596-033.0-20240117

Lab Sample ID: 670-33331-19

Date Collected: 01/17/24 11:55

Matrix: Water

Date Received: 01/18/24 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*01/19/24 16:49*	*500*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/19/24 16:49*	*500*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/19/24 16:49*	*500*

Client Sample ID: LC34-DPT0596-038.0-20240117

Lab Sample ID: 670-33331-20

Date Collected: 01/17/24 12:15

Matrix: Water

Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			01/19/24 17:07	500
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			01/19/24 17:07	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			01/19/24 17:07	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			01/19/24 17:07	500
1,1-Dichloroethane	310	U	500	310	ug/L			01/19/24 17:07	500
1,1-Dichloroethene	470	U	500	470	ug/L			01/19/24 17:07	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			01/19/24 17:07	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			01/19/24 17:07	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			01/19/24 17:07	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			01/19/24 17:07	500
1,2-Dichloroethane	320	U	500	320	ug/L			01/19/24 17:07	500
1,2-Dichloropropane	400	U	500	400	ug/L			01/19/24 17:07	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			01/19/24 17:07	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			01/19/24 17:07	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			01/19/24 17:07	500
2-Hexanone	1300	U	10000	1300	ug/L			01/19/24 17:07	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			01/19/24 17:07	500
Acetone	13000	U	25000	13000	ug/L			01/19/24 17:07	500
Benzene	360	U	500	360	ug/L			01/19/24 17:07	500
Bromodichloromethane	260	U	500	260	ug/L			01/19/24 17:07	500
Bromoform	380	U	500	380	ug/L			01/19/24 17:07	500
Bromomethane	480	U	1000	480	ug/L			01/19/24 17:07	500
Carbon disulfide	1300	U	2500	1300	ug/L			01/19/24 17:07	500
Carbon tetrachloride	470	U	500	470	ug/L			01/19/24 17:07	500
Chlorobenzene	360	U	500	360	ug/L			01/19/24 17:07	500
Chloroethane	490	U	1000	490	ug/L			01/19/24 17:07	500
Chloroform	400	U	2500	400	ug/L			01/19/24 17:07	500
Chloromethane	410	U	1000	410	ug/L			01/19/24 17:07	500
cis-1,2-Dichloroethene	**29000**		500	270	ug/L			01/19/24 17:07	500
cis-1,3-Dichloropropene	300	U	500	300	ug/L			01/19/24 17:07	500
Cyclohexane	470	U	2500	470	ug/L			01/19/24 17:07	500
Dibromochloromethane	250	U	500	250	ug/L			01/19/24 17:07	500
Dichlorodifluoromethane	370	U	500	370	ug/L			01/19/24 17:07	500
Ethylbenzene	350	U	500	350	ug/L			01/19/24 17:07	500
Isopropylbenzene	340	U	1000	340	ug/L			01/19/24 17:07	500
m,p-Xylenes	650	U	1000	650	ug/L			01/19/24 17:07	500
Methyl acetate	480	U	5000	480	ug/L			01/19/24 17:07	500
Methyl tert-butyl ether	300	U	1000	300	ug/L			01/19/24 17:07	500
Methylene Chloride	2500	U	5000	2500	ug/L			01/19/24 17:07	500
o-Xylene	270	U	500	270	ug/L			01/19/24 17:07	500

Client Sample ID: LC34-DPT0596-038.0-20240117
Lab Sample ID: 670-33331-20

Date Collected: 01/17/24 12:15
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	310	U	500	310	ug/L			01/19/24 17:07	500
Tetrachloroethene	380	U	500	380	ug/L			01/19/24 17:07	500
Toluene	360	U	500	360	ug/L			01/19/24 17:07	500
trans-1,2-Dichloroethene	**490**	**I**	500	370	ug/L			01/19/24 17:07	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			01/19/24 17:07	500
Trichloroethene	450	U	500	450	ug/L			01/19/24 17:07	500
Trichlorofluoromethane	470	U	500	470	ug/L			01/19/24 17:07	500
Vinyl chloride	**12000**		500	360	ug/L			01/19/24 17:07	500
Xylenes, Total	650	U	1000	650	ug/L			01/19/24 17:07	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/19/24 17:07*	*500*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/19/24 17:07*	*500*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/19/24 17:07*	*500*

Client Sample ID: LC34-DPT0596-048.0-20240117
Lab Sample ID: 670-33331-21

Date Collected: 01/17/24 12:40
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/19/24 17:25	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/19/24 17:25	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/19/24 17:25	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/19/24 17:25	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/19/24 17:25	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/19/24 17:25	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/19/24 17:25	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/19/24 17:25	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/19/24 17:25	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/19/24 17:25	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/19/24 17:25	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/19/24 17:25	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/19/24 17:25	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/19/24 17:25	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/19/24 17:25	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/19/24 17:25	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/19/24 17:25	1000
Acetone	25000	U	50000	25000	ug/L			01/19/24 17:25	1000
Benzene	710	U	1000	710	ug/L			01/19/24 17:25	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/19/24 17:25	1000
Bromoform	750	U	1000	750	ug/L			01/19/24 17:25	1000
Bromomethane	950	U	2000	950	ug/L			01/19/24 17:25	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/19/24 17:25	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/19/24 17:25	1000
Chlorobenzene	720	U	1000	720	ug/L			01/19/24 17:25	1000
Chloroethane	980	U	2000	980	ug/L			01/19/24 17:25	1000
Chloroform	800	U	5000	800	ug/L			01/19/24 17:25	1000
Chloromethane	820	U	2000	820	ug/L			01/19/24 17:25	1000
cis-1,2-Dichloroethene	**59000**		1000	530	ug/L			01/19/24 17:25	1000

Client Sample ID: LC34-DPT0596-048.0-20240117
Lab Sample ID: 670-33331-21

Date Collected: 01/17/24 12:40
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/19/24 17:25	1000
Cyclohexane	930	U	5000	930	ug/L			01/19/24 17:25	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/19/24 17:25	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/19/24 17:25	1000
Ethylbenzene	690	U	1000	690	ug/L			01/19/24 17:25	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/19/24 17:25	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/19/24 17:25	1000
Methyl acetate	950	U	10000	950	ug/L			01/19/24 17:25	1000
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/19/24 17:25	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/19/24 17:25	1000
o-Xylene	530	U	1000	530	ug/L			01/19/24 17:25	1000
Styrene	610	U	1000	610	ug/L			01/19/24 17:25	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/19/24 17:25	1000
Toluene	720	U	1000	720	ug/L			01/19/24 17:25	1000
trans-1,2-Dichloroethene	**1400**		1000	730	ug/L			01/19/24 17:25	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/19/24 17:25	1000
Trichloroethene	890	U	1000	890	ug/L			01/19/24 17:25	1000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/19/24 17:25	1000
Vinyl chloride	**24000**		1000	710	ug/L			01/19/24 17:25	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/19/24 17:25	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/19/24 17:25*	*1000*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/19/24 17:25*	*1000*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/19/24 17:25*	*1000*

Client Sample ID: LC34-DPT0596-048.0-20240117
Lab Sample ID: 670-33331-22

Date Collected: 01/17/24 13:00
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8000	U	10000	8000	ug/L			01/19/24 17:43	10000
1,1,2,2-Tetrachloroethane	5400	U	10000	5400	ug/L			01/19/24 17:43	10000
1,1,2-Trichloro-1,2,2-trifluoroethane	7300	U	20000	7300	ug/L			01/19/24 17:43	10000
1,1,2-Trichloroethane	7600	U	20000	7600	ug/L			01/19/24 17:43	10000
1,1-Dichloroethane	6200	U	10000	6200	ug/L			01/19/24 17:43	10000
1,1-Dichloroethene	9400	U	10000	9400	ug/L			01/19/24 17:43	10000
1,2,4-Trichlorobenzene	7000	U	20000	7000	ug/L			01/19/24 17:43	10000
1,2-Dibromo-3-Chloropropane	9600	U	100000	9600	ug/L			01/19/24 17:43	10000
1,2-Dibromoethane (EDB)	7800	U	120000	7800	ug/L			01/19/24 17:43	10000
1,2-Dichlorobenzene	7300	U	10000	7300	ug/L			01/19/24 17:43	10000
1,2-Dichloroethane	6300	U	10000	6300	ug/L			01/19/24 17:43	10000
1,2-Dichloropropane	8000	U	10000	8000	ug/L			01/19/24 17:43	10000
1,3-Dichlorobenzene	7700	U	10000	7700	ug/L			01/19/24 17:43	10000
1,4-Dichlorobenzene	7600	U	10000	7600	ug/L			01/19/24 17:43	10000
2-Butanone (MEK)	45000	U	100000	45000	ug/L			01/19/24 17:43	10000
2-Hexanone	25000	U	200000	25000	ug/L			01/19/24 17:43	10000
4-Methyl-2-pentanone	50000	U	200000	50000	ug/L			01/19/24 17:43	10000
Acetone	250000	U	500000	250000	ug/L			01/19/24 17:43	10000

Client Sample ID: LC34-DPT0596-048.0-20240117
Lab Sample ID: 670-33331-22

Date Collected: 01/17/24 13:00
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	7100	U	10000	7100	ug/L			01/19/24 17:43	10000
Bromodichloromethane	5200	U	10000	5200	ug/L			01/19/24 17:43	10000
Bromoform	7500	U	10000	7500	ug/L			01/19/24 17:43	10000
Bromomethane	9500	U	20000	9500	ug/L			01/19/24 17:43	10000
Carbon disulfide	25000	U	50000	25000	ug/L			01/19/24 17:43	10000
Carbon tetrachloride	9400	U	10000	9400	ug/L			01/19/24 17:43	10000
Chlorobenzene	7200	U	10000	7200	ug/L			01/19/24 17:43	10000
Chloroethane	9800	U	20000	9800	ug/L			01/19/24 17:43	10000
Chloroform	8000	U	50000	8000	ug/L			01/19/24 17:43	10000
Chloromethane	8200	U	20000	8200	ug/L			01/19/24 17:43	10000
cis-1,2-Dichloroethene	**160000**		10000	5300	ug/L			01/19/24 17:43	10000
cis-1,3-Dichloropropene	5900	U	10000	5900	ug/L			01/19/24 17:43	10000
Cyclohexane	9300	U	50000	9300	ug/L			01/19/24 17:43	10000
Dibromochloromethane	5000	U	10000	5000	ug/L			01/19/24 17:43	10000
Dichlorodifluoromethane	7400	U	10000	7400	ug/L			01/19/24 17:43	10000
Ethylbenzene	6900	U	10000	6900	ug/L			01/19/24 17:43	10000
Isopropylbenzene	6700	U	20000	6700	ug/L			01/19/24 17:43	10000
m,p-Xylenes	13000	U	20000	13000	ug/L			01/19/24 17:43	10000
Methyl acetate	9500	U	100000	9500	ug/L			01/19/24 17:43	10000
Methyl tert-butyl ether	6000	U	20000	6000	ug/L			01/19/24 17:43	10000
Methylene Chloride	50000	U	100000	50000	ug/L			01/19/24 17:43	10000
o-Xylene	5300	U	10000	5300	ug/L			01/19/24 17:43	10000
Styrene	6100	U	10000	6100	ug/L			01/19/24 17:43	10000
Tetrachloroethene	7600	U	10000	7600	ug/L			01/19/24 17:43	10000
Toluene	7200	U	10000	7200	ug/L			01/19/24 17:43	10000
trans-1,2-Dichloroethene	7300	U	10000	7300	ug/L			01/19/24 17:43	10000
trans-1,3-Dichloropropene	7300	U	10000	7300	ug/L			01/19/24 17:43	10000
Trichloroethene	**1300000**		20000	18000	ug/L			01/22/24 21:26	20000
Trichlorofluoromethane	9400	U	10000	9400	ug/L			01/19/24 17:43	10000
Vinyl chloride	**28000**		10000	7100	ug/L			01/19/24 17:43	10000
Xylenes, Total	13000	U	20000	13000	ug/L			01/19/24 17:43	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/19/24 17:43*	*10000*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/22/24 21:26*	*20000*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/19/24 17:43*	*10000*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/22/24 21:26*	*20000*
Toluene-d8 (Surr)	*103*		*40 - 146*		*01/19/24 17:43*	*10000*
Toluene-d8 (Surr)	*104*		*40 - 146*		*01/22/24 21:26*	*20000*

Client Sample ID: LC34-DPT0598-008.0-20240117
Lab Sample ID: 670-33331-23

Date Collected: 01/17/24 13:05
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	40	U	50	40	ug/L			01/19/24 15:38	50
1,1,2,2-Tetrachloroethane	27	U	50	27	ug/L			01/19/24 15:38	50
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	100	37	ug/L			01/19/24 15:38	50
1,1,2-Trichloroethane	38	U	100	38	ug/L			01/19/24 15:38	50

Client Sample ID: LC34-DPT0598-008.0-20240117
Lab Sample ID: 670-33331-23
Date Collected: 01/17/24 13:05
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	31	U	50	31	ug/L			01/19/24 15:38	50
1,1-Dichloroethene	47	U	50	47	ug/L			01/19/24 15:38	50
1,2,4-Trichlorobenzene	35	U	100	35	ug/L			01/19/24 15:38	50
1,2-Dibromo-3-Chloropropane	48	U	500	48	ug/L			01/19/24 15:38	50
1,2-Dibromoethane (EDB)	39	U	600	39	ug/L			01/19/24 15:38	50
1,2-Dichlorobenzene	37	U	50	37	ug/L			01/19/24 15:38	50
1,2-Dichloroethane	32	U	50	32	ug/L			01/19/24 15:38	50
1,2-Dichloropropane	40	U	50	40	ug/L			01/19/24 15:38	50
1,3-Dichlorobenzene	39	U	50	39	ug/L			01/19/24 15:38	50
1,4-Dichlorobenzene	38	U	50	38	ug/L			01/19/24 15:38	50
2-Butanone (MEK)	230	U	500	230	ug/L			01/19/24 15:38	50
2-Hexanone	130	U	1000	130	ug/L			01/19/24 15:38	50
4-Methyl-2-pentanone	250	U	1000	250	ug/L			01/19/24 15:38	50
Acetone	1300	U	2500	1300	ug/L			01/19/24 15:38	50
Benzene	36	U	50	36	ug/L			01/19/24 15:38	50
Bromodichloromethane	26	U	50	26	ug/L			01/19/24 15:38	50
Bromoform	38	U	50	38	ug/L			01/19/24 15:38	50
Bromomethane	48	U	100	48	ug/L			01/19/24 15:38	50
Carbon disulfide	130	U	250	130	ug/L			01/19/24 15:38	50
Carbon tetrachloride	47	U	50	47	ug/L			01/19/24 15:38	50
Chlorobenzene	36	U	50	36	ug/L			01/19/24 15:38	50
Chloroethane	49	U	100	49	ug/L			01/19/24 15:38	50
Chloroform	40	U	250	40	ug/L			01/19/24 15:38	50
Chloromethane	41	U	100	41	ug/L			01/19/24 15:38	50
cis-1,2-Dichloroethene	**960**		50	27	ug/L			01/19/24 15:38	50
cis-1,3-Dichloropropene	30	U	50	30	ug/L			01/19/24 15:38	50
Cyclohexane	47	U	250	47	ug/L			01/19/24 15:38	50
Dibromochloromethane	25	U	50	25	ug/L			01/19/24 15:38	50
Dichlorodifluoromethane	37	U	50	37	ug/L			01/19/24 15:38	50
Ethylbenzene	35	U	50	35	ug/L			01/19/24 15:38	50
Isopropylbenzene	34	U	100	34	ug/L			01/19/24 15:38	50
m,p-Xylenes	65	U	100	65	ug/L			01/19/24 15:38	50
Methyl acetate	48	U	500	48	ug/L			01/19/24 15:38	50
Methyl tert-butyl ether	30	U	100	30	ug/L			01/19/24 15:38	50
Methylene Chloride	250	U	500	250	ug/L			01/19/24 15:38	50
o-Xylene	27	U	50	27	ug/L			01/19/24 15:38	50
Styrene	31	U	50	31	ug/L			01/19/24 15:38	50
Tetrachloroethene	38	U	50	38	ug/L			01/19/24 15:38	50
Toluene	36	U	50	36	ug/L			01/19/24 15:38	50
trans-1,2-Dichloroethene	37	U	50	37	ug/L			01/19/24 15:38	50
trans-1,3-Dichloropropene	37	U	50	37	ug/L			01/19/24 15:38	50
Trichloroethene	45	U	50	45	ug/L			01/19/24 15:38	50
Trichlorofluoromethane	47	U	50	47	ug/L			01/19/24 15:38	50
Vinyl chloride	36	U	50	36	ug/L			01/19/24 15:38	50
Xylenes, Total	65	U	100	65	ug/L			01/19/24 15:38	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*01/19/24 15:38*	*50*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/19/24 15:38*	*50*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/19/24 15:38*	*50*

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0598-013.0-20240117
Lab Sample ID: 670-33331-24
Date Collected: 01/17/24 13:20
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/22/24 15:49	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/22/24 15:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/22/24 15:49	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/22/24 15:49	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/22/24 15:49	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/22/24 15:49	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/22/24 15:49	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/22/24 15:49	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/22/24 15:49	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/22/24 15:49	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/22/24 15:49	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/22/24 15:49	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/22/24 15:49	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/22/24 15:49	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/22/24 15:49	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/22/24 15:49	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/22/24 15:49	1
Acetone	25	U	50	25	ug/L			01/22/24 15:49	1
Benzene	0.71	U	1.0	0.71	ug/L			01/22/24 15:49	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/22/24 15:49	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/22/24 15:49	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/22/24 15:49	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/22/24 15:49	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/22/24 15:49	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/22/24 15:49	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/22/24 15:49	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/22/24 15:49	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/22/24 15:49	1
cis-1,2-Dichloroethene	**32**		1.0	0.53	ug/L			01/22/24 15:49	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/22/24 15:49	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/22/24 15:49	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/22/24 15:49	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/22/24 15:49	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/22/24 15:49	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/22/24 15:49	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/22/24 15:49	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/22/24 15:49	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/22/24 15:49	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/22/24 15:49	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/22/24 15:49	1
Styrene	0.61	U	1.0	0.61	ug/L			01/22/24 15:49	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/22/24 15:49	1
Toluene	0.72	U	1.0	0.72	ug/L			01/22/24 15:49	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/22/24 15:49	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/22/24 15:49	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/22/24 15:49	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/22/24 15:49	1
Vinyl chloride	**1.9**		1.0	0.71	ug/L			01/22/24 15:49	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/22/24 15:49	1

Client Sample ID: LC34-DPT0598-013.0-20240117
Lab Sample ID: 670-33331-24

Date Collected: 01/17/24 13:20
Matrix: Water
Date Received: 01/18/24 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/22/24 15:49*	*1*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*01/22/24 15:49*	*1*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/22/24 15:49*	*1*

Client Sample ID: LC34-DPT0596-053.0-20240117
Lab Sample ID: 670-33331-25

Date Collected: 01/17/24 13:25
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8000	U	10000	8000	ug/L			01/19/24 18:00	10000
1,1,2,2-Tetrachloroethane	5400	U	10000	5400	ug/L			01/19/24 18:00	10000
1,1,2-Trichloro-1,2,2-trifluoroethane	7300	U	20000	7300	ug/L			01/19/24 18:00	10000
1,1,2-Trichloroethane	7600	U	20000	7600	ug/L			01/19/24 18:00	10000
1,1-Dichloroethane	6200	U	10000	6200	ug/L			01/19/24 18:00	10000
1,1-Dichloroethene	9400	U	10000	9400	ug/L			01/19/24 18:00	10000
1,2,4-Trichlorobenzene	7000	U	20000	7000	ug/L			01/19/24 18:00	10000
1,2-Dibromo-3-Chloropropane	9600	U	100000	9600	ug/L			01/19/24 18:00	10000
1,2-Dibromoethane (EDB)	7800	U	120000	7800	ug/L			01/19/24 18:00	10000
1,2-Dichlorobenzene	7300	U	10000	7300	ug/L			01/19/24 18:00	10000
1,2-Dichloroethane	6300	U	10000	6300	ug/L			01/19/24 18:00	10000
1,2-Dichloropropane	8000	U	10000	8000	ug/L			01/19/24 18:00	10000
1,3-Dichlorobenzene	7700	U	10000	7700	ug/L			01/19/24 18:00	10000
1,4-Dichlorobenzene	7600	U	10000	7600	ug/L			01/19/24 18:00	10000
2-Butanone (MEK)	45000	U	100000	45000	ug/L			01/19/24 18:00	10000
2-Hexanone	25000	U	200000	25000	ug/L			01/19/24 18:00	10000
4-Methyl-2-pentanone	50000	U	200000	50000	ug/L			01/19/24 18:00	10000
Acetone	250000	U	500000	250000	ug/L			01/19/24 18:00	10000
Benzene	7100	U	10000	7100	ug/L			01/19/24 18:00	10000
Bromodichloromethane	5200	U	10000	5200	ug/L			01/19/24 18:00	10000
Bromoform	7500	U	10000	7500	ug/L			01/19/24 18:00	10000
Bromomethane	9500	U	20000	9500	ug/L			01/19/24 18:00	10000
Carbon disulfide	25000	U	50000	25000	ug/L			01/19/24 18:00	10000
Carbon tetrachloride	9400	U	10000	9400	ug/L			01/19/24 18:00	10000
Chlorobenzene	7200	U	10000	7200	ug/L			01/19/24 18:00	10000
Chloroethane	9800	U	20000	9800	ug/L			01/19/24 18:00	10000
Chloroform	8000	U	50000	8000	ug/L			01/19/24 18:00	10000
Chloromethane	8200	U	20000	8200	ug/L			01/19/24 18:00	10000
cis-1,2-Dichloroethene	**160000**		10000	5300	ug/L			01/19/24 18:00	10000
cis-1,3-Dichloropropene	5900	U	10000	5900	ug/L			01/19/24 18:00	10000
Cyclohexane	9300	U	50000	9300	ug/L			01/19/24 18:00	10000
Dibromochloromethane	5000	U	10000	5000	ug/L			01/19/24 18:00	10000
Dichlorodifluoromethane	7400	U	10000	7400	ug/L			01/19/24 18:00	10000
Ethylbenzene	6900	U	10000	6900	ug/L			01/19/24 18:00	10000
Isopropylbenzene	6700	U	20000	6700	ug/L			01/19/24 18:00	10000
m,p-Xylenes	13000	U	20000	13000	ug/L			01/19/24 18:00	10000
Methyl acetate	9500	U	100000	9500	ug/L			01/19/24 18:00	10000
Methyl tert-butyl ether	6000	U	20000	6000	ug/L			01/19/24 18:00	10000
Methylene Chloride	50000	U	100000	50000	ug/L			01/19/24 18:00	10000
o-Xylene	5300	U	10000	5300	ug/L			01/19/24 18:00	10000

Client Sample ID: LC34-DPT0596-053.0-20240117
Lab Sample ID: 670-33331-25

Date Collected: 01/17/24 13:25
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	6100	U	10000	6100	ug/L			01/19/24 18:00	10000
Tetrachloroethene	7600	U	10000	7600	ug/L			01/19/24 18:00	10000
Toluene	7200	U	10000	7200	ug/L			01/19/24 18:00	10000
trans-1,2-Dichloroethene	7300	U	10000	7300	ug/L			01/19/24 18:00	10000
trans-1,3-Dichloropropene	7300	U	10000	7300	ug/L			01/19/24 18:00	10000
Trichloroethene	**600000**		10000	8900	ug/L			01/19/24 18:00	10000
Trichlorofluoromethane	9400	U	10000	9400	ug/L			01/19/24 18:00	10000
Vinyl chloride	**24000**		10000	7100	ug/L			01/19/24 18:00	10000
Xylenes, Total	13000	U	20000	13000	ug/L			01/19/24 18:00	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/19/24 18:00*	*10000*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/19/24 18:00*	*10000*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/19/24 18:00*	*10000*

Client Sample ID: LC34-DPT0598-018.0-20240117
Lab Sample ID: 670-33331-26

Date Collected: 01/17/24 13:40
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/22/24 16:10	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/22/24 16:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/22/24 16:10	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/22/24 16:10	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/22/24 16:10	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/22/24 16:10	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/22/24 16:10	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/22/24 16:10	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/22/24 16:10	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/22/24 16:10	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/22/24 16:10	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/22/24 16:10	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/22/24 16:10	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/22/24 16:10	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/22/24 16:10	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/22/24 16:10	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/22/24 16:10	1
Acetone	25	U	50	25	ug/L			01/22/24 16:10	1
Benzene	0.71	U	1.0	0.71	ug/L			01/22/24 16:10	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/22/24 16:10	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/22/24 16:10	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/22/24 16:10	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/22/24 16:10	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/22/24 16:10	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/22/24 16:10	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/22/24 16:10	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/22/24 16:10	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/22/24 16:10	1
cis-1,2-Dichloroethene	**90**		1.0	0.53	ug/L			01/22/24 16:10	1

Client Sample ID: LC34-DPT0598-018.0-20240117
Lab Sample ID: 670-33331-26

Date Collected: 01/17/24 13:40
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/22/24 16:10	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/22/24 16:10	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/22/24 16:10	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/22/24 16:10	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/22/24 16:10	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/22/24 16:10	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/22/24 16:10	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/22/24 16:10	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/22/24 16:10	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/22/24 16:10	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/22/24 16:10	1
Styrene	0.61	U	1.0	0.61	ug/L			01/22/24 16:10	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/22/24 16:10	1
Toluene	0.72	U	1.0	0.72	ug/L			01/22/24 16:10	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/22/24 16:10	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/22/24 16:10	1
Trichloroethene	**1.7**		1.0	0.89	ug/L			01/22/24 16:10	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/22/24 16:10	1
Vinyl chloride	**11**		1.0	0.71	ug/L			01/22/24 16:10	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/22/24 16:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/22/24 16:10*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/22/24 16:10*	*1*
Toluene-d8 (Surr)	*107*		*40 - 146*		*01/22/24 16:10*	*1*

Client Sample ID: LC34-DPT0596-058.0-20240117
Lab Sample ID: 670-33331-27

Date Collected: 01/17/24 13:50
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8000	U	10000	8000	ug/L			01/19/24 18:18	10000
1,1,2,2-Tetrachloroethane	5400	U	10000	5400	ug/L			01/19/24 18:18	10000
1,1,2-Trichloro-1,2,2-trifluoroethane	7300	U	20000	7300	ug/L			01/19/24 18:18	10000
1,1,2-Trichloroethane	7600	U	20000	7600	ug/L			01/19/24 18:18	10000
1,1-Dichloroethane	6200	U	10000	6200	ug/L			01/19/24 18:18	10000
1,1-Dichloroethene	9400	U	10000	9400	ug/L			01/19/24 18:18	10000
1,2,4-Trichlorobenzene	7000	U	20000	7000	ug/L			01/19/24 18:18	10000
1,2-Dibromo-3-Chloropropane	9600	U	100000	9600	ug/L			01/19/24 18:18	10000
1,2-Dibromoethane (EDB)	7800	U	120000	7800	ug/L			01/19/24 18:18	10000
1,2-Dichlorobenzene	7300	U	10000	7300	ug/L			01/19/24 18:18	10000
1,2-Dichloroethane	6300	U	10000	6300	ug/L			01/19/24 18:18	10000
1,2-Dichloropropane	8000	U	10000	8000	ug/L			01/19/24 18:18	10000
1,3-Dichlorobenzene	7700	U	10000	7700	ug/L			01/19/24 18:18	10000
1,4-Dichlorobenzene	7600	U	10000	7600	ug/L			01/19/24 18:18	10000
2-Butanone (MEK)	45000	U	100000	45000	ug/L			01/19/24 18:18	10000
2-Hexanone	25000	U	200000	25000	ug/L			01/19/24 18:18	10000
4-Methyl-2-pentanone	50000	U	200000	50000	ug/L			01/19/24 18:18	10000
Acetone	250000	U	500000	250000	ug/L			01/19/24 18:18	10000

Client Sample ID: LC34-DPT0596-058.0-20240117
Lab Sample ID: 670-33331-27

Date Collected: 01/17/24 13:50
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	7100	U	10000	7100	ug/L			01/19/24 18:18	10000
Bromodichloromethane	5200	U	10000	5200	ug/L			01/19/24 18:18	10000
Bromoform	7500	U	10000	7500	ug/L			01/19/24 18:18	10000
Bromomethane	9500	U	20000	9500	ug/L			01/19/24 18:18	10000
Carbon disulfide	25000	U	50000	25000	ug/L			01/19/24 18:18	10000
Carbon tetrachloride	9400	U	10000	9400	ug/L			01/19/24 18:18	10000
Chlorobenzene	7200	U	10000	7200	ug/L			01/19/24 18:18	10000
Chloroethane	9800	U	20000	9800	ug/L			01/19/24 18:18	10000
Chloroform	8000	U	50000	8000	ug/L			01/19/24 18:18	10000
Chloromethane	8200	U	20000	8200	ug/L			01/19/24 18:18	10000
cis-1,2-Dichloroethene	**270000**		10000	5300	ug/L			01/19/24 18:18	10000
cis-1,3-Dichloropropene	5900	U	10000	5900	ug/L			01/19/24 18:18	10000
Cyclohexane	9300	U	50000	9300	ug/L			01/19/24 18:18	10000
Dibromochloromethane	5000	U	10000	5000	ug/L			01/19/24 18:18	10000
Dichlorodifluoromethane	7400	U	10000	7400	ug/L			01/19/24 18:18	10000
Ethylbenzene	6900	U	10000	6900	ug/L			01/19/24 18:18	10000
Isopropylbenzene	6700	U	20000	6700	ug/L			01/19/24 18:18	10000
m,p-Xylenes	13000	U	20000	13000	ug/L			01/19/24 18:18	10000
Methyl acetate	9500	U	100000	9500	ug/L			01/19/24 18:18	10000
Methyl tert-butyl ether	6000	U	20000	6000	ug/L			01/19/24 18:18	10000
Methylene Chloride	50000	U	100000	50000	ug/L			01/19/24 18:18	10000
o-Xylene	5300	U	10000	5300	ug/L			01/19/24 18:18	10000
Styrene	6100	U	10000	6100	ug/L			01/19/24 18:18	10000
Tetrachloroethene	7600	U	10000	7600	ug/L			01/19/24 18:18	10000
Toluene	7200	U	10000	7200	ug/L			01/19/24 18:18	10000
trans-1,2-Dichloroethene	7300	U	10000	7300	ug/L			01/19/24 18:18	10000
trans-1,3-Dichloropropene	7300	U	10000	7300	ug/L			01/19/24 18:18	10000
Trichloroethene	**620000**		10000	8900	ug/L			01/19/24 18:18	10000
Trichlorofluoromethane	9400	U	10000	9400	ug/L			01/19/24 18:18	10000
Vinyl chloride	**26000**		10000	7100	ug/L			01/19/24 18:18	10000
Xylenes, Total	13000	U	20000	13000	ug/L			01/19/24 18:18	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*41 - 142*		*01/19/24 18:18*	*10000*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/19/24 18:18*	*10000*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/19/24 18:18*	*10000*

Client Sample ID: LC34-DPT0598-023.0-20240117
Lab Sample ID: 670-33331-28

Date Collected: 01/17/24 13:55
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			01/22/24 17:21	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			01/22/24 17:21	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			01/22/24 17:21	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			01/22/24 17:21	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			01/22/24 17:21	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			01/22/24 17:21	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			01/22/24 17:21	5

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33331-1

Client Sample ID: LC34-DPT0598-023.0-20240117
Date Collected: 01/17/24 13:55
Date Received: 01/18/24 08:00

Lab Sample ID: 670-33331-28
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			01/22/24 17:21	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			01/22/24 17:21	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			01/22/24 17:21	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			01/22/24 17:21	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			01/22/24 17:21	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			01/22/24 17:21	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			01/22/24 17:21	5
2-Butanone (MEK)	23	U	50	23	ug/L			01/22/24 17:21	5
2-Hexanone	13	U	100	13	ug/L			01/22/24 17:21	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			01/22/24 17:21	5
Acetone	130	U	250	130	ug/L			01/22/24 17:21	5
Benzene	3.6	U	5.0	3.6	ug/L			01/22/24 17:21	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			01/22/24 17:21	5
Bromoform	3.8	U	5.0	3.8	ug/L			01/22/24 17:21	5
Bromomethane	4.8	U	10	4.8	ug/L			01/22/24 17:21	5
Carbon disulfide	13	U	25	13	ug/L			01/22/24 17:21	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			01/22/24 17:21	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			01/22/24 17:21	5
Chloroethane	4.9	U	10	4.9	ug/L			01/22/24 17:21	5
Chloroform	4.0	U	25	4.0	ug/L			01/22/24 17:21	5
Chloromethane	4.1	U	10	4.1	ug/L			01/22/24 17:21	5
cis-1,2-Dichloroethene	**200**		5.0	2.7	ug/L			01/22/24 17:21	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			01/22/24 17:21	5
Cyclohexane	4.7	U	25	4.7	ug/L			01/22/24 17:21	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			01/22/24 17:21	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			01/22/24 17:21	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			01/22/24 17:21	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			01/22/24 17:21	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			01/22/24 17:21	5
Methyl acetate	4.8	U	50	4.8	ug/L			01/22/24 17:21	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			01/22/24 17:21	5
Methylene Chloride	25	U	50	25	ug/L			01/22/24 17:21	5
o-Xylene	2.7	U	5.0	2.7	ug/L			01/22/24 17:21	5
Styrene	3.1	U	5.0	3.1	ug/L			01/22/24 17:21	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			01/22/24 17:21	5
Toluene	3.6	U	5.0	3.6	ug/L			01/22/24 17:21	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			01/22/24 17:21	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			01/22/24 17:21	5
Trichloroethene	4.5	U	5.0	4.5	ug/L			01/22/24 17:21	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			01/22/24 17:21	5
Vinyl chloride	3.6	U	5.0	3.6	ug/L			01/22/24 17:21	5
Xylenes, Total	6.5	U	10	6.5	ug/L			01/22/24 17:21	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/22/24 17:21*	*5*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*01/22/24 17:21*	*5*
Toluene-d8 (Surr)	*105*		*40 - 146*		*01/22/24 17:21*	*5*

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0596-063.0-20240117
Lab Sample ID: 670-33331-29
Date Collected: 01/17/24 14:20
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/19/24 16:14	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/19/24 16:14	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/19/24 16:14	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/19/24 16:14	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/19/24 16:14	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/19/24 16:14	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/19/24 16:14	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/19/24 16:14	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/19/24 16:14	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/19/24 16:14	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/19/24 16:14	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/19/24 16:14	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/19/24 16:14	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/19/24 16:14	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/19/24 16:14	100
2-Hexanone	250	U	2000	250	ug/L			01/19/24 16:14	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/19/24 16:14	100
Acetone	2500	U	5000	2500	ug/L			01/19/24 16:14	100
Benzene	71	U	100	71	ug/L			01/19/24 16:14	100
Bromodichloromethane	52	U	100	52	ug/L			01/19/24 16:14	100
Bromoform	75	U	100	75	ug/L			01/19/24 16:14	100
Bromomethane	95	U	200	95	ug/L			01/19/24 16:14	100
Carbon disulfide	250	U	500	250	ug/L			01/19/24 16:14	100
Carbon tetrachloride	94	U	100	94	ug/L			01/19/24 16:14	100
Chlorobenzene	72	U	100	72	ug/L			01/19/24 16:14	100
Chloroethane	98	U	200	98	ug/L			01/19/24 16:14	100
Chloroform	80	U	500	80	ug/L			01/19/24 16:14	100
Chloromethane	82	U	200	82	ug/L			01/19/24 16:14	100
cis-1,2-Dichloroethene	**17000**		200	110	ug/L			01/22/24 20:45	200
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/19/24 16:14	100
Cyclohexane	93	U	500	93	ug/L			01/19/24 16:14	100
Dibromochloromethane	50	U	100	50	ug/L			01/19/24 16:14	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/19/24 16:14	100
Ethylbenzene	69	U	100	69	ug/L			01/19/24 16:14	100
Isopropylbenzene	67	U	200	67	ug/L			01/19/24 16:14	100
m,p-Xylenes	130	U	200	130	ug/L			01/19/24 16:14	100
Methyl acetate	95	U	1000	95	ug/L			01/19/24 16:14	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/19/24 16:14	100
Methylene Chloride	500	U	1000	500	ug/L			01/19/24 16:14	100
o-Xylene	53	U	100	53	ug/L			01/19/24 16:14	100
Styrene	61	U	100	61	ug/L			01/19/24 16:14	100
Tetrachloroethene	76	U	100	76	ug/L			01/19/24 16:14	100
Toluene	72	U	100	72	ug/L			01/19/24 16:14	100
trans-1,2-Dichloroethene	**180**		100	73	ug/L			01/19/24 16:14	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/19/24 16:14	100
Trichloroethene	**9000**		100	89	ug/L			01/19/24 16:14	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/19/24 16:14	100
Vinyl chloride	**1300**		100	71	ug/L			01/19/24 16:14	100
Xylenes, Total	130	U	200	130	ug/L			01/19/24 16:14	100

Client Sample ID: LC34-DPT0596-063.0-20240117
Lab Sample ID: 670-33331-29

Date Collected: 01/17/24 14:20
Matrix: Water
Date Received: 01/18/24 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*01/19/24 16:14*	*100*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/22/24 20:45*	*200*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/19/24 16:14*	*100*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/22/24 20:45*	*200*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/19/24 16:14*	*100*
Toluene-d8 (Surr)	*106*		*40 - 146*		*01/22/24 20:45*	*200*

Client Sample ID: LC34-DPT0598-028.0-20230117
Lab Sample ID: 670-33331-30

Date Collected: 01/17/24 14:20
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	40	U	50	40	ug/L			01/19/24 15:56	50
1,1,2,2-Tetrachloroethane	27	U	50	27	ug/L			01/19/24 15:56	50
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	100	37	ug/L			01/19/24 15:56	50
1,1,2-Trichloroethane	38	U	100	38	ug/L			01/19/24 15:56	50
1,1-Dichloroethane	31	U	50	31	ug/L			01/19/24 15:56	50
1,1-Dichloroethene	47	U	50	47	ug/L			01/19/24 15:56	50
1,2,4-Trichlorobenzene	35	U	100	35	ug/L			01/19/24 15:56	50
1,2-Dibromo-3-Chloropropane	48	U	500	48	ug/L			01/19/24 15:56	50
1,2-Dibromoethane (EDB)	39	U	600	39	ug/L			01/19/24 15:56	50
1,2-Dichlorobenzene	37	U	50	37	ug/L			01/19/24 15:56	50
1,2-Dichloroethane	32	U	50	32	ug/L			01/19/24 15:56	50
1,2-Dichloropropane	40	U	50	40	ug/L			01/19/24 15:56	50
1,3-Dichlorobenzene	39	U	50	39	ug/L			01/19/24 15:56	50
1,4-Dichlorobenzene	38	U	50	38	ug/L			01/19/24 15:56	50
2-Butanone (MEK)	230	U	500	230	ug/L			01/19/24 15:56	50
2-Hexanone	130	U	1000	130	ug/L			01/19/24 15:56	50
4-Methyl-2-pentanone	250	U	1000	250	ug/L			01/19/24 15:56	50
Acetone	1300	U	2500	1300	ug/L			01/19/24 15:56	50
Benzene	36	U	50	36	ug/L			01/19/24 15:56	50
Bromodichloromethane	26	U	50	26	ug/L			01/19/24 15:56	50
Bromoform	38	U	50	38	ug/L			01/19/24 15:56	50
Bromomethane	48	U	100	48	ug/L			01/19/24 15:56	50
Carbon disulfide	130	U	250	130	ug/L			01/19/24 15:56	50
Carbon tetrachloride	47	U	50	47	ug/L			01/19/24 15:56	50
Chlorobenzene	36	U	50	36	ug/L			01/19/24 15:56	50
Chloroethane	49	U	100	49	ug/L			01/19/24 15:56	50
Chloroform	40	U	250	40	ug/L			01/19/24 15:56	50
Chloromethane	41	U	100	41	ug/L			01/19/24 15:56	50
cis-1,2-Dichloroethene	**2000**		50	27	ug/L			01/19/24 15:56	50
cis-1,3-Dichloropropene	30	U	50	30	ug/L			01/19/24 15:56	50
Cyclohexane	47	U	250	47	ug/L			01/19/24 15:56	50
Dibromochloromethane	25	U	50	25	ug/L			01/19/24 15:56	50
Dichlorodifluoromethane	37	U	50	37	ug/L			01/19/24 15:56	50
Ethylbenzene	35	U	50	35	ug/L			01/19/24 15:56	50
Isopropylbenzene	34	U	100	34	ug/L			01/19/24 15:56	50
m,p-Xylenes	65	U	100	65	ug/L			01/19/24 15:56	50
Methyl acetate	48	U	500	48	ug/L			01/19/24 15:56	50

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0598-028.0-20230117
Lab Sample ID: 670-33331-30
Date Collected: 01/17/24 14:20
Matrix: Water
Date Received: 01/18/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	30	U	100	30	ug/L			01/19/24 15:56	50
Methylene Chloride	250	U	500	250	ug/L			01/19/24 15:56	50
o-Xylene	27	U	50	27	ug/L			01/19/24 15:56	50
Styrene	31	U	50	31	ug/L			01/19/24 15:56	50
Tetrachloroethene	38	U	50	38	ug/L			01/19/24 15:56	50
Toluene	36	U	50	36	ug/L			01/19/24 15:56	50
trans-1,2-Dichloroethene	**37**	**I**	50	37	ug/L			01/19/24 15:56	50
trans-1,3-Dichloropropene	37	U	50	37	ug/L			01/19/24 15:56	50
Trichloroethene	45	U	50	45	ug/L			01/19/24 15:56	50
Trichlorofluoromethane	47	U	50	47	ug/L			01/19/24 15:56	50
Vinyl chloride	**140**		50	36	ug/L			01/19/24 15:56	50
Xylenes, Total	65	U	100	65	ug/L			01/19/24 15:56	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*01/19/24 15:56*	*50*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/19/24 15:56*	*50*
Toluene-d8 (Surr)	*103*		*40 - 146*		*01/19/24 15:56*	*50*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33331-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
		BFB	DBFM	TOL						
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)						
670-33226-C-7 MS	Matrix Spike	101	100	102						
670-33226-C-7 MSD	Matrix Spike Duplicate	99	100	99						
670-33331-1	LC34-DPT0600-068.0-20240116	99	103	99						
670-33331-2 - DL	LC34-DPT0599-068.0-20240116	104	100	102						
670-33331-2 - DL	LC34-DPT0599-068.0-20240116	99	103	105						
670-33331-3	LC34-DPT0600-073.0-20240116	102	102	100						
670-33331-4	LC34-DPT0599-073.0-20240116	103	100	98						
670-33331-4 - DL	LC34-DPT0599-073.0-20240116	100	104	103						
670-33331-5 - DL	LC34-DPT0600-078.0-20240116	99	100	101						
670-33331-5 - DL	LC34-DPT0600-078.0-20240116	98	109	107						
670-33331-6 - DL	LC34-DPT0599-078.0-20240116	102	102	101						
670-33331-6 - DL	LC34-DPT0599-078.0-20240116	98	102	104						
670-33331-7	LC34-DPT0600-083.0-20240116	100	101	103						
670-33331-8 - DL	LC34-DPT0599-088.0-20240116	99	103	101						
670-33331-8 - DL	LC34-DPT0599-088.0-20240116	97	103	102						
670-33331-9	LC34-DPT0600-088.0-20240117	100	101	99						
670-33331-10	LC34-DPT0600-093.0-20240117	102	100	101						
670-33331-11	LC34-DPT0600-098.0-20240117	101	102	100						
670-33331-12	LC34-DPT0596-008.0-20240117	103	99	100						
670-33331-13	LC34-DPT0596-013.0-20240117	106	100	101						
670-33331-14	LC34-DPT0596-018.0-20240117	104	99	101						
670-33331-15 - DL	LC34-DPT0599-093.0-20240117	106	99	100						
670-33331-16	LC34-DPT0596-023.0-20240117	105	100	102						
670-33331-17 - DL	LC34-DPT0596-028.0-20240117	104	101	101						
670-33331-18 - DL	LC34-DPT0599-098.0-20240117	107	98	101						
670-33331-18 - DL	LC34-DPT0599-098.0-20240117	99	109	107						
670-33331-19 - DL	LC34-DPT0596-033.0-20240117	105	100	102						
670-33331-20 - DL	LC34-DPT0596-038.0-20240117	104	99	102						
670-33331-21 - DL	LC34-DPT0596-048.0-20240117	103	100	101						

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-33331-22 - DL	LC34-DPT0596-048.0-20240117	104	100	103
670-33331-22 - DL	LC34-DPT0596-048.0-20240117	102	105	104
670-33331-23 - DL	LC34-DPT0598-008.0-20240117	105	100	102
670-33331-24	LC34-DPT0598-013.0-20240117	98	106	102
670-33331-25 - DL	LC34-DPT0596-053.0-20240117	103	100	102
670-33331-26	LC34-DPT0598-018.0-20240117	100	100	107
670-33331-27 - DL	LC34-DPT0596-058.0-20240117	106	101	102
670-33331-28 - DL	LC34-DPT0598-023.0-20240117	102	107	105
670-33331-29 - DL	LC34-DPT0596-063.0-20240117	105	99	101
670-33331-29 - DL	LC34-DPT0596-063.0-20240117	101	100	106
670-33331-30 - DL	LC34-DPT0598-028.0-20230117	105	100	103
670-33364-C-1 MS	Matrix Spike	99	100	99
670-33364-C-1 MSD	Matrix Spike Duplicate	102	104	102
762-3290-C-1 MS	Matrix Spike	101	100	102
762-3290-C-1 MSD	Matrix Spike Duplicate	101	102	102
LB 670-72166/1-A - DL	Method Blank	97	108	106
LCS 670-72258/4	Lab Control Sample	98	100	98
LCS 670-72266/4	Lab Control Sample	100	98	102
LCS 670-72321/5	Lab Control Sample	98	99	102
LCS 670-72523/5	Lab Control Sample	99	103	105
LCSD 670-72258/5	Lab Control Sample Dup	101	100	100
MB 670-72258/8	Method Blank	104	102	101
MB 670-72266/7	Method Blank	105	100	102
MB 670-72321/8	Method Blank	103	102	99
MB 670-72523/8	Method Blank	99	107	102

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water
Prep Type: TCLP

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
660-133999-A-1-A MS	Matrix Spike	99	107	102
660-133999-A-1-A MSD	Matrix Spike Duplicate	104	98	101

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-72258/8
Matrix: Water
Analysis Batch: 72258

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 11:17	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 11:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 11:17	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 11:17	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 11:17	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 11:17	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 11:17	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 11:17	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 11:17	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 11:17	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 11:17	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 11:17	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 11:17	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 11:17	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 11:17	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 11:17	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 11:17	1
Acetone	25	U	50	25	ug/L			01/19/24 11:17	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 11:17	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 11:17	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 11:17	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 11:17	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 11:17	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 11:17	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 11:17	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 11:17	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 11:17	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 11:17	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/19/24 11:17	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 11:17	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 11:17	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 11:17	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 11:17	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 11:17	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 11:17	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 11:17	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 11:17	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 11:17	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 11:17	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 11:17	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 11:17	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 11:17	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 11:17	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/19/24 11:17	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 11:17	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/19/24 11:17	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 11:17	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/19/24 11:17	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72258/8
Matrix: Water
Analysis Batch: 72258

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 11:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/19/24 11:17*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/19/24 11:17*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/19/24 11:17*	*1*

Lab Sample ID: LCS 670-72258/4
Matrix: Water
Analysis Batch: 72258

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	5.00	5.48		ug/L		110	57 - 148
1,1,2,2-Tetrachloroethane	5.00	5.11		ug/L		102	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	5.81		ug/L		116	47 - 173
1,1,2-Trichloroethane	5.00	4.80		ug/L		96	57 - 141
1,1-Dichloroethane	5.00	5.24		ug/L		105	57 - 142
1,1-Dichloroethene	5.00	5.02		ug/L		100	47 - 139
1,2,4-Trichlorobenzene	5.00	5.20		ug/L		104	52 - 159
1,2-Dibromo-3-Chloropropane	5.00	4.50	I	ug/L		90	48 - 150
1,2-Dibromoethane (EDB)	5.00	4.65	I	ug/L		93	57 - 140
1,2-Dichlorobenzene	5.00	5.39		ug/L		108	63 - 131
1,2-Dichloroethane	5.00	4.87		ug/L		97	50 - 156
1,2-Dichloropropane	5.00	4.90		ug/L		98	61 - 133
1,3-Dichlorobenzene	5.00	5.13		ug/L		103	66 - 129
1,4-Dichlorobenzene	5.00	5.28		ug/L		106	65 - 133
2-Butanone (MEK)	50.0	48.0		ug/L		96	10 - 180
2-Hexanone	50.0	49.1		ug/L		98	12 - 180
4-Methyl-2-pentanone	50.0	50.0		ug/L		100	19 - 180
Acetone	50.0	49.3	I	ug/L		99	10 - 180
Benzene	5.00	5.00		ug/L		100	56 - 136
Bromodichloromethane	5.00	5.16		ug/L		103	58 - 135
Bromoform	5.00	4.84		ug/L		97	46 - 148
Bromomethane	5.00	3.63		ug/L		73	10 - 173
Carbon disulfide	5.00	5.41		ug/L		108	43 - 153
Carbon tetrachloride	5.00	6.07		ug/L		121	54 - 156
Chlorobenzene	5.00	5.11		ug/L		102	51 - 139
Chloroethane	5.00	4.26		ug/L		85	27 - 180
Chloroform	5.00	4.95	I	ug/L		99	58 - 139
Chloromethane	5.00	4.34		ug/L		87	33 - 154
cis-1,2-Dichloroethene	5.00	4.89		ug/L		98	56 - 128
cis-1,3-Dichloropropene	5.00	4.57		ug/L		91	64 - 128
Cyclohexane	5.00	5.79		ug/L		116	14 - 151
Dibromochloromethane	5.00	5.25		ug/L		105	50 - 140
Dichlorodifluoromethane	5.00	6.08		ug/L		122	10 - 180
Ethylbenzene	5.00	5.00		ug/L		100	63 - 133
Isopropylbenzene	5.00	5.18		ug/L		104	60 - 132
m,p-Xylenes	5.00	4.94		ug/L		99	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72258/4
Matrix: Water
Analysis Batch: 72258

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Methyl acetate			10.0	11.1		ug/L		111	70 - 130		
Methyl tert-butyl ether			5.00	4.79		ug/L		96	51 - 145		
Methylene Chloride			5.00	5.0	U	ug/L		78	43 - 142		
o-Xylene			5.00	4.72		ug/L		94	61 - 129		
Styrene			5.00	4.64		ug/L		93	59 - 136		
Tetrachloroethene			5.00	5.32		ug/L		106	60 - 147		
Toluene			5.00	5.11		ug/L		102	64 - 131		
trans-1,2-Dichloroethene			5.00	5.31		ug/L		106	54 - 134		
trans-1,3-Dichloropropene			5.00	4.69		ug/L		94	65 - 149		
Trichloroethene			5.00	5.35		ug/L		107	62 - 135		
Trichlorofluoromethane			5.00	6.06		ug/L		121	56 - 155		
Vinyl chloride			5.00	6.21		ug/L		124	20 - 167		
Xylenes, Total			10.0	9.66		ug/L		97	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: LCSD 670-72258/5
Matrix: Water
Analysis Batch: 72258

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			5.00	5.10		ug/L		102	57 - 148	7	25
1,1,2,2-Tetrachloroethane			5.00	5.62		ug/L		112	60 - 139	9	17
1,1,2-Trichloro-1,2,2-trifluoroethane			5.00	6.08		ug/L		122	47 - 173	5	30
1,1,2-Trichloroethane			5.00	5.19		ug/L		104	57 - 141	8	16
1,1-Dichloroethane			5.00	5.21		ug/L		104	57 - 142	1	24
1,1-Dichloroethene			5.00	5.24		ug/L		105	47 - 139	4	16
1,2,4-Trichlorobenzene			5.00	4.90		ug/L		98	52 - 159	6	24
1,2-Dibromo-3-Chloropropane			5.00	5.31	I	ug/L		106	48 - 150	16	21
1,2-Dibromoethane (EDB)			5.00	5.12	I	ug/L		102	57 - 140	10	16
1,2-Dichlorobenzene			5.00	5.18		ug/L		104	63 - 131	4	25
1,2-Dichloroethane			5.00	5.07		ug/L		101	50 - 156	4	18
1,2-Dichloropropane			5.00	4.87		ug/L		97	61 - 133	1	26
1,3-Dichlorobenzene			5.00	5.03		ug/L		101	66 - 129	2	23
1,4-Dichlorobenzene			5.00	5.19		ug/L		104	65 - 133	2	23
2-Butanone (MEK)			50.0	53.1		ug/L		106	10 - 180	10	29
2-Hexanone			50.0	55.0		ug/L		110	12 - 180	11	28
4-Methyl-2-pentanone			50.0	54.7		ug/L		109	19 - 180	9	24
Acetone			50.0	54.8		ug/L		110	10 - 180	11	19
Benzene			5.00	4.84		ug/L		97	56 - 136	3	14
Bromodichloromethane			5.00	4.98		ug/L		100	58 - 135	4	19
Bromoform			5.00	4.85		ug/L		97	46 - 148	0	18
Bromomethane			5.00	3.61		ug/L		72	10 - 173	0	29
Carbon disulfide			5.00	5.35		ug/L		107	43 - 153	1	26
Carbon tetrachloride			5.00	5.59		ug/L		112	54 - 156	8	27

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 670-72258/5
Matrix: Water
Analysis Batch: 72258

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chlorobenzene			5.00	4.95		ug/L		99	51 - 139	3	13
Chloroethane			5.00	4.36		ug/L		87	27 - 180	2	22
Chloroform			5.00	4.53	I	ug/L		91	58 - 139	9	17
Chloromethane			5.00	4.42		ug/L		88	33 - 154	2	31
cis-1,2-Dichloroethene			5.00	4.83		ug/L		97	56 - 128	1	17
cis-1,3-Dichloropropene			5.00	4.67		ug/L		93	64 - 128	2	20
Cyclohexane			5.00	5.38		ug/L		108	14 - 151	7	30
Dibromochloromethane			5.00	4.92		ug/L		98	50 - 140	7	18
Dichlorodifluoromethane			5.00	5.82		ug/L		116	10 - 180	4	26
Ethylbenzene			5.00	4.95		ug/L		99	63 - 133	1	18
Isopropylbenzene			5.00	4.99		ug/L		100	60 - 132	4	23
m,p-Xylenes			5.00	4.76		ug/L		95	64 - 133	4	18
Methyl acetate			10.0	12.0		ug/L		120	70 - 130	7	30
Methyl tert-butyl ether			5.00	4.65		ug/L		93	51 - 145	3	22
Methylene Chloride			5.00	5.0	U	ug/L		80	43 - 142	2	23
o-Xylene			5.00	4.67		ug/L		93	61 - 129	1	16
Styrene			5.00	4.89		ug/L		98	59 - 136	5	32
Tetrachloroethene			5.00	5.31		ug/L		106	60 - 147	0	21
Toluene			5.00	4.82		ug/L		96	64 - 131	6	16
trans-1,2-Dichloroethene			5.00	4.57		ug/L		91	54 - 134	15	20
trans-1,3-Dichloropropene			5.00	4.76		ug/L		95	65 - 149	1	17
Trichloroethene			5.00	4.90		ug/L		98	62 - 135	9	20
Trichlorofluoromethane			5.00	6.12		ug/L		122	56 - 155	1	22
Vinyl chloride			5.00	6.12		ug/L		122	20 - 167	2	24
Xylenes, Total			10.0	9.43		ug/L		94	50 - 150	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-33226-C-7 MS
Matrix: Water
Analysis Batch: 72258

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	4000	U	100000	102000		ug/L		102	57 - 148
1,1,2,2-Tetrachloroethane	2700	U	100000	111000		ug/L		111	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	160000		100000	267000		ug/L		102	50 - 150
1,1,2-Trichloroethane	3800	U	100000	105000		ug/L		105	57 - 141
1,1-Dichloroethane	3100	U	100000	96700		ug/L		97	57 - 142
1,1-Dichloroethene	4700	U	100000	104000		ug/L		104	49 - 139
1,2,4-Trichlorobenzene	3500	U	100000	96700		ug/L		97	52 - 159
1,2-Dibromo-3-Chloropropane	4800	U	100000	98200		ug/L		98	48 - 150
1,2-Dibromoethane (EDB)	3900	U	100000	101000		ug/L		101	50 - 150
1,2-Dichlorobenzene	3700	U	100000	101000		ug/L		101	63 - 131
1,2-Dichloroethane	3200	U	100000	94700		ug/L		95	50 - 156
1,2-Dichloropropane	4000	U	100000	93200		ug/L		93	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33226-C-7 MS
Matrix: Water
Analysis Batch: 72258

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	3900	U	100000	100000		ug/L		100	66 - 129
1,4-Dichlorobenzene	3800	U	100000	101000		ug/L		101	65 - 133
2-Butanone (MEK)	23000	U	1000000	1080000		ug/L		108	10 - 180
2-Hexanone	13000	U	1000000	1180000		ug/L		118	12 - 180
4-Methyl-2-pentanone	25000	U	1000000	1190000		ug/L		119	19 - 180
Acetone	130000	U	1000000	1140000		ug/L		114	10 - 180
Benzene	3600	U	100000	98200		ug/L		98	56 - 136
Bromodichloromethane	2600	U	100000	100000		ug/L		100	58 - 135
Bromoform	3800	U	100000	104000		ug/L		104	46 - 148
Bromomethane	4800	U	100000	80300		ug/L		80	10 - 173
Carbon disulfide	13000	U	100000	103000		ug/L		103	43 - 153
Carbon tetrachloride	4700	U	100000	113000		ug/L		113	54 - 156
Chlorobenzene	3600	U	100000	102000		ug/L		102	51 - 139
Chloroethane	4900	U	100000	96500		ug/L		97	27 - 180
Chloroform	4000	U	100000	92400		ug/L		92	59 - 139
Chloromethane	4100	U	100000	80500		ug/L		80	33 - 154
cis-1,2-Dichloroethene	21000		100000	119000		ug/L		98	56 - 128
cis-1,3-Dichloropropene	3000	U	100000	90600		ug/L		91	64 - 128
Cyclohexane	4700	U	100000	108000		ug/L		108	14 - 141
Dibromochloromethane	2500	U	100000	105000		ug/L		105	50 - 150
Dichlorodifluoromethane	3700	U	100000	109000		ug/L		109	10 - 180
Ethylbenzene	3500	U	100000	102000		ug/L		102	63 - 133
Isopropylbenzene	3400	U	100000	105000		ug/L		105	60 - 132
m,p-Xylenes	6500	U	100000	99500		ug/L		100	64 - 133
Methyl acetate	4800	U	200000	241000		ug/L		120	50 - 150
Methyl tert-butyl ether	3000	U	100000	98900		ug/L		99	50 - 150
Methylene Chloride	25000	U	100000	95200		ug/L		95	43 - 142
o-Xylene	2700	U	100000	97400		ug/L		97	61 - 129
Styrene	3100	U	100000	102000		ug/L		102	59 - 136
Tetrachloroethene	3800	U	100000	103000		ug/L		103	60 - 147
Toluene	3600	U	100000	97900		ug/L		98	64 - 131
trans-1,2-Dichloroethene	3700	U	100000	99300		ug/L		99	54 - 134
trans-1,3-Dichloropropene	3700	U	100000	96100		ug/L		96	65 - 149
Trichloroethene	270000		100000	371000		ug/L		104	62 - 135
Trichlorofluoromethane	4700	U	100000	113000		ug/L		113	56 - 155
Vinyl chloride	3600	U	100000	107000		ug/L		107	20 - 167
Xylenes, Total	6500	U	200000	197000		ug/L		98	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33226-C-7 MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 72258

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	4000	U	100000	105000		ug/L		105	57 - 148	3	25
1,1,2,2-Tetrachloroethane	2700	U	100000	111000		ug/L		111	60 - 139	0	17
1,1,2-Trichloro-1,2,2-trifluoroethane	160000		100000	259000		ug/L		94	50 - 150	3	30
1,1,2-Trichloroethane	3800	U	100000	108000		ug/L		108	57 - 141	3	16
1,1-Dichloroethane	3100	U	100000	101000		ug/L		101	57 - 142	4	24
1,1-Dichloroethene	4700	U	100000	101000		ug/L		101	49 - 139	3	16
1,2,4-Trichlorobenzene	3500	U	100000	99200		ug/L		99	52 - 159	3	24
1,2-Dibromo-3-Chloropropane	4800	U	100000	102000		ug/L		102	48 - 150	3	21
1,2-Dibromoethane (EDB)	3900	U	100000	103000		ug/L		103	50 - 150	1	16
1,2-Dichlorobenzene	3700	U	100000	98200		ug/L		98	63 - 131	2	25
1,2-Dichloroethane	3200	U	100000	101000		ug/L		101	50 - 156	6	18
1,2-Dichloropropane	4000	U	100000	93400		ug/L		93	61 - 133	0	26
1,3-Dichlorobenzene	3900	U	100000	97200		ug/L		97	66 - 129	3	23
1,4-Dichlorobenzene	3800	U	100000	99400		ug/L		99	65 - 133	2	23
2-Butanone (MEK)	23000	U	1000000	1140000		ug/L		114	10 - 180	5	29
2-Hexanone	13000	U	1000000	1200000		ug/L		120	12 - 180	1	28
4-Methyl-2-pentanone	25000	U	1000000	1230000		ug/L		123	19 - 180	3	24
Acetone	130000	U	1000000	1080000		ug/L		108	10 - 180	5	19
Benzene	3600	U	100000	101000		ug/L		101	56 - 136	3	14
Bromodichloromethane	2600	U	100000	104000		ug/L		104	58 - 135	3	19
Bromoform	3800	U	100000	104000		ug/L		104	46 - 148	0	18
Bromomethane	4800	U	100000	79300		ug/L		79	10 - 173	1	29
Carbon disulfide	13000	U	100000	99600		ug/L		100	43 - 153	3	26
Carbon tetrachloride	4700	U	100000	113000		ug/L		113	54 - 156	0	27
Chlorobenzene	3600	U	100000	100000		ug/L		100	51 - 139	2	13
Chloroethane	4900	U	100000	97100		ug/L		97	27 - 180	1	22
Chloroform	4000	U	100000	95400		ug/L		95	59 - 139	3	17
Chloromethane	4100	U	100000	70600		ug/L		71	33 - 154	13	31
cis-1,2-Dichloroethene	21000		100000	119000		ug/L		98	56 - 128	0	17
cis-1,3-Dichloropropene	3000	U	100000	92400		ug/L		92	64 - 128	2	20
Cyclohexane	4700	U	100000	110000		ug/L		110	14 - 141	2	30
Dibromochloromethane	2500	U	100000	105000		ug/L		105	50 - 150	0	18
Dichlorodifluoromethane	3700	U	100000	99200		ug/L		99	10 - 180	10	26
Ethylbenzene	3500	U	100000	102000		ug/L		102	63 - 133	0	18
Isopropylbenzene	3400	U	100000	106000		ug/L		106	60 - 132	1	23
m,p-Xylenes	6500	U	100000	97500		ug/L		97	64 - 133	2	18
Methyl acetate	4800	U	200000	249000		ug/L		124	50 - 150	3	30
Methyl tert-butyl ether	3000	U	100000	104000		ug/L		104	50 - 150	5	22
Methylene Chloride	25000	U	100000	90500		ug/L		90	43 - 142	5	23
o-Xylene	2700	U	100000	93600		ug/L		94	61 - 129	4	16
Styrene	3100	U	100000	96000		ug/L		96	59 - 136	6	32
Tetrachloroethene	3800	U	100000	104000		ug/L		104	60 - 147	1	21
Toluene	3600	U	100000	100000		ug/L		100	64 - 131	2	16
trans-1,2-Dichloroethene	3700	U	100000	101000		ug/L		101	54 - 134	1	20
trans-1,3-Dichloropropene	3700	U	100000	99700		ug/L		100	65 - 149	4	17
Trichloroethene	270000		100000	380000		ug/L		113	62 - 135	2	20
Trichlorofluoromethane	4700	U	100000	108000		ug/L		108	56 - 155	5	22
Vinyl chloride	3600	U	100000	105000		ug/L		105	20 - 167	2	24

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33226-C-7 MSD
Matrix: Water
Analysis Batch: 72258

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	6500	U	200000	191000		ug/L		96	50 - 150	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: MB 670-72266/7
Matrix: Water
Analysis Batch: 72266

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 11:03	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 11:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 11:03	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 11:03	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 11:03	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 11:03	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 11:03	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 11:03	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 11:03	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 11:03	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 11:03	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 11:03	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 11:03	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 11:03	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 11:03	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 11:03	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 11:03	1
Acetone	25	U	50	25	ug/L			01/19/24 11:03	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 11:03	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 11:03	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 11:03	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 11:03	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 11:03	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 11:03	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 11:03	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 11:03	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 11:03	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 11:03	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/19/24 11:03	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 11:03	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 11:03	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 11:03	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 11:03	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 11:03	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 11:03	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 11:03	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72266/7
Matrix: Water
Analysis Batch: 72266

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 11:03	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 11:03	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 11:03	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 11:03	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 11:03	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 11:03	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 11:03	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/19/24 11:03	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 11:03	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/19/24 11:03	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 11:03	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/19/24 11:03	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 11:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*01/19/24 11:03*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/19/24 11:03*	*1*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/19/24 11:03*	*1*

Lab Sample ID: LCS 670-72266/4
Matrix: Water
Analysis Batch: 72266

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	19.0		ug/L		95	57 - 148
1,1,2,2-Tetrachloroethane	20.0	21.2		ug/L		106	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	19.2		ug/L		96	47 - 173
1,1,2-Trichloroethane	20.0	19.8		ug/L		99	57 - 141
1,1-Dichloroethane	20.0	18.5		ug/L		92	57 - 142
1,1-Dichloroethene	20.0	19.3		ug/L		97	47 - 139
1,2,4-Trichlorobenzene	20.0	19.2		ug/L		96	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	19.3		ug/L		96	48 - 150
1,2-Dibromoethane (EDB)	20.0	19.7		ug/L		99	57 - 140
1,2-Dichlorobenzene	20.0	18.9		ug/L		94	63 - 131
1,2-Dichloroethane	20.0	19.2		ug/L		96	50 - 156
1,2-Dichloropropane	20.0	19.2		ug/L		96	61 - 133
1,3-Dichlorobenzene	20.0	18.9		ug/L		95	66 - 129
1,4-Dichlorobenzene	20.0	19.3		ug/L		97	65 - 133
2-Butanone (MEK)	200	195		ug/L		97	10 - 180
2-Hexanone	200	194		ug/L		97	12 - 180
4-Methyl-2-pentanone	200	191		ug/L		95	19 - 180
Acetone	200	178		ug/L		89	10 - 180
Benzene	20.0	18.8		ug/L		94	56 - 136
Bromodichloromethane	20.0	19.2		ug/L		96	58 - 135
Bromoform	20.0	19.3		ug/L		97	46 - 148
Bromomethane	20.0	19.7		ug/L		98	10 - 173
Carbon disulfide	20.0	17.3		ug/L		87	43 - 153
Carbon tetrachloride	20.0	19.1		ug/L		96	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72266/4
Matrix: Water
Analysis Batch: 72266

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	20.0	18.5		ug/L		93	51 - 139
Chloroethane	20.0	29.0		ug/L		145	27 - 180
Chloroform	20.0	18.8		ug/L		94	58 - 139
Chloromethane	20.0	17.0		ug/L		85	33 - 154
cis-1,2-Dichloroethene	20.0	18.9		ug/L		94	56 - 128
cis-1,3-Dichloropropene	20.0	17.5		ug/L		87	64 - 128
Cyclohexane	20.0	17.3		ug/L		86	14 - 151
Dibromochloromethane	20.0	18.9		ug/L		95	50 - 140
Dichlorodifluoromethane	20.0	25.9		ug/L		129	10 - 180
Ethylbenzene	20.0	18.1		ug/L		91	63 - 133
Isopropylbenzene	20.0	19.2		ug/L		96	60 - 132
m,p-Xylenes	20.0	17.5		ug/L		88	64 - 133
Methyl acetate	40.0	41.2		ug/L		103	70 - 130
Methyl tert-butyl ether	20.0	19.0		ug/L		95	51 - 145
Methylene Chloride	20.0	18.7		ug/L		93	43 - 142
o-Xylene	20.0	17.0		ug/L		85	61 - 129
Styrene	20.0	17.1		ug/L		85	59 - 136
Tetrachloroethene	20.0	18.2		ug/L		91	60 - 147
Toluene	20.0	18.4		ug/L		92	64 - 131
trans-1,2-Dichloroethene	20.0	18.7		ug/L		93	54 - 134
trans-1,3-Dichloropropene	20.0	19.3		ug/L		97	65 - 149
Trichloroethene	20.0	18.3		ug/L		91	62 - 135
Trichlorofluoromethane	20.0	26.1		ug/L		130	56 - 155
Vinyl chloride	20.0	20.5		ug/L		103	20 - 167
Xylenes, Total	40.0	34.5		ug/L		86	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*
Dibromofluoromethane (Surr)	*98*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Lab Sample ID: 762-3290-C-1 MS
Matrix: Water
Analysis Batch: 72266

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	19.4		ug/L		97	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U J3	20.0	21.9		ug/L		110	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	19.1		ug/L		95	50 - 150
1,1,2-Trichloroethane	0.76	U J3	20.0	22.0		ug/L		110	57 - 141
1,1-Dichloroethane	0.62	U J3	20.0	17.8		ug/L		89	57 - 142
1,1-Dichloroethene	0.94	U J3	20.0	20.6		ug/L		103	49 - 139
1,2,4-Trichlorobenzene	0.70	U J3	20.0	17.9		ug/L		89	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U J3	20.0	18.6		ug/L		93	48 - 150
1,2-Dibromoethane (EDB)	0.78	U J3	20.0	19.1		ug/L		96	50 - 150
1,2-Dichlorobenzene	0.73	U J3	20.0	17.9		ug/L		90	63 - 131
1,2-Dichloroethane	0.63	U J3	20.0	18.9		ug/L		95	50 - 156
1,2-Dichloropropane	0.80	U	20.0	17.6		ug/L		88	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 762-3290-C-1 MS
Matrix: Water
Analysis Batch: 72266

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	0.77	U J3	20.0	17.1		ug/L		86	66 - 129
1,4-Dichlorobenzene	0.76	U J3	20.0	17.9		ug/L		90	65 - 133
2-Butanone (MEK)	4.5	U J3	200	189		ug/L		94	10 - 180
2-Hexanone	2.5	U J3	200	194		ug/L		97	12 - 180
4-Methyl-2-pentanone	5.0	U J3	200	190		ug/L		95	19 - 180
Acetone	25	U J3	200	166		ug/L		83	10 - 180
Benzene	0.71	U J3	20.0	18.9		ug/L		94	56 - 136
Bromodichloromethane	0.52	U J3	20.0	18.4		ug/L		92	58 - 135
Bromoform	0.75	U J3	20.0	18.1		ug/L		90	46 - 148
Bromomethane	0.95	U J3	20.0	21.7		ug/L		108	10 - 173
Carbon disulfide	2.5	U	20.0	18.9		ug/L		95	43 - 153
Carbon tetrachloride	0.94	U	20.0	19.1		ug/L		96	54 - 156
Chlorobenzene	0.72	U J3	20.0	17.4		ug/L		87	51 - 139
Chloroethane	0.98	U J3	20.0	20.9		ug/L		105	27 - 180
Chloroform	0.80	U J3	20.0	19.6		ug/L		98	59 - 139
Chloromethane	0.82	U J3	20.0	18.3		ug/L		92	33 - 154
cis-1,2-Dichloroethene	0.53	U J3	20.0	19.5		ug/L		98	56 - 128
cis-1,3-Dichloropropene	0.59	U J3	20.0	16.4		ug/L		82	64 - 128
Cyclohexane	0.93	U	20.0	18.5		ug/L		92	14 - 141
Dibromochloromethane	0.50	U J3	20.0	18.3		ug/L		91	50 - 150
Dichlorodifluoromethane	0.74	U J3	20.0	26.1		ug/L		130	10 - 180
Ethylbenzene	0.69	U J3	20.0	17.8		ug/L		89	63 - 133
Isopropylbenzene	0.67	U J3	20.0	18.7		ug/L		93	60 - 132
m,p-Xylenes	1.3	U J3	20.0	17.3		ug/L		86	64 - 133
Methyl acetate	0.95	U J3	40.0	40.3		ug/L		101	50 - 150
Methyl tert-butyl ether	0.60	U J3	20.0	17.6		ug/L		88	50 - 150
Methylene Chloride	5.0	U J3	20.0	18.1		ug/L		91	43 - 142
o-Xylene	0.53	U J3	20.0	16.4		ug/L		82	61 - 129
Styrene	0.61	U	20.0	16.0		ug/L		80	59 - 136
Tetrachloroethene	0.76	U J3	20.0	18.3		ug/L		92	60 - 147
Toluene	0.72	U J3	20.0	18.2		ug/L		91	64 - 131
trans-1,2-Dichloroethene	0.73	U J3	20.0	19.3		ug/L		96	54 - 134
trans-1,3-Dichloropropene	0.73	U J3	20.0	18.5		ug/L		92	65 - 149
Trichloroethene	0.89	U J3	20.0	18.5		ug/L		92	62 - 135
Trichlorofluoromethane	0.94	U J3	20.0	27.0		ug/L		135	56 - 155
Vinyl chloride	0.71	U J3	20.0	22.2		ug/L		111	20 - 167
Xylenes, Total	1.3	U	40.0	33.7		ug/L		84	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 762-3290-C-1 MSD
Matrix: Water
Analysis Batch: 72266

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	25.0		ug/L		125	57 - 148	25	25
1,1,2,2-Tetrachloroethane	0.54	U J3	20.0	29.8	J3	ug/L		149	60 - 139	31	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	23.1		ug/L		116	50 - 150	19	30
1,1,2-Trichloroethane	0.76	U J3	20.0	28.0	J3	ug/L		140	57 - 141	24	16
1,1-Dichloroethane	0.62	U J3	20.0	23.3	J3	ug/L		117	57 - 142	27	24
1,1-Dichloroethene	0.94	U J3	20.0	25.7	J3	ug/L		128	49 - 139	22	16
1,2,4-Trichlorobenzene	0.70	U J3	20.0	23.9	J3	ug/L		120	52 - 159	29	24
1,2-Dibromo-3-Chloropropane	0.96	U J3	20.0	25.8	J3	ug/L		129	48 - 150	32	21
1,2-Dibromoethane (EDB)	0.78	U J3	20.0	25.9	J3	ug/L		130	50 - 150	30	16
1,2-Dichlorobenzene	0.73	U J3	20.0	24.1	J3	ug/L		121	63 - 131	30	25
1,2-Dichloroethane	0.63	U J3	20.0	24.5	J3	ug/L		122	50 - 156	26	18
1,2-Dichloropropane	0.80	U	20.0	23.0		ug/L		115	61 - 133	26	26
1,3-Dichlorobenzene	0.77	U J3	20.0	22.7	J3	ug/L		113	66 - 129	28	23
1,4-Dichlorobenzene	0.76	U J3	20.0	23.7	J3	ug/L		118	65 - 133	28	23
2-Butanone (MEK)	4.5	U J3	200	260	J3	ug/L		130	10 - 180	32	29
2-Hexanone	2.5	U J3	200	273	J3	ug/L		137	12 - 180	34	28
4-Methyl-2-pentanone	5.0	U J3	200	266	J3	ug/L		133	19 - 180	33	24
Acetone	25	U J3	200	233	J3	ug/L		117	10 - 180	34	19
Benzene	0.71	U J3	20.0	23.9	J3	ug/L		120	56 - 136	24	14
Bromodichloromethane	0.52	U J3	20.0	24.0	J3	ug/L		120	58 - 135	27	19
Bromoform	0.75	U J3	20.0	24.3	J3	ug/L		121	46 - 148	29	18
Bromomethane	0.95	U J3	20.0	32.8	J3	ug/L		164	10 - 173	41	29
Carbon disulfide	2.5	U	20.0	24.2		ug/L		121	43 - 153	24	26
Carbon tetrachloride	0.94	U	20.0	24.4		ug/L		122	54 - 156	24	27
Chlorobenzene	0.72	U J3	20.0	23.1	J3	ug/L		115	51 - 139	28	13
Chloroethane	0.98	U J3	20.0	30.8	J3	ug/L		154	27 - 180	38	22
Chloroform	0.80	U J3	20.0	25.0	J3	ug/L		125	59 - 139	24	17
Chloromethane	0.82	U J3	20.0	26.1	J3	ug/L		130	33 - 154	35	31
cis-1,2-Dichloroethene	0.53	U J3	20.0	25.2	J3	ug/L		126	56 - 128	26	17
cis-1,3-Dichloropropene	0.59	U J3	20.0	21.7	J3	ug/L		109	64 - 128	28	20
Cyclohexane	0.93	U	20.0	22.7		ug/L		114	14 - 141	21	30
Dibromochloromethane	0.50	U J3	20.0	24.3	J3	ug/L		122	50 - 150	29	18
Dichlorodifluoromethane	0.74	U J3	20.0	36.5	J3	ug/L		182	10 - 180	33	26
Ethylbenzene	0.69	U J3	20.0	22.9	J3	ug/L		114	63 - 133	25	18
Isopropylbenzene	0.67	U J3	20.0	24.1	J3	ug/L		121	60 - 132	26	23
m,p-Xylenes	1.3	U J3	20.0	22.6	J3	ug/L		113	64 - 133	27	18
Methyl acetate	0.95	U J3	40.0	57.6	J3	ug/L		144	50 - 150	35	30
Methyl tert-butyl ether	0.60	U J3	20.0	24.4	J3	ug/L		122	50 - 150	32	22
Methylene Chloride	5.0	U J3	20.0	23.9	J3	ug/L		120	43 - 142	27	23
o-Xylene	0.53	U J3	20.0	21.3	J3	ug/L		107	61 - 129	26	16
Styrene	0.61	U	20.0	21.0		ug/L		105	59 - 136	27	32
Tetrachloroethene	0.76	U J3	20.0	23.4	J3	ug/L		117	60 - 147	25	21
Toluene	0.72	U J3	20.0	23.4	J3	ug/L		117	64 - 131	25	16
trans-1,2-Dichloroethene	0.73	U J3	20.0	24.7	J3	ug/L		124	54 - 134	25	20
trans-1,3-Dichloropropene	0.73	U J3	20.0	24.2	J3	ug/L		121	65 - 149	27	17
Trichloroethene	0.89	U J3	20.0	24.0	J3	ug/L		120	62 - 135	26	20
Trichlorofluoromethane	0.94	U J3	20.0	39.0	J3	ug/L		195	56 - 155	36	22
Vinyl chloride	0.71	U J3	20.0	31.7	J3	ug/L		158	20 - 167	35	24

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 762-3290-C-1 MSD
Matrix: Water
Analysis Batch: 72266

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	1.3	U	40.0	43.9		ug/L		110	50 - 150	26	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Lab Sample ID: MB 670-72321/8
Matrix: Water
Analysis Batch: 72321

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/19/24 15:36	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/19/24 15:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/19/24 15:36	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/19/24 15:36	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/19/24 15:36	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/19/24 15:36	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/19/24 15:36	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/19/24 15:36	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/19/24 15:36	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/19/24 15:36	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/19/24 15:36	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/19/24 15:36	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/19/24 15:36	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/19/24 15:36	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/19/24 15:36	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/19/24 15:36	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/19/24 15:36	1
Acetone	25	U	50	25	ug/L			01/19/24 15:36	1
Benzene	0.71	U	1.0	0.71	ug/L			01/19/24 15:36	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/19/24 15:36	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/19/24 15:36	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/19/24 15:36	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/19/24 15:36	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/19/24 15:36	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/19/24 15:36	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/19/24 15:36	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/19/24 15:36	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/19/24 15:36	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/19/24 15:36	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/19/24 15:36	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/19/24 15:36	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/19/24 15:36	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/19/24 15:36	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/19/24 15:36	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/19/24 15:36	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/19/24 15:36	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72321/8
Matrix: Water
Analysis Batch: 72321

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	0.95	U	10	0.95	ug/L			01/19/24 15:36	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/19/24 15:36	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/19/24 15:36	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/19/24 15:36	1
Styrene	0.61	U	1.0	0.61	ug/L			01/19/24 15:36	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/19/24 15:36	1
Toluene	0.72	U	1.0	0.72	ug/L			01/19/24 15:36	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/19/24 15:36	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/19/24 15:36	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/19/24 15:36	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/19/24 15:36	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/19/24 15:36	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/19/24 15:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/19/24 15:36*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/19/24 15:36*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/19/24 15:36*	*1*

Lab Sample ID: LCS 670-72321/5
Matrix: Water
Analysis Batch: 72321

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.2		ug/L		101	57 - 148
1,1,2,2-Tetrachloroethane	20.0	19.4		ug/L		97	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	20.9		ug/L		104	47 - 173
1,1,2-Trichloroethane	20.0	19.7		ug/L		98	57 - 141
1,1-Dichloroethane	20.0	20.0		ug/L		100	57 - 142
1,1-Dichloroethene	20.0	21.3		ug/L		106	47 - 139
1,2,4-Trichlorobenzene	20.0	20.7		ug/L		104	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	17.5		ug/L		87	48 - 150
1,2-Dibromoethane (EDB)	20.0	19.5		ug/L		97	57 - 140
1,2-Dichlorobenzene	20.0	20.7		ug/L		104	63 - 131
1,2-Dichloroethane	20.0	19.3		ug/L		97	50 - 156
1,2-Dichloropropane	20.0	19.8		ug/L		99	61 - 133
1,3-Dichlorobenzene	20.0	20.5		ug/L		102	66 - 129
1,4-Dichlorobenzene	20.0	20.2		ug/L		101	65 - 133
2-Butanone (MEK)	200	200		ug/L		100	10 - 180
2-Hexanone	200	184		ug/L		92	12 - 180
4-Methyl-2-pentanone	200	204		ug/L		102	19 - 180
Acetone	200	150		ug/L		75	10 - 180
Benzene	20.0	20.2		ug/L		101	56 - 136
Bromodichloromethane	20.0	20.1		ug/L		100	58 - 135
Bromoform	20.0	20.5		ug/L		102	46 - 148
Bromomethane	20.0	19.9		ug/L		99	10 - 173
Carbon disulfide	20.0	18.1		ug/L		91	43 - 153
Carbon tetrachloride	20.0	20.5		ug/L		102	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72321/5
Matrix: Water
Analysis Batch: 72321

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	20.0	19.7		ug/L		99	51 - 139
Chloroethane	20.0	18.6		ug/L		93	27 - 180
Chloroform	20.0	21.2		ug/L		106	58 - 139
Chloromethane	20.0	18.8		ug/L		94	33 - 154
cis-1,2-Dichloroethene	20.0	19.3		ug/L		96	56 - 128
cis-1,3-Dichloropropene	20.0	18.9		ug/L		95	64 - 128
Cyclohexane	20.0	20.6		ug/L		103	14 - 151
Dibromochloromethane	20.0	20.5		ug/L		103	50 - 140
Dichlorodifluoromethane	20.0	23.5		ug/L		118	10 - 180
Ethylbenzene	20.0	20.3		ug/L		102	63 - 133
Isopropylbenzene	20.0	21.4		ug/L		107	60 - 132
m,p-Xylenes	20.0	21.3		ug/L		106	64 - 133
Methyl acetate	40.0	46.4		ug/L		116	70 - 130
Methyl tert-butyl ether	20.0	20.2		ug/L		101	51 - 145
Methylene Chloride	20.0	19.4		ug/L		97	43 - 142
o-Xylene	20.0	19.9		ug/L		99	61 - 129
Styrene	20.0	19.7		ug/L		98	59 - 136
Tetrachloroethene	20.0	21.2		ug/L		106	60 - 147
Toluene	20.0	20.5		ug/L		103	64 - 131
trans-1,2-Dichloroethene	20.0	20.6		ug/L		103	54 - 134
trans-1,3-Dichloropropene	20.0	20.2		ug/L		101	65 - 149
Trichloroethene	20.0	19.4		ug/L		97	62 - 135
Trichlorofluoromethane	20.0	19.6		ug/L		98	56 - 155
Vinyl chloride	20.0	18.3		ug/L		92	20 - 167
Xylenes, Total	40.0	41.2		ug/L		103	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Lab Sample ID: 670-33364-C-1 MS
Matrix: Water
Analysis Batch: 72321

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	20.8		ug/L		104	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	21.6		ug/L		108	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	21.6		ug/L		108	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	21.4		ug/L		107	57 - 141
1,1-Dichloroethane	0.62	U	20.0	21.3		ug/L		106	57 - 142
1,1-Dichloroethene	0.94	U	20.0	23.7		ug/L		119	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	20.4		ug/L		102	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	18.5		ug/L		92	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	20.4		ug/L		102	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	21.6		ug/L		108	63 - 131
1,2-Dichloroethane	0.63	U	20.0	20.1		ug/L		101	50 - 156
1,2-Dichloropropane	0.80	U	20.0	21.2		ug/L		106	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33364-C-1 MS
Matrix: Water
Analysis Batch: 72321

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	0.77	U	20.0	21.4		ug/L		107	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	20.5		ug/L		102	65 - 133
2-Butanone (MEK)	4.5	U	200	203		ug/L		102	10 - 180
2-Hexanone	2.5	U	200	197		ug/L		98	12 - 180
4-Methyl-2-pentanone	5.0	U	200	222		ug/L		111	19 - 180
Acetone	25	U	200	150		ug/L		75	10 - 180
Benzene	0.71	U	20.0	21.6		ug/L		108	56 - 136
Bromodichloromethane	0.52	U	20.0	21.3		ug/L		106	58 - 135
Bromoform	0.75	U	20.0	21.5		ug/L		107	46 - 148
Bromomethane	0.95	U	20.0	19.2		ug/L		96	10 - 173
Carbon disulfide	2.5	U	20.0	20.6		ug/L		103	43 - 153
Carbon tetrachloride	0.94	U	20.0	22.1		ug/L		110	54 - 156
Chlorobenzene	0.72	U	20.0	20.3		ug/L		101	51 - 139
Chloroethane	0.98	U	20.0	20.4		ug/L		102	27 - 180
Chloroform	0.80	U	20.0	21.2		ug/L		106	59 - 139
Chloromethane	0.82	U	20.0	19.9		ug/L		99	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	20.0		ug/L		100	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	19.5		ug/L		97	64 - 128
Cyclohexane	0.93	U	20.0	21.0		ug/L		105	14 - 141
Dibromochloromethane	0.50	U	20.0	21.3		ug/L		107	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	22.5		ug/L		113	10 - 180
Ethylbenzene	0.69	U	20.0	21.5		ug/L		107	63 - 133
Isopropylbenzene	0.67	U	20.0	22.9		ug/L		114	60 - 132
m,p-Xylenes	1.3	U	20.0	21.8		ug/L		109	64 - 133
Methyl acetate	0.95	U	40.0	44.2		ug/L		111	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	20.9		ug/L		105	50 - 150
Methylene Chloride	5.0	U	20.0	20.0		ug/L		100	43 - 142
o-Xylene	0.53	U	20.0	20.5		ug/L		102	61 - 129
Styrene	0.61	U	20.0	20.4		ug/L		102	59 - 136
Tetrachloroethene	0.76	U	20.0	21.7		ug/L		109	60 - 147
Toluene	0.72	U	20.0	21.2		ug/L		106	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	21.8		ug/L		109	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	21.1		ug/L		106	65 - 149
Trichloroethene	0.89	U	20.0	21.0		ug/L		105	62 - 135
Trichlorofluoromethane	0.94	U	20.0	20.8		ug/L		104	56 - 155
Vinyl chloride	0.71	U	20.0	22.1		ug/L		111	20 - 167
Xylenes, Total	1.3	U	40.0	42.3		ug/L		106	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33364-C-1 MSD
Matrix: Water
Analysis Batch: 72321

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	21.2		ug/L		106	57 - 148	2	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	22.6		ug/L		113	60 - 139	5	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	21.2		ug/L		106	50 - 150	2	30
1,1,2-Trichloroethane	0.76	U	20.0	20.4		ug/L		102	57 - 141	5	16
1,1-Dichloroethane	0.62	U	20.0	19.9		ug/L		100	57 - 142	6	24
1,1-Dichloroethene	0.94	U	20.0	21.8		ug/L		109	49 - 139	9	16
1,2,4-Trichlorobenzene	0.70	U	20.0	19.9		ug/L		100	52 - 159	2	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	19.7		ug/L		99	48 - 150	6	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	20.7		ug/L		103	50 - 150	2	16
1,2-Dichlorobenzene	0.73	U	20.0	21.8		ug/L		109	63 - 131	1	25
1,2-Dichloroethane	0.63	U	20.0	19.8		ug/L		99	50 - 156	1	18
1,2-Dichloropropane	0.80	U	20.0	21.6		ug/L		108	61 - 133	2	26
1,3-Dichlorobenzene	0.77	U	20.0	21.2		ug/L		106	66 - 129	1	23
1,4-Dichlorobenzene	0.76	U	20.0	20.5		ug/L		103	65 - 133	0	23
2-Butanone (MEK)	4.5	U	200	212		ug/L		106	10 - 180	4	29
2-Hexanone	2.5	U	200	205		ug/L		102	12 - 180	4	28
4-Methyl-2-pentanone	5.0	U	200	232		ug/L		116	19 - 180	4	24
Acetone	25	U	200	155		ug/L		78	10 - 180	4	19
Benzene	0.71	U	20.0	21.6		ug/L		108	56 - 136	0	14
Bromodichloromethane	0.52	U	20.0	21.0		ug/L		105	58 - 135	1	19
Bromoform	0.75	U	20.0	21.9		ug/L		109	46 - 148	2	18
Bromomethane	0.95	U	20.0	20.9		ug/L		104	10 - 173	8	29
Carbon disulfide	2.5	U	20.0	20.7		ug/L		104	43 - 153	0	26
Carbon tetrachloride	0.94	U	20.0	21.6		ug/L		108	54 - 156	2	27
Chlorobenzene	0.72	U	20.0	20.3		ug/L		101	51 - 139	0	13
Chloroethane	0.98	U	20.0	18.4		ug/L		92	27 - 180	11	22
Chloroform	0.80	U	20.0	21.2		ug/L		106	59 - 139	0	17
Chloromethane	0.82	U	20.0	19.8		ug/L		99	33 - 154	1	31
cis-1,2-Dichloroethene	0.53	U	20.0	18.9		ug/L		95	56 - 128	6	17
cis-1,3-Dichloropropene	0.59	U	20.0	19.8		ug/L		99	64 - 128	2	20
Cyclohexane	0.93	U	20.0	21.4		ug/L		107	14 - 141	2	30
Dibromochloromethane	0.50	U	20.0	21.6		ug/L		108	50 - 150	1	18
Dichlorodifluoromethane	0.74	U	20.0	21.1		ug/L		106	10 - 180	6	26
Ethylbenzene	0.69	U	20.0	21.1		ug/L		105	63 - 133	2	18
Isopropylbenzene	0.67	U	20.0	23.0		ug/L		115	60 - 132	0	23
m,p-Xylenes	1.3	U	20.0	21.1		ug/L		105	64 - 133	3	18
Methyl acetate	0.95	U	40.0	43.3		ug/L		108	50 - 150	2	30
Methyl tert-butyl ether	0.60	U	20.0	20.8		ug/L		104	50 - 150	0	22
Methylene Chloride	5.0	U	20.0	19.9		ug/L		100	43 - 142	0	23
o-Xylene	0.53	U	20.0	19.8		ug/L		99	61 - 129	3	16
Styrene	0.61	U	20.0	19.9		ug/L		100	59 - 136	2	32
Tetrachloroethene	0.76	U	20.0	22.7		ug/L		114	60 - 147	4	21
Toluene	0.72	U	20.0	21.8		ug/L		109	64 - 131	3	16
trans-1,2-Dichloroethene	0.73	U	20.0	21.5		ug/L		108	54 - 134	1	20
trans-1,3-Dichloropropene	0.73	U	20.0	20.9		ug/L		105	65 - 149	1	17
Trichloroethene	0.89	U	20.0	20.0		ug/L		100	62 - 135	5	20
Trichlorofluoromethane	0.94	U	20.0	21.0		ug/L		105	56 - 155	1	22
Vinyl chloride	0.71	U	20.0	21.1		ug/L		105	20 - 167	5	24

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33364-C-1 MSD
Matrix: Water
Analysis Batch: 72321

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	1.3	U	40.0	40.9		ug/L		102	50 - 150	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*104*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Lab Sample ID: MB 670-72523/8
Matrix: Water
Analysis Batch: 72523

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/22/24 13:00	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/22/24 13:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/22/24 13:00	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/22/24 13:00	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/22/24 13:00	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/22/24 13:00	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/22/24 13:00	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/22/24 13:00	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/22/24 13:00	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/22/24 13:00	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/22/24 13:00	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/22/24 13:00	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/22/24 13:00	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/22/24 13:00	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/22/24 13:00	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/22/24 13:00	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/22/24 13:00	1
Acetone	25	U	50	25	ug/L			01/22/24 13:00	1
Benzene	0.71	U	1.0	0.71	ug/L			01/22/24 13:00	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/22/24 13:00	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/22/24 13:00	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/22/24 13:00	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/22/24 13:00	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/22/24 13:00	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/22/24 13:00	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/22/24 13:00	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/22/24 13:00	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/22/24 13:00	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/22/24 13:00	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/22/24 13:00	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/22/24 13:00	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/22/24 13:00	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/22/24 13:00	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/22/24 13:00	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/22/24 13:00	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/22/24 13:00	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72523/8
Matrix: Water
Analysis Batch: 72523

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	0.95	U	10	0.95	ug/L			01/22/24 13:00	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/22/24 13:00	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/22/24 13:00	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/22/24 13:00	1
Styrene	0.61	U	1.0	0.61	ug/L			01/22/24 13:00	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/22/24 13:00	1
Toluene	0.72	U	1.0	0.72	ug/L			01/22/24 13:00	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/22/24 13:00	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/22/24 13:00	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/22/24 13:00	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/22/24 13:00	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/22/24 13:00	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/22/24 13:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/22/24 13:00*	*1*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*01/22/24 13:00*	*1*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/22/24 13:00*	*1*

Lab Sample ID: LCS 670-72523/5
Matrix: Water
Analysis Batch: 72523

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.0		ug/L		100	57 - 148
1,1,2,2-Tetrachloroethane	20.0	18.6		ug/L		93	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	23.1		ug/L		116	47 - 173
1,1,2-Trichloroethane	20.0	19.1		ug/L		96	57 - 141
1,1-Dichloroethane	20.0	19.5		ug/L		97	57 - 142
1,1-Dichloroethene	20.0	22.3		ug/L		112	47 - 139
1,2,4-Trichlorobenzene	20.0	20.1		ug/L		100	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	16.0		ug/L		80	48 - 150
1,2-Dibromoethane (EDB)	20.0	19.5		ug/L		97	57 - 140
1,2-Dichlorobenzene	20.0	21.4		ug/L		107	63 - 131
1,2-Dichloroethane	20.0	19.1		ug/L		95	50 - 156
1,2-Dichloropropane	20.0	20.4		ug/L		102	61 - 133
1,3-Dichlorobenzene	20.0	21.6		ug/L		108	66 - 129
1,4-Dichlorobenzene	20.0	21.3		ug/L		106	65 - 133
2-Butanone (MEK)	200	165		ug/L		83	10 - 180
2-Hexanone	200	161		ug/L		80	12 - 180
4-Methyl-2-pentanone	200	181		ug/L		91	19 - 180
Acetone	200	151		ug/L		75	10 - 180
Benzene	20.0	21.1		ug/L		106	56 - 136
Bromodichloromethane	20.0	21.0		ug/L		105	58 - 135
Bromoform	20.0	19.4		ug/L		97	46 - 148
Bromomethane	20.0	21.2		ug/L		106	10 - 173
Carbon disulfide	20.0	19.9		ug/L		100	43 - 153
Carbon tetrachloride	20.0	21.1		ug/L		106	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72523/5
Matrix: Water
Analysis Batch: 72523

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	20.0	20.7		ug/L		103	51 - 139
Chloroethane	20.0	21.4		ug/L		107	27 - 180
Chloroform	20.0	21.6		ug/L		108	58 - 139
Chloromethane	20.0	18.8		ug/L		94	33 - 154
cis-1,2-Dichloroethene	20.0	19.3		ug/L		97	56 - 128
cis-1,3-Dichloropropene	20.0	19.6		ug/L		98	64 - 128
Cyclohexane	20.0	20.9		ug/L		104	14 - 151
Dibromochloromethane	20.0	20.8		ug/L		104	50 - 140
Dichlorodifluoromethane	20.0	22.6		ug/L		113	10 - 180
Ethylbenzene	20.0	21.0		ug/L		105	63 - 133
Isopropylbenzene	20.0	23.6		ug/L		118	60 - 132
m,p-Xylenes	20.0	21.6		ug/L		108	64 - 133
Methyl acetate	40.0	39.5		ug/L		99	70 - 130
Methyl tert-butyl ether	20.0	18.1		ug/L		90	51 - 145
Methylene Chloride	20.0	20.2		ug/L		101	43 - 142
o-Xylene	20.0	20.3		ug/L		101	61 - 129
Styrene	20.0	19.9		ug/L		100	59 - 136
Tetrachloroethene	20.0	22.7		ug/L		114	60 - 147
Toluene	20.0	21.2		ug/L		106	64 - 131
trans-1,2-Dichloroethene	20.0	20.6		ug/L		103	54 - 134
trans-1,3-Dichloropropene	20.0	19.4		ug/L		97	65 - 149
Trichloroethene	20.0	21.3		ug/L		107	62 - 135
Trichlorofluoromethane	20.0	21.4		ug/L		107	56 - 155
Vinyl chloride	20.0	20.7		ug/L		104	20 - 167
Xylenes, Total	40.0	41.9		ug/L		105	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*
Dibromofluoromethane (Surr)	*103*		*53 - 146*
Toluene-d8 (Surr)	*105*		*40 - 146*

Lab Sample ID: 660-133999-A-1-A MS
Matrix: Water
Analysis Batch: 72523

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	80	U	2000	1880		ug/L		94	57 - 148
1,1,2,2-Tetrachloroethane	54	U	2000	1830		ug/L		91	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	2050		ug/L		103	50 - 150
1,1,2-Trichloroethane	76	U	2000	1970		ug/L		98	57 - 141
1,1-Dichloroethane	62	U	2000	1970		ug/L		99	57 - 142
1,1-Dichloroethene	94	U	2000	2010		ug/L		101	49 - 139
1,2,4-Trichlorobenzene	70	U	2000	1750		ug/L		87	52 - 159
1,2-Dibromo-3-Chloropropane	96	U	2000	1790		ug/L		90	48 - 150
1,2-Dibromoethane (EDB)	78	U	2000	1980		ug/L		99	50 - 150
1,2-Dichlorobenzene	73	U	2000	1960		ug/L		98	63 - 131
1,2-Dichloroethane	63	U	2000	1940		ug/L		97	50 - 156
1,2-Dichloropropane	80	U	2000	1940		ug/L		97	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-133999-A-1-A MS
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: TCLP
Analysis Batch: 72523

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	77	U	2000	1920		ug/L		96	66 - 129
1,4-Dichlorobenzene	76	U	2000	1850		ug/L		93	65 - 133
2-Butanone (MEK)	450	U	20000	20700		ug/L		103	10 - 180
2-Hexanone	250	U	20000	18300		ug/L		92	12 - 180
4-Methyl-2-pentanone	500	U	20000	21100		ug/L		105	19 - 180
Acetone	2500	U	20000	16800		ug/L		84	10 - 180
Benzene	71	U	2000	1920		ug/L		96	56 - 136
Bromodichloromethane	52	U	2000	1930		ug/L		96	58 - 135
Bromoform	75	U	2000	2030		ug/L		102	46 - 148
Bromomethane	95	U	2000	1840		ug/L		92	10 - 173
Carbon disulfide	250	U	2000	1790		ug/L		90	43 - 153
Carbon tetrachloride	94	U	2000	1880		ug/L		94	54 - 156
Chlorobenzene	72	U	2000	1930		ug/L		96	51 - 139
Chloroethane	98	U	2000	1750		ug/L		87	27 - 180
Chloroform	80	U	2000	1940		ug/L		97	59 - 139
Chloromethane	82	U	2000	1860		ug/L		93	33 - 154
cis-1,2-Dichloroethene	53	U	2000	1870		ug/L		93	56 - 128
cis-1,3-Dichloropropene	59	U	2000	1870		ug/L		94	64 - 128
Cyclohexane	93	U	2000	2040		ug/L		102	14 - 141
Dibromochloromethane	50	U	2000	2050		ug/L		103	50 - 150
Dichlorodifluoromethane	74	U	2000	1900		ug/L		95	10 - 180
Ethylbenzene	69	U	2000	2020		ug/L		101	63 - 133
Isopropylbenzene	67	U	2000	2100		ug/L		105	60 - 132
m,p-Xylenes	130	U	2000	2160		ug/L		108	64 - 133
Methyl acetate	95	U	4000	4490		ug/L		112	50 - 150
Methyl tert-butyl ether	60	U	2000	1870		ug/L		94	50 - 150
Methylene Chloride	500	U	2000	2140		ug/L		107	43 - 142
o-Xylene	73	I	2000	2040		ug/L		98	61 - 129
Styrene	61	U	2000	1930		ug/L		97	59 - 136
Tetrachloroethene	76	U	2000	2090		ug/L		104	60 - 147
Toluene	74	I	2000	2030		ug/L		98	64 - 131
trans-1,2-Dichloroethene	73	U	2000	2010		ug/L		101	54 - 134
trans-1,3-Dichloropropene	73	U	2000	2070		ug/L		104	65 - 149
Trichloroethene	89	U	2000	1940		ug/L		97	62 - 135
Trichlorofluoromethane	94	U	2000	1900		ug/L		95	56 - 155
Vinyl chloride	71	U	2000	1980		ug/L		99	20 - 167
Xylenes, Total	130	U	4000	4200		ug/L		105	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*
Dibromofluoromethane (Surr)	*107*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-133999-A-1-A MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: TCLP
Analysis Batch: 72523

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	80	U	2000	1950		ug/L		97	57 - 148	4	25
1,1,2,2-Tetrachloroethane	54	U	2000	1830		ug/L		91	60 - 139	0	17
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	2040		ug/L		102	50 - 150	0	30
1,1,2-Trichloroethane	76	U	2000	1840		ug/L		92	57 - 141	7	16
1,1-Dichloroethane	62	U	2000	1880		ug/L		94	57 - 142	5	24
1,1-Dichloroethene	94	U	2000	2020		ug/L		101	49 - 139	0	16
1,2,4-Trichlorobenzene	70	U	2000	1910		ug/L		96	52 - 159	9	24
1,2-Dibromo-3-Chloropropane	96	U	2000	1810		ug/L		91	48 - 150	1	21
1,2-Dibromoethane (EDB)	78	U	2000	1900		ug/L		95	50 - 150	5	16
1,2-Dichlorobenzene	73	U	2000	2170		ug/L		108	63 - 131	10	25
1,2-Dichloroethane	63	U	2000	1700		ug/L		85	50 - 156	13	18
1,2-Dichloropropane	80	U	2000	1880		ug/L		94	61 - 133	3	26
1,3-Dichlorobenzene	77	U	2000	2150		ug/L		108	66 - 129	12	23
1,4-Dichlorobenzene	76	U	2000	2050		ug/L		103	65 - 133	10	23
2-Butanone (MEK)	450	U	20000	16800		ug/L		84	10 - 180	21	29
2-Hexanone	250	U	20000	15800		ug/L		79	12 - 180	15	28
4-Methyl-2-pentanone	500	U	20000	17700		ug/L		89	19 - 180	17	24
Acetone	2500	U	20000	14800		ug/L		74	10 - 180	13	19
Benzene	71	U	2000	1930		ug/L		97	56 - 136	1	14
Bromodichloromethane	52	U	2000	1930		ug/L		97	58 - 135	0	19
Bromoform	75	U	2000	2100		ug/L		105	46 - 148	3	18
Bromomethane	95	U	2000	2050		ug/L		103	10 - 173	11	29
Carbon disulfide	250	U	2000	1890		ug/L		95	43 - 153	6	26
Carbon tetrachloride	94	U	2000	1920		ug/L		96	54 - 156	2	27
Chlorobenzene	72	U	2000	2020		ug/L		101	51 - 139	4	13
Chloroethane	98	U	2000	1850		ug/L		93	27 - 180	6	22
Chloroform	80	U	2000	1870		ug/L		94	59 - 139	4	17
Chloromethane	82	U	2000	1990		ug/L		100	33 - 154	7	31
cis-1,2-Dichloroethene	53	U	2000	1790		ug/L		90	56 - 128	4	17
cis-1,3-Dichloropropene	59	U	2000	1760		ug/L		88	64 - 128	6	20
Cyclohexane	93	U	2000	1940		ug/L		97	14 - 141	5	30
Dibromochloromethane	50	U	2000	2020		ug/L		101	50 - 150	2	18
Dichlorodifluoromethane	74	U	2000	1960		ug/L		98	10 - 180	3	26
Ethylbenzene	69	U	2000	2020		ug/L		101	63 - 133	0	18
Isopropylbenzene	67	U	2000	2300		ug/L		115	60 - 132	9	23
m,p-Xylenes	130	U	2000	2230		ug/L		111	64 - 133	3	18
Methyl acetate	95	U	4000	3740		ug/L		93	50 - 150	18	30
Methyl tert-butyl ether	60	U	2000	1650		ug/L		83	50 - 150	12	22
Methylene Chloride	500	U	2000	1850		ug/L		92	43 - 142	14	23
o-Xylene	73	I	2000	2070		ug/L		100	61 - 129	2	16
Styrene	61	U	2000	1960		ug/L		98	59 - 136	1	32
Tetrachloroethene	76	U	2000	2110		ug/L		105	60 - 147	1	21
Toluene	74	I	2000	2050		ug/L		99	64 - 131	1	16
trans-1,2-Dichloroethene	73	U	2000	1790		ug/L		90	54 - 134	11	20
trans-1,3-Dichloropropene	73	U	2000	1910		ug/L		95	65 - 149	8	17
Trichloroethene	89	U	2000	1940		ug/L		97	62 - 135	0	20
Trichlorofluoromethane	94	U	2000	1850		ug/L		93	56 - 155	3	22
Vinyl chloride	71	U	2000	2080		ug/L		104	20 - 167	5	24

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-133999-A-1-A MSD
Matrix: Water
Analysis Batch: 72523

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	130	U	4000	4300		ug/L		108	50 - 150	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*
Dibromofluoromethane (Surr)	*98*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Lab Sample ID: LB 670-72166/1-A
Matrix: Water
Analysis Batch: 72523

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane - DL	80	U	100	80	ug/L			01/22/24 13:21	100
1,1,2,2-Tetrachloroethane - DL	54	U	100	54	ug/L			01/22/24 13:21	100
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	73	U	200	73	ug/L			01/22/24 13:21	100
1,1,2-Trichloroethane - DL	76	U	200	76	ug/L			01/22/24 13:21	100
1,1-Dichloroethane - DL	62	U	100	62	ug/L			01/22/24 13:21	100
1,1-Dichloroethene - DL	94	U	100	94	ug/L			01/22/24 13:21	100
1,2,4-Trichlorobenzene - DL	70	U	200	70	ug/L			01/22/24 13:21	100
1,2-Dibromo-3-Chloropropane - DL	96	U	1000	96	ug/L			01/22/24 13:21	100
1,2-Dibromoethane (EDB) - DL	78	U	1200	78	ug/L			01/22/24 13:21	100
1,2-Dichlorobenzene - DL	73	U	100	73	ug/L			01/22/24 13:21	100
1,2-Dichloroethane - DL	63	U	100	63	ug/L			01/22/24 13:21	100
1,2-Dichloropropane - DL	80	U	100	80	ug/L			01/22/24 13:21	100
1,3-Dichlorobenzene - DL	77	U	100	77	ug/L			01/22/24 13:21	100
1,4-Dichlorobenzene - DL	76	U	100	76	ug/L			01/22/24 13:21	100
2-Butanone (MEK) - DL	450	U	1000	450	ug/L			01/22/24 13:21	100
2-Hexanone - DL	250	U	2000	250	ug/L			01/22/24 13:21	100
4-Methyl-2-pentanone - DL	500	U	2000	500	ug/L			01/22/24 13:21	100
Acetone - DL	2500	U	5000	2500	ug/L			01/22/24 13:21	100
Benzene - DL	71	U	100	71	ug/L			01/22/24 13:21	100
Bromodichloromethane - DL	52	U	100	52	ug/L			01/22/24 13:21	100
Bromoform - DL	75	U	100	75	ug/L			01/22/24 13:21	100
Bromomethane - DL	95	U	200	95	ug/L			01/22/24 13:21	100
Carbon disulfide - DL	250	U	500	250	ug/L			01/22/24 13:21	100
Carbon tetrachloride - DL	94	U	100	94	ug/L			01/22/24 13:21	100
Chlorobenzene - DL	72	U	100	72	ug/L			01/22/24 13:21	100
Chloroethane - DL	98	U	200	98	ug/L			01/22/24 13:21	100
Chloroform - DL	80	U	500	80	ug/L			01/22/24 13:21	100
Chloromethane - DL	82	U	200	82	ug/L			01/22/24 13:21	100
cis-1,2-Dichloroethene - DL	53	U	100	53	ug/L			01/22/24 13:21	100
cis-1,3-Dichloropropene - DL	59	U	100	59	ug/L			01/22/24 13:21	100
Cyclohexane - DL	93	U	500	93	ug/L			01/22/24 13:21	100
Dibromochloromethane - DL	50	U	100	50	ug/L			01/22/24 13:21	100
Dichlorodifluoromethane - DL	74	U	100	74	ug/L			01/22/24 13:21	100
Ethylbenzene - DL	69	U	100	69	ug/L			01/22/24 13:21	100

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: LB 670-72166/1-A
Matrix: Water
Analysis Batch: 72523

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene - DL	67	U	200	67	ug/L			01/22/24 13:21	100
m,p-Xylenes - DL	130	U	200	130	ug/L			01/22/24 13:21	100
Methyl acetate - DL	95	U	1000	95	ug/L			01/22/24 13:21	100
Methyl tert-butyl ether - DL	60	U	200	60	ug/L			01/22/24 13:21	100
Methylene Chloride - DL	500	U	1000	500	ug/L			01/22/24 13:21	100
o-Xylene - DL	53	U	100	53	ug/L			01/22/24 13:21	100
Styrene - DL	61	U	100	61	ug/L			01/22/24 13:21	100
Tetrachloroethene - DL	76	U	100	76	ug/L			01/22/24 13:21	100
Toluene - DL	72	U	100	72	ug/L			01/22/24 13:21	100
trans-1,2-Dichloroethene - DL	73	U	100	73	ug/L			01/22/24 13:21	100
trans-1,3-Dichloropropene - DL	73	U	100	73	ug/L			01/22/24 13:21	100
Trichloroethene - DL	89	U	100	89	ug/L			01/22/24 13:21	100
Trichlorofluoromethane - DL	94	U	100	94	ug/L			01/22/24 13:21	100
Vinyl chloride - DL	71	U	100	71	ug/L			01/22/24 13:21	100
Xylenes, Total - DL	130	U	200	130	ug/L			01/22/24 13:21	100

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr) - DL	*97*		*41 - 142*		*01/22/24 13:21*	*100*
Dibromofluoromethane (Surr) - DL	*108*		*53 - 146*		*01/22/24 13:21*	*100*
Toluene-d8 (Surr) - DL	*106*		*40 - 146*		*01/22/24 13:21*	*100*

GC/MS VOA

Leach Batch: 72166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 670-72166/1-A - DL	Method Blank	Total/NA	Water	1311	
660-133999-A-1-A MS	Matrix Spike	TCLP	Water	1311	
660-133999-A-1-A MSD	Matrix Spike Duplicate	TCLP	Water	1311	

Analysis Batch: 72258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33331-1	LC34-DPT0600-068.0-20240116	Total/NA	Water	8260D	
670-33331-2 - DL	LC34-DPT0599-068.0-20240116	Total/NA	Water	8260D	
670-33331-3	LC34-DPT0600-073.0-20240116	Total/NA	Water	8260D	
670-33331-4	LC34-DPT0599-073.0-20240116	Total/NA	Water	8260D	
670-33331-5 - DL	LC34-DPT0600-078.0-20240116	Total/NA	Water	8260D	
670-33331-6 - DL	LC34-DPT0599-078.0-20240116	Total/NA	Water	8260D	
670-33331-8 - DL	LC34-DPT0599-088.0-20240116	Total/NA	Water	8260D	
670-33331-9	LC34-DPT0600-088.0-20240117	Total/NA	Water	8260D	
670-33331-10	LC34-DPT0600-093.0-20240117	Total/NA	Water	8260D	
670-33331-11	LC34-DPT0600-098.0-20240117	Total/NA	Water	8260D	
MB 670-72258/8	Method Blank	Total/NA	Water	8260D	
LCS 670-72258/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 670-72258/5	Lab Control Sample Dup	Total/NA	Water	8260D	
670-33226-C-7 MS	Matrix Spike	Total/NA	Water	8260D	
670-33226-C-7 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 72266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33331-12	LC34-DPT0596-008.0-20240117	Total/NA	Water	8260D	
670-33331-13	LC34-DPT0596-013.0-20240117	Total/NA	Water	8260D	
670-33331-14	LC34-DPT0596-018.0-20240117	Total/NA	Water	8260D	
670-33331-15 - DL	LC34-DPT0599-093.0-20240117	Total/NA	Water	8260D	
670-33331-16	LC34-DPT0596-023.0-20240117	Total/NA	Water	8260D	
670-33331-17 - DL	LC34-DPT0596-028.0-20240117	Total/NA	Water	8260D	
670-33331-18 - DL	LC34-DPT0599-098.0-20240117	Total/NA	Water	8260D	
670-33331-19 - DL	LC34-DPT0596-033.0-20240117	Total/NA	Water	8260D	
670-33331-20 - DL	LC34-DPT0596-038.0-20240117	Total/NA	Water	8260D	
670-33331-21 - DL	LC34-DPT0596-048.0-20240117	Total/NA	Water	8260D	
670-33331-22 - DL	LC34-DPT0596-048.0-20240117	Total/NA	Water	8260D	
670-33331-23 - DL	LC34-DPT0598-008.0-20240117	Total/NA	Water	8260D	
670-33331-25 - DL	LC34-DPT0596-053.0-20240117	Total/NA	Water	8260D	
670-33331-27 - DL	LC34-DPT0596-058.0-20240117	Total/NA	Water	8260D	
670-33331-29 - DL	LC34-DPT0596-063.0-20240117	Total/NA	Water	8260D	
670-33331-30 - DL	LC34-DPT0598-028.0-20230117	Total/NA	Water	8260D	
MB 670-72266/7	Method Blank	Total/NA	Water	8260D	
LCS 670-72266/4	Lab Control Sample	Total/NA	Water	8260D	
762-3290-C-1 MS	Matrix Spike	Total/NA	Water	8260D	
762-3290-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 72321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33331-4 - DL	LC34-DPT0599-073.0-20240116	Total/NA	Water	8260D	
670-33331-7	LC34-DPT0600-083.0-20240116	Total/NA	Water	8260D	
MB 670-72321/8	Method Blank	Total/NA	Water	8260D	
LCS 670-72321/5	Lab Control Sample	Total/NA	Water	8260D	

GC/MS VOA (Continued)

Analysis Batch: 72321 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33364-C-1 MS	Matrix Spike	Total/NA	Water	8260D	
670-33364-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 72523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33331-2 - DL	LC34-DPT0599-068.0-20240116	Total/NA	Water	8260D	
670-33331-5 - DL	LC34-DPT0600-078.0-20240116	Total/NA	Water	8260D	
670-33331-6 - DL	LC34-DPT0599-078.0-20240116	Total/NA	Water	8260D	
670-33331-8 - DL	LC34-DPT0599-088.0-20240116	Total/NA	Water	8260D	
670-33331-18 - DL	LC34-DPT0599-098.0-20240117	Total/NA	Water	8260D	
670-33331-22 - DL	LC34-DPT0596-048.0-20240117	Total/NA	Water	8260D	
670-33331-24	LC34-DPT0598-013.0-20240117	Total/NA	Water	8260D	
670-33331-26	LC34-DPT0598-018.0-20240117	Total/NA	Water	8260D	
670-33331-28 - DL	LC34-DPT0598-023.0-20240117	Total/NA	Water	8260D	
670-33331-29 - DL	LC34-DPT0596-063.0-20240117	Total/NA	Water	8260D	
LB 670-72166/1-A - DL	Method Blank	Total/NA	Water	8260D	72166
MB 670-72523/8	Method Blank	Total/NA	Water	8260D	
LCS 670-72523/5	Lab Control Sample	Total/NA	Water	8260D	
660-133999-A-1-A MS	Matrix Spike	TCLP	Water	8260D	72166
660-133999-A-1-A MSD	Matrix Spike Duplicate	TCLP	Water	8260D	72166

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0600-068.0-20240116
Lab Sample ID: 670-33331-1
Date Collected: 01/16/24 14:20
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72258	AAM	EET ORL	01/19/24 14:39

Client Sample ID: LC34-DPT0599-068.0-20240116
Lab Sample ID: 670-33331-2
Date Collected: 01/16/24 14:30
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	72258	AAM	EET ORL	01/19/24 17:51
Total/NA	Analysis	8260D	DL	50	72523	AAM	EET ORL	01/22/24 18:57

Client Sample ID: LC34-DPT0600-073.0-20240116
Lab Sample ID: 670-33331-3
Date Collected: 01/16/24 14:55
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72258	AAM	EET ORL	01/19/24 14:58

Client Sample ID: LC34-DPT0599-073.0-20240116
Lab Sample ID: 670-33331-4
Date Collected: 01/16/24 15:00
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72258	AAM	EET ORL	01/19/24 15:16
Total/NA	Analysis	8260D	DL	2	72321	AAM	EET ORL	01/19/24 21:16

Client Sample ID: LC34-DPT0600-078.0-20240116
Lab Sample ID: 670-33331-5
Date Collected: 01/16/24 15:30
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	72258	AAM	EET ORL	01/19/24 17:31
Total/NA	Analysis	8260D	DL	10	72523	AAM	EET ORL	01/22/24 17:45

Client Sample ID: LC34-DPT0599-078.0-20240116
Lab Sample ID: 670-33331-6
Date Collected: 01/16/24 15:35
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2	72258	AAM	EET ORL	01/19/24 17:10
Total/NA	Analysis	8260D	DL	5	72523	AAM	EET ORL	01/22/24 16:34

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0600-083.0-20240116
Lab Sample ID: 670-33331-7
Date Collected: 01/16/24 16:55
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72321	AAM	EET ORL	01/19/24 20:52

Client Sample ID: LC34-DPT0599-088.0-20240116
Lab Sample ID: 670-33331-8
Date Collected: 01/16/24 16:55
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2	72258	AAM	EET ORL	01/19/24 16:49
Total/NA	Analysis	8260D	DL	5	72523	AAM	EET ORL	01/22/24 16:58

Client Sample ID: LC34-DPT0600-088.0-20240117
Lab Sample ID: 670-33331-9
Date Collected: 01/17/24 08:00
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72258	AAM	EET ORL	01/19/24 15:52

Client Sample ID: LC34-DPT0600-093.0-20240117
Lab Sample ID: 670-33331-10
Date Collected: 01/17/24 08:40
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72258	AAM	EET ORL	01/19/24 16:11

Client Sample ID: LC34-DPT0600-098.0-20240117
Lab Sample ID: 670-33331-11
Date Collected: 01/17/24 09:30
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72258	AAM	EET ORL	01/19/24 16:29

Client Sample ID: LC34-DPT0596-008.0-20240117
Lab Sample ID: 670-33331-12
Date Collected: 01/17/24 10:35
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72266	P1K	EET ORL	01/19/24 13:41

Client Sample ID: LC34-DPT0596-013.0-20240117
Lab Sample ID: 670-33331-13
Date Collected: 01/17/24 10:50
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72266	P1K	EET ORL	01/19/24 12:47

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0596-018.0-20240117
Lab Sample ID: 670-33331-14
Date Collected: 01/17/24 11:05
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72266	P1K	EET ORL	01/19/24 13:05

Client Sample ID: LC34-DPT0599-093.0-20240117
Lab Sample ID: 670-33331-15
Date Collected: 01/17/24 11:15
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	72266	P1K	EET ORL	01/19/24 14:00

Client Sample ID: LC34-DPT0596-023.0-20240117
Lab Sample ID: 670-33331-16
Date Collected: 01/17/24 11:20
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72266	P1K	EET ORL	01/19/24 13:23

Client Sample ID: LC34-DPT0596-028.0-20240117
Lab Sample ID: 670-33331-17
Date Collected: 01/17/24 11:40
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	72266	P1K	EET ORL	01/19/24 16:32

Client Sample ID: LC34-DPT0599-098.0-20240117
Lab Sample ID: 670-33331-18
Date Collected: 01/17/24 11:50
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	72523	AAM	EET ORL	01/22/24 18:09
Total/NA	Analysis	8260D	DL	10	72266	P1K	EET ORL	01/19/24 14:20

Client Sample ID: LC34-DPT0596-033.0-20240117
Lab Sample ID: 670-33331-19
Date Collected: 01/17/24 11:55
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	72266	P1K	EET ORL	01/19/24 16:49

Client Sample ID: LC34-DPT0596-038.0-20240117
Lab Sample ID: 670-33331-20
Date Collected: 01/17/24 12:15
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	72266	P1K	EET ORL	01/19/24 17:07

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0596-048.0-20240117
Lab Sample ID: 670-33331-21
Date Collected: 01/17/24 12:40
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72266	P1K	EET ORL	01/19/24 17:25

Client Sample ID: LC34-DPT0596-048.0-20240117
Lab Sample ID: 670-33331-22
Date Collected: 01/17/24 13:00
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	20000	72523	AAM	EET ORL	01/22/24 21:26
Total/NA	Analysis	8260D	DL	10000	72266	P1K	EET ORL	01/19/24 17:43

Client Sample ID: LC34-DPT0598-008.0-20240117
Lab Sample ID: 670-33331-23
Date Collected: 01/17/24 13:05
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	50	72266	P1K	EET ORL	01/19/24 15:38

Client Sample ID: LC34-DPT0598-013.0-20240117
Lab Sample ID: 670-33331-24
Date Collected: 01/17/24 13:20
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72523	AAM	EET ORL	01/22/24 15:49

Client Sample ID: LC34-DPT0596-053.0-20240117
Lab Sample ID: 670-33331-25
Date Collected: 01/17/24 13:25
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10000	72266	P1K	EET ORL	01/19/24 18:00

Client Sample ID: LC34-DPT0598-018.0-20240117
Lab Sample ID: 670-33331-26
Date Collected: 01/17/24 13:40
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72523	AAM	EET ORL	01/22/24 16:10

Client Sample ID: LC34-DPT0596-058.0-20240117
Lab Sample ID: 670-33331-27
Date Collected: 01/17/24 13:50
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10000	72266	P1K	EET ORL	01/19/24 18:18

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0598-023.0-20240117
Lab Sample ID: 670-33331-28
Date Collected: 01/17/24 13:55
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	72523	AAM	EET ORL	01/22/24 17:21

Client Sample ID: LC34-DPT0596-063.0-20240117
Lab Sample ID: 670-33331-29
Date Collected: 01/17/24 14:20
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	72523	AAM	EET ORL	01/22/24 20:45
Total/NA	Analysis	8260D	DL	100	72266	P1K	EET ORL	01/19/24 16:14

Client Sample ID: LC34-DPT0598-028.0-20230117
Lab Sample ID: 670-33331-30
Date Collected: 01/17/24 14:20
Matrix: Water
Date Received: 01/18/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	50	72266	P1K	EET ORL	01/19/24 15:56

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-33331-1
Project/Site: NASA KSC LC34 DPT

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-33331-1	LC34-DPT0600-068.0-20240116	Water	01/16/24 14:20	01/18/24 08:00
670-33331-2	LC34-DPT0599-068.0-20240116	Water	01/16/24 14:30	01/18/24 08:00
670-33331-3	LC34-DPT0600-073.0-20240116	Water	01/16/24 14:55	01/18/24 08:00
670-33331-4	LC34-DPT0599-073.0-20240116	Water	01/16/24 15:00	01/18/24 08:00
670-33331-5	LC34-DPT0600-078.0-20240116	Water	01/16/24 15:30	01/18/24 08:00
670-33331-6	LC34-DPT0599-078.0-20240116	Water	01/16/24 15:35	01/18/24 08:00
670-33331-7	LC34-DPT0600-083.0-20240116	Water	01/16/24 16:55	01/18/24 08:00
670-33331-8	LC34-DPT0599-088.0-20240116	Water	01/16/24 16:55	01/18/24 08:00
670-33331-9	LC34-DPT0600-088.0-20240117	Water	01/17/24 08:00	01/18/24 08:00
670-33331-10	LC34-DPT0600-093.0-20240117	Water	01/17/24 08:40	01/18/24 08:00
670-33331-11	LC34-DPT0600-098.0-20240117	Water	01/17/24 09:30	01/18/24 08:00
670-33331-12	LC34-DPT0596-008.0-20240117	Water	01/17/24 10:35	01/18/24 08:00
670-33331-13	LC34-DPT0596-013.0-20240117	Water	01/17/24 10:50	01/18/24 08:00
670-33331-14	LC34-DPT0596-018.0-20240117	Water	01/17/24 11:05	01/18/24 08:00
670-33331-15	LC34-DPT0599-093.0-20240117	Water	01/17/24 11:15	01/18/24 08:00
670-33331-16	LC34-DPT0596-023.0-20240117	Water	01/17/24 11:20	01/18/24 08:00
670-33331-17	LC34-DPT0596-028.0-20240117	Water	01/17/24 11:40	01/18/24 08:00
670-33331-18	LC34-DPT0599-098.0-20240117	Water	01/17/24 11:50	01/18/24 08:00
670-33331-19	LC34-DPT0596-033.0-20240117	Water	01/17/24 11:55	01/18/24 08:00
670-33331-20	LC34-DPT0596-038.0-20240117	Water	01/17/24 12:15	01/18/24 08:00
670-33331-21	LC34-DPT0596-048.0-20240117	Water	01/17/24 12:40	01/18/24 08:00
670-33331-22	LC34-DPT0596-048.0-20240117	Water	01/17/24 13:00	01/18/24 08:00
670-33331-23	LC34-DPT0598-008.0-20240117	Water	01/17/24 13:05	01/18/24 08:00
670-33331-24	LC34-DPT0598-013.0-20240117	Water	01/17/24 13:20	01/18/24 08:00
670-33331-25	LC34-DPT0596-053.0-20240117	Water	01/17/24 13:25	01/18/24 08:00
670-33331-26	LC34-DPT0598-018.0-20240117	Water	01/17/24 13:40	01/18/24 08:00
670-33331-27	LC34-DPT0596-058.0-20240117	Water	01/17/24 13:50	01/18/24 08:00
670-33331-28	LC34-DPT0598-023.0-20240117	Water	01/17/24 13:55	01/18/24 08:00
670-33331-29	LC34-DPT0596-063.0-20240117	Water	01/17/24 14:20	01/18/24 08:00
670-33331-30	LC34-DPT0598-028.0-20230117	Water	01/17/24 14:20	01/18/24 08:00

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

Client Contact Info

Name:

Address :

Address 2:

City, State Zip: Merritt Island, Florida 32953

Phone:

Deliverables:

Special Instructions:

Client Contact Info

Company: Tetra Tech, Inc.

Project Manager Dylnicki, Kaitlin

Purchase Order: 1179322

Project Reference:

Work Order: 112G08985

Site Name: NASA KSC LC34

Email:

Sampler: Chuck Sorden/Natalie Fabbri

Proposed Due Date:

Description: LC34 Annual DPT

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Voa Vial 40ml - unpreserved	Total Bottles For Sample
1	LC34-DPT0600-068.0-20240116	Grab	Water	1/16/2024 14:20	FL			X	X	2	2	4
2	LC34-DPT0599-068.0-20240116	Grab	Water	1/16/2024 14:30	FL			X	X	2	2	4
3	LC34-DPT0600-073.0-20240116	Grab	Water	1/16/2024 14:55	FL			X	X	2	2	4
4	LC34-DPT0599-073.0-20240116	Grab	Water	1/16/2024 15:00	FL			X	X	2	2	4
5	LC34-DPT0600-078.0-20240116	Grab	Water	1/16/2024 15:30	FL			X	X	2	2	4
6	LC34-DPT0599-078.0-20240116	Grab	Water	1/16/2024 15:35	FL			X	X	2	2	4
7	LC34-DPT0600-083.0-20240116	Grab	Water	1/16/2024 16:55	FL			X	X	2	2	4
8	LC34-DPT0599-088.0-20240116	Grab	Water	1/16/2024 16:55	FL			X	X	2	2	4
9	LC34-DPT0600-088.0-20240117	Grab	Water	1/17/2024 08:00	FL			X	X	2	2	4
10	LC34-DPT0600-093.0-20240117	Grab	Water	1/17/2024 08:40	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

Client Contact Info

Name:

Address :

Address 2:

City, State Zip: Merritt Island, Florida 32953

Phone:

Deliverables:

Special Instructions:

Client Contact Info

Company: Tetra Tech, Inc.

Project Manager Dylnicki, Kaitlin

Purchase Order: 1179322

Project Reference:

Work Order: 112G08985

Site Name: NASA KSC LC34

Email:

Sampler: Chuck Sorden/Natalie Fabbri

Proposed Due Date:

Description: LC34 Annual DPT

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Voa Vial 40ml - unpreserved	Total Bottles For Sample
11	LC34-DPT0600-098.0-20240117	Grab	Water	1/17/2024 09:30	FL			X	X	2	2	4
12	LC34-DPT0596-008.0-20240117	Grab	Water	1/17/2024 10:35	FL			X	X	2	2	4
13	LC34-DPT0596-013.0-20240117	Grab	Water	1/17/2024 10:50	FL			X	X	2	2	4
14	LC34-DPT0596-018.0-20240117	Grab	Water	1/17/2024 11:05	FL			X	X	2	2	4
15	LC34-DPT0599-093.0-20240117	Grab	Water	1/17/2024 11:15	FL			X	X	2	2	4
16	LC34-DPT0596-023.0-20240117	Grab	Water	1/17/2024 11:20	FL			X	X	2	2	4
17	LC34-DPT0596-028.0-20240117	Grab	Water	1/17/2024 11:40	FL			X	X	2		2
18	LC34-DPT0599-098.0-20240117	Grab	Water	1/17/2024 11:50	FL			X	X	2	2	4
19	LC34-DPT0596-033.0-20240117	Grab	Water	1/17/2024 11:55	FL			X	X	2	2	4
20	LC34-DPT0596-038.0-20240117	Grab	Water	1/17/2024 12:15	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - Hydrochloric Acid	Voa Vial 40ml - unpreserved	Total Bottles For Sample
21	LC34-DPT0596-048.0-20240117	Grab	Water	1/17/2024 12:40	FL							
22	LC34-DPT0596-048.0-20240117	Grab	Water	1/17/2024 13:00	FL							
23	LC34-DPT0598-008.0-20240117	Grab	Water	1/17/2024 13:05	FL							
24	LC34-DPT0598-013.0-20240117	Grab	Water	1/17/2024 13:20	FL							
25	LC34-DPT0596-053.0-20240117	Grab	Water	1/17/2024 13:25	FL							
26	LC34-DPT0598-018.0-20240117	Grab	Water	1/17/2024 13:40	FL							
27	LC34-DPT0596-058.0-20240117	Grab	Water	1/17/2024 13:50	FL							
28	LC34-DPT0598-023.0-20240117	Grab	Water	1/17/2024 13:55	FL							
29	LC34-DPT0596-063.0-20240117	Grab	Water	1/17/2024 14:20	FL							
30	LC34-DPT0598-028.0-20230117	Grab	Water	1/17/2024 14:20	FL			X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	1/17/24 15:22	Chuck Sorden	1/17/24 15:22	Clerisier, Meline	1/18/24 13:28

Chain of Custody Sample Data

LC34-DPT0598-008.0-20240117

Matrix: Water **Filtered :** No **Hazard:** **State :** Florida

Collection Date Time[1]: 01/17/2024 13:05 **Time Zone:** Eastern

[1] All collection times displayed in 24 hour format.

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-33331-1

Login Number: 33331

List Number: 1

Creator: Clerisier, Meline

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34 DPT

JOB NUMBER

670-33380-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

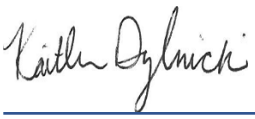
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Revision 1

Authorized for release by
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kaitlin.dylnicki@et.eurofinsus.com
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Definitions/Glossary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-33380-1

Revision
The report being provided is a revision of the original report sent on 1/31/2024. The report (revision 1) is being revised due to: update to include results for Trichloroethene that were not initially included..

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/19/2024 11:04 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.5°C and 1.2°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72525 recovered above the upper control limit for Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-72525/3).

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72525 recovered outside acceptance criteria, low biased, for Chloromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 670-72525 recovered outside control limits for the following analytes: Acetone.

Method 8260D: The laboratory control sample (LCS) for analytical batch 670-72525 recovered outside control limits for the following analytes: Methyl acetate. A low-level RL spiked at the reporting limit, was prepared with this batch. The affected target analytes recovered within acceptance limits; therefore, the RL demonstrates the analytical system had sufficient sensitivity to detect the compounds had they been present. Since the affected target compounds were not detected in the samples, the data have been reported and qualified.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0594-028.0-20240118 (670-33380-40), LC34-DPT0593-028.0-20240118 (670-33380-41), LC34-DPT0595-058.0-20240118 (670-33380-42), LC34-DPT0594-033.0-20240118 (670-33380-43), LC34-DPT0593-033.0-20240118 (670-33380-44), LC34-DPT0594-038.0-20240118 (670-33380-45), LC34-DPT0593-038.0-20240118 (670-33380-46) and LC34-DPT0595-063.0-20240118 (670-33380-47). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72565 recovered above the upper control limit for Bromomethane and Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-72565/3).

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0596-093.0-20240118 (670-33380-14), LC34-DPT0598-073.0-20240118 (670-33380-15), LC34-DPT0596-098.0-20240118 (670-33380-16), LC34-DPT0598-078.0-20240118 (670-33380-17), LC34-DPT0598-083.0-20240118 (670-33380-18), LC34-DPT0598-088.0-20240118 (670-33380-19), LC34-DPT0595-008.0-20240118 (670-33380-20), LC34-DPT0598-093.0-20240118 (670-33380-21), LC34-DPT0595-013.0-20240118 (670-33380-22), LC34-DPT0595-018.0-20230118 (670-33380-23), LC34-DPT0595-023.0-20240118 (670-33380-24), LC34-DPT0598-098.0-20240118 (670-33380-25), LC34-DPT0595-028.0-20240118

(670-33380-26), LC34-DPT0595-033.0-20240118 (670-33380-27), LC34-DPT0594-008.0-20240118 (670-33380-28), LC34-DPT0595-038.0-20240118 (670-33380-29), LC34-DPT0594-013.0-20240118 (670-33380-30), LC34-DPT0595-043.0-20240118 (670-33380-31) and LC34-DPT0594-018.0-20240118 (670-33380-32). Elevated reporting limits (RLs) are provided.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 670-72565 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72517 recovered outside acceptance criteria, low biased, for Chloromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0598-033.0-20240117 (670-33380-1), LC34-DPT0596-068.0-20240117 (670-33380-2), LC34-DPT0598-038.0-20240117 (670-33380-3), LC34-DPT0598-043.0-20240117 (670-33380-4), LC34-DPT0596-073.0-20240117 (670-33380-5), LC34-DPT0598-048.0-20240117 (670-33380-6), LC34-DPT0596-078.0-20240117 (670-33380-7), LC34-DPT0598-053.0-20240117 (670-33380-8), LC34-DPT0598-058.0-20240117 (670-33380-9), LC34-DPT0596-083.0-20240117 (670-33380-10), LC34-DPT0596-088.0-20240117 (670-33380-11) and LC34-DPT0598-063.0-20240117 (670-33380-12). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72521 recovered above the upper control limit for Chloroethane and Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-72521/5).

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 670-72521 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72669 recovered above the upper control limit for 1,1-Dichloroethane, 1,2-Dichloropropane, Bromomethane, Carbon disulfide, Chloroethane, Cyclohexane and Methylene Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-72669/4).

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72669 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane and Methyl acetate. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0594-043.0-20240118 (670-33380-48), LC34-DPT0594-048.0-20240118 (670-33380-49), LC34-DPT0593-043.0-20240118 (670-33380-50), LC34-DPT0594-053.0-20240118 (670-33380-51), LC34-DPT0593-048.0-20240118 (670-33380-52), LC34-DPT0595-073.0-20240118 (670-33380-53), LC34-DPT0595-068.0-20240118 (670-33380-54) and LC34-DPT0594-058.0-20240118 (670-33380-55). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72672 recovered outside acceptance criteria, low biased, for 1,1,2,2-Tetrachloroethane, 1,2-Dibromo-3-Chloropropane, 2-Butanone (MEK), 2-Hexanone, 4-Methyl-2-pentanone, Acetone, Chloromethane and Methyl acetate. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0595-048.0-20240118 (670-33380-35), LC34-DPT0593-018.0-20240118 (670-33380-37), LC34-DPT0595-053.0-20240118 (670-33380-38) and LC34-DPT0593-023.0-20240118 (670-33380-39). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72696 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane, Chloromethane and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0596-098.0-20240118 (670-33380-16). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72903 recovered outside acceptance

criteria, low biased, for 1,2-Dibromo-3-Chloropropane and Bromomethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0595-053.0-20240118 (670-33380-38), LC34-DPT0593-038.0-20240118 (670-33380-46), LC34-DPT0594-043.0-20240118 (670-33380-48), LC34-DPT0594-048.0-20240118 (670-33380-49), LC34-DPT0594-053.0-20240118 (670-33380-51), LC34-DPT0593-048.0-20240118 (670-33380-52) and LC34-DPT0595-068.0-20240118 (670-33380-54). Elevated reporting limits (RLs) are provided.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0596-098.0-20240118 (670-33380-16) and LC34-DPT0595-008.0-20240118 (670-33380-20). Elevated reporting limits (RLs) are provided.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0594-058.0-20240118 (670-33380-55). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-73081 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane, 2-Butanone (MEK), Acetone, Bromomethane, Carbon disulfide, Chloromethane, Dichlorodifluoromethane and Methyl acetate. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-73281 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane, 2-Butanone (MEK), Bromomethane, Chloromethane and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D:A further dilution was necessary in order to bring Trichloroethene within calibration range. A preserved vial was used. The following sample(s) was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The sample(s) was analyzed outside the 7-day holding time specified for unpreserved samples but within the 14-day holding time specified for preserved samples. LC34-DPT0594-058.0-20240118 (670-33380-55)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0598-033.0-20240117 — Lab Sample ID: 670-33380-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	13000		500	270	ug/L	500		8260D	Total/NA
Vinyl chloride - DL	1300		500	360	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-DPT0596-068.0-20240117 — Lab Sample ID: 670-33380-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	7.1	I	10	5.3	ug/L	10		8260D	Total/NA
Trichloroethene - DL	260		10	8.9	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-DPT0598-038.0-20240117 — Lab Sample ID: 670-33380-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	13000		250	130	ug/L	250		8260D	Total/NA
Vinyl chloride - DL	2500		250	180	ug/L	250		8260D	Total/NA

Client Sample ID: LC34-DPT0598-043.0-20240117 — Lab Sample ID: 670-33380-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene - DL	260		250	240	ug/L	250		8260D	Total/NA
cis-1,2-Dichloroethene - DL	15000		250	130	ug/L	250		8260D	Total/NA
trans-1,2-Dichloroethene - DL	320		250	180	ug/L	250		8260D	Total/NA
Vinyl chloride - DL	7900		250	180	ug/L	250		8260D	Total/NA

Client Sample ID: LC34-DPT0596-073.0-20240117 — Lab Sample ID: 670-33380-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene - DL	2400		100	89	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-DPT0598-048.0-20240117 — Lab Sample ID: 670-33380-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	86000		1000	530	ug/L	1000		8260D	Total/NA
trans-1,2-Dichloroethene - DL	1100		500	370	ug/L	500		8260D	Total/NA
Vinyl chloride - DL	12000		500	360	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-DPT0596-078.0-20240117 — Lab Sample ID: 670-33380-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	18	I	25	13	ug/L	25		8260D	Total/NA
trans-1,2-Dichloroethene - DL	32		25	18	ug/L	25		8260D	Total/NA
Trichloroethene - DL	1100		25	22	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	75		25	18	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-DPT0598-053.0-20240117 — Lab Sample ID: 670-33380-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	4300		500	270	ug/L	500		8260D	Total/NA
Vinyl chloride - DL	11000		500	360	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-DPT0598-058.0-20240117 — Lab Sample ID: 670-33380-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1500		250	130	ug/L	250		8260D	Total/NA
Vinyl chloride - DL	11000		250	180	ug/L	250		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0596-083.0-20240117 — Lab Sample ID: 670-33380-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene - DL	690		25	22	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-DPT0596-088.0-20240117 — Lab Sample ID: 670-33380-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	15		5.0	2.7	ug/L	5		8260D	Total/NA
Trichloroethene - DL	280		5.0	4.5	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	3.8	I	5.0	3.6	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-DPT0598-063.0-20240117 — Lab Sample ID: 670-33380-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	150		5.0	2.7	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	48		5.0	3.6	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-DPT0598-068.0-20240118 — Lab Sample ID: 670-33380-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.8		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	1.2		1.0	0.89	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0596-093.0-20240118 — Lab Sample ID: 670-33380-14

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	620		250	130	ug/L	250		8260D	Total/NA
Trichloroethene - DL	5700		250	220	ug/L	250		8260D	Total/NA

Client Sample ID: LC34-DPT0598-073.0-20240118 — Lab Sample ID: 670-33380-15

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	45		5.0	2.7	ug/L	5		8260D	Total/NA
Trichloroethene - DL	230		5.0	4.5	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-DPT0596-098.0-20240118 — Lab Sample ID: 670-33380-16

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	1200		25	22	ug/L	25		8260D	Total/NA
cis-1,2-Dichloroethene - DL	15		10	5.3	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-DPT0598-078.0-20240118 — Lab Sample ID: 670-33380-17

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	5900		5000	2700	ug/L	5000		8260D	Total/NA
Trichloroethene - DL	440000		5000	4500	ug/L	5000		8260D	Total/NA

Client Sample ID: LC34-DPT0598-083.0-20240118 — Lab Sample ID: 670-33380-18

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	11000		5000	2700	ug/L	5000		8260D	Total/NA
Trichloroethene - DL	530000		10000	8900	ug/L	10000		8260D	Total/NA

Client Sample ID: LC34-DPT0598-088.0-20240118 — Lab Sample ID: 670-33380-19

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	25000		500	270	ug/L	500		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: LC34-DPT0598-088.0-20240118 (Continued) — Lab Sample ID: 670-33380-19

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene - DL	19000		500	450	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-DPT0595-008.0-20240118 — Lab Sample ID: 670-33380-20

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.94	I	1.0	0.94	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	140		5.0	2.7	ug/L	5		8260D	Total/NA
Trichloroethene	7.0		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	43		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0598-093.0-20240118 — Lab Sample ID: 670-33380-21

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	24000		500	270	ug/L	500		8260D	Total/NA
Trichloroethene - DL	12000		500	450	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-DPT0595-013.0-20240118 — Lab Sample ID: 670-33380-22

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	55		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	0.96	I	1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	42		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0595-018.0-20230118 — Lab Sample ID: 670-33380-23

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	31		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	32		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0595-023.0-20240118 — Lab Sample ID: 670-33380-24

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	47		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	6.5		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	41		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0598-098.0-20240118 — Lab Sample ID: 670-33380-25

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	25000		2000	1100	ug/L	2000		8260D	Total/NA
Trichloroethene - DL	110000		2000	1800	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-DPT0595-028.0-20240118 — Lab Sample ID: 670-33380-26

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	48		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	0.79	I	1.0	0.73	ug/L	1		8260D	Total/NA
Trichloroethene	26		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	25		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0595-033.0-20240118 — Lab Sample ID: 670-33380-27

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	230		10	5.3	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	57		10	7.1	ug/L	10		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0594-008.0-20240118 — Lab Sample ID: 670-33380-28

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	200		10	5.3	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	14		10	7.1	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-DPT0595-038.0-20240118 — Lab Sample ID: 670-33380-29

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	3400		100	53	ug/L	100		8260D	Total/NA
Vinyl chloride - DL	9400		100	71	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-DPT0594-013.0-20240118 — Lab Sample ID: 670-33380-30

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	80		5.0	2.7	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	50		5.0	3.6	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-DPT0595-043.0-20240118 — Lab Sample ID: 670-33380-31

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	60000		1000	530	ug/L	1000		8260D	Total/NA
Vinyl chloride - DL	42000		1000	710	ug/L	1000		8260D	Total/NA

Client Sample ID: LC34-DPT0594-018.0-20240118 — Lab Sample ID: 670-33380-32

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	25		5.0	2.7	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	61		5.0	3.6	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-DPT0593-008.0-20240118 — Lab Sample ID: 670-33380-33

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.2		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	0.79	I	1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0594-023.0-20240118 — Lab Sample ID: 670-33380-34

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	38		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	3.6		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	52		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0595-048.0-20240118 — Lab Sample ID: 670-33380-35

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	4000		100	53	ug/L	100		8260D	Total/NA
Vinyl chloride - DL	9600		100	71	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-DPT0593-013.0-20240118 — Lab Sample ID: 670-33380-36

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.80	I	1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0593-018.0-20240118 — Lab Sample ID: 670-33380-37

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.6		1.0	0.53	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: LC34-DPT0593-018.0-20240118 (Continued) — Lab Sample ID: 670-33380-37

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	5.8		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	3.4		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0595-053.0-20240118 — Lab Sample ID: 670-33380-38

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	3000		50	27	ug/L	50		8260D	Total/NA
Trichloroethene - DL	45	I	50	45	ug/L	50		8260D	Total/NA
Vinyl chloride - DL	7800		200	140	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-DPT0593-023.0-20240118 — Lab Sample ID: 670-33380-39

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	50		5.0	2.7	ug/L	5		8260D	Total/NA
Trichloroethene - DL	22		5.0	4.5	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	56		5.0	3.6	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-DPT0594-028.0-20240118 — Lab Sample ID: 670-33380-40

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	70		5.0	2.7	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	41		5.0	3.6	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-DPT0593-028.0-20240118 — Lab Sample ID: 670-33380-41

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	4200		100	53	ug/L	100		8260D	Total/NA
trans-1,2-Dichloroethene - DL	74	I	100	73	ug/L	100		8260D	Total/NA
Vinyl chloride - DL	490		100	71	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-DPT0595-058.0-20240118 — Lab Sample ID: 670-33380-42

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	760		10	5.3	ug/L	10		8260D	Total/NA
Vinyl chloride - DL2	2500		50	36	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-DPT0594-033.0-20240118 — Lab Sample ID: 670-33380-43

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	900		10	5.3	ug/L	10		8260D	Total/NA
trans-1,2-Dichloroethene - DL	10		10	7.3	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	160		10	7.1	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-DPT0593-033.0-20240118 — Lab Sample ID: 670-33380-44

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	740		10	5.3	ug/L	10		8260D	Total/NA
trans-1,2-Dichloroethene - DL	100		10	7.3	ug/L	10		8260D	Total/NA
Trichloroethene - DL	27		10	8.9	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	280		10	7.1	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-DPT0594-038.0-20240118 — Lab Sample ID: 670-33380-45

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	9400		200	110	ug/L	200		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: LC34-DPT0594-038.0-20240118 (Continued) — Lab Sample ID: 670-33380-45

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene - DL	340		200	150	ug/L	200		8260D	Total/NA
Trichloroethene - DL	5200		200	180	ug/L	200		8260D	Total/NA
Vinyl chloride - DL	280		200	140	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-DPT0593-038.0-20240118 — Lab Sample ID: 670-33380-46

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	3800		100	53	ug/L	100		8260D	Total/NA
trans-1,2-Dichloroethene - DL	38		5.0	3.7	ug/L	5		8260D	Total/NA
Trichloroethene - DL	130		5.0	4.5	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	290		5.0	3.6	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-DPT0595-063.0-20240118 — Lab Sample ID: 670-33380-47

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	24		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	14		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0594-043.0-20240118 — Lab Sample ID: 670-33380-48

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	5000		250	130	ug/L	250		8260D	Total/NA
Trichloroethene - DL	21000		250	220	ug/L	250		8260D	Total/NA

Client Sample ID: LC34-DPT0594-048.0-20240118 — Lab Sample ID: 670-33380-49

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	33000		1000	530	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	270000		5000	4500	ug/L	5000		8260D	Total/NA
Vinyl chloride - DL	1100		1000	710	ug/L	1000		8260D	Total/NA

Client Sample ID: LC34-DPT0593-043.0-20240118 — Lab Sample ID: 670-33380-50

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	13000		2000	1100	ug/L	2000		8260D	Total/NA
Trichloroethene - DL	110000		2000	1800	ug/L	2000		8260D	Total/NA
Vinyl chloride - DL	51000		2000	1400	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-DPT0594-053.0-20240118 — Lab Sample ID: 670-33380-51

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	1800	I	2000	730	ug/L	1000		8260D	Total/NA
cis-1,2-Dichloroethene - DL	91000		50000	27000	ug/L	50000		8260D	Total/NA
trans-1,2-Dichloroethene - DL	960	I	1000	730	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	1600000		50000	45000	ug/L	50000		8260D	Total/NA
Vinyl chloride - DL	2700		1000	710	ug/L	1000		8260D	Total/NA

Client Sample ID: LC34-DPT0593-048.0-20240118 — Lab Sample ID: 670-33380-52

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	14000		5000	2700	ug/L	5000		8260D	Total/NA
trans-1,2-Dichloroethene - DL	740		100	73	ug/L	100		8260D	Total/NA
Trichloroethene - DL	480000		5000	4500	ug/L	5000		8260D	Total/NA
Vinyl chloride - DL	31000		5000	3600	ug/L	5000		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0595-073.0-20240118 — Lab Sample ID: 670-33380-53

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	34		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	9.1		1.0	0.73	ug/L	1		8260D	Total/NA
Trichloroethene	43		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	7.8		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0595-068.0-20240118 — Lab Sample ID: 670-33380-54

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.86	I	1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	1.5		1.0	0.89	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0594-058.0-20240118 — Lab Sample ID: 670-33380-55

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	670000		10000	8900	ug/L	10000		8260D	Total/NA
1,1-Dichloroethene - DL	200		100	94	ug/L	100		8260D	Total/NA
cis-1,2-Dichloroethene - DL	51000		5000	2700	ug/L	5000		8260D	Total/NA
trans-1,2-Dichloroethene - DL	650		100	73	ug/L	100		8260D	Total/NA
Vinyl chloride - DL	2900		100	71	ug/L	100		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0598-033.0-20240117
Date Collected: 01/17/24 14:35
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			01/22/24 20:33	500
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			01/22/24 20:33	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			01/22/24 20:33	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			01/22/24 20:33	500
1,1-Dichloroethane	310	U	500	310	ug/L			01/22/24 20:33	500
1,1-Dichloroethene	470	U	500	470	ug/L			01/22/24 20:33	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			01/22/24 20:33	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			01/22/24 20:33	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			01/22/24 20:33	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			01/22/24 20:33	500
1,2-Dichloroethane	320	U	500	320	ug/L			01/22/24 20:33	500
1,2-Dichloropropane	400	U	500	400	ug/L			01/22/24 20:33	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			01/22/24 20:33	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			01/22/24 20:33	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			01/22/24 20:33	500
2-Hexanone	1300	U	10000	1300	ug/L			01/22/24 20:33	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			01/22/24 20:33	500
Acetone	13000	U	25000	13000	ug/L			01/22/24 20:33	500
Benzene	360	U	500	360	ug/L			01/22/24 20:33	500
Bromodichloromethane	260	U	500	260	ug/L			01/22/24 20:33	500
Bromoform	380	U	500	380	ug/L			01/22/24 20:33	500
Bromomethane	480	U	1000	480	ug/L			01/22/24 20:33	500
Carbon disulfide	1300	U	2500	1300	ug/L			01/22/24 20:33	500
Carbon tetrachloride	470	U	500	470	ug/L			01/22/24 20:33	500
Chlorobenzene	360	U	500	360	ug/L			01/22/24 20:33	500
Chloroethane	490	U	1000	490	ug/L			01/22/24 20:33	500
Chloroform	400	U	2500	400	ug/L			01/22/24 20:33	500
Chloromethane	410	U	1000	410	ug/L			01/22/24 20:33	500
cis-1,2-Dichloroethene	**13000**		500	270	ug/L			01/22/24 20:33	500
cis-1,3-Dichloropropene	300	U	500	300	ug/L			01/22/24 20:33	500
Cyclohexane	470	U	2500	470	ug/L			01/22/24 20:33	500
Dibromochloromethane	250	U	500	250	ug/L			01/22/24 20:33	500
Dichlorodifluoromethane	370	U	500	370	ug/L			01/22/24 20:33	500
Ethylbenzene	350	U	500	350	ug/L			01/22/24 20:33	500
Isopropylbenzene	340	U	1000	340	ug/L			01/22/24 20:33	500
m,p-Xylenes	650	U	1000	650	ug/L			01/22/24 20:33	500
Methyl acetate	480	U	5000	480	ug/L			01/22/24 20:33	500
Methyl tert-butyl ether	300	U	1000	300	ug/L			01/22/24 20:33	500
Methylene Chloride	2500	U	5000	2500	ug/L			01/22/24 20:33	500
o-Xylene	270	U	500	270	ug/L			01/22/24 20:33	500
Styrene	310	U	500	310	ug/L			01/22/24 20:33	500
Tetrachloroethene	380	U	500	380	ug/L			01/22/24 20:33	500
Toluene	360	U	500	360	ug/L			01/22/24 20:33	500
trans-1,2-Dichloroethene	370	U	500	370	ug/L			01/22/24 20:33	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			01/22/24 20:33	500
Trichloroethene	450	U	500	450	ug/L			01/22/24 20:33	500
Trichlorofluoromethane	470	U	500	470	ug/L			01/22/24 20:33	500
Vinyl chloride	**1300**		500	360	ug/L			01/22/24 20:33	500
Xylenes, Total	650	U	1000	650	ug/L			01/22/24 20:33	500

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0598-033.0-20240117

Lab Sample ID: 670-33380-1

Date Collected: 01/17/24 14:35

Matrix: Water

Date Received: 01/19/24 11:04

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*01/22/24 20:33*	*500*
Dibromofluoromethane (Surr)	*113*		*53 - 146*		*01/22/24 20:33*	*500*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/22/24 20:33*	*500*

Client Sample ID: LC34-DPT0596-068.0-20240117

Lab Sample ID: 670-33380-2

Date Collected: 01/17/24 14:45

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			01/22/24 18:42	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			01/22/24 18:42	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			01/22/24 18:42	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			01/22/24 18:42	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			01/22/24 18:42	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			01/22/24 18:42	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			01/22/24 18:42	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			01/22/24 18:42	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			01/22/24 18:42	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			01/22/24 18:42	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			01/22/24 18:42	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			01/22/24 18:42	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			01/22/24 18:42	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			01/22/24 18:42	10
2-Butanone (MEK)	45	U	100	45	ug/L			01/22/24 18:42	10
2-Hexanone	25	U	200	25	ug/L			01/22/24 18:42	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			01/22/24 18:42	10
Acetone	250	U	500	250	ug/L			01/22/24 18:42	10
Benzene	7.1	U	10	7.1	ug/L			01/22/24 18:42	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			01/22/24 18:42	10
Bromoform	7.5	U	10	7.5	ug/L			01/22/24 18:42	10
Bromomethane	9.5	U	20	9.5	ug/L			01/22/24 18:42	10
Carbon disulfide	25	U	50	25	ug/L			01/22/24 18:42	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			01/22/24 18:42	10
Chlorobenzene	7.2	U	10	7.2	ug/L			01/22/24 18:42	10
Chloroethane	9.8	U	20	9.8	ug/L			01/22/24 18:42	10
Chloroform	8.0	U	50	8.0	ug/L			01/22/24 18:42	10
Chloromethane	8.2	U	20	8.2	ug/L			01/22/24 18:42	10
cis-1,2-Dichloroethene	**7.1**	**I**	10	5.3	ug/L			01/22/24 18:42	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			01/22/24 18:42	10
Cyclohexane	9.3	U	50	9.3	ug/L			01/22/24 18:42	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			01/22/24 18:42	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			01/22/24 18:42	10
Ethylbenzene	6.9	U	10	6.9	ug/L			01/22/24 18:42	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			01/22/24 18:42	10
m,p-Xylenes	13	U	20	13	ug/L			01/22/24 18:42	10
Methyl acetate	9.5	U	100	9.5	ug/L			01/22/24 18:42	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			01/22/24 18:42	10
Methylene Chloride	50	U	100	50	ug/L			01/22/24 18:42	10
o-Xylene	5.3	U	10	5.3	ug/L			01/22/24 18:42	10

Client Sample ID: LC34-DPT0596-068.0-20240117

Lab Sample ID: 670-33380-2

Date Collected: 01/17/24 14:45

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	6.1	U	10	6.1	ug/L			01/22/24 18:42	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			01/22/24 18:42	10
Toluene	7.2	U	10	7.2	ug/L			01/22/24 18:42	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			01/22/24 18:42	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			01/22/24 18:42	10
Trichloroethene	**260**		10	8.9	ug/L			01/22/24 18:42	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			01/22/24 18:42	10
Vinyl chloride	7.1	U	10	7.1	ug/L			01/22/24 18:42	10
Xylenes, Total	13	U	20	13	ug/L			01/22/24 18:42	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*01/22/24 18:42*	*10*
Dibromofluoromethane (Surr)	*114*		*53 - 146*		*01/22/24 18:42*	*10*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/22/24 18:42*	*10*

Client Sample ID: LC34-DPT0598-038.0-20240117

Lab Sample ID: 670-33380-3

Date Collected: 01/17/24 14:55

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	200	U	250	200	ug/L			01/22/24 19:57	250
1,1,2,2-Tetrachloroethane	140	U	250	140	ug/L			01/22/24 19:57	250
1,1,2-Trichloro-1,2,2-trifluoroethane	180	U	500	180	ug/L			01/22/24 19:57	250
1,1,2-Trichloroethane	190	U	500	190	ug/L			01/22/24 19:57	250
1,1-Dichloroethane	160	U	250	160	ug/L			01/22/24 19:57	250
1,1-Dichloroethene	240	U	250	240	ug/L			01/22/24 19:57	250
1,2,4-Trichlorobenzene	180	U	500	180	ug/L			01/22/24 19:57	250
1,2-Dibromo-3-Chloropropane	240	U	2500	240	ug/L			01/22/24 19:57	250
1,2-Dibromoethane (EDB)	200	U	3000	200	ug/L			01/22/24 19:57	250
1,2-Dichlorobenzene	180	U	250	180	ug/L			01/22/24 19:57	250
1,2-Dichloroethane	160	U	250	160	ug/L			01/22/24 19:57	250
1,2-Dichloropropane	200	U	250	200	ug/L			01/22/24 19:57	250
1,3-Dichlorobenzene	190	U	250	190	ug/L			01/22/24 19:57	250
1,4-Dichlorobenzene	190	U	250	190	ug/L			01/22/24 19:57	250
2-Butanone (MEK)	1100	U	2500	1100	ug/L			01/22/24 19:57	250
2-Hexanone	630	U	5000	630	ug/L			01/22/24 19:57	250
4-Methyl-2-pentanone	1300	U	5000	1300	ug/L			01/22/24 19:57	250
Acetone	6300	U	13000	6300	ug/L			01/22/24 19:57	250
Benzene	180	U	250	180	ug/L			01/22/24 19:57	250
Bromodichloromethane	130	U	250	130	ug/L			01/22/24 19:57	250
Bromoform	190	U	250	190	ug/L			01/22/24 19:57	250
Bromomethane	240	U	500	240	ug/L			01/22/24 19:57	250
Carbon disulfide	630	U	1300	630	ug/L			01/22/24 19:57	250
Carbon tetrachloride	240	U	250	240	ug/L			01/22/24 19:57	250
Chlorobenzene	180	U	250	180	ug/L			01/22/24 19:57	250
Chloroethane	250	U	500	250	ug/L			01/22/24 19:57	250
Chloroform	200	U	1300	200	ug/L			01/22/24 19:57	250
Chloromethane	210	U	500	210	ug/L			01/22/24 19:57	250
cis-1,2-Dichloroethene	**13000**		250	130	ug/L			01/22/24 19:57	250

Client Sample ID: LC34-DPT0598-038.0-20240117

Lab Sample ID: 670-33380-3

Date Collected: 01/17/24 14:55

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	150	U	250	150	ug/L			01/22/24 19:57	250
Cyclohexane	230	U	1300	230	ug/L			01/22/24 19:57	250
Dibromochloromethane	130	U	250	130	ug/L			01/22/24 19:57	250
Dichlorodifluoromethane	190	U	250	190	ug/L			01/22/24 19:57	250
Ethylbenzene	170	U	250	170	ug/L			01/22/24 19:57	250
Isopropylbenzene	170	U	500	170	ug/L			01/22/24 19:57	250
m,p-Xylenes	330	U	500	330	ug/L			01/22/24 19:57	250
Methyl acetate	240	U	2500	240	ug/L			01/22/24 19:57	250
Methyl tert-butyl ether	150	U	500	150	ug/L			01/22/24 19:57	250
Methylene Chloride	1300	U	2500	1300	ug/L			01/22/24 19:57	250
o-Xylene	130	U	250	130	ug/L			01/22/24 19:57	250
Styrene	150	U	250	150	ug/L			01/22/24 19:57	250
Tetrachloroethene	190	U	250	190	ug/L			01/22/24 19:57	250
Toluene	180	U	250	180	ug/L			01/22/24 19:57	250
trans-1,2-Dichloroethene	180	U	250	180	ug/L			01/22/24 19:57	250
trans-1,3-Dichloropropene	180	U	250	180	ug/L			01/22/24 19:57	250
Trichloroethene	220	U	250	220	ug/L			01/22/24 19:57	250
Trichlorofluoromethane	240	U	250	240	ug/L			01/22/24 19:57	250
Vinyl chloride	**2500**		250	180	ug/L			01/22/24 19:57	250
Xylenes, Total	330	U	500	330	ug/L			01/22/24 19:57	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*01/22/24 19:57*	*250*
Dibromofluoromethane (Surr)	*113*		*53 - 146*		*01/22/24 19:57*	*250*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/22/24 19:57*	*250*

Client Sample ID: LC34-DPT0598-043.0-20240117

Lab Sample ID: 670-33380-4

Date Collected: 01/17/24 15:10

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	200	U	250	200	ug/L			01/22/24 20:15	250
1,1,2,2-Tetrachloroethane	140	U	250	140	ug/L			01/22/24 20:15	250
1,1,2-Trichloro-1,2,2-trifluoroethane	180	U	500	180	ug/L			01/22/24 20:15	250
1,1,2-Trichloroethane	190	U	500	190	ug/L			01/22/24 20:15	250
1,1-Dichloroethane	160	U	250	160	ug/L			01/22/24 20:15	250
1,1-Dichloroethene	**260**		250	240	ug/L			01/22/24 20:15	250
1,2,4-Trichlorobenzene	180	U	500	180	ug/L			01/22/24 20:15	250
1,2-Dibromo-3-Chloropropane	240	U	2500	240	ug/L			01/22/24 20:15	250
1,2-Dibromoethane (EDB)	200	U	3000	200	ug/L			01/22/24 20:15	250
1,2-Dichlorobenzene	180	U	250	180	ug/L			01/22/24 20:15	250
1,2-Dichloroethane	160	U	250	160	ug/L			01/22/24 20:15	250
1,2-Dichloropropane	200	U	250	200	ug/L			01/22/24 20:15	250
1,3-Dichlorobenzene	190	U	250	190	ug/L			01/22/24 20:15	250
1,4-Dichlorobenzene	190	U	250	190	ug/L			01/22/24 20:15	250
2-Butanone (MEK)	1100	U	2500	1100	ug/L			01/22/24 20:15	250
2-Hexanone	630	U	5000	630	ug/L			01/22/24 20:15	250
4-Methyl-2-pentanone	1300	U	5000	1300	ug/L			01/22/24 20:15	250
Acetone	6300	U	13000	6300	ug/L			01/22/24 20:15	250

Client Sample ID: LC34-DPT0598-043.0-20240117

Lab Sample ID: 670-33380-4

Date Collected: 01/17/24 15:10

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	180	U	250	180	ug/L			01/22/24 20:15	250
Bromodichloromethane	130	U	250	130	ug/L			01/22/24 20:15	250
Bromoform	190	U	250	190	ug/L			01/22/24 20:15	250
Bromomethane	240	U	500	240	ug/L			01/22/24 20:15	250
Carbon disulfide	630	U	1300	630	ug/L			01/22/24 20:15	250
Carbon tetrachloride	240	U	250	240	ug/L			01/22/24 20:15	250
Chlorobenzene	180	U	250	180	ug/L			01/22/24 20:15	250
Chloroethane	250	U	500	250	ug/L			01/22/24 20:15	250
Chloroform	200	U	1300	200	ug/L			01/22/24 20:15	250
Chloromethane	210	U	500	210	ug/L			01/22/24 20:15	250
cis-1,2-Dichloroethene	**15000**		250	130	ug/L			01/22/24 20:15	250
cis-1,3-Dichloropropene	150	U	250	150	ug/L			01/22/24 20:15	250
Cyclohexane	230	U	1300	230	ug/L			01/22/24 20:15	250
Dibromochloromethane	130	U	250	130	ug/L			01/22/24 20:15	250
Dichlorodifluoromethane	190	U	250	190	ug/L			01/22/24 20:15	250
Ethylbenzene	170	U	250	170	ug/L			01/22/24 20:15	250
Isopropylbenzene	170	U	500	170	ug/L			01/22/24 20:15	250
m,p-Xylenes	330	U	500	330	ug/L			01/22/24 20:15	250
Methyl acetate	240	U	2500	240	ug/L			01/22/24 20:15	250
Methyl tert-butyl ether	150	U	500	150	ug/L			01/22/24 20:15	250
Methylene Chloride	1300	U	2500	1300	ug/L			01/22/24 20:15	250
o-Xylene	130	U	250	130	ug/L			01/22/24 20:15	250
Styrene	150	U	250	150	ug/L			01/22/24 20:15	250
Tetrachloroethene	190	U	250	190	ug/L			01/22/24 20:15	250
Toluene	180	U	250	180	ug/L			01/22/24 20:15	250
trans-1,2-Dichloroethene	**320**		250	180	ug/L			01/22/24 20:15	250
trans-1,3-Dichloropropene	180	U	250	180	ug/L			01/22/24 20:15	250
Trichloroethene	220	U	250	220	ug/L			01/22/24 20:15	250
Trichlorofluoromethane	240	U	250	240	ug/L			01/22/24 20:15	250
Vinyl chloride	**7900**		250	180	ug/L			01/22/24 20:15	250
Xylenes, Total	330	U	500	330	ug/L			01/22/24 20:15	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*01/22/24 20:15*	*250*
Dibromofluoromethane (Surr)	*112*		*53 - 146*		*01/22/24 20:15*	*250*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/22/24 20:15*	*250*

Client Sample ID: LC34-DPT0596-073.0-20240117

Lab Sample ID: 670-33380-5

Date Collected: 01/17/24 15:15

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/22/24 19:22	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/22/24 19:22	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/22/24 19:22	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/22/24 19:22	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/22/24 19:22	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/22/24 19:22	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/22/24 19:22	100

Client Sample ID: LC34-DPT0596-073.0-20240117
Date Collected: 01/17/24 15:15
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/22/24 19:22	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/22/24 19:22	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/22/24 19:22	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/22/24 19:22	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/22/24 19:22	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/22/24 19:22	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/22/24 19:22	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/22/24 19:22	100
2-Hexanone	250	U	2000	250	ug/L			01/22/24 19:22	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/22/24 19:22	100
Acetone	2500	U	5000	2500	ug/L			01/22/24 19:22	100
Benzene	71	U	100	71	ug/L			01/22/24 19:22	100
Bromodichloromethane	52	U	100	52	ug/L			01/22/24 19:22	100
Bromoform	75	U	100	75	ug/L			01/22/24 19:22	100
Bromomethane	95	U	200	95	ug/L			01/22/24 19:22	100
Carbon disulfide	250	U	500	250	ug/L			01/22/24 19:22	100
Carbon tetrachloride	94	U	100	94	ug/L			01/22/24 19:22	100
Chlorobenzene	72	U	100	72	ug/L			01/22/24 19:22	100
Chloroethane	98	U	200	98	ug/L			01/22/24 19:22	100
Chloroform	80	U	500	80	ug/L			01/22/24 19:22	100
Chloromethane	82	U	200	82	ug/L			01/22/24 19:22	100
cis-1,2-Dichloroethene	53	U	100	53	ug/L			01/22/24 19:22	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/22/24 19:22	100
Cyclohexane	93	U	500	93	ug/L			01/22/24 19:22	100
Dibromochloromethane	50	U	100	50	ug/L			01/22/24 19:22	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/22/24 19:22	100
Ethylbenzene	69	U	100	69	ug/L			01/22/24 19:22	100
Isopropylbenzene	67	U	200	67	ug/L			01/22/24 19:22	100
m,p-Xylenes	130	U	200	130	ug/L			01/22/24 19:22	100
Methyl acetate	95	U	1000	95	ug/L			01/22/24 19:22	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/22/24 19:22	100
Methylene Chloride	500	U	1000	500	ug/L			01/22/24 19:22	100
o-Xylene	53	U	100	53	ug/L			01/22/24 19:22	100
Styrene	61	U	100	61	ug/L			01/22/24 19:22	100
Tetrachloroethene	76	U	100	76	ug/L			01/22/24 19:22	100
Toluene	72	U	100	72	ug/L			01/22/24 19:22	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			01/22/24 19:22	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/22/24 19:22	100
Trichloroethene	**2400**		100	89	ug/L			01/22/24 19:22	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/22/24 19:22	100
Vinyl chloride	71	U	100	71	ug/L			01/22/24 19:22	100
Xylenes, Total	130	U	200	130	ug/L			01/22/24 19:22	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*01/22/24 19:22*	*100*
Dibromofluoromethane (Surr)	*113*		*53 - 146*		*01/22/24 19:22*	*100*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/22/24 19:22*	*100*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0598-048.0-20240117
Date Collected: 01/17/24 15:30
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-6
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			01/22/24 20:50	500
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			01/22/24 20:50	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			01/22/24 20:50	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			01/22/24 20:50	500
1,1-Dichloroethane	310	U	500	310	ug/L			01/22/24 20:50	500
1,1-Dichloroethene	470	U	500	470	ug/L			01/22/24 20:50	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			01/22/24 20:50	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			01/22/24 20:50	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			01/22/24 20:50	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			01/22/24 20:50	500
1,2-Dichloroethane	320	U	500	320	ug/L			01/22/24 20:50	500
1,2-Dichloropropane	400	U	500	400	ug/L			01/22/24 20:50	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			01/22/24 20:50	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			01/22/24 20:50	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			01/22/24 20:50	500
2-Hexanone	1300	U	10000	1300	ug/L			01/22/24 20:50	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			01/22/24 20:50	500
Acetone	13000	U	25000	13000	ug/L			01/22/24 20:50	500
Benzene	360	U	500	360	ug/L			01/22/24 20:50	500
Bromodichloromethane	260	U	500	260	ug/L			01/22/24 20:50	500
Bromoform	380	U	500	380	ug/L			01/22/24 20:50	500
Bromomethane	480	U	1000	480	ug/L			01/22/24 20:50	500
Carbon disulfide	1300	U	2500	1300	ug/L			01/22/24 20:50	500
Carbon tetrachloride	470	U	500	470	ug/L			01/22/24 20:50	500
Chlorobenzene	360	U	500	360	ug/L			01/22/24 20:50	500
Chloroethane	490	U	1000	490	ug/L			01/22/24 20:50	500
Chloroform	400	U	2500	400	ug/L			01/22/24 20:50	500
Chloromethane	410	U	1000	410	ug/L			01/22/24 20:50	500
cis-1,2-Dichloroethene	**86000**		1000	530	ug/L			01/23/24 19:18	1000
cis-1,3-Dichloropropene	300	U	500	300	ug/L			01/22/24 20:50	500
Cyclohexane	470	U	2500	470	ug/L			01/22/24 20:50	500
Dibromochloromethane	250	U	500	250	ug/L			01/22/24 20:50	500
Dichlorodifluoromethane	370	U	500	370	ug/L			01/22/24 20:50	500
Ethylbenzene	350	U	500	350	ug/L			01/22/24 20:50	500
Isopropylbenzene	340	U	1000	340	ug/L			01/22/24 20:50	500
m,p-Xylenes	650	U	1000	650	ug/L			01/22/24 20:50	500
Methyl acetate	480	U	5000	480	ug/L			01/22/24 20:50	500
Methyl tert-butyl ether	300	U	1000	300	ug/L			01/22/24 20:50	500
Methylene Chloride	2500	U	5000	2500	ug/L			01/22/24 20:50	500
o-Xylene	270	U	500	270	ug/L			01/22/24 20:50	500
Styrene	310	U	500	310	ug/L			01/22/24 20:50	500
Tetrachloroethene	380	U	500	380	ug/L			01/22/24 20:50	500
Toluene	360	U	500	360	ug/L			01/22/24 20:50	500
trans-1,2-Dichloroethene	**1100**		500	370	ug/L			01/22/24 20:50	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			01/22/24 20:50	500
Trichloroethene	450	U	500	450	ug/L			01/22/24 20:50	500
Trichlorofluoromethane	470	U	500	470	ug/L			01/22/24 20:50	500
Vinyl chloride	**12000**		500	360	ug/L			01/22/24 20:50	500
Xylenes, Total	650	U	1000	650	ug/L			01/22/24 20:50	500

Client Sample ID: LC34-DPT0598-048.0-20240117

Lab Sample ID: 670-33380-6

Date Collected: 01/17/24 15:30

Matrix: Water

Date Received: 01/19/24 11:04

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/22/24 20:50*	*500*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*01/23/24 19:18*	*1000*
Dibromofluoromethane (Surr)	*112*		*53 - 146*		*01/22/24 20:50*	*500*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*01/23/24 19:18*	*1000*
Toluene-d8 (Surr)	*96*		*40 - 146*		*01/22/24 20:50*	*500*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/23/24 19:18*	*1000*

Client Sample ID: LC34-DPT0596-078.0-20240117

Lab Sample ID: 670-33380-7

Date Collected: 01/17/24 15:45

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			01/22/24 14:30	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			01/22/24 14:30	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			01/22/24 14:30	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			01/22/24 14:30	25
1,1-Dichloroethane	16	U	25	16	ug/L			01/22/24 14:30	25
1,1-Dichloroethene	24	U	25	24	ug/L			01/22/24 14:30	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			01/22/24 14:30	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			01/22/24 14:30	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			01/22/24 14:30	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			01/22/24 14:30	25
1,2-Dichloroethane	16	U	25	16	ug/L			01/22/24 14:30	25
1,2-Dichloropropane	20	U	25	20	ug/L			01/22/24 14:30	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			01/22/24 14:30	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			01/22/24 14:30	25
2-Butanone (MEK)	110	U	250	110	ug/L			01/22/24 14:30	25
2-Hexanone	63	U	500	63	ug/L			01/22/24 14:30	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			01/22/24 14:30	25
Acetone	630	U	1300	630	ug/L			01/22/24 14:30	25
Benzene	18	U	25	18	ug/L			01/22/24 14:30	25
Bromodichloromethane	13	U	25	13	ug/L			01/22/24 14:30	25
Bromoform	19	U	25	19	ug/L			01/22/24 14:30	25
Bromomethane	24	U	50	24	ug/L			01/22/24 14:30	25
Carbon disulfide	63	U	130	63	ug/L			01/22/24 14:30	25
Carbon tetrachloride	24	U	25	24	ug/L			01/22/24 14:30	25
Chlorobenzene	18	U	25	18	ug/L			01/22/24 14:30	25
Chloroethane	25	U	50	25	ug/L			01/22/24 14:30	25
Chloroform	20	U	130	20	ug/L			01/22/24 14:30	25
Chloromethane	21	U	50	21	ug/L			01/22/24 14:30	25
cis-1,2-Dichloroethene	**18**	**I**	25	13	ug/L			01/22/24 14:30	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			01/22/24 14:30	25
Cyclohexane	23	U	130	23	ug/L			01/22/24 14:30	25
Dibromochloromethane	13	U	25	13	ug/L			01/22/24 14:30	25
Dichlorodifluoromethane	19	U	25	19	ug/L			01/22/24 14:30	25
Ethylbenzene	17	U	25	17	ug/L			01/22/24 14:30	25
Isopropylbenzene	17	U	50	17	ug/L			01/22/24 14:30	25
m,p-Xylenes	33	U	50	33	ug/L			01/22/24 14:30	25
Methyl acetate	24	U	250	24	ug/L			01/22/24 14:30	25

Client Sample ID: LC34-DPT0596-078.0-20240117

Lab Sample ID: 670-33380-7

Date Collected: 01/17/24 15:45

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	15	U	50	15	ug/L			01/22/24 14:30	25
Methylene Chloride	130	U	250	130	ug/L			01/22/24 14:30	25
o-Xylene	13	U	25	13	ug/L			01/22/24 14:30	25
Styrene	15	U	25	15	ug/L			01/22/24 14:30	25
Tetrachloroethene	19	U	25	19	ug/L			01/22/24 14:30	25
Toluene	18	U	25	18	ug/L			01/22/24 14:30	25
trans-1,2-Dichloroethene	**32**		25	18	ug/L			01/22/24 14:30	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			01/22/24 14:30	25
Trichloroethene	**1100**		25	22	ug/L			01/22/24 14:30	25
Trichlorofluoromethane	24	U	25	24	ug/L			01/22/24 14:30	25
Vinyl chloride	**75**		25	18	ug/L			01/22/24 14:30	25
Xylenes, Total	33	U	50	33	ug/L			01/22/24 14:30	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*01/22/24 14:30*	*25*
Dibromofluoromethane (Surr)	*111*		*53 - 146*		*01/22/24 14:30*	*25*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/22/24 14:30*	*25*

Client Sample ID: LC34-DPT0598-053.0-20240117

Lab Sample ID: 670-33380-8

Date Collected: 01/17/24 15:50

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			01/22/24 21:08	500
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			01/22/24 21:08	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			01/22/24 21:08	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			01/22/24 21:08	500
1,1-Dichloroethane	310	U	500	310	ug/L			01/22/24 21:08	500
1,1-Dichloroethene	470	U	500	470	ug/L			01/22/24 21:08	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			01/22/24 21:08	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			01/22/24 21:08	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			01/22/24 21:08	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			01/22/24 21:08	500
1,2-Dichloroethane	320	U	500	320	ug/L			01/22/24 21:08	500
1,2-Dichloropropane	400	U	500	400	ug/L			01/22/24 21:08	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			01/22/24 21:08	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			01/22/24 21:08	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			01/22/24 21:08	500
2-Hexanone	1300	U	10000	1300	ug/L			01/22/24 21:08	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			01/22/24 21:08	500
Acetone	13000	U	25000	13000	ug/L			01/22/24 21:08	500
Benzene	360	U	500	360	ug/L			01/22/24 21:08	500
Bromodichloromethane	260	U	500	260	ug/L			01/22/24 21:08	500
Bromoform	380	U	500	380	ug/L			01/22/24 21:08	500
Bromomethane	480	U	1000	480	ug/L			01/22/24 21:08	500
Carbon disulfide	1300	U	2500	1300	ug/L			01/22/24 21:08	500
Carbon tetrachloride	470	U	500	470	ug/L			01/22/24 21:08	500
Chlorobenzene	360	U	500	360	ug/L			01/22/24 21:08	500
Chloroethane	490	U	1000	490	ug/L			01/22/24 21:08	500

Client Sample ID: LC34-DPT0598-053.0-20240117

Lab Sample ID: 670-33380-8

Date Collected: 01/17/24 15:50

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	400	U	2500	400	ug/L			01/22/24 21:08	500
Chloromethane	410	U	1000	410	ug/L			01/22/24 21:08	500
cis-1,2-Dichloroethene	**4300**		500	270	ug/L			01/22/24 21:08	500
cis-1,3-Dichloropropene	300	U	500	300	ug/L			01/22/24 21:08	500
Cyclohexane	470	U	2500	470	ug/L			01/22/24 21:08	500
Dibromochloromethane	250	U	500	250	ug/L			01/22/24 21:08	500
Dichlorodifluoromethane	370	U	500	370	ug/L			01/22/24 21:08	500
Ethylbenzene	350	U	500	350	ug/L			01/22/24 21:08	500
Isopropylbenzene	340	U	1000	340	ug/L			01/22/24 21:08	500
m,p-Xylenes	650	U	1000	650	ug/L			01/22/24 21:08	500
Methyl acetate	480	U	5000	480	ug/L			01/22/24 21:08	500
Methyl tert-butyl ether	300	U	1000	300	ug/L			01/22/24 21:08	500
Methylene Chloride	2500	U	5000	2500	ug/L			01/22/24 21:08	500
o-Xylene	270	U	500	270	ug/L			01/22/24 21:08	500
Styrene	310	U	500	310	ug/L			01/22/24 21:08	500
Tetrachloroethene	380	U	500	380	ug/L			01/22/24 21:08	500
Toluene	360	U	500	360	ug/L			01/22/24 21:08	500
trans-1,2-Dichloroethene	370	U	500	370	ug/L			01/22/24 21:08	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			01/22/24 21:08	500
Trichloroethene	450	U	500	450	ug/L			01/22/24 21:08	500
Trichlorofluoromethane	470	U	500	470	ug/L			01/22/24 21:08	500
Vinyl chloride	**11000**		500	360	ug/L			01/22/24 21:08	500
Xylenes, Total	650	U	1000	650	ug/L			01/22/24 21:08	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*01/22/24 21:08*	*500*
Dibromofluoromethane (Surr)	*113*		*53 - 146*		*01/22/24 21:08*	*500*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/22/24 21:08*	*500*

Client Sample ID: LC34-DPT0598-058.0-20240117

Lab Sample ID: 670-33380-9

Date Collected: 01/17/24 16:10

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	200	U	250	200	ug/L			01/22/24 19:40	250
1,1,2,2-Tetrachloroethane	140	U	250	140	ug/L			01/22/24 19:40	250
1,1,2-Trichloro-1,2,2-trifluoroethane	180	U	500	180	ug/L			01/22/24 19:40	250
1,1,2-Trichloroethane	190	U	500	190	ug/L			01/22/24 19:40	250
1,1-Dichloroethane	160	U	250	160	ug/L			01/22/24 19:40	250
1,1-Dichloroethene	240	U	250	240	ug/L			01/22/24 19:40	250
1,2,4-Trichlorobenzene	180	U	500	180	ug/L			01/22/24 19:40	250
1,2-Dibromo-3-Chloropropane	240	U	2500	240	ug/L			01/22/24 19:40	250
1,2-Dibromoethane (EDB)	200	U	3000	200	ug/L			01/22/24 19:40	250
1,2-Dichlorobenzene	180	U	250	180	ug/L			01/22/24 19:40	250
1,2-Dichloroethane	160	U	250	160	ug/L			01/22/24 19:40	250
1,2-Dichloropropane	200	U	250	200	ug/L			01/22/24 19:40	250
1,3-Dichlorobenzene	190	U	250	190	ug/L			01/22/24 19:40	250
1,4-Dichlorobenzene	190	U	250	190	ug/L			01/22/24 19:40	250
2-Butanone (MEK)	1100	U	2500	1100	ug/L			01/22/24 19:40	250

Client Sample ID: LC34-DPT0598-058.0-20240117

Lab Sample ID: 670-33380-9

Date Collected: 01/17/24 16:10

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	630	U	5000	630	ug/L			01/22/24 19:40	250
4-Methyl-2-pentanone	1300	U	5000	1300	ug/L			01/22/24 19:40	250
Acetone	6300	U	13000	6300	ug/L			01/22/24 19:40	250
Benzene	180	U	250	180	ug/L			01/22/24 19:40	250
Bromodichloromethane	130	U	250	130	ug/L			01/22/24 19:40	250
Bromoform	190	U	250	190	ug/L			01/22/24 19:40	250
Bromomethane	240	U	500	240	ug/L			01/22/24 19:40	250
Carbon disulfide	630	U	1300	630	ug/L			01/22/24 19:40	250
Carbon tetrachloride	240	U	250	240	ug/L			01/22/24 19:40	250
Chlorobenzene	180	U	250	180	ug/L			01/22/24 19:40	250
Chloroethane	250	U	500	250	ug/L			01/22/24 19:40	250
Chloroform	200	U	1300	200	ug/L			01/22/24 19:40	250
Chloromethane	210	U	500	210	ug/L			01/22/24 19:40	250
cis-1,2-Dichloroethene	**1500**		250	130	ug/L			01/22/24 19:40	250
cis-1,3-Dichloropropene	150	U	250	150	ug/L			01/22/24 19:40	250
Cyclohexane	230	U	1300	230	ug/L			01/22/24 19:40	250
Dibromochloromethane	130	U	250	130	ug/L			01/22/24 19:40	250
Dichlorodifluoromethane	190	U	250	190	ug/L			01/22/24 19:40	250
Ethylbenzene	170	U	250	170	ug/L			01/22/24 19:40	250
Isopropylbenzene	170	U	500	170	ug/L			01/22/24 19:40	250
m,p-Xylenes	330	U	500	330	ug/L			01/22/24 19:40	250
Methyl acetate	240	U	2500	240	ug/L			01/22/24 19:40	250
Methyl tert-butyl ether	150	U	500	150	ug/L			01/22/24 19:40	250
Methylene Chloride	1300	U	2500	1300	ug/L			01/22/24 19:40	250
o-Xylene	130	U	250	130	ug/L			01/22/24 19:40	250
Styrene	150	U	250	150	ug/L			01/22/24 19:40	250
Tetrachloroethene	190	U	250	190	ug/L			01/22/24 19:40	250
Toluene	180	U	250	180	ug/L			01/22/24 19:40	250
trans-1,2-Dichloroethene	180	U	250	180	ug/L			01/22/24 19:40	250
trans-1,3-Dichloropropene	180	U	250	180	ug/L			01/22/24 19:40	250
Trichloroethene	220	U	250	220	ug/L			01/22/24 19:40	250
Trichlorofluoromethane	240	U	250	240	ug/L			01/22/24 19:40	250
Vinyl chloride	**11000**		250	180	ug/L			01/22/24 19:40	250
Xylenes, Total	330	U	500	330	ug/L			01/22/24 19:40	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*01/22/24 19:40*	*250*
Dibromofluoromethane (Surr)	*115*		*53 - 146*		*01/22/24 19:40*	*250*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/22/24 19:40*	*250*

Client Sample ID: LC34-DPT0596-083.0-20240117

Lab Sample ID: 670-33380-10

Date Collected: 01/17/24 16:15

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			01/22/24 19:02	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			01/22/24 19:02	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			01/22/24 19:02	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			01/22/24 19:02	25

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0596-083.0-20240117
Date Collected: 01/17/24 16:15
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-10
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	16	U	25	16	ug/L			01/22/24 19:02	25
1,1-Dichloroethene	24	U	25	24	ug/L			01/22/24 19:02	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			01/22/24 19:02	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			01/22/24 19:02	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			01/22/24 19:02	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			01/22/24 19:02	25
1,2-Dichloroethane	16	U	25	16	ug/L			01/22/24 19:02	25
1,2-Dichloropropane	20	U	25	20	ug/L			01/22/24 19:02	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			01/22/24 19:02	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			01/22/24 19:02	25
2-Butanone (MEK)	110	U	250	110	ug/L			01/22/24 19:02	25
2-Hexanone	63	U	500	63	ug/L			01/22/24 19:02	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			01/22/24 19:02	25
Acetone	630	U	1300	630	ug/L			01/22/24 19:02	25
Benzene	18	U	25	18	ug/L			01/22/24 19:02	25
Bromodichloromethane	13	U	25	13	ug/L			01/22/24 19:02	25
Bromoform	19	U	25	19	ug/L			01/22/24 19:02	25
Bromomethane	24	U	50	24	ug/L			01/22/24 19:02	25
Carbon disulfide	63	U	130	63	ug/L			01/22/24 19:02	25
Carbon tetrachloride	24	U	25	24	ug/L			01/22/24 19:02	25
Chlorobenzene	18	U	25	18	ug/L			01/22/24 19:02	25
Chloroethane	25	U	50	25	ug/L			01/22/24 19:02	25
Chloroform	20	U	130	20	ug/L			01/22/24 19:02	25
Chloromethane	21	U	50	21	ug/L			01/22/24 19:02	25
cis-1,2-Dichloroethene	13	U	25	13	ug/L			01/22/24 19:02	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			01/22/24 19:02	25
Cyclohexane	23	U	130	23	ug/L			01/22/24 19:02	25
Dibromochloromethane	13	U	25	13	ug/L			01/22/24 19:02	25
Dichlorodifluoromethane	19	U	25	19	ug/L			01/22/24 19:02	25
Ethylbenzene	17	U	25	17	ug/L			01/22/24 19:02	25
Isopropylbenzene	17	U	50	17	ug/L			01/22/24 19:02	25
m,p-Xylenes	33	U	50	33	ug/L			01/22/24 19:02	25
Methyl acetate	24	U	250	24	ug/L			01/22/24 19:02	25
Methyl tert-butyl ether	15	U	50	15	ug/L			01/22/24 19:02	25
Methylene Chloride	130	U	250	130	ug/L			01/22/24 19:02	25
o-Xylene	13	U	25	13	ug/L			01/22/24 19:02	25
Styrene	15	U	25	15	ug/L			01/22/24 19:02	25
Tetrachloroethene	19	U	25	19	ug/L			01/22/24 19:02	25
Toluene	18	U	25	18	ug/L			01/22/24 19:02	25
trans-1,2-Dichloroethene	18	U	25	18	ug/L			01/22/24 19:02	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			01/22/24 19:02	25
Trichloroethene	**690**		25	22	ug/L			01/22/24 19:02	25
Trichlorofluoromethane	24	U	25	24	ug/L			01/22/24 19:02	25
Vinyl chloride	18	U	25	18	ug/L			01/22/24 19:02	25
Xylenes, Total	33	U	50	33	ug/L			01/22/24 19:02	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*01/22/24 19:02*	*25*
Dibromofluoromethane (Surr)	*114*		*53 - 146*		*01/22/24 19:02*	*25*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/22/24 19:02*	*25*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0596-088.0-20240117
Date Collected: 01/17/24 16:50
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-11
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			01/22/24 18:05	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			01/22/24 18:05	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			01/22/24 18:05	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			01/22/24 18:05	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			01/22/24 18:05	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			01/22/24 18:05	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			01/22/24 18:05	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			01/22/24 18:05	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			01/22/24 18:05	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			01/22/24 18:05	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			01/22/24 18:05	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			01/22/24 18:05	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			01/22/24 18:05	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			01/22/24 18:05	5
2-Butanone (MEK)	23	U	50	23	ug/L			01/22/24 18:05	5
2-Hexanone	13	U	100	13	ug/L			01/22/24 18:05	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			01/22/24 18:05	5
Acetone	130	U	250	130	ug/L			01/22/24 18:05	5
Benzene	3.6	U	5.0	3.6	ug/L			01/22/24 18:05	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			01/22/24 18:05	5
Bromoform	3.8	U	5.0	3.8	ug/L			01/22/24 18:05	5
Bromomethane	4.8	U	10	4.8	ug/L			01/22/24 18:05	5
Carbon disulfide	13	U	25	13	ug/L			01/22/24 18:05	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			01/22/24 18:05	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			01/22/24 18:05	5
Chloroethane	4.9	U	10	4.9	ug/L			01/22/24 18:05	5
Chloroform	4.0	U	25	4.0	ug/L			01/22/24 18:05	5
Chloromethane	4.1	U	10	4.1	ug/L			01/22/24 18:05	5
cis-1,2-Dichloroethene	**15**		5.0	2.7	ug/L			01/22/24 18:05	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			01/22/24 18:05	5
Cyclohexane	4.7	U	25	4.7	ug/L			01/22/24 18:05	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			01/22/24 18:05	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			01/22/24 18:05	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			01/22/24 18:05	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			01/22/24 18:05	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			01/22/24 18:05	5
Methyl acetate	4.8	U	50	4.8	ug/L			01/22/24 18:05	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			01/22/24 18:05	5
Methylene Chloride	25	U	50	25	ug/L			01/22/24 18:05	5
o-Xylene	2.7	U	5.0	2.7	ug/L			01/22/24 18:05	5
Styrene	3.1	U	5.0	3.1	ug/L			01/22/24 18:05	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			01/22/24 18:05	5
Toluene	3.6	U	5.0	3.6	ug/L			01/22/24 18:05	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			01/22/24 18:05	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			01/22/24 18:05	5
Trichloroethene	**280**		5.0	4.5	ug/L			01/22/24 18:05	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			01/22/24 18:05	5
Vinyl chloride	**3.8**	**I**	5.0	3.6	ug/L			01/22/24 18:05	5
Xylenes, Total	6.5	U	10	6.5	ug/L			01/22/24 18:05	5

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0596-088.0-20240117

Lab Sample ID: 670-33380-11
Matrix: Water
Date Collected: 01/17/24 16:50
Date Received: 01/19/24 11:04

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		41 - 142		01/22/24 18:05	5
Dibromofluoromethane (Surr)	119		53 - 146		01/22/24 18:05	5
Toluene-d8 (Surr)	102		40 - 146		01/22/24 18:05	5

Client Sample ID: LC34-DPT0598-063.0-20240117

Lab Sample ID: 670-33380-12
Matrix: Water
Date Collected: 01/17/24 16:55
Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			01/22/24 18:22	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			01/22/24 18:22	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			01/22/24 18:22	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			01/22/24 18:22	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			01/22/24 18:22	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			01/22/24 18:22	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			01/22/24 18:22	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			01/22/24 18:22	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			01/22/24 18:22	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			01/22/24 18:22	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			01/22/24 18:22	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			01/22/24 18:22	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			01/22/24 18:22	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			01/22/24 18:22	5
2-Butanone (MEK)	23	U	50	23	ug/L			01/22/24 18:22	5
2-Hexanone	13	U	100	13	ug/L			01/22/24 18:22	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			01/22/24 18:22	5
Acetone	130	U	250	130	ug/L			01/22/24 18:22	5
Benzene	3.6	U	5.0	3.6	ug/L			01/22/24 18:22	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			01/22/24 18:22	5
Bromoform	3.8	U	5.0	3.8	ug/L			01/22/24 18:22	5
Bromomethane	4.8	U	10	4.8	ug/L			01/22/24 18:22	5
Carbon disulfide	13	U	25	13	ug/L			01/22/24 18:22	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			01/22/24 18:22	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			01/22/24 18:22	5
Chloroethane	4.9	U	10	4.9	ug/L			01/22/24 18:22	5
Chloroform	4.0	U	25	4.0	ug/L			01/22/24 18:22	5
Chloromethane	4.1	U	10	4.1	ug/L			01/22/24 18:22	5
cis-1,2-Dichloroethene	**150**		5.0	2.7	ug/L			01/22/24 18:22	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			01/22/24 18:22	5
Cyclohexane	4.7	U	25	4.7	ug/L			01/22/24 18:22	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			01/22/24 18:22	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			01/22/24 18:22	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			01/22/24 18:22	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			01/22/24 18:22	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			01/22/24 18:22	5
Methyl acetate	4.8	U	50	4.8	ug/L			01/22/24 18:22	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			01/22/24 18:22	5
Methylene Chloride	25	U	50	25	ug/L			01/22/24 18:22	5
o-Xylene	2.7	U	5.0	2.7	ug/L			01/22/24 18:22	5

Client Sample ID: LC34-DPT0598-063.0-20240117

Lab Sample ID: 670-33380-12

Date Collected: 01/17/24 16:55

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	3.1	U	5.0	3.1	ug/L			01/22/24 18:22	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			01/22/24 18:22	5
Toluene	3.6	U	5.0	3.6	ug/L			01/22/24 18:22	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			01/22/24 18:22	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			01/22/24 18:22	5
Trichloroethene	4.5	U	5.0	4.5	ug/L			01/22/24 18:22	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			01/22/24 18:22	5
Vinyl chloride	**48**		5.0	3.6	ug/L			01/22/24 18:22	5
Xylenes, Total	6.5	U	10	6.5	ug/L			01/22/24 18:22	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/22/24 18:22*	*5*
Dibromofluoromethane (Surr)	*113*		*53 - 146*		*01/22/24 18:22*	*5*
Toluene-d8 (Surr)	*97*		*40 - 146*		*01/22/24 18:22*	*5*

Client Sample ID: LC34-DPT0598-068.0-20240118

Lab Sample ID: 670-33380-13

Date Collected: 01/18/24 07:25

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/22/24 15:18	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/22/24 15:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/22/24 15:18	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/22/24 15:18	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/22/24 15:18	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/22/24 15:18	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/22/24 15:18	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/22/24 15:18	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/22/24 15:18	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/22/24 15:18	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/22/24 15:18	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/22/24 15:18	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/22/24 15:18	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/22/24 15:18	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/22/24 15:18	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/22/24 15:18	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/22/24 15:18	1
Acetone	25	U	50	25	ug/L			01/22/24 15:18	1
Benzene	0.71	U	1.0	0.71	ug/L			01/22/24 15:18	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/22/24 15:18	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/22/24 15:18	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/22/24 15:18	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/22/24 15:18	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/22/24 15:18	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/22/24 15:18	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/22/24 15:18	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/22/24 15:18	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/22/24 15:18	1
cis-1,2-Dichloroethene	**2.8**		1.0	0.53	ug/L			01/22/24 15:18	1

Client Sample ID: LC34-DPT0598-068.0-20240118

Lab Sample ID: 670-33380-13

Date Collected: 01/18/24 07:25

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/22/24 15:18	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/22/24 15:18	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/22/24 15:18	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/22/24 15:18	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/22/24 15:18	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/22/24 15:18	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/22/24 15:18	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/22/24 15:18	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/22/24 15:18	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/22/24 15:18	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/22/24 15:18	1
Styrene	0.61	U	1.0	0.61	ug/L			01/22/24 15:18	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/22/24 15:18	1
Toluene	0.72	U	1.0	0.72	ug/L			01/22/24 15:18	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/22/24 15:18	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/22/24 15:18	1
Trichloroethene	**1.2**		1.0	0.89	ug/L			01/22/24 15:18	1
Trichlorofluoromethane	0.94	U J3	1.0	0.94	ug/L			01/22/24 15:18	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/22/24 15:18	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/22/24 15:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/22/24 15:18*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/22/24 15:18*	*1*
Toluene-d8 (Surr)	*106*		*40 - 146*		*01/22/24 15:18*	*1*

Client Sample ID: LC34-DPT0596-093.0-20240118

Lab Sample ID: 670-33380-14

Date Collected: 01/18/24 07:40

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	200	U	250	200	ug/L			01/22/24 20:27	250
1,1,2,2-Tetrachloroethane	140	U	250	140	ug/L			01/22/24 20:27	250
1,1,2-Trichloro-1,2,2-trifluoroethane	180	U	500	180	ug/L			01/22/24 20:27	250
1,1,2-Trichloroethane	190	U	500	190	ug/L			01/22/24 20:27	250
1,1-Dichloroethane	160	U	250	160	ug/L			01/22/24 20:27	250
1,1-Dichloroethene	240	U	250	240	ug/L			01/22/24 20:27	250
1,2,4-Trichlorobenzene	180	U	500	180	ug/L			01/22/24 20:27	250
1,2-Dibromo-3-Chloropropane	240	U	2500	240	ug/L			01/22/24 20:27	250
1,2-Dibromoethane (EDB)	200	U	3000	200	ug/L			01/22/24 20:27	250
1,2-Dichlorobenzene	180	U	250	180	ug/L			01/22/24 20:27	250
1,2-Dichloroethane	160	U	250	160	ug/L			01/22/24 20:27	250
1,2-Dichloropropane	200	U	250	200	ug/L			01/22/24 20:27	250
1,3-Dichlorobenzene	190	U	250	190	ug/L			01/22/24 20:27	250
1,4-Dichlorobenzene	190	U	250	190	ug/L			01/22/24 20:27	250
2-Butanone (MEK)	1100	U	2500	1100	ug/L			01/22/24 20:27	250
2-Hexanone	630	U	5000	630	ug/L			01/22/24 20:27	250
4-Methyl-2-pentanone	1300	U	5000	1300	ug/L			01/22/24 20:27	250
Acetone	6300	U	13000	6300	ug/L			01/22/24 20:27	250

Client Sample ID: LC34-DPT0596-093.0-20240118

Lab Sample ID: 670-33380-14

Date Collected: 01/18/24 07:40

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	180	U	250	180	ug/L			01/22/24 20:27	250
Bromodichloromethane	130	U	250	130	ug/L			01/22/24 20:27	250
Bromoform	190	U	250	190	ug/L			01/22/24 20:27	250
Bromomethane	240	U	500	240	ug/L			01/22/24 20:27	250
Carbon disulfide	630	U	1300	630	ug/L			01/22/24 20:27	250
Carbon tetrachloride	240	U	250	240	ug/L			01/22/24 20:27	250
Chlorobenzene	180	U	250	180	ug/L			01/22/24 20:27	250
Chloroethane	250	U	500	250	ug/L			01/22/24 20:27	250
Chloroform	200	U	1300	200	ug/L			01/22/24 20:27	250
Chloromethane	210	U	500	210	ug/L			01/22/24 20:27	250
cis-1,2-Dichloroethene	**620**		250	130	ug/L			01/22/24 20:27	250
cis-1,3-Dichloropropene	150	U	250	150	ug/L			01/22/24 20:27	250
Cyclohexane	230	U	1300	230	ug/L			01/22/24 20:27	250
Dibromochloromethane	130	U	250	130	ug/L			01/22/24 20:27	250
Dichlorodifluoromethane	190	U	250	190	ug/L			01/22/24 20:27	250
Ethylbenzene	170	U	250	170	ug/L			01/22/24 20:27	250
Isopropylbenzene	170	U	500	170	ug/L			01/22/24 20:27	250
m,p-Xylenes	330	U	500	330	ug/L			01/22/24 20:27	250
Methyl acetate	240	U	2500	240	ug/L			01/22/24 20:27	250
Methyl tert-butyl ether	150	U	500	150	ug/L			01/22/24 20:27	250
Methylene Chloride	1300	U	2500	1300	ug/L			01/22/24 20:27	250
o-Xylene	130	U	250	130	ug/L			01/22/24 20:27	250
Styrene	150	U	250	150	ug/L			01/22/24 20:27	250
Tetrachloroethene	190	U	250	190	ug/L			01/22/24 20:27	250
Toluene	180	U	250	180	ug/L			01/22/24 20:27	250
trans-1,2-Dichloroethene	180	U	250	180	ug/L			01/22/24 20:27	250
trans-1,3-Dichloropropene	180	U	250	180	ug/L			01/22/24 20:27	250
Trichloroethene	**5700**		250	220	ug/L			01/22/24 20:27	250
Trichlorofluoromethane	240	U	250	240	ug/L			01/22/24 20:27	250
Vinyl chloride	180	U	250	180	ug/L			01/22/24 20:27	250
Xylenes, Total	330	U	500	330	ug/L			01/22/24 20:27	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/22/24 20:27*	*250*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/22/24 20:27*	*250*
Toluene-d8 (Surr)	*105*		*40 - 146*		*01/22/24 20:27*	*250*

Client Sample ID: LC34-DPT0598-073.0-20240118

Lab Sample ID: 670-33380-15

Date Collected: 01/18/24 07:55

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			01/22/24 16:31	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			01/22/24 16:31	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			01/22/24 16:31	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			01/22/24 16:31	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			01/22/24 16:31	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			01/22/24 16:31	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			01/22/24 16:31	5

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0598-073.0-20240118
Date Collected: 01/18/24 07:55
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-15
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			01/22/24 16:31	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			01/22/24 16:31	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			01/22/24 16:31	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			01/22/24 16:31	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			01/22/24 16:31	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			01/22/24 16:31	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			01/22/24 16:31	5
2-Butanone (MEK)	23	U	50	23	ug/L			01/22/24 16:31	5
2-Hexanone	13	U	100	13	ug/L			01/22/24 16:31	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			01/22/24 16:31	5
Acetone	130	U	250	130	ug/L			01/22/24 16:31	5
Benzene	3.6	U	5.0	3.6	ug/L			01/22/24 16:31	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			01/22/24 16:31	5
Bromoform	3.8	U	5.0	3.8	ug/L			01/22/24 16:31	5
Bromomethane	4.8	U	10	4.8	ug/L			01/22/24 16:31	5
Carbon disulfide	13	U	25	13	ug/L			01/22/24 16:31	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			01/22/24 16:31	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			01/22/24 16:31	5
Chloroethane	4.9	U	10	4.9	ug/L			01/22/24 16:31	5
Chloroform	4.0	U	25	4.0	ug/L			01/22/24 16:31	5
Chloromethane	4.1	U	10	4.1	ug/L			01/22/24 16:31	5
cis-1,2-Dichloroethene	**45**		5.0	2.7	ug/L			01/22/24 16:31	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			01/22/24 16:31	5
Cyclohexane	4.7	U	25	4.7	ug/L			01/22/24 16:31	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			01/22/24 16:31	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			01/22/24 16:31	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			01/22/24 16:31	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			01/22/24 16:31	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			01/22/24 16:31	5
Methyl acetate	4.8	U	50	4.8	ug/L			01/22/24 16:31	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			01/22/24 16:31	5
Methylene Chloride	25	U	50	25	ug/L			01/22/24 16:31	5
o-Xylene	2.7	U	5.0	2.7	ug/L			01/22/24 16:31	5
Styrene	3.1	U	5.0	3.1	ug/L			01/22/24 16:31	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			01/22/24 16:31	5
Toluene	3.6	U	5.0	3.6	ug/L			01/22/24 16:31	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			01/22/24 16:31	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			01/22/24 16:31	5
Trichloroethene	**230**		5.0	4.5	ug/L			01/22/24 16:31	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			01/22/24 16:31	5
Vinyl chloride	3.6	U	5.0	3.6	ug/L			01/22/24 16:31	5
Xylenes, Total	6.5	U	10	6.5	ug/L			01/22/24 16:31	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*41 - 142*		*01/22/24 16:31*	*5*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/22/24 16:31*	*5*
Toluene-d8 (Surr)	*104*		*40 - 146*		*01/22/24 16:31*	*5*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0596-098.0-20240118
Date Collected: 01/18/24 08:20
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-16
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**1200**		25	22	ug/L			01/24/24 18:00	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*41 - 142*		*01/24/24 18:00*	*25*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*01/24/24 18:00*	*25*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/24/24 18:00*	*25*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			01/23/24 18:21	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			01/23/24 18:21	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			01/23/24 18:21	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			01/23/24 18:21	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			01/23/24 18:21	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			01/23/24 18:21	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			01/23/24 18:21	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			01/23/24 18:21	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			01/23/24 18:21	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			01/23/24 18:21	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			01/23/24 18:21	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			01/23/24 18:21	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			01/23/24 18:21	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			01/23/24 18:21	10
2-Butanone (MEK)	45	U	100	45	ug/L			01/23/24 18:21	10
2-Hexanone	25	U	200	25	ug/L			01/23/24 18:21	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			01/23/24 18:21	10
Acetone	250	U	500	250	ug/L			01/23/24 18:21	10
Benzene	7.1	U	10	7.1	ug/L			01/23/24 18:21	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			01/23/24 18:21	10
Bromoform	7.5	U	10	7.5	ug/L			01/23/24 18:21	10
Bromomethane	9.5	U	20	9.5	ug/L			01/23/24 18:21	10
Carbon disulfide	25	U	50	25	ug/L			01/23/24 18:21	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			01/23/24 18:21	10
Chlorobenzene	7.2	U	10	7.2	ug/L			01/23/24 18:21	10
Chloroethane	9.8	U	20	9.8	ug/L			01/23/24 18:21	10
Chloroform	8.0	U	50	8.0	ug/L			01/23/24 18:21	10
Chloromethane	8.2	U	20	8.2	ug/L			01/23/24 18:21	10
cis-1,2-Dichloroethene	**15**		10	5.3	ug/L			01/23/24 18:21	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			01/23/24 18:21	10
Cyclohexane	9.3	U	50	9.3	ug/L			01/23/24 18:21	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			01/23/24 18:21	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			01/23/24 18:21	10
Ethylbenzene	6.9	U	10	6.9	ug/L			01/23/24 18:21	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			01/23/24 18:21	10
m,p-Xylenes	13	U	20	13	ug/L			01/23/24 18:21	10
Methyl acetate	9.5	U	100	9.5	ug/L			01/23/24 18:21	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			01/23/24 18:21	10
Methylene Chloride	50	U	100	50	ug/L			01/23/24 18:21	10
o-Xylene	5.3	U	10	5.3	ug/L			01/23/24 18:21	10
Styrene	6.1	U	10	6.1	ug/L			01/23/24 18:21	10

Client Sample ID: LC34-DPT0596-098.0-20240118

Lab Sample ID: 670-33380-16

Date Collected: 01/18/24 08:20

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	7.6	U	10	7.6	ug/L			01/23/24 18:21	10
Toluene	7.2	U	10	7.2	ug/L			01/23/24 18:21	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			01/23/24 18:21	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			01/23/24 18:21	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			01/23/24 18:21	10
Vinyl chloride	7.1	U	10	7.1	ug/L			01/23/24 18:21	10
Xylenes, Total	13	U	20	13	ug/L			01/23/24 18:21	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/23/24 18:21*	*10*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/23/24 18:21*	*10*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/23/24 18:21*	*10*

Client Sample ID: LC34-DPT0598-078.0-20240118

Lab Sample ID: 670-33380-17

Date Collected: 01/18/24 08:20

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4000	U	5000	4000	ug/L			01/22/24 21:56	5000
1,1,2,2-Tetrachloroethane	2700	U	5000	2700	ug/L			01/22/24 21:56	5000
1,1,2-Trichloro-1,2,2-trifluoroethane	3700	U	10000	3700	ug/L			01/22/24 21:56	5000
1,1,2-Trichloroethane	3800	U	10000	3800	ug/L			01/22/24 21:56	5000
1,1-Dichloroethane	3100	U	5000	3100	ug/L			01/22/24 21:56	5000
1,1-Dichloroethene	4700	U	5000	4700	ug/L			01/22/24 21:56	5000
1,2,4-Trichlorobenzene	3500	U	10000	3500	ug/L			01/22/24 21:56	5000
1,2-Dibromo-3-Chloropropane	4800	U	50000	4800	ug/L			01/22/24 21:56	5000
1,2-Dibromoethane (EDB)	3900	U	60000	3900	ug/L			01/22/24 21:56	5000
1,2-Dichlorobenzene	3700	U	5000	3700	ug/L			01/22/24 21:56	5000
1,2-Dichloroethane	3200	U	5000	3200	ug/L			01/22/24 21:56	5000
1,2-Dichloropropane	4000	U	5000	4000	ug/L			01/22/24 21:56	5000
1,3-Dichlorobenzene	3900	U	5000	3900	ug/L			01/22/24 21:56	5000
1,4-Dichlorobenzene	3800	U	5000	3800	ug/L			01/22/24 21:56	5000
2-Butanone (MEK)	23000	U	50000	23000	ug/L			01/22/24 21:56	5000
2-Hexanone	13000	U	100000	13000	ug/L			01/22/24 21:56	5000
4-Methyl-2-pentanone	25000	U	100000	25000	ug/L			01/22/24 21:56	5000
Acetone	130000	U	250000	130000	ug/L			01/22/24 21:56	5000
Benzene	3600	U	5000	3600	ug/L			01/22/24 21:56	5000
Bromodichloromethane	2600	U	5000	2600	ug/L			01/22/24 21:56	5000
Bromoform	3800	U	5000	3800	ug/L			01/22/24 21:56	5000
Bromomethane	4800	U	10000	4800	ug/L			01/22/24 21:56	5000
Carbon disulfide	13000	U	25000	13000	ug/L			01/22/24 21:56	5000
Carbon tetrachloride	4700	U	5000	4700	ug/L			01/22/24 21:56	5000
Chlorobenzene	3600	U	5000	3600	ug/L			01/22/24 21:56	5000
Chloroethane	4900	U	10000	4900	ug/L			01/22/24 21:56	5000
Chloroform	4000	U	25000	4000	ug/L			01/22/24 21:56	5000
Chloromethane	4100	U	10000	4100	ug/L			01/22/24 21:56	5000
cis-1,2-Dichloroethene	**5900**		5000	2700	ug/L			01/22/24 21:56	5000
cis-1,3-Dichloropropene	3000	U	5000	3000	ug/L			01/22/24 21:56	5000
Cyclohexane	4700	U	25000	4700	ug/L			01/22/24 21:56	5000

Client Sample ID: LC34-DPT0598-078.0-20240118

Lab Sample ID: 670-33380-17

Date Collected: 01/18/24 08:20

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	2500	U	5000	2500	ug/L			01/22/24 21:56	5000
Dichlorodifluoromethane	3700	U	5000	3700	ug/L			01/22/24 21:56	5000
Ethylbenzene	3500	U	5000	3500	ug/L			01/22/24 21:56	5000
Isopropylbenzene	3400	U	10000	3400	ug/L			01/22/24 21:56	5000
m,p-Xylenes	6500	U	10000	6500	ug/L			01/22/24 21:56	5000
Methyl acetate	4800	U	50000	4800	ug/L			01/22/24 21:56	5000
Methyl tert-butyl ether	3000	U	10000	3000	ug/L			01/22/24 21:56	5000
Methylene Chloride	25000	U	50000	25000	ug/L			01/22/24 21:56	5000
o-Xylene	2700	U	5000	2700	ug/L			01/22/24 21:56	5000
Styrene	3100	U	5000	3100	ug/L			01/22/24 21:56	5000
Tetrachloroethene	3800	U	5000	3800	ug/L			01/22/24 21:56	5000
Toluene	3600	U	5000	3600	ug/L			01/22/24 21:56	5000
trans-1,2-Dichloroethene	3700	U	5000	3700	ug/L			01/22/24 21:56	5000
trans-1,3-Dichloropropene	3700	U	5000	3700	ug/L			01/22/24 21:56	5000
Trichloroethene	**440000**		5000	4500	ug/L			01/22/24 21:56	5000
Trichlorofluoromethane	4700	U	5000	4700	ug/L			01/22/24 21:56	5000
Vinyl chloride	3600	U	5000	3600	ug/L			01/22/24 21:56	5000
Xylenes, Total	6500	U	10000	6500	ug/L			01/22/24 21:56	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/22/24 21:56*	*5000*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/22/24 21:56*	*5000*
Toluene-d8 (Surr)	*107*		*40 - 146*		*01/22/24 21:56*	*5000*

Client Sample ID: LC34-DPT0598-083.0-20240118

Lab Sample ID: 670-33380-18

Date Collected: 01/18/24 09:00

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4000	U	5000	4000	ug/L			01/22/24 22:14	5000
1,1,2,2-Tetrachloroethane	2700	U	5000	2700	ug/L			01/22/24 22:14	5000
1,1,2-Trichloro-1,2,2-trifluoroethane	3700	U	10000	3700	ug/L			01/22/24 22:14	5000
1,1,2-Trichloroethane	3800	U	10000	3800	ug/L			01/22/24 22:14	5000
1,1-Dichloroethane	3100	U	5000	3100	ug/L			01/22/24 22:14	5000
1,1-Dichloroethene	4700	U	5000	4700	ug/L			01/22/24 22:14	5000
1,2,4-Trichlorobenzene	3500	U	10000	3500	ug/L			01/22/24 22:14	5000
1,2-Dibromo-3-Chloropropane	4800	U	50000	4800	ug/L			01/22/24 22:14	5000
1,2-Dibromoethane (EDB)	3900	U	60000	3900	ug/L			01/22/24 22:14	5000
1,2-Dichlorobenzene	3700	U	5000	3700	ug/L			01/22/24 22:14	5000
1,2-Dichloroethane	3200	U	5000	3200	ug/L			01/22/24 22:14	5000
1,2-Dichloropropane	4000	U	5000	4000	ug/L			01/22/24 22:14	5000
1,3-Dichlorobenzene	3900	U	5000	3900	ug/L			01/22/24 22:14	5000
1,4-Dichlorobenzene	3800	U	5000	3800	ug/L			01/22/24 22:14	5000
2-Butanone (MEK)	23000	U	50000	23000	ug/L			01/22/24 22:14	5000
2-Hexanone	13000	U	100000	13000	ug/L			01/22/24 22:14	5000
4-Methyl-2-pentanone	25000	U	100000	25000	ug/L			01/22/24 22:14	5000
Acetone	130000	U	250000	130000	ug/L			01/22/24 22:14	5000
Benzene	3600	U	5000	3600	ug/L			01/22/24 22:14	5000
Bromodichloromethane	2600	U	5000	2600	ug/L			01/22/24 22:14	5000

Client Sample ID: LC34-DPT0598-083.0-20240118

Lab Sample ID: 670-33380-18

Date Collected: 01/18/24 09:00

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	3800	U	5000	3800	ug/L			01/22/24 22:14	5000
Bromomethane	4800	U	10000	4800	ug/L			01/22/24 22:14	5000
Carbon disulfide	13000	U	25000	13000	ug/L			01/22/24 22:14	5000
Carbon tetrachloride	4700	U	5000	4700	ug/L			01/22/24 22:14	5000
Chlorobenzene	3600	U	5000	3600	ug/L			01/22/24 22:14	5000
Chloroethane	4900	U	10000	4900	ug/L			01/22/24 22:14	5000
Chloroform	4000	U	25000	4000	ug/L			01/22/24 22:14	5000
Chloromethane	4100	U	10000	4100	ug/L			01/22/24 22:14	5000
cis-1,2-Dichloroethene	**11000**		5000	2700	ug/L			01/22/24 22:14	5000
cis-1,3-Dichloropropene	3000	U	5000	3000	ug/L			01/22/24 22:14	5000
Cyclohexane	4700	U	25000	4700	ug/L			01/22/24 22:14	5000
Dibromochloromethane	2500	U	5000	2500	ug/L			01/22/24 22:14	5000
Dichlorodifluoromethane	3700	U	5000	3700	ug/L			01/22/24 22:14	5000
Ethylbenzene	3500	U	5000	3500	ug/L			01/22/24 22:14	5000
Isopropylbenzene	3400	U	10000	3400	ug/L			01/22/24 22:14	5000
m,p-Xylenes	6500	U	10000	6500	ug/L			01/22/24 22:14	5000
Methyl acetate	4800	U	50000	4800	ug/L			01/22/24 22:14	5000
Methyl tert-butyl ether	3000	U	10000	3000	ug/L			01/22/24 22:14	5000
Methylene Chloride	25000	U	50000	25000	ug/L			01/22/24 22:14	5000
o-Xylene	2700	U	5000	2700	ug/L			01/22/24 22:14	5000
Styrene	3100	U	5000	3100	ug/L			01/22/24 22:14	5000
Tetrachloroethene	3800	U	5000	3800	ug/L			01/22/24 22:14	5000
Toluene	3600	U	5000	3600	ug/L			01/22/24 22:14	5000
trans-1,2-Dichloroethene	3700	U	5000	3700	ug/L			01/22/24 22:14	5000
trans-1,3-Dichloropropene	3700	U	5000	3700	ug/L			01/22/24 22:14	5000
Trichloroethene	**530000**		10000	8900	ug/L			01/23/24 20:34	10000
Trichlorofluoromethane	4700	U	5000	4700	ug/L			01/22/24 22:14	5000
Vinyl chloride	3600	U	5000	3600	ug/L			01/22/24 22:14	5000
Xylenes, Total	6500	U	10000	6500	ug/L			01/22/24 22:14	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/22/24 22:14*	*5000*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*01/23/24 20:34*	*10000*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/22/24 22:14*	*5000*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*01/23/24 20:34*	*10000*
Toluene-d8 (Surr)	*103*		*40 - 146*		*01/22/24 22:14*	*5000*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/23/24 20:34*	*10000*

Client Sample ID: LC34-DPT0598-088.0-20240118

Lab Sample ID: 670-33380-19

Date Collected: 01/18/24 09:25

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			01/22/24 20:45	500
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			01/22/24 20:45	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			01/22/24 20:45	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			01/22/24 20:45	500
1,1-Dichloroethane	310	U	500	310	ug/L			01/22/24 20:45	500
1,1-Dichloroethene	470	U	500	470	ug/L			01/22/24 20:45	500

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0598-088.0-20240118
Date Collected: 01/18/24 09:25
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-19
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			01/22/24 20:45	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			01/22/24 20:45	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			01/22/24 20:45	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			01/22/24 20:45	500
1,2-Dichloroethane	320	U	500	320	ug/L			01/22/24 20:45	500
1,2-Dichloropropane	400	U	500	400	ug/L			01/22/24 20:45	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			01/22/24 20:45	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			01/22/24 20:45	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			01/22/24 20:45	500
2-Hexanone	1300	U	10000	1300	ug/L			01/22/24 20:45	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			01/22/24 20:45	500
Acetone	13000	U	25000	13000	ug/L			01/22/24 20:45	500
Benzene	360	U	500	360	ug/L			01/22/24 20:45	500
Bromodichloromethane	260	U	500	260	ug/L			01/22/24 20:45	500
Bromoform	380	U	500	380	ug/L			01/22/24 20:45	500
Bromomethane	480	U	1000	480	ug/L			01/22/24 20:45	500
Carbon disulfide	1300	U	2500	1300	ug/L			01/22/24 20:45	500
Carbon tetrachloride	470	U	500	470	ug/L			01/22/24 20:45	500
Chlorobenzene	360	U	500	360	ug/L			01/22/24 20:45	500
Chloroethane	490	U	1000	490	ug/L			01/22/24 20:45	500
Chloroform	400	U	2500	400	ug/L			01/22/24 20:45	500
Chloromethane	410	U	1000	410	ug/L			01/22/24 20:45	500
cis-1,2-Dichloroethene	**25000**		500	270	ug/L			01/22/24 20:45	500
cis-1,3-Dichloropropene	300	U	500	300	ug/L			01/22/24 20:45	500
Cyclohexane	470	U	2500	470	ug/L			01/22/24 20:45	500
Dibromochloromethane	250	U	500	250	ug/L			01/22/24 20:45	500
Dichlorodifluoromethane	370	U	500	370	ug/L			01/22/24 20:45	500
Ethylbenzene	350	U	500	350	ug/L			01/22/24 20:45	500
Isopropylbenzene	340	U	1000	340	ug/L			01/22/24 20:45	500
m,p-Xylenes	650	U	1000	650	ug/L			01/22/24 20:45	500
Methyl acetate	480	U	5000	480	ug/L			01/22/24 20:45	500
Methyl tert-butyl ether	300	U	1000	300	ug/L			01/22/24 20:45	500
Methylene Chloride	2500	U	5000	2500	ug/L			01/22/24 20:45	500
o-Xylene	270	U	500	270	ug/L			01/22/24 20:45	500
Styrene	310	U	500	310	ug/L			01/22/24 20:45	500
Tetrachloroethene	380	U	500	380	ug/L			01/22/24 20:45	500
Toluene	360	U	500	360	ug/L			01/22/24 20:45	500
trans-1,2-Dichloroethene	370	U	500	370	ug/L			01/22/24 20:45	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			01/22/24 20:45	500
Trichloroethene	**19000**		500	450	ug/L			01/22/24 20:45	500
Trichlorofluoromethane	470	U	500	470	ug/L			01/22/24 20:45	500
Vinyl chloride	360	U	500	360	ug/L			01/22/24 20:45	500
Xylenes, Total	650	U	1000	650	ug/L			01/22/24 20:45	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/22/24 20:45*	*500*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/22/24 20:45*	*500*
Toluene-d8 (Surr)	*103*		*40 - 146*		*01/22/24 20:45*	*500*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0595-008.0-20240118
Date Collected: 01/18/24 09:45
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-20
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/23/24 16:51	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/23/24 16:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/23/24 16:51	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/23/24 16:51	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/23/24 16:51	1
1,1-Dichloroethene	**0.94**	**I**	1.0	0.94	ug/L			01/23/24 16:51	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/23/24 16:51	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/23/24 16:51	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/23/24 16:51	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/23/24 16:51	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/23/24 16:51	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/23/24 16:51	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/23/24 16:51	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/23/24 16:51	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/23/24 16:51	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/23/24 16:51	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/23/24 16:51	1
Acetone	25	U	50	25	ug/L			01/23/24 16:51	1
Benzene	0.71	U	1.0	0.71	ug/L			01/23/24 16:51	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/23/24 16:51	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/23/24 16:51	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/23/24 16:51	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/23/24 16:51	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/23/24 16:51	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/23/24 16:51	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/23/24 16:51	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/23/24 16:51	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/23/24 16:51	1
cis-1,2-Dichloroethene	**140**		5.0	2.7	ug/L			01/24/24 18:20	5
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/23/24 16:51	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/23/24 16:51	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/23/24 16:51	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/23/24 16:51	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/23/24 16:51	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/23/24 16:51	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/23/24 16:51	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/23/24 16:51	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/23/24 16:51	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/23/24 16:51	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/23/24 16:51	1
Styrene	0.61	U	1.0	0.61	ug/L			01/23/24 16:51	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/23/24 16:51	1
Toluene	0.72	U	1.0	0.72	ug/L			01/23/24 16:51	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/23/24 16:51	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/23/24 16:51	1
Trichloroethene	**7.0**		1.0	0.89	ug/L			01/23/24 16:51	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/23/24 16:51	1
Vinyl chloride	**43**		1.0	0.71	ug/L			01/23/24 16:51	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/23/24 16:51	1

Client Sample ID: LC34-DPT0595-008.0-20240118

Lab Sample ID: 670-33380-20

Date Collected: 01/18/24 09:45

Matrix: Water

Date Received: 01/19/24 11:04

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		41 - 142		01/23/24 16:51	1
4-Bromofluorobenzene (Surr)	108		41 - 142		01/24/24 18:20	5
Dibromofluoromethane (Surr)	101		53 - 146		01/23/24 16:51	1
Dibromofluoromethane (Surr)	103		53 - 146		01/24/24 18:20	5
Toluene-d8 (Surr)	101		40 - 146		01/23/24 16:51	1
Toluene-d8 (Surr)	100		40 - 146		01/24/24 18:20	5

Client Sample ID: LC34-DPT0598-093.0-20240118

Lab Sample ID: 670-33380-21

Date Collected: 01/18/24 09:55

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			01/22/24 21:03	500
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			01/22/24 21:03	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			01/22/24 21:03	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			01/22/24 21:03	500
1,1-Dichloroethane	310	U	500	310	ug/L			01/22/24 21:03	500
1,1-Dichloroethene	470	U	500	470	ug/L			01/22/24 21:03	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			01/22/24 21:03	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			01/22/24 21:03	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			01/22/24 21:03	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			01/22/24 21:03	500
1,2-Dichloroethane	320	U	500	320	ug/L			01/22/24 21:03	500
1,2-Dichloropropane	400	U	500	400	ug/L			01/22/24 21:03	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			01/22/24 21:03	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			01/22/24 21:03	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			01/22/24 21:03	500
2-Hexanone	1300	U	10000	1300	ug/L			01/22/24 21:03	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			01/22/24 21:03	500
Acetone	13000	U	25000	13000	ug/L			01/22/24 21:03	500
Benzene	360	U	500	360	ug/L			01/22/24 21:03	500
Bromodichloromethane	260	U	500	260	ug/L			01/22/24 21:03	500
Bromoform	380	U	500	380	ug/L			01/22/24 21:03	500
Bromomethane	480	U	1000	480	ug/L			01/22/24 21:03	500
Carbon disulfide	1300	U	2500	1300	ug/L			01/22/24 21:03	500
Carbon tetrachloride	470	U	500	470	ug/L			01/22/24 21:03	500
Chlorobenzene	360	U	500	360	ug/L			01/22/24 21:03	500
Chloroethane	490	U	1000	490	ug/L			01/22/24 21:03	500
Chloroform	400	U	2500	400	ug/L			01/22/24 21:03	500
Chloromethane	410	U	1000	410	ug/L			01/22/24 21:03	500
cis-1,2-Dichloroethene	**24000**		500	270	ug/L			01/22/24 21:03	500
cis-1,3-Dichloropropene	300	U	500	300	ug/L			01/22/24 21:03	500
Cyclohexane	470	U	2500	470	ug/L			01/22/24 21:03	500
Dibromochloromethane	250	U	500	250	ug/L			01/22/24 21:03	500
Dichlorodifluoromethane	370	U	500	370	ug/L			01/22/24 21:03	500
Ethylbenzene	350	U	500	350	ug/L			01/22/24 21:03	500
Isopropylbenzene	340	U	1000	340	ug/L			01/22/24 21:03	500
m,p-Xylenes	650	U	1000	650	ug/L			01/22/24 21:03	500
Methyl acetate	480	U	5000	480	ug/L			01/22/24 21:03	500

Client Sample ID: LC34-DPT0598-093.0-20240118

Lab Sample ID: 670-33380-21

Date Collected: 01/18/24 09:55

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	300	U	1000	300	ug/L			01/22/24 21:03	500
Methylene Chloride	2500	U	5000	2500	ug/L			01/22/24 21:03	500
o-Xylene	270	U	500	270	ug/L			01/22/24 21:03	500
Styrene	310	U	500	310	ug/L			01/22/24 21:03	500
Tetrachloroethene	380	U	500	380	ug/L			01/22/24 21:03	500
Toluene	360	U	500	360	ug/L			01/22/24 21:03	500
trans-1,2-Dichloroethene	370	U	500	370	ug/L			01/22/24 21:03	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			01/22/24 21:03	500
Trichloroethene	**12000**		500	450	ug/L			01/22/24 21:03	500
Trichlorofluoromethane	470	U	500	470	ug/L			01/22/24 21:03	500
Vinyl chloride	360	U	500	360	ug/L			01/22/24 21:03	500
Xylenes, Total	650	U	1000	650	ug/L			01/22/24 21:03	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/22/24 21:03*	*500*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/22/24 21:03*	*500*
Toluene-d8 (Surr)	*104*		*40 - 146*		*01/22/24 21:03*	*500*

Client Sample ID: LC34-DPT0595-013.0-20240118

Lab Sample ID: 670-33380-22

Date Collected: 01/18/24 10:00

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/23/24 17:09	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/23/24 17:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/23/24 17:09	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/23/24 17:09	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/23/24 17:09	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/23/24 17:09	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/23/24 17:09	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/23/24 17:09	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/23/24 17:09	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/23/24 17:09	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/23/24 17:09	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/23/24 17:09	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/23/24 17:09	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/23/24 17:09	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/23/24 17:09	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/23/24 17:09	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/23/24 17:09	1
Acetone	25	U	50	25	ug/L			01/23/24 17:09	1
Benzene	0.71	U	1.0	0.71	ug/L			01/23/24 17:09	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/23/24 17:09	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/23/24 17:09	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/23/24 17:09	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/23/24 17:09	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/23/24 17:09	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/23/24 17:09	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/23/24 17:09	1

Client Sample ID: LC34-DPT0595-013.0-20240118

Lab Sample ID: 670-33380-22

Date Collected: 01/18/24 10:00

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	0.80	U	5.0	0.80	ug/L			01/23/24 17:09	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/23/24 17:09	1
cis-1,2-Dichloroethene	**55**		1.0	0.53	ug/L			01/23/24 17:09	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/23/24 17:09	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/23/24 17:09	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/23/24 17:09	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/23/24 17:09	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/23/24 17:09	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/23/24 17:09	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/23/24 17:09	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/23/24 17:09	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/23/24 17:09	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/23/24 17:09	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/23/24 17:09	1
Styrene	0.61	U	1.0	0.61	ug/L			01/23/24 17:09	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/23/24 17:09	1
Toluene	0.72	U	1.0	0.72	ug/L			01/23/24 17:09	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/23/24 17:09	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/23/24 17:09	1
Trichloroethene	**0.96**	**I**	1.0	0.89	ug/L			01/23/24 17:09	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/23/24 17:09	1
Vinyl chloride	**42**		1.0	0.71	ug/L			01/23/24 17:09	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/23/24 17:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*41 - 142*		*01/23/24 17:09*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/23/24 17:09*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/23/24 17:09*	*1*

Client Sample ID: LC34-DPT0595-018.0-20230118

Lab Sample ID: 670-33380-23

Date Collected: 01/18/24 10:15

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/23/24 17:26	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/23/24 17:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/23/24 17:26	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/23/24 17:26	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/23/24 17:26	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/23/24 17:26	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/23/24 17:26	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/23/24 17:26	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/23/24 17:26	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/23/24 17:26	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/23/24 17:26	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/23/24 17:26	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/23/24 17:26	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/23/24 17:26	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/23/24 17:26	1

Client Sample ID: LC34-DPT0595-018.0-20230118

Lab Sample ID: 670-33380-23

Date Collected: 01/18/24 10:15

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	2.5	U	20	2.5	ug/L			01/23/24 17:26	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/23/24 17:26	1
Acetone	25	U	50	25	ug/L			01/23/24 17:26	1
Benzene	0.71	U	1.0	0.71	ug/L			01/23/24 17:26	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/23/24 17:26	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/23/24 17:26	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/23/24 17:26	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/23/24 17:26	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/23/24 17:26	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/23/24 17:26	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/23/24 17:26	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/23/24 17:26	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/23/24 17:26	1
cis-1,2-Dichloroethene	**31**		1.0	0.53	ug/L			01/23/24 17:26	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/23/24 17:26	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/23/24 17:26	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/23/24 17:26	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/23/24 17:26	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/23/24 17:26	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/23/24 17:26	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/23/24 17:26	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/23/24 17:26	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/23/24 17:26	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/23/24 17:26	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/23/24 17:26	1
Styrene	0.61	U	1.0	0.61	ug/L			01/23/24 17:26	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/23/24 17:26	1
Toluene	0.72	U	1.0	0.72	ug/L			01/23/24 17:26	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/23/24 17:26	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/23/24 17:26	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/23/24 17:26	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/23/24 17:26	1
Vinyl chloride	**32**		1.0	0.71	ug/L			01/23/24 17:26	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/23/24 17:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/23/24 17:26*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/23/24 17:26*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/23/24 17:26*	*1*

Client Sample ID: LC34-DPT0595-023.0-20240118

Lab Sample ID: 670-33380-24

Date Collected: 01/18/24 10:30

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/23/24 17:44	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/23/24 17:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/23/24 17:44	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/23/24 17:44	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0595-023.0-20240118
Date Collected: 01/18/24 10:30
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-24
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/23/24 17:44	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/23/24 17:44	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/23/24 17:44	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/23/24 17:44	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/23/24 17:44	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/23/24 17:44	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/23/24 17:44	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/23/24 17:44	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/23/24 17:44	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/23/24 17:44	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/23/24 17:44	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/23/24 17:44	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/23/24 17:44	1
Acetone	25	U	50	25	ug/L			01/23/24 17:44	1
Benzene	0.71	U	1.0	0.71	ug/L			01/23/24 17:44	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/23/24 17:44	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/23/24 17:44	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/23/24 17:44	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/23/24 17:44	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/23/24 17:44	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/23/24 17:44	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/23/24 17:44	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/23/24 17:44	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/23/24 17:44	1
cis-1,2-Dichloroethene	**47**		1.0	0.53	ug/L			01/23/24 17:44	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/23/24 17:44	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/23/24 17:44	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/23/24 17:44	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/23/24 17:44	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/23/24 17:44	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/23/24 17:44	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/23/24 17:44	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/23/24 17:44	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/23/24 17:44	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/23/24 17:44	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/23/24 17:44	1
Styrene	0.61	U	1.0	0.61	ug/L			01/23/24 17:44	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/23/24 17:44	1
Toluene	0.72	U	1.0	0.72	ug/L			01/23/24 17:44	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/23/24 17:44	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/23/24 17:44	1
Trichloroethene	**6.5**		1.0	0.89	ug/L			01/23/24 17:44	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/23/24 17:44	1
Vinyl chloride	**41**		1.0	0.71	ug/L			01/23/24 17:44	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/23/24 17:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*41 - 142*		*01/23/24 17:44*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/23/24 17:44*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/23/24 17:44*	*1*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0598-098.0-20240118
Date Collected: 01/18/24 10:30
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-25
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1600	U	2000	1600	ug/L			01/22/24 21:38	2000
1,1,2,2-Tetrachloroethane	1100	U	2000	1100	ug/L			01/22/24 21:38	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U	4000	1500	ug/L			01/22/24 21:38	2000
1,1,2-Trichloroethane	1500	U	4000	1500	ug/L			01/22/24 21:38	2000
1,1-Dichloroethane	1200	U	2000	1200	ug/L			01/22/24 21:38	2000
1,1-Dichloroethene	1900	U	2000	1900	ug/L			01/22/24 21:38	2000
1,2,4-Trichlorobenzene	1400	U	4000	1400	ug/L			01/22/24 21:38	2000
1,2-Dibromo-3-Chloropropane	1900	U	20000	1900	ug/L			01/22/24 21:38	2000
1,2-Dibromoethane (EDB)	1600	U	24000	1600	ug/L			01/22/24 21:38	2000
1,2-Dichlorobenzene	1500	U	2000	1500	ug/L			01/22/24 21:38	2000
1,2-Dichloroethane	1300	U	2000	1300	ug/L			01/22/24 21:38	2000
1,2-Dichloropropane	1600	U	2000	1600	ug/L			01/22/24 21:38	2000
1,3-Dichlorobenzene	1500	U	2000	1500	ug/L			01/22/24 21:38	2000
1,4-Dichlorobenzene	1500	U	2000	1500	ug/L			01/22/24 21:38	2000
2-Butanone (MEK)	9000	U	20000	9000	ug/L			01/22/24 21:38	2000
2-Hexanone	5000	U	40000	5000	ug/L			01/22/24 21:38	2000
4-Methyl-2-pentanone	10000	U	40000	10000	ug/L			01/22/24 21:38	2000
Acetone	50000	U	100000	50000	ug/L			01/22/24 21:38	2000
Benzene	1400	U	2000	1400	ug/L			01/22/24 21:38	2000
Bromodichloromethane	1000	U	2000	1000	ug/L			01/22/24 21:38	2000
Bromoform	1500	U	2000	1500	ug/L			01/22/24 21:38	2000
Bromomethane	1900	U	4000	1900	ug/L			01/22/24 21:38	2000
Carbon disulfide	5000	U	10000	5000	ug/L			01/22/24 21:38	2000
Carbon tetrachloride	1900	U	2000	1900	ug/L			01/22/24 21:38	2000
Chlorobenzene	1400	U	2000	1400	ug/L			01/22/24 21:38	2000
Chloroethane	2000	U	4000	2000	ug/L			01/22/24 21:38	2000
Chloroform	1600	U	10000	1600	ug/L			01/22/24 21:38	2000
Chloromethane	1600	U	4000	1600	ug/L			01/22/24 21:38	2000
cis-1,2-Dichloroethene	**25000**		2000	1100	ug/L			01/22/24 21:38	2000
cis-1,3-Dichloropropene	1200	U	2000	1200	ug/L			01/22/24 21:38	2000
Cyclohexane	1900	U	10000	1900	ug/L			01/22/24 21:38	2000
Dibromochloromethane	1000	U	2000	1000	ug/L			01/22/24 21:38	2000
Dichlorodifluoromethane	1500	U	2000	1500	ug/L			01/22/24 21:38	2000
Ethylbenzene	1400	U	2000	1400	ug/L			01/22/24 21:38	2000
Isopropylbenzene	1300	U	4000	1300	ug/L			01/22/24 21:38	2000
m,p-Xylenes	2600	U	4000	2600	ug/L			01/22/24 21:38	2000
Methyl acetate	1900	U	20000	1900	ug/L			01/22/24 21:38	2000
Methyl tert-butyl ether	1200	U	4000	1200	ug/L			01/22/24 21:38	2000
Methylene Chloride	10000	U	20000	10000	ug/L			01/22/24 21:38	2000
o-Xylene	1100	U	2000	1100	ug/L			01/22/24 21:38	2000
Styrene	1200	U	2000	1200	ug/L			01/22/24 21:38	2000
Tetrachloroethene	1500	U	2000	1500	ug/L			01/22/24 21:38	2000
Toluene	1400	U	2000	1400	ug/L			01/22/24 21:38	2000
trans-1,2-Dichloroethene	1500	U	2000	1500	ug/L			01/22/24 21:38	2000
trans-1,3-Dichloropropene	1500	U	2000	1500	ug/L			01/22/24 21:38	2000
Trichloroethene	**110000**		2000	1800	ug/L			01/22/24 21:38	2000
Trichlorofluoromethane	1900	U	2000	1900	ug/L			01/22/24 21:38	2000
Vinyl chloride	1400	U	2000	1400	ug/L			01/22/24 21:38	2000
Xylenes, Total	2600	U	4000	2600	ug/L			01/22/24 21:38	2000

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0598-098.0-20240118

Lab Sample ID: 670-33380-25

Date Collected: 01/18/24 10:30

Matrix: Water

Date Received: 01/19/24 11:04

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/22/24 21:38*	*2000*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/22/24 21:38*	*2000*
Toluene-d8 (Surr)	*103*		*40 - 146*		*01/22/24 21:38*	*2000*

Client Sample ID: LC34-DPT0595-028.0-20240118

Lab Sample ID: 670-33380-26

Date Collected: 01/18/24 10:45

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/23/24 18:01	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/23/24 18:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/23/24 18:01	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/23/24 18:01	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/23/24 18:01	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/23/24 18:01	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/23/24 18:01	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/23/24 18:01	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/23/24 18:01	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/23/24 18:01	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/23/24 18:01	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/23/24 18:01	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/23/24 18:01	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/23/24 18:01	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/23/24 18:01	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/23/24 18:01	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/23/24 18:01	1
Acetone	25	U	50	25	ug/L			01/23/24 18:01	1
Benzene	0.71	U	1.0	0.71	ug/L			01/23/24 18:01	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/23/24 18:01	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/23/24 18:01	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/23/24 18:01	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/23/24 18:01	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/23/24 18:01	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/23/24 18:01	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/23/24 18:01	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/23/24 18:01	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/23/24 18:01	1
cis-1,2-Dichloroethene	**48**		1.0	0.53	ug/L			01/23/24 18:01	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/23/24 18:01	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/23/24 18:01	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/23/24 18:01	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/23/24 18:01	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/23/24 18:01	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/23/24 18:01	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/23/24 18:01	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/23/24 18:01	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/23/24 18:01	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/23/24 18:01	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/23/24 18:01	1

Client Sample ID: LC34-DPT0595-028.0-20240118

Lab Sample ID: 670-33380-26

Date Collected: 01/18/24 10:45

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			01/23/24 18:01	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/23/24 18:01	1
Toluene	0.72	U	1.0	0.72	ug/L			01/23/24 18:01	1
trans-1,2-Dichloroethene	**0.79**	**I**	1.0	0.73	ug/L			01/23/24 18:01	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/23/24 18:01	1
Trichloroethene	**26**		1.0	0.89	ug/L			01/23/24 18:01	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/23/24 18:01	1
Vinyl chloride	**25**		1.0	0.71	ug/L			01/23/24 18:01	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/23/24 18:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*41 - 142*		*01/23/24 18:01*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/23/24 18:01*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/23/24 18:01*	*1*

Client Sample ID: LC34-DPT0595-033.0-20240118

Lab Sample ID: 670-33380-27

Date Collected: 01/18/24 11:00

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			01/22/24 18:32	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			01/22/24 18:32	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			01/22/24 18:32	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			01/22/24 18:32	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			01/22/24 18:32	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			01/22/24 18:32	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			01/22/24 18:32	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			01/22/24 18:32	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			01/22/24 18:32	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			01/22/24 18:32	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			01/22/24 18:32	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			01/22/24 18:32	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			01/22/24 18:32	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			01/22/24 18:32	10
2-Butanone (MEK)	45	U	100	45	ug/L			01/22/24 18:32	10
2-Hexanone	25	U	200	25	ug/L			01/22/24 18:32	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			01/22/24 18:32	10
Acetone	250	U	500	250	ug/L			01/22/24 18:32	10
Benzene	7.1	U	10	7.1	ug/L			01/22/24 18:32	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			01/22/24 18:32	10
Bromoform	7.5	U	10	7.5	ug/L			01/22/24 18:32	10
Bromomethane	9.5	U	20	9.5	ug/L			01/22/24 18:32	10
Carbon disulfide	25	U	50	25	ug/L			01/22/24 18:32	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			01/22/24 18:32	10
Chlorobenzene	7.2	U	10	7.2	ug/L			01/22/24 18:32	10
Chloroethane	9.8	U	20	9.8	ug/L			01/22/24 18:32	10
Chloroform	8.0	U	50	8.0	ug/L			01/22/24 18:32	10
Chloromethane	8.2	U	20	8.2	ug/L			01/22/24 18:32	10
cis-1,2-Dichloroethene	**230**		10	5.3	ug/L			01/22/24 18:32	10

Client Sample ID: LC34-DPT0595-033.0-20240118

Lab Sample ID: 670-33380-27

Date Collected: 01/18/24 11:00

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			01/22/24 18:32	10
Cyclohexane	9.3	U	50	9.3	ug/L			01/22/24 18:32	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			01/22/24 18:32	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			01/22/24 18:32	10
Ethylbenzene	6.9	U	10	6.9	ug/L			01/22/24 18:32	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			01/22/24 18:32	10
m,p-Xylenes	13	U	20	13	ug/L			01/22/24 18:32	10
Methyl acetate	9.5	U	100	9.5	ug/L			01/22/24 18:32	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			01/22/24 18:32	10
Methylene Chloride	50	U	100	50	ug/L			01/22/24 18:32	10
o-Xylene	5.3	U	10	5.3	ug/L			01/22/24 18:32	10
Styrene	6.1	U	10	6.1	ug/L			01/22/24 18:32	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			01/22/24 18:32	10
Toluene	7.2	U	10	7.2	ug/L			01/22/24 18:32	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			01/22/24 18:32	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			01/22/24 18:32	10
Trichloroethene	8.9	U	10	8.9	ug/L			01/22/24 18:32	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			01/22/24 18:32	10
Vinyl chloride	**57**		10	7.1	ug/L			01/22/24 18:32	10
Xylenes, Total	13	U	20	13	ug/L			01/22/24 18:32	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/22/24 18:32*	*10*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/22/24 18:32*	*10*
Toluene-d8 (Surr)	*104*		*40 - 146*		*01/22/24 18:32*	*10*

Client Sample ID: LC34-DPT0594-008.0-20240118

Lab Sample ID: 670-33380-28

Date Collected: 01/18/24 11:10

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			01/22/24 18:52	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			01/22/24 18:52	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			01/22/24 18:52	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			01/22/24 18:52	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			01/22/24 18:52	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			01/22/24 18:52	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			01/22/24 18:52	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			01/22/24 18:52	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			01/22/24 18:52	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			01/22/24 18:52	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			01/22/24 18:52	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			01/22/24 18:52	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			01/22/24 18:52	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			01/22/24 18:52	10
2-Butanone (MEK)	45	U	100	45	ug/L			01/22/24 18:52	10
2-Hexanone	25	U	200	25	ug/L			01/22/24 18:52	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			01/22/24 18:52	10
Acetone	250	U	500	250	ug/L			01/22/24 18:52	10

Client Sample ID: LC34-DPT0594-008.0-20240118

Lab Sample ID: 670-33380-28

Date Collected: 01/18/24 11:10

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	7.1	U	10	7.1	ug/L			01/22/24 18:52	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			01/22/24 18:52	10
Bromoform	7.5	U	10	7.5	ug/L			01/22/24 18:52	10
Bromomethane	9.5	U	20	9.5	ug/L			01/22/24 18:52	10
Carbon disulfide	25	U	50	25	ug/L			01/22/24 18:52	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			01/22/24 18:52	10
Chlorobenzene	7.2	U	10	7.2	ug/L			01/22/24 18:52	10
Chloroethane	9.8	U	20	9.8	ug/L			01/22/24 18:52	10
Chloroform	8.0	U	50	8.0	ug/L			01/22/24 18:52	10
Chloromethane	8.2	U	20	8.2	ug/L			01/22/24 18:52	10
cis-1,2-Dichloroethene	**200**		10	5.3	ug/L			01/22/24 18:52	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			01/22/24 18:52	10
Cyclohexane	9.3	U	50	9.3	ug/L			01/22/24 18:52	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			01/22/24 18:52	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			01/22/24 18:52	10
Ethylbenzene	6.9	U	10	6.9	ug/L			01/22/24 18:52	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			01/22/24 18:52	10
m,p-Xylenes	13	U	20	13	ug/L			01/22/24 18:52	10
Methyl acetate	9.5	U	100	9.5	ug/L			01/22/24 18:52	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			01/22/24 18:52	10
Methylene Chloride	50	U	100	50	ug/L			01/22/24 18:52	10
o-Xylene	5.3	U	10	5.3	ug/L			01/22/24 18:52	10
Styrene	6.1	U	10	6.1	ug/L			01/22/24 18:52	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			01/22/24 18:52	10
Toluene	7.2	U	10	7.2	ug/L			01/22/24 18:52	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			01/22/24 18:52	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			01/22/24 18:52	10
Trichloroethene	8.9	U	10	8.9	ug/L			01/22/24 18:52	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			01/22/24 18:52	10
Vinyl chloride	**14**		10	7.1	ug/L			01/22/24 18:52	10
Xylenes, Total	13	U	20	13	ug/L			01/22/24 18:52	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/22/24 18:52*	*10*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/22/24 18:52*	*10*
Toluene-d8 (Surr)	*105*		*40 - 146*		*01/22/24 18:52*	*10*

Client Sample ID: LC34-DPT0595-038.0-20240118

Lab Sample ID: 670-33380-29

Date Collected: 01/18/24 11:15

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/22/24 20:09	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/22/24 20:09	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/22/24 20:09	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/22/24 20:09	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/22/24 20:09	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/22/24 20:09	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/22/24 20:09	100

Client Sample ID: LC34-DPT0595-038.0-20240118
Date Collected: 01/18/24 11:15
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-29
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/22/24 20:09	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/22/24 20:09	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/22/24 20:09	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/22/24 20:09	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/22/24 20:09	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/22/24 20:09	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/22/24 20:09	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/22/24 20:09	100
2-Hexanone	250	U	2000	250	ug/L			01/22/24 20:09	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/22/24 20:09	100
Acetone	2500	U	5000	2500	ug/L			01/22/24 20:09	100
Benzene	71	U	100	71	ug/L			01/22/24 20:09	100
Bromodichloromethane	52	U	100	52	ug/L			01/22/24 20:09	100
Bromoform	75	U	100	75	ug/L			01/22/24 20:09	100
Bromomethane	95	U	200	95	ug/L			01/22/24 20:09	100
Carbon disulfide	250	U	500	250	ug/L			01/22/24 20:09	100
Carbon tetrachloride	94	U	100	94	ug/L			01/22/24 20:09	100
Chlorobenzene	72	U	100	72	ug/L			01/22/24 20:09	100
Chloroethane	98	U	200	98	ug/L			01/22/24 20:09	100
Chloroform	80	U	500	80	ug/L			01/22/24 20:09	100
Chloromethane	82	U	200	82	ug/L			01/22/24 20:09	100
cis-1,2-Dichloroethene	**3400**		100	53	ug/L			01/22/24 20:09	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/22/24 20:09	100
Cyclohexane	93	U	500	93	ug/L			01/22/24 20:09	100
Dibromochloromethane	50	U	100	50	ug/L			01/22/24 20:09	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/22/24 20:09	100
Ethylbenzene	69	U	100	69	ug/L			01/22/24 20:09	100
Isopropylbenzene	67	U	200	67	ug/L			01/22/24 20:09	100
m,p-Xylenes	130	U	200	130	ug/L			01/22/24 20:09	100
Methyl acetate	95	U	1000	95	ug/L			01/22/24 20:09	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/22/24 20:09	100
Methylene Chloride	500	U	1000	500	ug/L			01/22/24 20:09	100
o-Xylene	53	U	100	53	ug/L			01/22/24 20:09	100
Styrene	61	U	100	61	ug/L			01/22/24 20:09	100
Tetrachloroethene	76	U	100	76	ug/L			01/22/24 20:09	100
Toluene	72	U	100	72	ug/L			01/22/24 20:09	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			01/22/24 20:09	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/22/24 20:09	100
Trichloroethene	89	U	100	89	ug/L			01/22/24 20:09	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/22/24 20:09	100
Vinyl chloride	**9400**		100	71	ug/L			01/22/24 20:09	100
Xylenes, Total	130	U	200	130	ug/L			01/22/24 20:09	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/22/24 20:09*	*100*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/22/24 20:09*	*100*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/22/24 20:09*	*100*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0594-013.0-20240118
Date Collected: 01/18/24 11:20
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-30
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			01/22/24 17:12	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			01/22/24 17:12	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			01/22/24 17:12	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			01/22/24 17:12	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			01/22/24 17:12	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			01/22/24 17:12	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			01/22/24 17:12	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			01/22/24 17:12	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			01/22/24 17:12	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			01/22/24 17:12	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			01/22/24 17:12	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			01/22/24 17:12	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			01/22/24 17:12	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			01/22/24 17:12	5
2-Butanone (MEK)	23	U	50	23	ug/L			01/22/24 17:12	5
2-Hexanone	13	U	100	13	ug/L			01/22/24 17:12	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			01/22/24 17:12	5
Acetone	130	U	250	130	ug/L			01/22/24 17:12	5
Benzene	3.6	U	5.0	3.6	ug/L			01/22/24 17:12	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			01/22/24 17:12	5
Bromoform	3.8	U	5.0	3.8	ug/L			01/22/24 17:12	5
Bromomethane	4.8	U	10	4.8	ug/L			01/22/24 17:12	5
Carbon disulfide	13	U	25	13	ug/L			01/22/24 17:12	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			01/22/24 17:12	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			01/22/24 17:12	5
Chloroethane	4.9	U	10	4.9	ug/L			01/22/24 17:12	5
Chloroform	4.0	U	25	4.0	ug/L			01/22/24 17:12	5
Chloromethane	4.1	U	10	4.1	ug/L			01/22/24 17:12	5
cis-1,2-Dichloroethene	**80**		5.0	2.7	ug/L			01/22/24 17:12	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			01/22/24 17:12	5
Cyclohexane	4.7	U	25	4.7	ug/L			01/22/24 17:12	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			01/22/24 17:12	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			01/22/24 17:12	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			01/22/24 17:12	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			01/22/24 17:12	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			01/22/24 17:12	5
Methyl acetate	4.8	U	50	4.8	ug/L			01/22/24 17:12	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			01/22/24 17:12	5
Methylene Chloride	25	U	50	25	ug/L			01/22/24 17:12	5
o-Xylene	2.7	U	5.0	2.7	ug/L			01/22/24 17:12	5
Styrene	3.1	U	5.0	3.1	ug/L			01/22/24 17:12	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			01/22/24 17:12	5
Toluene	3.6	U	5.0	3.6	ug/L			01/22/24 17:12	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			01/22/24 17:12	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			01/22/24 17:12	5
Trichloroethene	4.5	U	5.0	4.5	ug/L			01/22/24 17:12	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			01/22/24 17:12	5
Vinyl chloride	**50**		5.0	3.6	ug/L			01/22/24 17:12	5
Xylenes, Total	6.5	U	10	6.5	ug/L			01/22/24 17:12	5

Client Sample ID: LC34-DPT0594-013.0-20240118

Lab Sample ID: 670-33380-30

Date Collected: 01/18/24 11:20

Matrix: Water

Date Received: 01/19/24 11:04

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/22/24 17:12*	*5*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/22/24 17:12*	*5*
Toluene-d8 (Surr)	*104*		*40 - 146*		*01/22/24 17:12*	*5*

Client Sample ID: LC34-DPT0595-043.0-20240118

Lab Sample ID: 670-33380-31

Date Collected: 01/18/24 11:30

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/22/24 21:20	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/22/24 21:20	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/22/24 21:20	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/22/24 21:20	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/22/24 21:20	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/22/24 21:20	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/22/24 21:20	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/22/24 21:20	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/22/24 21:20	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/22/24 21:20	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/22/24 21:20	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/22/24 21:20	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/22/24 21:20	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/22/24 21:20	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/22/24 21:20	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/22/24 21:20	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/22/24 21:20	1000
Acetone	25000	U	50000	25000	ug/L			01/22/24 21:20	1000
Benzene	710	U	1000	710	ug/L			01/22/24 21:20	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/22/24 21:20	1000
Bromoform	750	U	1000	750	ug/L			01/22/24 21:20	1000
Bromomethane	950	U	2000	950	ug/L			01/22/24 21:20	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/22/24 21:20	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/22/24 21:20	1000
Chlorobenzene	720	U	1000	720	ug/L			01/22/24 21:20	1000
Chloroethane	980	U	2000	980	ug/L			01/22/24 21:20	1000
Chloroform	800	U	5000	800	ug/L			01/22/24 21:20	1000
Chloromethane	820	U	2000	820	ug/L			01/22/24 21:20	1000
cis-1,2-Dichloroethene	**60000**		1000	530	ug/L			01/22/24 21:20	1000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/22/24 21:20	1000
Cyclohexane	930	U	5000	930	ug/L			01/22/24 21:20	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/22/24 21:20	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/22/24 21:20	1000
Ethylbenzene	690	U	1000	690	ug/L			01/22/24 21:20	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/22/24 21:20	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/22/24 21:20	1000
Methyl acetate	950	U	10000	950	ug/L			01/22/24 21:20	1000
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/22/24 21:20	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/22/24 21:20	1000
o-Xylene	530	U	1000	530	ug/L			01/22/24 21:20	1000

Client Sample ID: LC34-DPT0595-043.0-20240118

Lab Sample ID: 670-33380-31

Date Collected: 01/18/24 11:30

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	610	U	1000	610	ug/L			01/22/24 21:20	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/22/24 21:20	1000
Toluene	720	U	1000	720	ug/L			01/22/24 21:20	1000
trans-1,2-Dichloroethene	730	U	1000	730	ug/L			01/22/24 21:20	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/22/24 21:20	1000
Trichloroethene	890	U	1000	890	ug/L			01/22/24 21:20	1000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/22/24 21:20	1000
Vinyl chloride	**42000**		1000	710	ug/L			01/22/24 21:20	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/22/24 21:20	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/22/24 21:20*	*1000*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/22/24 21:20*	*1000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/22/24 21:20*	*1000*

Client Sample ID: LC34-DPT0594-018.0-20240118

Lab Sample ID: 670-33380-32

Date Collected: 01/18/24 11:30

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			01/22/24 16:52	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			01/22/24 16:52	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			01/22/24 16:52	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			01/22/24 16:52	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			01/22/24 16:52	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			01/22/24 16:52	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			01/22/24 16:52	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			01/22/24 16:52	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			01/22/24 16:52	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			01/22/24 16:52	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			01/22/24 16:52	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			01/22/24 16:52	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			01/22/24 16:52	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			01/22/24 16:52	5
2-Butanone (MEK)	23	U	50	23	ug/L			01/22/24 16:52	5
2-Hexanone	13	U	100	13	ug/L			01/22/24 16:52	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			01/22/24 16:52	5
Acetone	130	U	250	130	ug/L			01/22/24 16:52	5
Benzene	3.6	U	5.0	3.6	ug/L			01/22/24 16:52	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			01/22/24 16:52	5
Bromoform	3.8	U	5.0	3.8	ug/L			01/22/24 16:52	5
Bromomethane	4.8	U	10	4.8	ug/L			01/22/24 16:52	5
Carbon disulfide	13	U	25	13	ug/L			01/22/24 16:52	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			01/22/24 16:52	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			01/22/24 16:52	5
Chloroethane	4.9	U	10	4.9	ug/L			01/22/24 16:52	5
Chloroform	4.0	U	25	4.0	ug/L			01/22/24 16:52	5
Chloromethane	4.1	U	10	4.1	ug/L			01/22/24 16:52	5
cis-1,2-Dichloroethene	**25**		5.0	2.7	ug/L			01/22/24 16:52	5

Client Sample ID: LC34-DPT0594-018.0-20240118

Lab Sample ID: 670-33380-32

Date Collected: 01/18/24 11:30

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			01/22/24 16:52	5
Cyclohexane	4.7	U	25	4.7	ug/L			01/22/24 16:52	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			01/22/24 16:52	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			01/22/24 16:52	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			01/22/24 16:52	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			01/22/24 16:52	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			01/22/24 16:52	5
Methyl acetate	4.8	U	50	4.8	ug/L			01/22/24 16:52	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			01/22/24 16:52	5
Methylene Chloride	25	U	50	25	ug/L			01/22/24 16:52	5
o-Xylene	2.7	U	5.0	2.7	ug/L			01/22/24 16:52	5
Styrene	3.1	U	5.0	3.1	ug/L			01/22/24 16:52	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			01/22/24 16:52	5
Toluene	3.6	U	5.0	3.6	ug/L			01/22/24 16:52	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			01/22/24 16:52	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			01/22/24 16:52	5
Trichloroethene	4.5	U	5.0	4.5	ug/L			01/22/24 16:52	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			01/22/24 16:52	5
Vinyl chloride	**61**		5.0	3.6	ug/L			01/22/24 16:52	5
Xylenes, Total	6.5	U	10	6.5	ug/L			01/22/24 16:52	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/22/24 16:52*	*5*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/22/24 16:52*	*5*
Toluene-d8 (Surr)	*104*		*40 - 146*		*01/22/24 16:52*	*5*

Client Sample ID: LC34-DPT0593-008.0-20240118

Lab Sample ID: 670-33380-33

Date Collected: 01/18/24 11:35

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/22/24 20:54	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/22/24 20:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/22/24 20:54	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/22/24 20:54	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/22/24 20:54	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/22/24 20:54	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/22/24 20:54	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/22/24 20:54	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/22/24 20:54	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/22/24 20:54	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/22/24 20:54	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/22/24 20:54	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/22/24 20:54	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/22/24 20:54	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/22/24 20:54	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/22/24 20:54	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/22/24 20:54	1
Acetone	25	U	50	25	ug/L			01/22/24 20:54	1

Client Sample ID: LC34-DPT0593-008.0-20240118

Lab Sample ID: 670-33380-33

Date Collected: 01/18/24 11:35

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			01/22/24 20:54	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/22/24 20:54	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/22/24 20:54	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/22/24 20:54	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/22/24 20:54	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/22/24 20:54	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/22/24 20:54	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/22/24 20:54	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/22/24 20:54	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/22/24 20:54	1
cis-1,2-Dichloroethene	**3.2**		1.0	0.53	ug/L			01/22/24 20:54	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/22/24 20:54	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/22/24 20:54	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/22/24 20:54	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/22/24 20:54	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/22/24 20:54	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/22/24 20:54	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/22/24 20:54	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/22/24 20:54	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/22/24 20:54	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/22/24 20:54	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/22/24 20:54	1
Styrene	0.61	U	1.0	0.61	ug/L			01/22/24 20:54	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/22/24 20:54	1
Toluene	0.72	U	1.0	0.72	ug/L			01/22/24 20:54	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/22/24 20:54	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/22/24 20:54	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/22/24 20:54	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/22/24 20:54	1
Vinyl chloride	**0.79**	**I**	1.0	0.71	ug/L			01/22/24 20:54	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/22/24 20:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*01/22/24 20:54*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*01/22/24 20:54*	*1*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/22/24 20:54*	*1*

Client Sample ID: LC34-DPT0594-023.0-20240118

Lab Sample ID: 670-33380-34

Date Collected: 01/18/24 11:45

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/22/24 21:13	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/22/24 21:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/22/24 21:13	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/22/24 21:13	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/22/24 21:13	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/22/24 21:13	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/22/24 21:13	1

Client Sample ID: LC34-DPT0594-023.0-20240118
Date Collected: 01/18/24 11:45
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-34
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/22/24 21:13	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/22/24 21:13	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/22/24 21:13	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/22/24 21:13	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/22/24 21:13	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/22/24 21:13	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/22/24 21:13	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/22/24 21:13	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/22/24 21:13	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/22/24 21:13	1
Acetone	25	U	50	25	ug/L			01/22/24 21:13	1
Benzene	0.71	U	1.0	0.71	ug/L			01/22/24 21:13	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/22/24 21:13	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/22/24 21:13	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/22/24 21:13	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/22/24 21:13	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/22/24 21:13	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/22/24 21:13	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/22/24 21:13	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/22/24 21:13	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/22/24 21:13	1
cis-1,2-Dichloroethene	**38**		1.0	0.53	ug/L			01/22/24 21:13	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/22/24 21:13	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/22/24 21:13	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/22/24 21:13	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/22/24 21:13	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/22/24 21:13	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/22/24 21:13	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/22/24 21:13	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/22/24 21:13	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/22/24 21:13	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/22/24 21:13	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/22/24 21:13	1
Styrene	0.61	U	1.0	0.61	ug/L			01/22/24 21:13	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/22/24 21:13	1
Toluene	0.72	U	1.0	0.72	ug/L			01/22/24 21:13	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/22/24 21:13	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/22/24 21:13	1
Trichloroethene	**3.6**		1.0	0.89	ug/L			01/22/24 21:13	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/22/24 21:13	1
Vinyl chloride	**52**		1.0	0.71	ug/L			01/22/24 21:13	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/22/24 21:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/22/24 21:13*	*1*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*01/22/24 21:13*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/22/24 21:13*	*1*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0595-048.0-20240118
Date Collected: 01/18/24 11:45
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-35
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/23/24 19:38	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/23/24 19:38	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/23/24 19:38	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/23/24 19:38	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/23/24 19:38	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/23/24 19:38	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/23/24 19:38	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/23/24 19:38	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/23/24 19:38	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/23/24 19:38	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/23/24 19:38	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/23/24 19:38	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/23/24 19:38	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/23/24 19:38	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/23/24 19:38	100
2-Hexanone	250	U	2000	250	ug/L			01/23/24 19:38	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/23/24 19:38	100
Acetone	2500	U	5000	2500	ug/L			01/23/24 19:38	100
Benzene	71	U	100	71	ug/L			01/23/24 19:38	100
Bromodichloromethane	52	U	100	52	ug/L			01/23/24 19:38	100
Bromoform	75	U	100	75	ug/L			01/23/24 19:38	100
Bromomethane	95	U	200	95	ug/L			01/23/24 19:38	100
Carbon disulfide	250	U	500	250	ug/L			01/23/24 19:38	100
Carbon tetrachloride	94	U	100	94	ug/L			01/23/24 19:38	100
Chlorobenzene	72	U	100	72	ug/L			01/23/24 19:38	100
Chloroethane	98	U	200	98	ug/L			01/23/24 19:38	100
Chloroform	80	U	500	80	ug/L			01/23/24 19:38	100
Chloromethane	82	U	200	82	ug/L			01/23/24 19:38	100
cis-1,2-Dichloroethene	**4000**		100	53	ug/L			01/23/24 19:38	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/23/24 19:38	100
Cyclohexane	93	U	500	93	ug/L			01/23/24 19:38	100
Dibromochloromethane	50	U	100	50	ug/L			01/23/24 19:38	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/23/24 19:38	100
Ethylbenzene	69	U	100	69	ug/L			01/23/24 19:38	100
Isopropylbenzene	67	U	200	67	ug/L			01/23/24 19:38	100
m,p-Xylenes	130	U	200	130	ug/L			01/23/24 19:38	100
Methyl acetate	95	U	1000	95	ug/L			01/23/24 19:38	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/23/24 19:38	100
Methylene Chloride	500	U	1000	500	ug/L			01/23/24 19:38	100
o-Xylene	53	U	100	53	ug/L			01/23/24 19:38	100
Styrene	61	U	100	61	ug/L			01/23/24 19:38	100
Tetrachloroethene	76	U	100	76	ug/L			01/23/24 19:38	100
Toluene	72	U	100	72	ug/L			01/23/24 19:38	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			01/23/24 19:38	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/23/24 19:38	100
Trichloroethene	89	U	100	89	ug/L			01/23/24 19:38	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/23/24 19:38	100
Vinyl chloride	**9600**		100	71	ug/L			01/23/24 19:38	100
Xylenes, Total	130	U	200	130	ug/L			01/23/24 19:38	100

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0595-048.0-20240118

Lab Sample ID: 670-33380-35

Date Collected: 01/18/24 11:45
Matrix: Water
Date Received: 01/19/24 11:04

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/23/24 19:38*	*100*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*01/23/24 19:38*	*100*
Toluene-d8 (Surr)	*108*		*40 - 146*		*01/23/24 19:38*	*100*

Client Sample ID: LC34-DPT0593-013.0-20240118

Lab Sample ID: 670-33380-36

Date Collected: 01/18/24 11:50
Matrix: Water
Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/22/24 21:31	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/22/24 21:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/22/24 21:31	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/22/24 21:31	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/22/24 21:31	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/22/24 21:31	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/22/24 21:31	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/22/24 21:31	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/22/24 21:31	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/22/24 21:31	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/22/24 21:31	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/22/24 21:31	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/22/24 21:31	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/22/24 21:31	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/22/24 21:31	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/22/24 21:31	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/22/24 21:31	1
Acetone	25	U	50	25	ug/L			01/22/24 21:31	1
Benzene	0.71	U	1.0	0.71	ug/L			01/22/24 21:31	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/22/24 21:31	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/22/24 21:31	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/22/24 21:31	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/22/24 21:31	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/22/24 21:31	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/22/24 21:31	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/22/24 21:31	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/22/24 21:31	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/22/24 21:31	1
cis-1,2-Dichloroethene	**0.80**	**I**	1.0	0.53	ug/L			01/22/24 21:31	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/22/24 21:31	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/22/24 21:31	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/22/24 21:31	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/22/24 21:31	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/22/24 21:31	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/22/24 21:31	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/22/24 21:31	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/22/24 21:31	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/22/24 21:31	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/22/24 21:31	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/22/24 21:31	1

Client Sample ID: LC34-DPT0593-013.0-20240118

Lab Sample ID: 670-33380-36

Date Collected: 01/18/24 11:50

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			01/22/24 21:31	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/22/24 21:31	1
Toluene	0.72	U	1.0	0.72	ug/L			01/22/24 21:31	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/22/24 21:31	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/22/24 21:31	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/22/24 21:31	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/22/24 21:31	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/22/24 21:31	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/22/24 21:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/22/24 21:31*	*1*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/22/24 21:31*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/22/24 21:31*	*1*

Client Sample ID: LC34-DPT0593-018.0-20240118

Lab Sample ID: 670-33380-37

Date Collected: 01/18/24 12:05

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/24/24 16:57	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/24/24 16:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/24/24 16:57	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/24/24 16:57	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/24/24 16:57	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/24/24 16:57	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/24/24 16:57	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/24/24 16:57	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/24/24 16:57	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/24/24 16:57	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/24/24 16:57	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/24/24 16:57	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/24/24 16:57	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/24/24 16:57	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/24/24 16:57	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/24/24 16:57	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/24/24 16:57	1
Acetone	25	U	50	25	ug/L			01/24/24 16:57	1
Benzene	0.71	U	1.0	0.71	ug/L			01/24/24 16:57	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/24/24 16:57	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/24/24 16:57	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/24/24 16:57	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/24/24 16:57	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/24/24 16:57	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/24/24 16:57	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/24/24 16:57	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/24/24 16:57	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/24/24 16:57	1
cis-1,2-Dichloroethene	**1.6**		1.0	0.53	ug/L			01/24/24 16:57	1

Client Sample ID: LC34-DPT0593-018.0-20240118

Lab Sample ID: 670-33380-37

Date Collected: 01/18/24 12:05

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/24/24 16:57	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/24/24 16:57	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/24/24 16:57	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/24/24 16:57	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/24/24 16:57	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/24/24 16:57	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/24/24 16:57	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/24/24 16:57	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/24/24 16:57	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/24/24 16:57	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/24/24 16:57	1
Styrene	0.61	U	1.0	0.61	ug/L			01/24/24 16:57	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/24/24 16:57	1
Toluene	0.72	U	1.0	0.72	ug/L			01/24/24 16:57	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/24/24 16:57	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/24/24 16:57	1
Trichloroethene	**5.8**		1.0	0.89	ug/L			01/24/24 16:57	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/24/24 16:57	1
Vinyl chloride	**3.4**		1.0	0.71	ug/L			01/24/24 16:57	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/24/24 16:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/24/24 16:57*	*1*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/24/24 16:57*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 16:57*	*1*

Client Sample ID: LC34-DPT0595-053.0-20240118

Lab Sample ID: 670-33380-38

Date Collected: 01/18/24 12:10

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	40	U	50	40	ug/L			01/23/24 18:56	50
1,1,2,2-Tetrachloroethane	27	U	50	27	ug/L			01/23/24 18:56	50
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	100	37	ug/L			01/23/24 18:56	50
1,1,2-Trichloroethane	38	U	100	38	ug/L			01/23/24 18:56	50
1,1-Dichloroethane	31	U	50	31	ug/L			01/23/24 18:56	50
1,1-Dichloroethene	47	U	50	47	ug/L			01/23/24 18:56	50
1,2,4-Trichlorobenzene	35	U	100	35	ug/L			01/23/24 18:56	50
1,2-Dibromo-3-Chloropropane	48	U	500	48	ug/L			01/23/24 18:56	50
1,2-Dibromoethane (EDB)	39	U	600	39	ug/L			01/23/24 18:56	50
1,2-Dichlorobenzene	37	U	50	37	ug/L			01/23/24 18:56	50
1,2-Dichloroethane	32	U	50	32	ug/L			01/23/24 18:56	50
1,2-Dichloropropane	40	U	50	40	ug/L			01/23/24 18:56	50
1,3-Dichlorobenzene	39	U	50	39	ug/L			01/23/24 18:56	50
1,4-Dichlorobenzene	38	U	50	38	ug/L			01/23/24 18:56	50
2-Butanone (MEK)	230	U	500	230	ug/L			01/23/24 18:56	50
2-Hexanone	130	U	1000	130	ug/L			01/23/24 18:56	50
4-Methyl-2-pentanone	250	U	1000	250	ug/L			01/23/24 18:56	50
Acetone	1300	U	2500	1300	ug/L			01/23/24 18:56	50

Client Sample ID: LC34-DPT0595-053.0-20240118

Lab Sample ID: 670-33380-38

Date Collected: 01/18/24 12:10

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	36	U	50	36	ug/L			01/23/24 18:56	50
Bromodichloromethane	26	U	50	26	ug/L			01/23/24 18:56	50
Bromoform	38	U	50	38	ug/L			01/23/24 18:56	50
Bromomethane	48	U	100	48	ug/L			01/23/24 18:56	50
Carbon disulfide	130	U	250	130	ug/L			01/23/24 18:56	50
Carbon tetrachloride	47	U	50	47	ug/L			01/23/24 18:56	50
Chlorobenzene	36	U	50	36	ug/L			01/23/24 18:56	50
Chloroethane	49	U	100	49	ug/L			01/23/24 18:56	50
Chloroform	40	U	250	40	ug/L			01/23/24 18:56	50
Chloromethane	41	U	100	41	ug/L			01/23/24 18:56	50
cis-1,2-Dichloroethene	**3000**		50	27	ug/L			01/23/24 18:56	50
cis-1,3-Dichloropropene	30	U	50	30	ug/L			01/23/24 18:56	50
Cyclohexane	47	U	250	47	ug/L			01/23/24 18:56	50
Dibromochloromethane	25	U	50	25	ug/L			01/23/24 18:56	50
Dichlorodifluoromethane	37	U	50	37	ug/L			01/23/24 18:56	50
Ethylbenzene	35	U	50	35	ug/L			01/23/24 18:56	50
Isopropylbenzene	34	U	100	34	ug/L			01/23/24 18:56	50
m,p-Xylenes	65	U	100	65	ug/L			01/23/24 18:56	50
Methyl acetate	48	U	500	48	ug/L			01/23/24 18:56	50
Methyl tert-butyl ether	30	U	100	30	ug/L			01/23/24 18:56	50
Methylene Chloride	250	U	500	250	ug/L			01/23/24 18:56	50
o-Xylene	27	U	50	27	ug/L			01/23/24 18:56	50
Styrene	31	U	50	31	ug/L			01/23/24 18:56	50
Tetrachloroethene	38	U	50	38	ug/L			01/23/24 18:56	50
Toluene	36	U	50	36	ug/L			01/23/24 18:56	50
trans-1,2-Dichloroethene	37	U	50	37	ug/L			01/23/24 18:56	50
trans-1,3-Dichloropropene	37	U	50	37	ug/L			01/23/24 18:56	50
Trichloroethene	**45**	**I**	50	45	ug/L			01/23/24 18:56	50
Trichlorofluoromethane	47	U	50	47	ug/L			01/23/24 18:56	50
Vinyl chloride	**7800**		200	140	ug/L			01/24/24 18:49	200
Xylenes, Total	65	U	100	65	ug/L			01/23/24 18:56	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*01/23/24 18:56*	*50*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/24/24 18:49*	*200*
Dibromofluoromethane (Surr)	*111*		*53 - 146*		*01/23/24 18:56*	*50*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/24/24 18:49*	*200*
Toluene-d8 (Surr)	*107*		*40 - 146*		*01/23/24 18:56*	*50*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/24/24 18:49*	*200*

Client Sample ID: LC34-DPT0593-023.0-20240118

Lab Sample ID: 670-33380-39

Date Collected: 01/18/24 12:20

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			01/23/24 15:32	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			01/23/24 15:32	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			01/23/24 15:32	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			01/23/24 15:32	5

Client Sample ID: LC34-DPT0593-023.0-20240118
Date Collected: 01/18/24 12:20
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-39
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			01/23/24 15:32	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			01/23/24 15:32	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			01/23/24 15:32	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			01/23/24 15:32	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			01/23/24 15:32	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			01/23/24 15:32	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			01/23/24 15:32	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			01/23/24 15:32	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			01/23/24 15:32	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			01/23/24 15:32	5
2-Butanone (MEK)	23	U	50	23	ug/L			01/23/24 15:32	5
2-Hexanone	13	U	100	13	ug/L			01/23/24 15:32	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			01/23/24 15:32	5
Acetone	130	U	250	130	ug/L			01/23/24 15:32	5
Benzene	3.6	U	5.0	3.6	ug/L			01/23/24 15:32	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			01/23/24 15:32	5
Bromoform	3.8	U	5.0	3.8	ug/L			01/23/24 15:32	5
Bromomethane	4.8	U	10	4.8	ug/L			01/23/24 15:32	5
Carbon disulfide	13	U	25	13	ug/L			01/23/24 15:32	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			01/23/24 15:32	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			01/23/24 15:32	5
Chloroethane	4.9	U	10	4.9	ug/L			01/23/24 15:32	5
Chloroform	4.0	U	25	4.0	ug/L			01/23/24 15:32	5
Chloromethane	4.1	U	10	4.1	ug/L			01/23/24 15:32	5
cis-1,2-Dichloroethene	**50**		5.0	2.7	ug/L			01/23/24 15:32	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			01/23/24 15:32	5
Cyclohexane	4.7	U	25	4.7	ug/L			01/23/24 15:32	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			01/23/24 15:32	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			01/23/24 15:32	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			01/23/24 15:32	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			01/23/24 15:32	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			01/23/24 15:32	5
Methyl acetate	4.8	U	50	4.8	ug/L			01/23/24 15:32	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			01/23/24 15:32	5
Methylene Chloride	25	U	50	25	ug/L			01/23/24 15:32	5
o-Xylene	2.7	U	5.0	2.7	ug/L			01/23/24 15:32	5
Styrene	3.1	U	5.0	3.1	ug/L			01/23/24 15:32	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			01/23/24 15:32	5
Toluene	3.6	U	5.0	3.6	ug/L			01/23/24 15:32	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			01/23/24 15:32	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			01/23/24 15:32	5
Trichloroethene	**22**		5.0	4.5	ug/L			01/23/24 15:32	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			01/23/24 15:32	5
Vinyl chloride	**56**		5.0	3.6	ug/L			01/23/24 15:32	5
Xylenes, Total	6.5	U	10	6.5	ug/L			01/23/24 15:32	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/23/24 15:32*	*5*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/23/24 15:32*	*5*
Toluene-d8 (Surr)	*110*		*40 - 146*		*01/23/24 15:32*	*5*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0594-028.0-20240118
Date Collected: 01/18/24 12:25
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-40
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			01/22/24 18:48	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			01/22/24 18:48	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			01/22/24 18:48	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			01/22/24 18:48	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			01/22/24 18:48	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			01/22/24 18:48	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			01/22/24 18:48	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			01/22/24 18:48	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			01/22/24 18:48	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			01/22/24 18:48	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			01/22/24 18:48	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			01/22/24 18:48	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			01/22/24 18:48	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			01/22/24 18:48	5
2-Butanone (MEK)	23	U	50	23	ug/L			01/22/24 18:48	5
2-Hexanone	13	U	100	13	ug/L			01/22/24 18:48	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			01/22/24 18:48	5
Acetone	130	U J3	250	130	ug/L			01/22/24 18:48	5
Benzene	3.6	U	5.0	3.6	ug/L			01/22/24 18:48	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			01/22/24 18:48	5
Bromoform	3.8	U	5.0	3.8	ug/L			01/22/24 18:48	5
Bromomethane	4.8	U	10	4.8	ug/L			01/22/24 18:48	5
Carbon disulfide	13	U	25	13	ug/L			01/22/24 18:48	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			01/22/24 18:48	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			01/22/24 18:48	5
Chloroethane	4.9	U	10	4.9	ug/L			01/22/24 18:48	5
Chloroform	4.0	U	25	4.0	ug/L			01/22/24 18:48	5
Chloromethane	4.1	U	10	4.1	ug/L			01/22/24 18:48	5
cis-1,2-Dichloroethene	**70**		5.0	2.7	ug/L			01/22/24 18:48	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			01/22/24 18:48	5
Cyclohexane	4.7	U	25	4.7	ug/L			01/22/24 18:48	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			01/22/24 18:48	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			01/22/24 18:48	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			01/22/24 18:48	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			01/22/24 18:48	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			01/22/24 18:48	5
Methyl acetate	4.8	U J3	50	4.8	ug/L			01/22/24 18:48	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			01/22/24 18:48	5
Methylene Chloride	25	U	50	25	ug/L			01/22/24 18:48	5
o-Xylene	2.7	U	5.0	2.7	ug/L			01/22/24 18:48	5
Styrene	3.1	U	5.0	3.1	ug/L			01/22/24 18:48	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			01/22/24 18:48	5
Toluene	3.6	U	5.0	3.6	ug/L			01/22/24 18:48	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			01/22/24 18:48	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			01/22/24 18:48	5
Trichloroethene	4.5	U	5.0	4.5	ug/L			01/22/24 18:48	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			01/22/24 18:48	5
Vinyl chloride	**41**		5.0	3.6	ug/L			01/22/24 18:48	5
Xylenes, Total	6.5	U	10	6.5	ug/L			01/22/24 18:48	5

Client Sample ID: LC34-DPT0594-028.0-20240118

Lab Sample ID: 670-33380-40

Date Collected: 01/18/24 12:25

Matrix: Water

Date Received: 01/19/24 11:04

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/22/24 18:48*	*5*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/22/24 18:48*	*5*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/22/24 18:48*	*5*

Client Sample ID: LC34-DPT0593-028.0-20240118

Lab Sample ID: 670-33380-41

Date Collected: 01/18/24 12:35

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/22/24 21:04	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/22/24 21:04	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/22/24 21:04	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/22/24 21:04	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/22/24 21:04	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/22/24 21:04	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/22/24 21:04	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/22/24 21:04	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/22/24 21:04	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/22/24 21:04	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/22/24 21:04	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/22/24 21:04	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/22/24 21:04	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/22/24 21:04	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/22/24 21:04	100
2-Hexanone	250	U	2000	250	ug/L			01/22/24 21:04	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/22/24 21:04	100
Acetone	2500	U J3	5000	2500	ug/L			01/22/24 21:04	100
Benzene	71	U	100	71	ug/L			01/22/24 21:04	100
Bromodichloromethane	52	U	100	52	ug/L			01/22/24 21:04	100
Bromoform	75	U	100	75	ug/L			01/22/24 21:04	100
Bromomethane	95	U	200	95	ug/L			01/22/24 21:04	100
Carbon disulfide	250	U	500	250	ug/L			01/22/24 21:04	100
Carbon tetrachloride	94	U	100	94	ug/L			01/22/24 21:04	100
Chlorobenzene	72	U	100	72	ug/L			01/22/24 21:04	100
Chloroethane	98	U	200	98	ug/L			01/22/24 21:04	100
Chloroform	80	U	500	80	ug/L			01/22/24 21:04	100
Chloromethane	82	U	200	82	ug/L			01/22/24 21:04	100
cis-1,2-Dichloroethene	**4200**		100	53	ug/L			01/22/24 21:04	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/22/24 21:04	100
Cyclohexane	93	U	500	93	ug/L			01/22/24 21:04	100
Dibromochloromethane	50	U	100	50	ug/L			01/22/24 21:04	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/22/24 21:04	100
Ethylbenzene	69	U	100	69	ug/L			01/22/24 21:04	100
Isopropylbenzene	67	U	200	67	ug/L			01/22/24 21:04	100
m,p-Xylenes	130	U	200	130	ug/L			01/22/24 21:04	100
Methyl acetate	95	U J3	1000	95	ug/L			01/22/24 21:04	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/22/24 21:04	100
Methylene Chloride	500	U	1000	500	ug/L			01/22/24 21:04	100
o-Xylene	53	U	100	53	ug/L			01/22/24 21:04	100

Client Sample ID: LC34-DPT0593-028.0-20240118

Lab Sample ID: 670-33380-41

Date Collected: 01/18/24 12:35

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	61	U	100	61	ug/L			01/22/24 21:04	100
Tetrachloroethene	76	U	100	76	ug/L			01/22/24 21:04	100
Toluene	72	U	100	72	ug/L			01/22/24 21:04	100
trans-1,2-Dichloroethene	**74**	**I**	100	73	ug/L			01/22/24 21:04	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/22/24 21:04	100
Trichloroethene	89	U	100	89	ug/L			01/22/24 21:04	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/22/24 21:04	100
Vinyl chloride	**490**		100	71	ug/L			01/22/24 21:04	100
Xylenes, Total	130	U	200	130	ug/L			01/22/24 21:04	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/22/24 21:04*	*100*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/22/24 21:04*	*100*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/22/24 21:04*	*100*

Client Sample ID: LC34-DPT0595-058.0-20240118

Lab Sample ID: 670-33380-42

Date Collected: 01/18/24 12:45

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			01/22/24 19:29	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			01/22/24 19:29	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			01/22/24 19:29	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			01/22/24 19:29	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			01/22/24 19:29	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			01/22/24 19:29	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			01/22/24 19:29	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			01/22/24 19:29	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			01/22/24 19:29	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			01/22/24 19:29	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			01/22/24 19:29	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			01/22/24 19:29	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			01/22/24 19:29	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			01/22/24 19:29	10
2-Butanone (MEK)	45	U	100	45	ug/L			01/22/24 19:29	10
2-Hexanone	25	U	200	25	ug/L			01/22/24 19:29	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			01/22/24 19:29	10
Acetone	250	U J3	500	250	ug/L			01/22/24 19:29	10
Benzene	7.1	U	10	7.1	ug/L			01/22/24 19:29	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			01/22/24 19:29	10
Bromoform	7.5	U	10	7.5	ug/L			01/22/24 19:29	10
Bromomethane	9.5	U	20	9.5	ug/L			01/22/24 19:29	10
Carbon disulfide	25	U	50	25	ug/L			01/22/24 19:29	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			01/22/24 19:29	10
Chlorobenzene	7.2	U	10	7.2	ug/L			01/22/24 19:29	10
Chloroethane	9.8	U	20	9.8	ug/L			01/22/24 19:29	10
Chloroform	8.0	U	50	8.0	ug/L			01/22/24 19:29	10
Chloromethane	8.2	U	20	8.2	ug/L			01/22/24 19:29	10
cis-1,2-Dichloroethene	**760**		10	5.3	ug/L			01/22/24 19:29	10

Client Sample ID: LC34-DPT0595-058.0-20240118

Lab Sample ID: 670-33380-42

Date Collected: 01/18/24 12:45

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			01/22/24 19:29	10
Cyclohexane	9.3	U	50	9.3	ug/L			01/22/24 19:29	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			01/22/24 19:29	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			01/22/24 19:29	10
Ethylbenzene	6.9	U	10	6.9	ug/L			01/22/24 19:29	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			01/22/24 19:29	10
m,p-Xylenes	13	U	20	13	ug/L			01/22/24 19:29	10
Methyl acetate	9.5	U J3	100	9.5	ug/L			01/22/24 19:29	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			01/22/24 19:29	10
Methylene Chloride	50	U	100	50	ug/L			01/22/24 19:29	10
o-Xylene	5.3	U	10	5.3	ug/L			01/22/24 19:29	10
Styrene	6.1	U	10	6.1	ug/L			01/22/24 19:29	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			01/22/24 19:29	10
Toluene	7.2	U	10	7.2	ug/L			01/22/24 19:29	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			01/22/24 19:29	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			01/22/24 19:29	10
Trichloroethene	8.9	U	10	8.9	ug/L			01/22/24 19:29	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			01/22/24 19:29	10
Xylenes, Total	13	U	20	13	ug/L			01/22/24 19:29	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/22/24 19:29*	*10*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*01/22/24 19:29*	*10*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/22/24 19:29*	*10*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL2

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	2500		50	36	ug/L			01/23/24 15:45	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*01/23/24 15:45*	*50*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*01/23/24 15:45*	*50*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/23/24 15:45*	*50*

Client Sample ID: LC34-DPT0594-033.0-20240118

Lab Sample ID: 670-33380-43

Date Collected: 01/18/24 12:45

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			01/22/24 19:50	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			01/22/24 19:50	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			01/22/24 19:50	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			01/22/24 19:50	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			01/22/24 19:50	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			01/22/24 19:50	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			01/22/24 19:50	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			01/22/24 19:50	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			01/22/24 19:50	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			01/22/24 19:50	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			01/22/24 19:50	10

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0594-033.0-20240118
Date Collected: 01/18/24 12:45
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-43
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			01/22/24 19:50	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			01/22/24 19:50	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			01/22/24 19:50	10
2-Butanone (MEK)	45	U	100	45	ug/L			01/22/24 19:50	10
2-Hexanone	25	U	200	25	ug/L			01/22/24 19:50	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			01/22/24 19:50	10
Acetone	250	U J3	500	250	ug/L			01/22/24 19:50	10
Benzene	7.1	U	10	7.1	ug/L			01/22/24 19:50	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			01/22/24 19:50	10
Bromoform	7.5	U	10	7.5	ug/L			01/22/24 19:50	10
Bromomethane	9.5	U	20	9.5	ug/L			01/22/24 19:50	10
Carbon disulfide	25	U	50	25	ug/L			01/22/24 19:50	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			01/22/24 19:50	10
Chlorobenzene	7.2	U	10	7.2	ug/L			01/22/24 19:50	10
Chloroethane	9.8	U	20	9.8	ug/L			01/22/24 19:50	10
Chloroform	8.0	U	50	8.0	ug/L			01/22/24 19:50	10
Chloromethane	8.2	U	20	8.2	ug/L			01/22/24 19:50	10
cis-1,2-Dichloroethene	**900**		10	5.3	ug/L			01/23/24 15:23	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			01/22/24 19:50	10
Cyclohexane	9.3	U	50	9.3	ug/L			01/22/24 19:50	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			01/22/24 19:50	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			01/22/24 19:50	10
Ethylbenzene	6.9	U	10	6.9	ug/L			01/22/24 19:50	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			01/22/24 19:50	10
m,p-Xylenes	13	U	20	13	ug/L			01/22/24 19:50	10
Methyl acetate	9.5	U J3	100	9.5	ug/L			01/22/24 19:50	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			01/22/24 19:50	10
Methylene Chloride	50	U	100	50	ug/L			01/22/24 19:50	10
o-Xylene	5.3	U	10	5.3	ug/L			01/22/24 19:50	10
Styrene	6.1	U	10	6.1	ug/L			01/22/24 19:50	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			01/22/24 19:50	10
Toluene	7.2	U	10	7.2	ug/L			01/22/24 19:50	10
trans-1,2-Dichloroethene	**10**		10	7.3	ug/L			01/22/24 19:50	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			01/22/24 19:50	10
Trichloroethene	8.9	U	10	8.9	ug/L			01/22/24 19:50	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			01/22/24 19:50	10
Vinyl chloride	**160**		10	7.1	ug/L			01/23/24 15:23	10
Xylenes, Total	13	U	20	13	ug/L			01/22/24 19:50	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/22/24 19:50*	*10*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/23/24 15:23*	*10*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/22/24 19:50*	*10*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/23/24 15:23*	*10*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/22/24 19:50*	*10*
Toluene-d8 (Surr)	*97*		*40 - 146*		*01/23/24 15:23*	*10*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0593-033.0-20240118
Date Collected: 01/18/24 12:50
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-44
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			01/22/24 20:10	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			01/22/24 20:10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			01/22/24 20:10	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			01/22/24 20:10	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			01/22/24 20:10	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			01/22/24 20:10	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			01/22/24 20:10	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			01/22/24 20:10	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			01/22/24 20:10	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			01/22/24 20:10	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			01/22/24 20:10	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			01/22/24 20:10	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			01/22/24 20:10	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			01/22/24 20:10	10
2-Butanone (MEK)	45	U	100	45	ug/L			01/22/24 20:10	10
2-Hexanone	25	U	200	25	ug/L			01/22/24 20:10	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			01/22/24 20:10	10
Acetone	250	U J3	500	250	ug/L			01/22/24 20:10	10
Benzene	7.1	U	10	7.1	ug/L			01/22/24 20:10	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			01/22/24 20:10	10
Bromoform	7.5	U	10	7.5	ug/L			01/22/24 20:10	10
Bromomethane	9.5	U	20	9.5	ug/L			01/22/24 20:10	10
Carbon disulfide	25	U	50	25	ug/L			01/22/24 20:10	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			01/22/24 20:10	10
Chlorobenzene	7.2	U	10	7.2	ug/L			01/22/24 20:10	10
Chloroethane	9.8	U	20	9.8	ug/L			01/22/24 20:10	10
Chloroform	8.0	U	50	8.0	ug/L			01/22/24 20:10	10
Chloromethane	8.2	U	20	8.2	ug/L			01/22/24 20:10	10
cis-1,2-Dichloroethene	**740**		10	5.3	ug/L			01/22/24 20:10	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			01/22/24 20:10	10
Cyclohexane	9.3	U	50	9.3	ug/L			01/22/24 20:10	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			01/22/24 20:10	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			01/22/24 20:10	10
Ethylbenzene	6.9	U	10	6.9	ug/L			01/22/24 20:10	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			01/22/24 20:10	10
m,p-Xylenes	13	U	20	13	ug/L			01/22/24 20:10	10
Methyl acetate	9.5	U J3	100	9.5	ug/L			01/22/24 20:10	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			01/22/24 20:10	10
Methylene Chloride	50	U	100	50	ug/L			01/22/24 20:10	10
o-Xylene	5.3	U	10	5.3	ug/L			01/22/24 20:10	10
Styrene	6.1	U	10	6.1	ug/L			01/22/24 20:10	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			01/22/24 20:10	10
Toluene	7.2	U	10	7.2	ug/L			01/22/24 20:10	10
trans-1,2-Dichloroethene	**100**		10	7.3	ug/L			01/22/24 20:10	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			01/22/24 20:10	10
Trichloroethene	**27**		10	8.9	ug/L			01/22/24 20:10	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			01/22/24 20:10	10
Vinyl chloride	**280**		10	7.1	ug/L			01/22/24 20:10	10
Xylenes, Total	13	U	20	13	ug/L			01/22/24 20:10	10

Client Sample ID: LC34-DPT0593-033.0-20240118

Lab Sample ID: 670-33380-44

Date Collected: 01/18/24 12:50

Matrix: Water

Date Received: 01/19/24 11:04

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/22/24 20:10*	*10*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/22/24 20:10*	*10*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/22/24 20:10*	*10*

Client Sample ID: LC34-DPT0594-038.0-20240118

Lab Sample ID: 670-33380-45

Date Collected: 01/18/24 13:00

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	160	U	200	160	ug/L			01/22/24 21:22	200
1,1,2,2-Tetrachloroethane	110	U	200	110	ug/L			01/22/24 21:22	200
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	400	150	ug/L			01/22/24 21:22	200
1,1,2-Trichloroethane	150	U	400	150	ug/L			01/22/24 21:22	200
1,1-Dichloroethane	120	U	200	120	ug/L			01/22/24 21:22	200
1,1-Dichloroethene	190	U	200	190	ug/L			01/22/24 21:22	200
1,2,4-Trichlorobenzene	140	U	400	140	ug/L			01/22/24 21:22	200
1,2-Dibromo-3-Chloropropane	190	U	2000	190	ug/L			01/22/24 21:22	200
1,2-Dibromoethane (EDB)	160	U	2400	160	ug/L			01/22/24 21:22	200
1,2-Dichlorobenzene	150	U	200	150	ug/L			01/22/24 21:22	200
1,2-Dichloroethane	130	U	200	130	ug/L			01/22/24 21:22	200
1,2-Dichloropropane	160	U	200	160	ug/L			01/22/24 21:22	200
1,3-Dichlorobenzene	150	U	200	150	ug/L			01/22/24 21:22	200
1,4-Dichlorobenzene	150	U	200	150	ug/L			01/22/24 21:22	200
2-Butanone (MEK)	900	U	2000	900	ug/L			01/22/24 21:22	200
2-Hexanone	500	U	4000	500	ug/L			01/22/24 21:22	200
4-Methyl-2-pentanone	1000	U	4000	1000	ug/L			01/22/24 21:22	200
Acetone	5000	U J3	10000	5000	ug/L			01/22/24 21:22	200
Benzene	140	U	200	140	ug/L			01/22/24 21:22	200
Bromodichloromethane	100	U	200	100	ug/L			01/22/24 21:22	200
Bromoform	150	U	200	150	ug/L			01/22/24 21:22	200
Bromomethane	190	U	400	190	ug/L			01/22/24 21:22	200
Carbon disulfide	500	U	1000	500	ug/L			01/22/24 21:22	200
Carbon tetrachloride	190	U	200	190	ug/L			01/22/24 21:22	200
Chlorobenzene	140	U	200	140	ug/L			01/22/24 21:22	200
Chloroethane	200	U	400	200	ug/L			01/22/24 21:22	200
Chloroform	160	U	1000	160	ug/L			01/22/24 21:22	200
Chloromethane	160	U	400	160	ug/L			01/22/24 21:22	200
cis-1,2-Dichloroethene	**9400**		200	110	ug/L			01/22/24 21:22	200
cis-1,3-Dichloropropene	120	U	200	120	ug/L			01/22/24 21:22	200
Cyclohexane	190	U	1000	190	ug/L			01/22/24 21:22	200
Dibromochloromethane	100	U	200	100	ug/L			01/22/24 21:22	200
Dichlorodifluoromethane	150	U	200	150	ug/L			01/22/24 21:22	200
Ethylbenzene	140	U	200	140	ug/L			01/22/24 21:22	200
Isopropylbenzene	130	U	400	130	ug/L			01/22/24 21:22	200
m,p-Xylenes	260	U	400	260	ug/L			01/22/24 21:22	200
Methyl acetate	190	U J3	2000	190	ug/L			01/22/24 21:22	200
Methyl tert-butyl ether	120	U	400	120	ug/L			01/22/24 21:22	200
Methylene Chloride	1000	U	2000	1000	ug/L			01/22/24 21:22	200
o-Xylene	110	U	200	110	ug/L			01/22/24 21:22	200

Client Sample ID: LC34-DPT0594-038.0-20240118
Lab Sample ID: 670-33380-45
Date Collected: 01/18/24 13:00
Matrix: Water
Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	120	U	200	120	ug/L			01/22/24 21:22	200
Tetrachloroethene	150	U	200	150	ug/L			01/22/24 21:22	200
Toluene	140	U	200	140	ug/L			01/22/24 21:22	200
trans-1,2-Dichloroethene	**340**		200	150	ug/L			01/22/24 21:22	200
trans-1,3-Dichloropropene	150	U	200	150	ug/L			01/22/24 21:22	200
Trichloroethene	**5200**		200	180	ug/L			01/22/24 21:22	200
Trichlorofluoromethane	190	U	200	190	ug/L			01/22/24 21:22	200
Vinyl chloride	**280**		200	140	ug/L			01/22/24 21:22	200
Xylenes, Total	260	U	400	260	ug/L			01/22/24 21:22	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/22/24 21:22*	*200*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/22/24 21:22*	*200*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/22/24 21:22*	*200*

Client Sample ID: LC34-DPT0593-038.0-20240118
Lab Sample ID: 670-33380-46
Date Collected: 01/18/24 13:10
Matrix: Water
Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			01/22/24 19:09	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			01/22/24 19:09	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			01/22/24 19:09	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			01/22/24 19:09	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			01/22/24 19:09	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			01/22/24 19:09	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			01/22/24 19:09	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			01/22/24 19:09	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			01/22/24 19:09	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			01/22/24 19:09	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			01/22/24 19:09	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			01/22/24 19:09	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			01/22/24 19:09	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			01/22/24 19:09	5
2-Butanone (MEK)	23	U	50	23	ug/L			01/22/24 19:09	5
2-Hexanone	13	U	100	13	ug/L			01/22/24 19:09	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			01/22/24 19:09	5
Acetone	130	U J3	250	130	ug/L			01/22/24 19:09	5
Benzene	3.6	U	5.0	3.6	ug/L			01/22/24 19:09	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			01/22/24 19:09	5
Bromoform	3.8	U	5.0	3.8	ug/L			01/22/24 19:09	5
Bromomethane	4.8	U	10	4.8	ug/L			01/22/24 19:09	5
Carbon disulfide	13	U	25	13	ug/L			01/22/24 19:09	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			01/22/24 19:09	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			01/22/24 19:09	5
Chloroethane	4.9	U	10	4.9	ug/L			01/22/24 19:09	5
Chloroform	4.0	U	25	4.0	ug/L			01/22/24 19:09	5
Chloromethane	4.1	U	10	4.1	ug/L			01/22/24 19:09	5
cis-1,2-Dichloroethene	**3800**		100	53	ug/L			01/24/24 18:31	100

Client Sample ID: LC34-DPT0593-038.0-20240118

Lab Sample ID: 670-33380-46

Date Collected: 01/18/24 13:10

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			01/22/24 19:09	5
Cyclohexane	4.7	U	25	4.7	ug/L			01/22/24 19:09	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			01/22/24 19:09	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			01/22/24 19:09	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			01/22/24 19:09	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			01/22/24 19:09	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			01/22/24 19:09	5
Methyl acetate	4.8	U J3	50	4.8	ug/L			01/22/24 19:09	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			01/22/24 19:09	5
Methylene Chloride	25	U	50	25	ug/L			01/22/24 19:09	5
o-Xylene	2.7	U	5.0	2.7	ug/L			01/22/24 19:09	5
Styrene	3.1	U	5.0	3.1	ug/L			01/22/24 19:09	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			01/22/24 19:09	5
Toluene	3.6	U	5.0	3.6	ug/L			01/22/24 19:09	5
trans-1,2-Dichloroethene	**38**		5.0	3.7	ug/L			01/22/24 19:09	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			01/22/24 19:09	5
Trichloroethene	**130**		5.0	4.5	ug/L			01/22/24 19:09	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			01/22/24 19:09	5
Vinyl chloride	**290**		5.0	3.6	ug/L			01/22/24 19:09	5
Xylenes, Total	6.5	U	10	6.5	ug/L			01/22/24 19:09	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/22/24 19:09*	*5*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/22/24 19:09*	*5*
Toluene-d8 (Surr)	*97*		*40 - 146*		*01/22/24 19:09*	*5*

Client Sample ID: LC34-DPT0595-063.0-20240118

Lab Sample ID: 670-33380-47

Date Collected: 01/18/24 13:15

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/24/24 17:14	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/24/24 17:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/24/24 17:14	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/24/24 17:14	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/24/24 17:14	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/24/24 17:14	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/24/24 17:14	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/24/24 17:14	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/24/24 17:14	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/24/24 17:14	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/24/24 17:14	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/24/24 17:14	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/24/24 17:14	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/24/24 17:14	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/24/24 17:14	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/24/24 17:14	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/24/24 17:14	1
Acetone	25	U	50	25	ug/L			01/24/24 17:14	1

Client Sample ID: LC34-DPT0595-063.0-20240118

Lab Sample ID: 670-33380-47

Date Collected: 01/18/24 13:15

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			01/24/24 17:14	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/24/24 17:14	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/24/24 17:14	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/24/24 17:14	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/24/24 17:14	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/24/24 17:14	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/24/24 17:14	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/24/24 17:14	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/24/24 17:14	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/24/24 17:14	1
cis-1,2-Dichloroethene	**24**		1.0	0.53	ug/L			01/24/24 17:14	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/24/24 17:14	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/24/24 17:14	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/24/24 17:14	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/24/24 17:14	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/24/24 17:14	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/24/24 17:14	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/24/24 17:14	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/24/24 17:14	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/24/24 17:14	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/24/24 17:14	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/24/24 17:14	1
Styrene	0.61	U	1.0	0.61	ug/L			01/24/24 17:14	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/24/24 17:14	1
Toluene	0.72	U	1.0	0.72	ug/L			01/24/24 17:14	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/24/24 17:14	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/24/24 17:14	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/24/24 17:14	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/24/24 17:14	1
Vinyl chloride	**14**		1.0	0.71	ug/L			01/24/24 17:14	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/24/24 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/24/24 17:14*	*1*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/24/24 17:14*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 17:14*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/22/24 21:40*	*250*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/22/24 21:40*	*250*
Toluene-d8 (Surr)	*97*		*40 - 146*		*01/22/24 21:40*	*250*

Client Sample ID: LC34-DPT0594-043.0-20240118

Lab Sample ID: 670-33380-48

Date Collected: 01/18/24 13:15

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			01/23/24 17:43	500

Client Sample ID: LC34-DPT0594-043.0-20240118
Date Collected: 01/18/24 13:15
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-48
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			01/23/24 17:43	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			01/23/24 17:43	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			01/23/24 17:43	500
1,1-Dichloroethane	310	U	500	310	ug/L			01/23/24 17:43	500
1,1-Dichloroethene	470	U	500	470	ug/L			01/23/24 17:43	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			01/23/24 17:43	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			01/23/24 17:43	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			01/23/24 17:43	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			01/23/24 17:43	500
1,2-Dichloroethane	320	U	500	320	ug/L			01/23/24 17:43	500
1,2-Dichloropropane	400	U	500	400	ug/L			01/23/24 17:43	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			01/23/24 17:43	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			01/23/24 17:43	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			01/23/24 17:43	500
2-Hexanone	1300	U	10000	1300	ug/L			01/23/24 17:43	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			01/23/24 17:43	500
Acetone	13000	U	25000	13000	ug/L			01/23/24 17:43	500
Benzene	360	U	500	360	ug/L			01/23/24 17:43	500
Bromodichloromethane	260	U	500	260	ug/L			01/23/24 17:43	500
Bromoform	380	U	500	380	ug/L			01/23/24 17:43	500
Bromomethane	480	U	1000	480	ug/L			01/23/24 17:43	500
Carbon disulfide	1300	U	2500	1300	ug/L			01/23/24 17:43	500
Carbon tetrachloride	470	U	500	470	ug/L			01/23/24 17:43	500
Chlorobenzene	360	U	500	360	ug/L			01/23/24 17:43	500
Chloroethane	490	U	1000	490	ug/L			01/23/24 17:43	500
Chloroform	400	U	2500	400	ug/L			01/23/24 17:43	500
Chloromethane	410	U	1000	410	ug/L			01/23/24 17:43	500
cis-1,2-Dichloroethene	**5000**		250	130	ug/L			01/24/24 19:25	250
cis-1,3-Dichloropropene	300	U	500	300	ug/L			01/23/24 17:43	500
Cyclohexane	470	U	2500	470	ug/L			01/23/24 17:43	500
Dibromochloromethane	250	U	500	250	ug/L			01/23/24 17:43	500
Dichlorodifluoromethane	370	U	500	370	ug/L			01/23/24 17:43	500
Ethylbenzene	350	U	500	350	ug/L			01/23/24 17:43	500
Isopropylbenzene	340	U	1000	340	ug/L			01/23/24 17:43	500
m,p-Xylenes	650	U	1000	650	ug/L			01/23/24 17:43	500
Methyl acetate	480	U	5000	480	ug/L			01/23/24 17:43	500
Methyl tert-butyl ether	300	U	1000	300	ug/L			01/23/24 17:43	500
Methylene Chloride	2500	U	5000	2500	ug/L			01/23/24 17:43	500
o-Xylene	270	U	500	270	ug/L			01/23/24 17:43	500
Styrene	310	U	500	310	ug/L			01/23/24 17:43	500
Tetrachloroethene	380	U	500	380	ug/L			01/23/24 17:43	500
Toluene	360	U	500	360	ug/L			01/23/24 17:43	500
trans-1,2-Dichloroethene	370	U	500	370	ug/L			01/23/24 17:43	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			01/23/24 17:43	500
Trichloroethene	**21000**		250	220	ug/L			01/24/24 19:25	250
Trichlorofluoromethane	470	U	500	470	ug/L			01/23/24 17:43	500
Vinyl chloride	360	U	500	360	ug/L			01/23/24 17:43	500
Xylenes, Total	650	U	1000	650	ug/L			01/23/24 17:43	500

Client Sample ID: LC34-DPT0594-043.0-20240118

Lab Sample ID: 670-33380-48

Date Collected: 01/18/24 13:15

Matrix: Water

Date Received: 01/19/24 11:04

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*01/23/24 17:43*	*500*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/24/24 19:25*	*250*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*01/23/24 17:43*	*500*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/24/24 19:25*	*250*
Toluene-d8 (Surr)	*103*		*40 - 146*		*01/23/24 17:43*	*500*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 19:25*	*250*

Client Sample ID: LC34-DPT0594-048.0-20240118

Lab Sample ID: 670-33380-49

Date Collected: 01/18/24 13:30

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/23/24 19:37	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/23/24 19:37	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/23/24 19:37	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/23/24 19:37	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/23/24 19:37	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/23/24 19:37	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/23/24 19:37	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/23/24 19:37	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/23/24 19:37	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/23/24 19:37	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/23/24 19:37	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/23/24 19:37	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/23/24 19:37	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/23/24 19:37	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/23/24 19:37	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/23/24 19:37	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/23/24 19:37	1000
Acetone	25000	U	50000	25000	ug/L			01/23/24 19:37	1000
Benzene	710	U	1000	710	ug/L			01/23/24 19:37	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/23/24 19:37	1000
Bromoform	750	U	1000	750	ug/L			01/23/24 19:37	1000
Bromomethane	950	U	2000	950	ug/L			01/23/24 19:37	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/23/24 19:37	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/23/24 19:37	1000
Chlorobenzene	720	U	1000	720	ug/L			01/23/24 19:37	1000
Chloroethane	980	U	2000	980	ug/L			01/23/24 19:37	1000
Chloroform	800	U	5000	800	ug/L			01/23/24 19:37	1000
Chloromethane	820	U	2000	820	ug/L			01/23/24 19:37	1000
cis-1,2-Dichloroethene	**33000**		1000	530	ug/L			01/23/24 19:37	1000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/23/24 19:37	1000
Cyclohexane	930	U	5000	930	ug/L			01/23/24 19:37	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/23/24 19:37	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/23/24 19:37	1000
Ethylbenzene	690	U	1000	690	ug/L			01/23/24 19:37	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/23/24 19:37	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/23/24 19:37	1000
Methyl acetate	950	U	10000	950	ug/L			01/23/24 19:37	1000

Client Sample ID: LC34-DPT0594-048.0-20240118

Lab Sample ID: 670-33380-49

Date Collected: 01/18/24 13:30

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/23/24 19:37	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/23/24 19:37	1000
o-Xylene	530	U	1000	530	ug/L			01/23/24 19:37	1000
Styrene	610	U	1000	610	ug/L			01/23/24 19:37	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/23/24 19:37	1000
Toluene	720	U	1000	720	ug/L			01/23/24 19:37	1000
trans-1,2-Dichloroethene	730	U	1000	730	ug/L			01/23/24 19:37	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/23/24 19:37	1000
Trichloroethene	**270000**		5000	4500	ug/L			01/24/24 20:36	5000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/23/24 19:37	1000
Vinyl chloride	**1100**		1000	710	ug/L			01/23/24 19:37	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/23/24 19:37	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/23/24 19:37*	*1000*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*01/23/24 19:37*	*1000*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/23/24 19:37*	*1000*

Client Sample ID: LC34-DPT0593-043.0-20240118

Lab Sample ID: 670-33380-50

Date Collected: 01/18/24 13:35

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1600	U	2000	1600	ug/L			01/23/24 20:15	2000
1,1,2,2-Tetrachloroethane	1100	U	2000	1100	ug/L			01/23/24 20:15	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U	4000	1500	ug/L			01/23/24 20:15	2000
1,1,2-Trichloroethane	1500	U	4000	1500	ug/L			01/23/24 20:15	2000
1,1-Dichloroethane	1200	U	2000	1200	ug/L			01/23/24 20:15	2000
1,1-Dichloroethene	1900	U	2000	1900	ug/L			01/23/24 20:15	2000
1,2,4-Trichlorobenzene	1400	U	4000	1400	ug/L			01/23/24 20:15	2000
1,2-Dibromo-3-Chloropropane	1900	U	20000	1900	ug/L			01/23/24 20:15	2000
1,2-Dibromoethane (EDB)	1600	U	24000	1600	ug/L			01/23/24 20:15	2000
1,2-Dichlorobenzene	1500	U	2000	1500	ug/L			01/23/24 20:15	2000
1,2-Dichloroethane	1300	U	2000	1300	ug/L			01/23/24 20:15	2000
1,2-Dichloropropane	1600	U	2000	1600	ug/L			01/23/24 20:15	2000
1,3-Dichlorobenzene	1500	U	2000	1500	ug/L			01/23/24 20:15	2000
1,4-Dichlorobenzene	1500	U	2000	1500	ug/L			01/23/24 20:15	2000
2-Butanone (MEK)	9000	U	20000	9000	ug/L			01/23/24 20:15	2000
2-Hexanone	5000	U	40000	5000	ug/L			01/23/24 20:15	2000
4-Methyl-2-pentanone	10000	U	40000	10000	ug/L			01/23/24 20:15	2000
Acetone	50000	U	100000	50000	ug/L			01/23/24 20:15	2000
Benzene	1400	U	2000	1400	ug/L			01/23/24 20:15	2000
Bromodichloromethane	1000	U	2000	1000	ug/L			01/23/24 20:15	2000
Bromoform	1500	U	2000	1500	ug/L			01/23/24 20:15	2000
Bromomethane	1900	U	4000	1900	ug/L			01/23/24 20:15	2000
Carbon disulfide	5000	U	10000	5000	ug/L			01/23/24 20:15	2000
Carbon tetrachloride	1900	U	2000	1900	ug/L			01/23/24 20:15	2000
Chlorobenzene	1400	U	2000	1400	ug/L			01/23/24 20:15	2000
Chloroethane	2000	U	4000	2000	ug/L			01/23/24 20:15	2000

Client Sample ID: LC34-DPT0593-043.0-20240118

Lab Sample ID: 670-33380-50

Date Collected: 01/18/24 13:35

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	1600	U	10000	1600	ug/L			01/23/24 20:15	2000
Chloromethane	1600	U	4000	1600	ug/L			01/23/24 20:15	2000
cis-1,2-Dichloroethene	**13000**		2000	1100	ug/L			01/23/24 20:15	2000
cis-1,3-Dichloropropene	1200	U	2000	1200	ug/L			01/23/24 20:15	2000
Cyclohexane	1900	U	10000	1900	ug/L			01/23/24 20:15	2000
Dibromochloromethane	1000	U	2000	1000	ug/L			01/23/24 20:15	2000
Dichlorodifluoromethane	1500	U	2000	1500	ug/L			01/23/24 20:15	2000
Ethylbenzene	1400	U	2000	1400	ug/L			01/23/24 20:15	2000
Isopropylbenzene	1300	U	4000	1300	ug/L			01/23/24 20:15	2000
m,p-Xylenes	2600	U	4000	2600	ug/L			01/23/24 20:15	2000
Methyl acetate	1900	U	20000	1900	ug/L			01/23/24 20:15	2000
Methyl tert-butyl ether	1200	U	4000	1200	ug/L			01/23/24 20:15	2000
Methylene Chloride	10000	U	20000	10000	ug/L			01/23/24 20:15	2000
o-Xylene	1100	U	2000	1100	ug/L			01/23/24 20:15	2000
Styrene	1200	U	2000	1200	ug/L			01/23/24 20:15	2000
Tetrachloroethene	1500	U	2000	1500	ug/L			01/23/24 20:15	2000
Toluene	1400	U	2000	1400	ug/L			01/23/24 20:15	2000
trans-1,2-Dichloroethene	1500	U	2000	1500	ug/L			01/23/24 20:15	2000
trans-1,3-Dichloropropene	1500	U	2000	1500	ug/L			01/23/24 20:15	2000
Trichloroethene	**110000**		2000	1800	ug/L			01/23/24 20:15	2000
Trichlorofluoromethane	1900	U	2000	1900	ug/L			01/23/24 20:15	2000
Vinyl chloride	**51000**		2000	1400	ug/L			01/23/24 20:15	2000
Xylenes, Total	2600	U	4000	2600	ug/L			01/23/24 20:15	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/23/24 20:15*	*2000*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*01/23/24 20:15*	*2000*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/23/24 20:15*	*2000*

Client Sample ID: LC34-DPT0594-053.0-20240118

Lab Sample ID: 670-33380-51

Date Collected: 01/18/24 13:50

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/23/24 18:59	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/23/24 18:59	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	**1800**	**I**	2000	730	ug/L			01/23/24 18:59	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/23/24 18:59	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/23/24 18:59	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/23/24 18:59	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/23/24 18:59	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/23/24 18:59	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/23/24 18:59	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/23/24 18:59	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/23/24 18:59	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/23/24 18:59	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/23/24 18:59	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/23/24 18:59	1000

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0594-053.0-20240118
Date Collected: 01/18/24 13:50
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-51
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/23/24 18:59	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/23/24 18:59	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/23/24 18:59	1000
Acetone	25000	U	50000	25000	ug/L			01/23/24 18:59	1000
Benzene	710	U	1000	710	ug/L			01/23/24 18:59	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/23/24 18:59	1000
Bromoform	750	U	1000	750	ug/L			01/23/24 18:59	1000
Bromomethane	950	U	2000	950	ug/L			01/23/24 18:59	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/23/24 18:59	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/23/24 18:59	1000
Chlorobenzene	720	U	1000	720	ug/L			01/23/24 18:59	1000
Chloroethane	980	U	2000	980	ug/L			01/23/24 18:59	1000
Chloroform	800	U	5000	800	ug/L			01/23/24 18:59	1000
Chloromethane	820	U	2000	820	ug/L			01/23/24 18:59	1000
cis-1,2-Dichloroethene	**91000**		50000	27000	ug/L			01/24/24 21:12	50000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/23/24 18:59	1000
Cyclohexane	930	U	5000	930	ug/L			01/23/24 18:59	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/23/24 18:59	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/23/24 18:59	1000
Ethylbenzene	690	U	1000	690	ug/L			01/23/24 18:59	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/23/24 18:59	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/23/24 18:59	1000
Methyl acetate	950	U	10000	950	ug/L			01/23/24 18:59	1000
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/23/24 18:59	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/23/24 18:59	1000
o-Xylene	530	U	1000	530	ug/L			01/23/24 18:59	1000
Styrene	610	U	1000	610	ug/L			01/23/24 18:59	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/23/24 18:59	1000
Toluene	720	U	1000	720	ug/L			01/23/24 18:59	1000
trans-1,2-Dichloroethene	**960**	**I**	1000	730	ug/L			01/23/24 18:59	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/23/24 18:59	1000
Trichloroethene	**1600000**		50000	45000	ug/L			01/24/24 21:12	50000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/23/24 18:59	1000
Vinyl chloride	**2700**		1000	710	ug/L			01/23/24 18:59	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/23/24 18:59	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/23/24 18:59*	*1000*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/24/24 21:12*	*50000*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*01/23/24 18:59*	*1000*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/24/24 21:12*	*50000*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/23/24 18:59*	*1000*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/24/24 21:12*	*50000*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0593-048.0-20240118
Date Collected: 01/18/24 14:00
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-52
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/23/24 16:47	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/23/24 16:47	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/23/24 16:47	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/23/24 16:47	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/23/24 16:47	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/23/24 16:47	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/23/24 16:47	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/23/24 16:47	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/23/24 16:47	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/23/24 16:47	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/23/24 16:47	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/23/24 16:47	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/23/24 16:47	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/23/24 16:47	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/23/24 16:47	100
2-Hexanone	250	U	2000	250	ug/L			01/23/24 16:47	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/23/24 16:47	100
Acetone	2500	U	5000	2500	ug/L			01/23/24 16:47	100
Benzene	71	U	100	71	ug/L			01/23/24 16:47	100
Bromodichloromethane	52	U	100	52	ug/L			01/23/24 16:47	100
Bromoform	75	U	100	75	ug/L			01/23/24 16:47	100
Bromomethane	95	U	200	95	ug/L			01/23/24 16:47	100
Carbon disulfide	250	U	500	250	ug/L			01/23/24 16:47	100
Carbon tetrachloride	94	U	100	94	ug/L			01/23/24 16:47	100
Chlorobenzene	72	U	100	72	ug/L			01/23/24 16:47	100
Chloroethane	98	U	200	98	ug/L			01/23/24 16:47	100
Chloroform	80	U	500	80	ug/L			01/23/24 16:47	100
Chloromethane	82	U	200	82	ug/L			01/23/24 16:47	100
cis-1,2-Dichloroethene	**14000**		5000	2700	ug/L			01/24/24 20:54	5000
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/23/24 16:47	100
Cyclohexane	93	U	500	93	ug/L			01/23/24 16:47	100
Dibromochloromethane	50	U	100	50	ug/L			01/23/24 16:47	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/23/24 16:47	100
Ethylbenzene	69	U	100	69	ug/L			01/23/24 16:47	100
Isopropylbenzene	67	U	200	67	ug/L			01/23/24 16:47	100
m,p-Xylenes	130	U	200	130	ug/L			01/23/24 16:47	100
Methyl acetate	95	U	1000	95	ug/L			01/23/24 16:47	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/23/24 16:47	100
Methylene Chloride	500	U	1000	500	ug/L			01/23/24 16:47	100
o-Xylene	53	U	100	53	ug/L			01/23/24 16:47	100
Styrene	61	U	100	61	ug/L			01/23/24 16:47	100
Tetrachloroethene	76	U	100	76	ug/L			01/23/24 16:47	100
Toluene	72	U	100	72	ug/L			01/23/24 16:47	100
trans-1,2-Dichloroethene	**740**		100	73	ug/L			01/23/24 16:47	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/23/24 16:47	100
Trichloroethene	**480000**		5000	4500	ug/L			01/24/24 20:54	5000
Trichlorofluoromethane	94	U	100	94	ug/L			01/23/24 16:47	100
Vinyl chloride	**31000**		5000	3600	ug/L			01/24/24 20:54	5000
Xylenes, Total	130	U	200	130	ug/L			01/23/24 16:47	100

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0593-048.0-20240118

Lab Sample ID: 670-33380-52

Date Collected: 01/18/24 14:00
Matrix: Water
Date Received: 01/19/24 11:04

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		41 - 142		01/23/24 16:47	100
4-Bromofluorobenzene (Surr)	98		41 - 142		01/24/24 20:54	5000
Dibromofluoromethane (Surr)	108		53 - 146		01/23/24 16:47	100
Dibromofluoromethane (Surr)	100		53 - 146		01/24/24 20:54	5000
Toluene-d8 (Surr)	102		40 - 146		01/23/24 16:47	100
Toluene-d8 (Surr)	98		40 - 146		01/24/24 20:54	5000

Client Sample ID: LC34-DPT0595-073.0-20240118

Lab Sample ID: 670-33380-53

Date Collected: 01/18/24 14:05
Matrix: Water
Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/24/24 17:32	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/24/24 17:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/24/24 17:32	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/24/24 17:32	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/24/24 17:32	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/24/24 17:32	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/24/24 17:32	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/24/24 17:32	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/24/24 17:32	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/24/24 17:32	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/24/24 17:32	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/24/24 17:32	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/24/24 17:32	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/24/24 17:32	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/24/24 17:32	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/24/24 17:32	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/24/24 17:32	1
Acetone	25	U	50	25	ug/L			01/24/24 17:32	1
Benzene	0.71	U	1.0	0.71	ug/L			01/24/24 17:32	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/24/24 17:32	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/24/24 17:32	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/24/24 17:32	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/24/24 17:32	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/24/24 17:32	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/24/24 17:32	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/24/24 17:32	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/24/24 17:32	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/24/24 17:32	1
cis-1,2-Dichloroethene	**34**		1.0	0.53	ug/L			01/24/24 17:32	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/24/24 17:32	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/24/24 17:32	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/24/24 17:32	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/24/24 17:32	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/24/24 17:32	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/24/24 17:32	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/24/24 17:32	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/24/24 17:32	1

Client Sample ID: LC34-DPT0595-073.0-20240118

Lab Sample ID: 670-33380-53

Date Collected: 01/18/24 14:05

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/24/24 17:32	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/24/24 17:32	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/24/24 17:32	1
Styrene	0.61	U	1.0	0.61	ug/L			01/24/24 17:32	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/24/24 17:32	1
Toluene	0.72	U	1.0	0.72	ug/L			01/24/24 17:32	1
trans-1,2-Dichloroethene	**9.1**		1.0	0.73	ug/L			01/24/24 17:32	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/24/24 17:32	1
Trichloroethene	**43**		1.0	0.89	ug/L			01/24/24 17:32	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/24/24 17:32	1
Vinyl chloride	**7.8**		1.0	0.71	ug/L			01/24/24 17:32	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/24/24 17:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/24/24 17:32*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/24/24 17:32*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/24/24 17:32*	*1*

Client Sample ID: LC34-DPT0595-068.0-20240118

Lab Sample ID: 670-33380-54

Date Collected: 01/18/24 13:40

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/25/24 14:36	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/25/24 14:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/25/24 14:36	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/25/24 14:36	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/25/24 14:36	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/25/24 14:36	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/25/24 14:36	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/25/24 14:36	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/25/24 14:36	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/25/24 14:36	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/25/24 14:36	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/25/24 14:36	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/25/24 14:36	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/25/24 14:36	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/25/24 14:36	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/25/24 14:36	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/25/24 14:36	1
Acetone	25	U	50	25	ug/L			01/25/24 14:36	1
Benzene	0.71	U	1.0	0.71	ug/L			01/25/24 14:36	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/25/24 14:36	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/25/24 14:36	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/25/24 14:36	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/25/24 14:36	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/25/24 14:36	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/25/24 14:36	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/25/24 14:36	1

Client Sample ID: LC34-DPT0595-068.0-20240118

Lab Sample ID: 670-33380-54

Date Collected: 01/18/24 13:40

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	0.80	U	5.0	0.80	ug/L			01/25/24 14:36	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/25/24 14:36	1
cis-1,2-Dichloroethene	**0.86**	**I**	1.0	0.53	ug/L			01/25/24 14:36	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/25/24 14:36	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/25/24 14:36	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/25/24 14:36	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/25/24 14:36	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/25/24 14:36	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/25/24 14:36	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/25/24 14:36	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/25/24 14:36	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/25/24 14:36	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/25/24 14:36	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/25/24 14:36	1
Styrene	0.61	U	1.0	0.61	ug/L			01/25/24 14:36	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/25/24 14:36	1
Toluene	0.72	U	1.0	0.72	ug/L			01/25/24 14:36	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/25/24 14:36	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/25/24 14:36	1
Trichloroethene	**1.5**		1.0	0.89	ug/L			01/25/24 14:36	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/25/24 14:36	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/25/24 14:36	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/25/24 14:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/25/24 14:36*	*1*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/25/24 14:36*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/25/24 14:36*	*1*

Client Sample ID: LC34-DPT0594-058.0-20240118

Lab Sample ID: 670-33380-55

Date Collected: 01/18/24 14:10

Matrix: Water

Date Received: 01/19/24 11:04

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**670000**		10000	8900	ug/L			01/26/24 20:05	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*01/26/24 20:05*	*10000*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/26/24 20:05*	*10000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/26/24 20:05*	*10000*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/23/24 17:06	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/23/24 17:06	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/23/24 17:06	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/23/24 17:06	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/23/24 17:06	100
1,1-Dichloroethene	**200**		100	94	ug/L			01/23/24 17:06	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/23/24 17:06	100

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0594-058.0-20240118
Date Collected: 01/18/24 14:10
Date Received: 01/19/24 11:04

Lab Sample ID: 670-33380-55
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/23/24 17:06	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/23/24 17:06	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/23/24 17:06	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/23/24 17:06	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/23/24 17:06	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/23/24 17:06	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/23/24 17:06	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/23/24 17:06	100
2-Hexanone	250	U	2000	250	ug/L			01/23/24 17:06	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/23/24 17:06	100
Acetone	2500	U	5000	2500	ug/L			01/23/24 17:06	100
Benzene	71	U	100	71	ug/L			01/23/24 17:06	100
Bromodichloromethane	52	U	100	52	ug/L			01/23/24 17:06	100
Bromoform	75	U	100	75	ug/L			01/23/24 17:06	100
Bromomethane	95	U	200	95	ug/L			01/23/24 17:06	100
Carbon disulfide	250	U	500	250	ug/L			01/23/24 17:06	100
Carbon tetrachloride	94	U	100	94	ug/L			01/23/24 17:06	100
Chlorobenzene	72	U	100	72	ug/L			01/23/24 17:06	100
Chloroethane	98	U	200	98	ug/L			01/23/24 17:06	100
Chloroform	80	U	500	80	ug/L			01/23/24 17:06	100
Chloromethane	82	U	200	82	ug/L			01/23/24 17:06	100
cis-1,2-Dichloroethene	**51000**		5000	2700	ug/L			01/25/24 17:02	5000
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/23/24 17:06	100
Cyclohexane	93	U	500	93	ug/L			01/23/24 17:06	100
Dibromochloromethane	50	U	100	50	ug/L			01/23/24 17:06	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/23/24 17:06	100
Ethylbenzene	69	U	100	69	ug/L			01/23/24 17:06	100
Isopropylbenzene	67	U	200	67	ug/L			01/23/24 17:06	100
m,p-Xylenes	130	U	200	130	ug/L			01/23/24 17:06	100
Methyl acetate	95	U	1000	95	ug/L			01/23/24 17:06	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/23/24 17:06	100
Methylene Chloride	500	U	1000	500	ug/L			01/23/24 17:06	100
o-Xylene	53	U	100	53	ug/L			01/23/24 17:06	100
Styrene	61	U	100	61	ug/L			01/23/24 17:06	100
Tetrachloroethene	76	U	100	76	ug/L			01/23/24 17:06	100
Toluene	72	U	100	72	ug/L			01/23/24 17:06	100
trans-1,2-Dichloroethene	**650**		100	73	ug/L			01/23/24 17:06	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/23/24 17:06	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/23/24 17:06	100
Vinyl chloride	**2900**		100	71	ug/L			01/23/24 17:06	100
Xylenes, Total	130	U	200	130	ug/L			01/23/24 17:06	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/23/24 17:06*	*100*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/25/24 17:02*	*5000*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*01/23/24 17:06*	*100*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/25/24 17:02*	*5000*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/23/24 17:06*	*100*
Toluene-d8 (Surr)	*103*		*40 - 146*		*01/25/24 17:02*	*5000*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
185-805-F-5 MS	Matrix Spike	95	99	97
185-805-F-5 MSD	Matrix Spike Duplicate	96	101	99
670-33309-A-16 DU	Duplicate	102	102	100
670-33373-C-1 MS	Matrix Spike	98	101	98
670-33373-C-1 MSD	Matrix Spike Duplicate	98	100	99
670-33380-1 - DL	LC34-DPT0598-033.0-20240117	95	113	98
670-33380-2 - DL	LC34-DPT0596-068.0-20240117	97	114	100
670-33380-3 - DL	LC34-DPT0598-038.0-20240117	97	113	98
670-33380-4 - DL	LC34-DPT0598-043.0-20240117	95	112	98
670-33380-5 - DL	LC34-DPT0596-073.0-20240117	97	113	99
670-33380-6 - DL	LC34-DPT0598-048.0-20240117	98	112	96
670-33380-6 - DL	LC34-DPT0598-048.0-20240117	97	108	102
670-33380-7 - DL	LC34-DPT0596-078.0-20240117	96	111	98
670-33380-7 MS	LC34-DPT0596-078.0-20240117	93	103	97
670-33380-7 MSD	LC34-DPT0596-078.0-20240117	92	101	99
670-33380-8 - DL	LC34-DPT0598-053.0-20240117	95	113	98
670-33380-9 - DL	LC34-DPT0598-058.0-20240117	95	115	100
670-33380-10 - DL	LC34-DPT0596-083.0-20240117	95	114	99
670-33380-11 - DL	LC34-DPT0596-088.0-20240117	96	119	102
670-33380-12 - DL	LC34-DPT0598-063.0-20240117	98	113	97
670-33380-13	LC34-DPT0598-068.0-20240118	102	101	106
670-33380-13 MS	LC34-DPT0598-068.0-20240118	100	102	103
670-33380-13 MSD	LC34-DPT0598-068.0-20240118	96	101	101
670-33380-14 - DL	LC34-DPT0596-093.0-20240118	100	101	105
670-33380-15 - DL	LC34-DPT0598-073.0-20240118	106	103	104
670-33380-16 - DL	LC34-DPT0596-098.0-20240118	103	103	99
670-33380-16	LC34-DPT0596-098.0-20240118	106	98	101
670-33380-17 - DL	LC34-DPT0598-078.0-20240118	100	102	107
670-33380-18 - DL	LC34-DPT0598-083.0-20240118	100	102	103
670-33380-18 - DL	LC34-DPT0598-083.0-20240118	96	108	101

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-33380-1
Project/Site: NASA KSC LC34 DPT

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-33380-19 - DL	LC34-DPT0598-088.0-2024011	98	102	103
670-33380-20	LC34-DPT0595-008.0-2024011 8	105	101	101
670-33380-20	LC34-DPT0595-008.0-2024011 8	108	103	100
670-33380-21 - DL	LC34-DPT0598-093.0-2024011 8	100	102	104
670-33380-22	LC34-DPT0595-013.0-2024011 8	106	101	98
670-33380-23	LC34-DPT0595-018.0-2023011 8	104	100	101
670-33380-24	LC34-DPT0595-023.0-2024011 8	106	100	101
670-33380-25 - DL	LC34-DPT0598-098.0-2024011 8	99	103	103
670-33380-26	LC34-DPT0595-028.0-2024011 8	109	100	100
670-33380-27 - DL	LC34-DPT0595-033.0-2024011 8	102	103	104
670-33380-28 - DL	LC34-DPT0594-008.0-2024011 8	99	103	105
670-33380-29 - DL	LC34-DPT0595-038.0-2024011 8	98	103	102
670-33380-30 - DL	LC34-DPT0594-013.0-2024011 8	104	101	104
670-33380-31 - DL	LC34-DPT0595-043.0-2024011 8	100	103	100
670-33380-32 - DL	LC34-DPT0594-018.0-2024011 8	104	101	104
670-33380-33	LC34-DPT0593-008.0-2024011 8	97	108	102
670-33380-34	LC34-DPT0594-023.0-2024011 8	100	106	100
670-33380-35 - DL	LC34-DPT0595-048.0-2024011 8	98	107	108
670-33380-36	LC34-DPT0593-013.0-2024011 8	100	105	99
670-33380-37	LC34-DPT0593-018.0-2024011 8	99	104	99
670-33380-38 - DL	LC34-DPT0595-053.0-2024011 8	97	111	107
670-33380-38 - DL	LC34-DPT0595-053.0-2024011 8	99	101	98
670-33380-39 - DL	LC34-DPT0593-023.0-2024011 8	99	99	110
670-33380-40 - DL	LC34-DPT0594-028.0-2024011 8	98	101	98
670-33380-41 - DL	LC34-DPT0593-028.0-2024011 8	100	101	99
670-33380-42 - DL	LC34-DPT0595-058.0-2024011 8	99	99	99
670-33380-42 - DL2	LC34-DPT0595-058.0-2024011 8	96	108	100
670-33380-43 - DL	LC34-DPT0594-033.0-2024011 8	100	104	99
670-33380-43 - DL	LC34-DPT0594-033.0-2024011 8	102	105	97

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	BFB (41-142)	DBFM (53-146)	TOL (40-146)
670-33380-44 - DL	LC34-DPT0593-033.0-2024011	98	103	100
670-33380-45 - DL	LC34-DPT0594-038.0-2024011 8	102	100	98
670-33380-46 - DL	LC34-DPT0593-038.0-2024011 8	102	100	97
670-33380-47 - DL	LC34-DPT0595-063.0-2024011 8	99	101	97
670-33380-47	LC34-DPT0595-063.0-2024011 8	101	103	99
670-33380-48 - DL	LC34-DPT0594-043.0-2024011 8	96	107	103
670-33380-48 - DL	LC34-DPT0594-043.0-2024011 8	100	103	99
670-33380-49 - DL	LC34-DPT0594-048.0-2024011 8	98	107	101
670-33380-50 - DL	LC34-DPT0593-043.0-2024011 8	100	107	102
670-33380-51 - DL	LC34-DPT0594-053.0-2024011 8	98	106	102
670-33380-51 - DL	LC34-DPT0594-053.0-2024011 8	98	101	98
670-33380-52 - DL	LC34-DPT0593-048.0-2024011 8	97	108	102
670-33380-52 - DL	LC34-DPT0593-048.0-2024011 8	98	100	98
670-33380-53	LC34-DPT0595-073.0-2024011 8	100	101	98
670-33380-54	LC34-DPT0595-068.0-2024011 8	103	104	100
670-33380-55 - DL	LC34-DPT0594-058.0-2024011 8	99	109	102
670-33380-55 - DL	LC34-DPT0594-058.0-2024011 8	102	103	103
670-33380-55	LC34-DPT0594-058.0-2024011 8	103	100	100
670-33457-B-9 MS	Matrix Spike	94	102	98
670-33457-B-9 MSD	Matrix Spike Duplicate	96	100	100
670-33467-H-3 MS	Matrix Spike	103	101	102
670-33467-H-3 MSD	Matrix Spike Duplicate	103	101	102
670-33514-B-1 MS	Matrix Spike	103	100	101
670-33514-B-1 MSD	Matrix Spike Duplicate	104	100	102
670-33615-D-1 MS	Matrix Spike	96	100	100
670-33615-D-1 MSD	Matrix Spike Duplicate	98	102	101
670-33663-C-1 MS	Matrix Spike	99	102	103
670-33663-C-1 MSD	Matrix Spike Duplicate	96	101	100
LB 670-72408/1-A	Method Blank	98	105	105
LCS 670-72517/6	Lab Control Sample	95	102	98
LCS 670-72521/6	Lab Control Sample	98	99	100
LCS 670-72525/4	Lab Control Sample	99	100	99
LCS 670-72565/4	Lab Control Sample	102	101	103
LCS 670-72669/5	Lab Control Sample	97	97	99
LCS 670-72672/4	Lab Control Sample	97	102	104
LCS 670-72696/4	Lab Control Sample	105	103	100
LCS 670-72903/5	Lab Control Sample	98	102	99

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-33380-1
Project/Site: NASA KSC LC34 DPT

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
LCS 670-72911/4	Lab Control Sample	107	102	100
LCS 670-73081/4	Lab Control Sample	98	104	97
LCS 670-73281/4	Lab Control Sample	102	101	98
LCSD 670-72525/5	Lab Control Sample Dup	103	101	101
LCSD 670-73081/5	Lab Control Sample Dup	100	100	99
LCSD 670-73281/5	Lab Control Sample Dup	101	101	100
MB 670-72517/9	Method Blank	97	114	102
MB 670-72521/9	Method Blank	100	102	101
MB 670-72525/8	Method Blank	102	102	100
MB 670-72565/7	Method Blank	104	102	98
MB 670-72669/8	Method Blank	100	107	101
MB 670-72672/7	Method Blank	100	105	105
MB 670-72696/7	Method Blank	106	101	101
MB 670-72903/8	Method Blank	99	102	99
MB 670-72911/7	Method Blank	102	101	100
MB 670-73081/8	Method Blank	104	101	100
MB 670-73281/8	Method Blank	105	103	101

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water
Prep Type: TCLP

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-33334-A-1-A MS - DL	Matrix Spike	95	100	100
670-33334-A-1-A MSD - DL	Matrix Spike Duplicate	97	101	99
670-33365-C-1-B MS	Matrix Spike	100	102	102
670-33365-C-1-B MSD	Matrix Spike Duplicate	103	100	101

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-72517/9
Matrix: Water
Analysis Batch: 72517

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/22/24 14:13	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/22/24 14:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/22/24 14:13	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/22/24 14:13	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/22/24 14:13	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/22/24 14:13	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/22/24 14:13	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/22/24 14:13	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/22/24 14:13	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/22/24 14:13	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/22/24 14:13	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/22/24 14:13	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/22/24 14:13	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/22/24 14:13	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/22/24 14:13	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/22/24 14:13	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/22/24 14:13	1
Acetone	25	U	50	25	ug/L			01/22/24 14:13	1
Benzene	0.71	U	1.0	0.71	ug/L			01/22/24 14:13	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/22/24 14:13	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/22/24 14:13	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/22/24 14:13	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/22/24 14:13	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/22/24 14:13	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/22/24 14:13	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/22/24 14:13	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/22/24 14:13	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/22/24 14:13	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/22/24 14:13	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/22/24 14:13	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/22/24 14:13	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/22/24 14:13	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/22/24 14:13	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/22/24 14:13	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/22/24 14:13	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/22/24 14:13	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/22/24 14:13	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/22/24 14:13	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/22/24 14:13	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/22/24 14:13	1
Styrene	0.61	U	1.0	0.61	ug/L			01/22/24 14:13	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/22/24 14:13	1
Toluene	0.72	U	1.0	0.72	ug/L			01/22/24 14:13	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/22/24 14:13	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/22/24 14:13	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/22/24 14:13	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/22/24 14:13	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/22/24 14:13	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72517/9
Matrix: Water
Analysis Batch: 72517

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/22/24 14:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*01/22/24 14:13*	*1*
Dibromofluoromethane (Surr)	*114*		*53 - 146*		*01/22/24 14:13*	*1*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/22/24 14:13*	*1*

Lab Sample ID: LCS 670-72517/6
Matrix: Water
Analysis Batch: 72517

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	19.9		ug/L		99	57 - 148
1,1,2,2-Tetrachloroethane	20.0	20.1		ug/L		101	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	18.1		ug/L		91	47 - 173
1,1,2-Trichloroethane	20.0	20.5		ug/L		103	57 - 141
1,1-Dichloroethane	20.0	19.3		ug/L		97	57 - 142
1,1-Dichloroethene	20.0	18.5		ug/L		93	47 - 139
1,2,4-Trichlorobenzene	20.0	18.5		ug/L		92	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	17.8		ug/L		89	48 - 150
1,2-Dibromoethane (EDB)	20.0	18.6		ug/L		93	57 - 140
1,2-Dichlorobenzene	20.0	21.1		ug/L		106	63 - 131
1,2-Dichloroethane	20.0	19.1		ug/L		96	50 - 156
1,2-Dichloropropane	20.0	19.6		ug/L		98	61 - 133
1,3-Dichlorobenzene	20.0	20.1		ug/L		101	66 - 129
1,4-Dichlorobenzene	20.0	20.3		ug/L		101	65 - 133
2-Butanone (MEK)	200	170		ug/L		85	10 - 180
2-Hexanone	200	170		ug/L		85	12 - 180
4-Methyl-2-pentanone	200	173		ug/L		86	19 - 180
Acetone	200	156		ug/L		78	10 - 180
Benzene	20.0	19.5		ug/L		98	56 - 136
Bromodichloromethane	20.0	20.1		ug/L		100	58 - 135
Bromoform	20.0	20.8		ug/L		104	46 - 148
Bromomethane	20.0	24.3		ug/L		122	10 - 173
Carbon disulfide	20.0	16.5		ug/L		82	43 - 153
Carbon tetrachloride	20.0	19.3		ug/L		96	54 - 156
Chlorobenzene	20.0	20.3		ug/L		101	51 - 139
Chloroethane	20.0	18.1		ug/L		90	27 - 180
Chloroform	20.0	19.2		ug/L		96	58 - 139
Chloromethane	20.0	16.4		ug/L		82	33 - 154
cis-1,2-Dichloroethene	20.0	18.9		ug/L		94	56 - 128
cis-1,3-Dichloropropene	20.0	17.8		ug/L		89	64 - 128
Cyclohexane	20.0	16.3		ug/L		81	14 - 151
Dibromochloromethane	20.0	19.5		ug/L		97	50 - 140
Dichlorodifluoromethane	20.0	16.4		ug/L		82	10 - 180
Ethylbenzene	20.0	19.0		ug/L		95	63 - 133
Isopropylbenzene	20.0	18.4		ug/L		92	60 - 132
m,p-Xylenes	20.0	18.4		ug/L		92	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72517/6
Matrix: Water
Analysis Batch: 72517

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	41.9		ug/L		105	70 - 130
Methyl tert-butyl ether	20.0	16.9		ug/L		85	51 - 145
Methylene Chloride	20.0	19.1		ug/L		95	43 - 142
o-Xylene	20.0	16.4		ug/L		82	61 - 129
Styrene	20.0	16.6		ug/L		83	59 - 136
Tetrachloroethene	20.0	20.8		ug/L		104	60 - 147
Toluene	20.0	18.3		ug/L		91	64 - 131
trans-1,2-Dichloroethene	20.0	18.5		ug/L		93	54 - 134
trans-1,3-Dichloropropene	20.0	20.3		ug/L		102	65 - 149
Trichloroethene	20.0	20.4		ug/L		102	62 - 135
Trichlorofluoromethane	20.0	20.1		ug/L		101	56 - 155
Vinyl chloride	20.0	19.4		ug/L		97	20 - 167
Xylenes, Total	40.0	34.8		ug/L		87	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: 670-33380-7 MS
Matrix: Water
Analysis Batch: 72517

Client Sample ID: LC34-DPT0596-078.0-20240117
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20	U	500	493		ug/L		99	57 - 148
1,1,2,2-Tetrachloroethane	14	U	500	467		ug/L		93	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	500	446		ug/L		89	50 - 150
1,1,2-Trichloroethane	19	U	500	469		ug/L		94	57 - 141
1,1-Dichloroethane	16	U	500	457		ug/L		91	57 - 142
1,1-Dichloroethene	24	U	500	447		ug/L		89	49 - 139
1,2,4-Trichlorobenzene	18	U	500	402		ug/L		80	52 - 159
1,2-Dibromo-3-Chloropropane	24	U	500	422		ug/L		84	48 - 150
1,2-Dibromoethane (EDB)	20	U	500	431		ug/L		86	50 - 150
1,2-Dichlorobenzene	18	U	500	466		ug/L		93	63 - 131
1,2-Dichloroethane	16	U	500	426		ug/L		85	50 - 156
1,2-Dichloropropane	20	U	500	455		ug/L		91	61 - 133
1,3-Dichlorobenzene	19	U	500	457		ug/L		91	66 - 129
1,4-Dichlorobenzene	19	U	500	460		ug/L		92	65 - 133
2-Butanone (MEK)	110	U	5000	3790		ug/L		76	10 - 180
2-Hexanone	63	U	5000	3830		ug/L		77	12 - 180
4-Methyl-2-pentanone	130	U	5000	3880		ug/L		78	19 - 180
Acetone	630	U	5000	3720		ug/L		74	10 - 180
Benzene	18	U	500	458		ug/L		92	56 - 136
Bromodichloromethane	13	U	500	454		ug/L		91	58 - 135
Bromoform	19	U	500	452		ug/L		90	46 - 148
Bromomethane	24	U	500	586		ug/L		117	10 - 173
Carbon disulfide	63	U	500	397		ug/L		79	43 - 153
Carbon tetrachloride	24	U	500	497		ug/L		99	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33380-7 MS
Matrix: Water
Analysis Batch: 72517

Client Sample ID: LC34-DPT0596-078.0-20240117
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	18	U	500	476		ug/L		95	51 - 139
Chloroethane	25	U	500	481		ug/L		96	27 - 180
Chloroform	20	U	500	445		ug/L		89	59 - 139
Chloromethane	21	U	500	422		ug/L		84	33 - 154
cis-1,2-Dichloroethene	18	I	500	468		ug/L		90	56 - 128
cis-1,3-Dichloropropene	15	U	500	403		ug/L		81	64 - 128
Cyclohexane	23	U	500	399		ug/L		80	14 - 141
Dibromochloromethane	13	U	500	463		ug/L		93	50 - 150
Dichlorodifluoromethane	19	U	500	452		ug/L		90	10 - 180
Ethylbenzene	17	U	500	464		ug/L		93	63 - 133
Isopropylbenzene	17	U	500	432		ug/L		86	60 - 132
m,p-Xylenes	33	U	500	427		ug/L		85	64 - 133
Methyl acetate	24	U	1000	885		ug/L		88	50 - 150
Methyl tert-butyl ether	15	U	500	388		ug/L		78	50 - 150
Methylene Chloride	130	U	500	442		ug/L		88	43 - 142
o-Xylene	13	U	500	381		ug/L		76	61 - 129
Styrene	15	U	500	381		ug/L		76	59 - 136
Tetrachloroethene	19	U	500	516		ug/L		103	60 - 147
Toluene	18	U	500	438		ug/L		88	64 - 131
trans-1,2-Dichloroethene	32		500	483		ug/L		90	54 - 134
trans-1,3-Dichloropropene	18	U	500	467		ug/L		93	65 - 149
Trichloroethene	1100		500	1410		ug/L		64	62 - 135
Trichlorofluoromethane	24	U	500	539		ug/L		108	56 - 155
Vinyl chloride	75		500	562		ug/L		97	20 - 167
Xylenes, Total	33	U	1000	808		ug/L		81	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*
Dibromofluoromethane (Surr)	*103*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Lab Sample ID: 670-33380-7 MSD
Matrix: Water
Analysis Batch: 72517

Client Sample ID: LC34-DPT0596-078.0-20240117
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	20	U	500	469		ug/L		94	57 - 148	5	25
1,1,2,2-Tetrachloroethane	14	U	500	464		ug/L		93	60 - 139	1	17
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	500	459		ug/L		92	50 - 150	3	30
1,1,2-Trichloroethane	19	U	500	473		ug/L		95	57 - 141	1	16
1,1-Dichloroethane	16	U	500	447		ug/L		89	57 - 142	2	24
1,1-Dichloroethene	24	U	500	447		ug/L		89	49 - 139	0	16
1,2,4-Trichlorobenzene	18	U	500	411		ug/L		82	52 - 159	2	24
1,2-Dibromo-3-Chloropropane	24	U	500	423		ug/L		85	48 - 150	0	21
1,2-Dibromoethane (EDB)	20	U	500	442		ug/L		88	50 - 150	2	16
1,2-Dichlorobenzene	18	U	500	471		ug/L		94	63 - 131	1	25
1,2-Dichloroethane	16	U	500	430		ug/L		86	50 - 156	1	18
1,2-Dichloropropane	20	U	500	435		ug/L		87	61 - 133	4	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33380-7 MSD
Matrix: Water
Analysis Batch: 72517

Client Sample ID: LC34-DPT0596-078.0-20240117
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	19	U	500	456		ug/L		91	66 - 129	0	23
1,4-Dichlorobenzene	19	U	500	455		ug/L		91	65 - 133	1	23
2-Butanone (MEK)	110	U	5000	3940		ug/L		79	10 - 180	4	29
2-Hexanone	63	U	5000	3970		ug/L		79	12 - 180	4	28
4-Methyl-2-pentanone	130	U	5000	3940		ug/L		79	19 - 180	2	24
Acetone	630	U	5000	3710		ug/L		74	10 - 180	0	19
Benzene	18	U	500	449		ug/L		90	56 - 136	2	14
Bromodichloromethane	13	U	500	457		ug/L		91	58 - 135	1	19
Bromoform	19	U	500	452		ug/L		90	46 - 148	0	18
Bromomethane	24	U	500	635		ug/L		127	10 - 173	8	29
Carbon disulfide	63	U	500	408		ug/L		82	43 - 153	3	26
Carbon tetrachloride	24	U	500	474		ug/L		95	54 - 156	5	27
Chlorobenzene	18	U	500	469		ug/L		94	51 - 139	1	13
Chloroethane	25	U	500	464		ug/L		93	27 - 180	4	22
Chloroform	20	U	500	444		ug/L		89	59 - 139	0	17
Chloromethane	21	U	500	413		ug/L		83	33 - 154	2	31
cis-1,2-Dichloroethene	18	I	500	463		ug/L		89	56 - 128	1	17
cis-1,3-Dichloropropene	15	U	500	409		ug/L		82	64 - 128	2	20
Cyclohexane	23	U	500	388		ug/L		78	14 - 141	3	30
Dibromochloromethane	13	U	500	456		ug/L		91	50 - 150	1	18
Dichlorodifluoromethane	19	U	500	419		ug/L		84	10 - 180	8	26
Ethylbenzene	17	U	500	446		ug/L		89	63 - 133	4	18
Isopropylbenzene	17	U	500	412		ug/L		82	60 - 132	5	23
m,p-Xylenes	33	U	500	409		ug/L		82	64 - 133	4	18
Methyl acetate	24	U	1000	876		ug/L		88	50 - 150	1	30
Methyl tert-butyl ether	15	U	500	397		ug/L		79	50 - 150	2	22
Methylene Chloride	130	U	500	439		ug/L		88	43 - 142	1	23
o-Xylene	13	U	500	376		ug/L		75	61 - 129	1	16
Styrene	15	U	500	372		ug/L		74	59 - 136	2	32
Tetrachloroethene	19	U	500	507		ug/L		101	60 - 147	2	21
Toluene	18	U	500	432		ug/L		86	64 - 131	1	16
trans-1,2-Dichloroethene	32		500	471		ug/L		88	54 - 134	3	20
trans-1,3-Dichloropropene	18	U	500	473		ug/L		95	65 - 149	1	17
Trichloroethene	1100		500	1420		ug/L		65	62 - 135	1	20
Trichlorofluoromethane	24	U	500	527		ug/L		105	56 - 155	2	22
Vinyl chloride	75		500	559		ug/L		97	20 - 167	0	24
Xylenes, Total	33	U	1000	785		ug/L		79	50 - 150	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72521/9
Matrix: Water
Analysis Batch: 72521

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/22/24 15:32	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/22/24 15:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/22/24 15:32	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/22/24 15:32	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/22/24 15:32	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/22/24 15:32	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/22/24 15:32	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/22/24 15:32	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/22/24 15:32	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/22/24 15:32	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/22/24 15:32	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/22/24 15:32	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/22/24 15:32	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/22/24 15:32	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/22/24 15:32	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/22/24 15:32	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/22/24 15:32	1
Acetone	25	U	50	25	ug/L			01/22/24 15:32	1
Benzene	0.71	U	1.0	0.71	ug/L			01/22/24 15:32	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/22/24 15:32	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/22/24 15:32	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/22/24 15:32	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/22/24 15:32	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/22/24 15:32	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/22/24 15:32	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/22/24 15:32	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/22/24 15:32	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/22/24 15:32	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/22/24 15:32	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/22/24 15:32	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/22/24 15:32	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/22/24 15:32	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/22/24 15:32	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/22/24 15:32	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/22/24 15:32	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/22/24 15:32	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/22/24 15:32	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/22/24 15:32	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/22/24 15:32	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/22/24 15:32	1
Styrene	0.61	U	1.0	0.61	ug/L			01/22/24 15:32	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/22/24 15:32	1
Toluene	0.72	U	1.0	0.72	ug/L			01/22/24 15:32	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/22/24 15:32	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/22/24 15:32	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/22/24 15:32	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/22/24 15:32	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/22/24 15:32	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72521/9
Matrix: Water
Analysis Batch: 72521

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/22/24 15:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/22/24 15:32*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/22/24 15:32*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/22/24 15:32*	*1*

Lab Sample ID: LCS 670-72521/6
Matrix: Water
Analysis Batch: 72521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	21.5		ug/L		108	57 - 148
1,1,2,2-Tetrachloroethane	20.0	21.3		ug/L		106	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	22.2		ug/L		111	47 - 173
1,1,2-Trichloroethane	20.0	20.3		ug/L		101	57 - 141
1,1-Dichloroethane	20.0	23.9		ug/L		120	57 - 142
1,1-Dichloroethene	20.0	24.8		ug/L		124	47 - 139
1,2,4-Trichlorobenzene	20.0	19.0		ug/L		95	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	16.4		ug/L		82	48 - 150
1,2-Dibromoethane (EDB)	20.0	19.6		ug/L		98	57 - 140
1,2-Dichlorobenzene	20.0	20.4		ug/L		102	63 - 131
1,2-Dichloroethane	20.0	22.4		ug/L		112	50 - 156
1,2-Dichloropropane	20.0	23.6		ug/L		118	61 - 133
1,3-Dichlorobenzene	20.0	21.1		ug/L		106	66 - 129
1,4-Dichlorobenzene	20.0	21.2		ug/L		106	65 - 133
2-Butanone (MEK)	200	180		ug/L		90	10 - 180
2-Hexanone	200	218		ug/L		109	12 - 180
4-Methyl-2-pentanone	200	226		ug/L		113	19 - 180
Acetone	200	167		ug/L		84	10 - 180
Benzene	20.0	22.4		ug/L		112	56 - 136
Bromodichloromethane	20.0	21.8		ug/L		109	58 - 135
Bromoform	20.0	19.5		ug/L		97	46 - 148
Bromomethane	20.0	22.8		ug/L		114	10 - 173
Carbon disulfide	20.0	25.9		ug/L		129	43 - 153
Carbon tetrachloride	20.0	21.6		ug/L		108	54 - 156
Chlorobenzene	20.0	22.0		ug/L		110	51 - 139
Chloroethane	20.0	29.6		ug/L		148	27 - 180
Chloroform	20.0	22.3		ug/L		111	58 - 139
Chloromethane	20.0	22.4		ug/L		112	33 - 154
cis-1,2-Dichloroethene	20.0	22.9		ug/L		114	56 - 128
cis-1,3-Dichloropropene	20.0	20.2		ug/L		101	64 - 128
Cyclohexane	20.0	24.7		ug/L		123	14 - 151
Dibromochloromethane	20.0	20.8		ug/L		104	50 - 140
Dichlorodifluoromethane	20.0	19.6		ug/L		98	10 - 180
Ethylbenzene	20.0	21.1		ug/L		106	63 - 133
Isopropylbenzene	20.0	22.7		ug/L		114	60 - 132
m,p-Xylenes	20.0	20.3		ug/L		102	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72521/6
Matrix: Water
Analysis Batch: 72521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	33.9		ug/L		85	70 - 130
Methyl tert-butyl ether	20.0	19.5		ug/L		98	51 - 145
Methylene Chloride	20.0	25.3		ug/L		127	43 - 142
o-Xylene	20.0	19.5		ug/L		98	61 - 129
Styrene	20.0	20.0		ug/L		100	59 - 136
Tetrachloroethene	20.0	21.1		ug/L		105	60 - 147
Toluene	20.0	21.4		ug/L		107	64 - 131
trans-1,2-Dichloroethene	20.0	20.9		ug/L		104	54 - 134
trans-1,3-Dichloropropene	20.0	21.9		ug/L		110	65 - 149
Trichloroethene	20.0	21.7		ug/L		109	62 - 135
Trichlorofluoromethane	20.0	22.8		ug/L		114	56 - 155
Vinyl chloride	20.0	22.9		ug/L		114	20 - 167
Xylenes, Total	40.0	39.8		ug/L		100	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-33373-C-1 MS
Matrix: Water
Analysis Batch: 72521

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	26.2		ug/L		131	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	22.9		ug/L		114	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	23.5		ug/L		117	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	23.2		ug/L		116	57 - 141
1,1-Dichloroethane	0.62	U J3	20.0	29.1	J3	ug/L		145	57 - 142
1,1-Dichloroethene	0.94	U	20.0	27.6		ug/L		138	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	20.7		ug/L		104	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	16.8		ug/L		84	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	21.7		ug/L		108	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	23.0		ug/L		115	63 - 131
1,2-Dichloroethane	0.63	U	20.0	25.8		ug/L		129	50 - 156
1,2-Dichloropropane	0.80	U J3	20.0	28.5	J3	ug/L		143	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	23.5		ug/L		117	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	23.4		ug/L		117	65 - 133
2-Butanone (MEK)	4.5	U	200	197		ug/L		99	10 - 180
2-Hexanone	2.5	U	200	231		ug/L		116	12 - 180
4-Methyl-2-pentanone	5.0	U	200	248		ug/L		124	19 - 180
Acetone	25	U	200	199		ug/L		100	10 - 180
Benzene	0.71	U	20.0	26.6		ug/L		133	56 - 136
Bromodichloromethane	0.52	U	20.0	25.2		ug/L		126	58 - 135
Bromoform	0.75	U	20.0	20.4		ug/L		102	46 - 148
Bromomethane	0.95	U	20.0	27.3		ug/L		136	10 - 173
Carbon disulfide	2.5	U	20.0	25.7		ug/L		128	43 - 153
Carbon tetrachloride	0.94	U	20.0	26.0		ug/L		130	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33373-C-1 MS
Matrix: Water
Analysis Batch: 72521

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	24.3		ug/L		122	51 - 139
Chloroethane	0.98	U	20.0	35.7		ug/L		179	27 - 180
Chloroform	0.80	U	20.0	26.1		ug/L		130	59 - 139
Chloromethane	0.82	U	20.0	26.7		ug/L		133	33 - 154
cis-1,2-Dichloroethene	0.53	U J3	20.0	28.1	J3	ug/L		140	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	23.3		ug/L		116	64 - 128
Cyclohexane	0.93	U J3	20.0	30.2	J3	ug/L		151	14 - 141
Dibromochloromethane	0.50	U	20.0	22.1		ug/L		111	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	23.6		ug/L		118	10 - 180
Ethylbenzene	0.69	U	20.0	23.6		ug/L		118	63 - 133
Isopropylbenzene	0.67	U	20.0	25.0		ug/L		125	60 - 132
m,p-Xylenes	1.3	U	20.0	22.9		ug/L		115	64 - 133
Methyl acetate	0.95	U	40.0	37.8		ug/L		95	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	22.4		ug/L		112	50 - 150
Methylene Chloride	5.0	U	20.0	28.3		ug/L		142	43 - 142
o-Xylene	0.53	U	20.0	22.1		ug/L		110	61 - 129
Styrene	0.61	U	20.0	21.9		ug/L		110	59 - 136
Tetrachloroethene	3.0		20.0	26.1		ug/L		115	60 - 147
Toluene	0.72	U	20.0	24.4		ug/L		122	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	24.4		ug/L		122	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	24.2		ug/L		121	65 - 149
Trichloroethene	0.89	U	20.0	25.3		ug/L		126	62 - 135
Trichlorofluoromethane	0.94	U	20.0	25.5		ug/L		128	56 - 155
Vinyl chloride	0.71	U	20.0	26.7		ug/L		134	20 - 167
Xylenes, Total	1.3	U	40.0	45.0		ug/L		113	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: 670-33373-C-1 MSD
Matrix: Water
Analysis Batch: 72521

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	24.3		ug/L		122	57 - 148	8	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	23.0		ug/L		115	60 - 139	1	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	22.6		ug/L		113	50 - 150	4	30
1,1,2-Trichloroethane	0.76	U	20.0	22.5		ug/L		113	57 - 141	3	16
1,1-Dichloroethane	0.62	U J3	20.0	27.1		ug/L		135	57 - 142	7	24
1,1-Dichloroethene	0.94	U	20.0	23.8		ug/L		119	49 - 139	15	16
1,2,4-Trichlorobenzene	0.70	U	20.0	20.6		ug/L		103	52 - 159	1	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	17.3		ug/L		86	48 - 150	3	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	21.0		ug/L		105	50 - 150	3	16
1,2-Dichlorobenzene	0.73	U	20.0	22.6		ug/L		113	63 - 131	2	25
1,2-Dichloroethane	0.63	U	20.0	24.6		ug/L		123	50 - 156	5	18
1,2-Dichloropropane	0.80	U J3	20.0	27.0	J3	ug/L		135	61 - 133	5	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33373-C-1 MSD
Matrix: Water
Analysis Batch: 72521

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U	20.0	23.2		ug/L		116	66 - 129	1	23
1,4-Dichlorobenzene	0.76	U	20.0	23.1		ug/L		116	65 - 133	1	23
2-Butanone (MEK)	4.5	U	200	188		ug/L		94	10 - 180	5	29
2-Hexanone	2.5	U	200	226		ug/L		113	12 - 180	2	28
4-Methyl-2-pentanone	5.0	U	200	240		ug/L		120	19 - 180	3	24
Acetone	25	U	200	193		ug/L		96	10 - 180	3	19
Benzene	0.71	U	20.0	24.7		ug/L		123	56 - 136	8	14
Bromodichloromethane	0.52	U	20.0	24.0		ug/L		120	58 - 135	5	19
Bromoform	0.75	U	20.0	19.4		ug/L		97	46 - 148	5	18
Bromomethane	0.95	U	20.0	27.2		ug/L		136	10 - 173	0	29
Carbon disulfide	2.5	U	20.0	24.5		ug/L		123	43 - 153	4	26
Carbon tetrachloride	0.94	U	20.0	24.3		ug/L		122	54 - 156	7	27
Chlorobenzene	0.72	U	20.0	23.2		ug/L		116	51 - 139	5	13
Chloroethane	0.98	U	20.0	31.4		ug/L		157	27 - 180	13	22
Chloroform	0.80	U	20.0	24.5		ug/L		123	59 - 139	6	17
Chloromethane	0.82	U	20.0	27.9		ug/L		139	33 - 154	4	31
cis-1,2-Dichloroethene	0.53	U J3	20.0	26.3	J3	ug/L		131	56 - 128	7	17
cis-1,3-Dichloropropene	0.59	U	20.0	22.1		ug/L		110	64 - 128	5	20
Cyclohexane	0.93	U J3	20.0	28.6	J3	ug/L		143	14 - 141	5	30
Dibromochloromethane	0.50	U	20.0	21.7		ug/L		108	50 - 150	2	18
Dichlorodifluoromethane	0.74	U	20.0	22.8		ug/L		114	10 - 180	4	26
Ethylbenzene	0.69	U	20.0	22.5		ug/L		113	63 - 133	5	18
Isopropylbenzene	0.67	U	20.0	23.9		ug/L		120	60 - 132	4	23
m,p-Xylenes	1.3	U	20.0	22.3		ug/L		111	64 - 133	3	18
Methyl acetate	0.95	U	40.0	36.7		ug/L		92	50 - 150	3	30
Methyl tert-butyl ether	0.60	U	20.0	21.5		ug/L		107	50 - 150	4	22
Methylene Chloride	5.0	U	20.0	27.8		ug/L		139	43 - 142	2	23
o-Xylene	0.53	U	20.0	21.0		ug/L		105	61 - 129	5	16
Styrene	0.61	U	20.0	21.3		ug/L		107	59 - 136	3	32
Tetrachloroethene	3.0		20.0	24.4		ug/L		107	60 - 147	7	21
Toluene	0.72	U	20.0	22.7		ug/L		113	64 - 131	7	16
trans-1,2-Dichloroethene	0.73	U	20.0	23.0		ug/L		115	54 - 134	6	20
trans-1,3-Dichloropropene	0.73	U	20.0	23.3		ug/L		117	65 - 149	3	17
Trichloroethene	0.89	U	20.0	23.8		ug/L		119	62 - 135	6	20
Trichlorofluoromethane	0.94	U	20.0	24.7		ug/L		124	56 - 155	3	22
Vinyl chloride	0.71	U	20.0	26.6		ug/L		133	20 - 167	1	24
Xylenes, Total	1.3	U	40.0	43.3		ug/L		108	50 - 150	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72525/8
Matrix: Water
Analysis Batch: 72525

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/22/24 13:10	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/22/24 13:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/22/24 13:10	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/22/24 13:10	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/22/24 13:10	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/22/24 13:10	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/22/24 13:10	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/22/24 13:10	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/22/24 13:10	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/22/24 13:10	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/22/24 13:10	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/22/24 13:10	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/22/24 13:10	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/22/24 13:10	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/22/24 13:10	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/22/24 13:10	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/22/24 13:10	1
Acetone	25	U	50	25	ug/L			01/22/24 13:10	1
Benzene	0.71	U	1.0	0.71	ug/L			01/22/24 13:10	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/22/24 13:10	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/22/24 13:10	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/22/24 13:10	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/22/24 13:10	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/22/24 13:10	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/22/24 13:10	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/22/24 13:10	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/22/24 13:10	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/22/24 13:10	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/22/24 13:10	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/22/24 13:10	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/22/24 13:10	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/22/24 13:10	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/22/24 13:10	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/22/24 13:10	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/22/24 13:10	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/22/24 13:10	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/22/24 13:10	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/22/24 13:10	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/22/24 13:10	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/22/24 13:10	1
Styrene	0.61	U	1.0	0.61	ug/L			01/22/24 13:10	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/22/24 13:10	1
Toluene	0.72	U	1.0	0.72	ug/L			01/22/24 13:10	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/22/24 13:10	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/22/24 13:10	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/22/24 13:10	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/22/24 13:10	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/22/24 13:10	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72525/8
Matrix: Water
Analysis Batch: 72525

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/22/24 13:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/22/24 13:10*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/22/24 13:10*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/22/24 13:10*	*1*

Lab Sample ID: LCS 670-72525/4
Matrix: Water
Analysis Batch: 72525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	5.00	5.17		ug/L		103	57 - 148
1,1,2,2-Tetrachloroethane	5.00	5.42		ug/L		108	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	6.10		ug/L		122	47 - 173
1,1,2-Trichloroethane	5.00	5.30		ug/L		106	57 - 141
1,1-Dichloroethane	5.00	5.21		ug/L		104	57 - 142
1,1-Dichloroethene	5.00	5.59		ug/L		112	47 - 139
1,2,4-Trichlorobenzene	5.00	5.61		ug/L		112	52 - 159
1,2-Dibromo-3-Chloropropane	5.00	5.20	I	ug/L		104	48 - 150
1,2-Dibromoethane (EDB)	5.00	4.95	I	ug/L		99	57 - 140
1,2-Dichlorobenzene	5.00	5.57		ug/L		111	63 - 131
1,2-Dichloroethane	5.00	5.16		ug/L		103	50 - 156
1,2-Dichloropropane	5.00	4.83		ug/L		97	61 - 133
1,3-Dichlorobenzene	5.00	5.50		ug/L		110	66 - 129
1,4-Dichlorobenzene	5.00	5.37		ug/L		107	65 - 133
2-Butanone (MEK)	50.0	52.5		ug/L		105	10 - 180
2-Hexanone	50.0	55.2		ug/L		110	12 - 180
4-Methyl-2-pentanone	50.0	56.5		ug/L		113	19 - 180
Acetone	50.0	41.9	I	ug/L		84	10 - 180
Benzene	5.00	5.09		ug/L		102	56 - 136
Bromodichloromethane	5.00	5.37		ug/L		107	58 - 135
Bromoform	5.00	5.33		ug/L		107	46 - 148
Bromomethane	5.00	4.06		ug/L		81	10 - 173
Carbon disulfide	5.00	5.28		ug/L		106	43 - 153
Carbon tetrachloride	5.00	5.98		ug/L		120	54 - 156
Chlorobenzene	5.00	5.26		ug/L		105	51 - 139
Chloroethane	5.00	4.88		ug/L		98	27 - 180
Chloroform	5.00	4.84	I	ug/L		97	58 - 139
Chloromethane	5.00	4.14		ug/L		83	33 - 154
cis-1,2-Dichloroethene	5.00	4.88		ug/L		98	56 - 128
cis-1,3-Dichloropropene	5.00	4.72		ug/L		94	64 - 128
Cyclohexane	5.00	5.96		ug/L		119	14 - 151
Dibromochloromethane	5.00	4.90		ug/L		98	50 - 140
Dichlorodifluoromethane	5.00	4.91		ug/L		98	10 - 180
Ethylbenzene	5.00	5.25		ug/L		105	63 - 133
Isopropylbenzene	5.00	5.45		ug/L		109	60 - 132
m,p-Xylenes	5.00	5.03		ug/L		101	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72525/4
Matrix: Water
Analysis Batch: 72525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Methyl acetate			10.0	12.2		ug/L		122	70 - 130		
Methyl tert-butyl ether			5.00	5.14		ug/L		103	51 - 145		
Methylene Chloride			5.00	5.0	U	ug/L		71	43 - 142		
o-Xylene			5.00	4.84		ug/L		97	61 - 129		
Styrene			5.00	4.80		ug/L		96	59 - 136		
Tetrachloroethene			5.00	5.06		ug/L		101	60 - 147		
Toluene			5.00	4.87		ug/L		97	64 - 131		
trans-1,2-Dichloroethene			5.00	5.27		ug/L		105	54 - 134		
trans-1,3-Dichloropropene			5.00	4.88		ug/L		98	65 - 149		
Trichloroethene			5.00	5.34		ug/L		107	62 - 135		
Trichlorofluoromethane			5.00	5.57		ug/L		111	56 - 155		
Vinyl chloride			5.00	5.58		ug/L		112	20 - 167		
Xylenes, Total			10.0	9.87		ug/L		99	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: LCSD 670-72525/5
Matrix: Water
Analysis Batch: 72525

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			5.00	5.07		ug/L		101	57 - 148	2	25
1,1,2,2-Tetrachloroethane			5.00	6.41		ug/L		128	60 - 139	17	17
1,1,2-Trichloro-1,2,2-trifluoroethane			5.00	5.73		ug/L		115	47 - 173	6	30
1,1,2-Trichloroethane			5.00	5.34		ug/L		107	57 - 141	1	16
1,1-Dichloroethane			5.00	5.05		ug/L		101	57 - 142	3	24
1,1-Dichloroethene			5.00	5.65		ug/L		113	47 - 139	1	16
1,2,4-Trichlorobenzene			5.00	5.49		ug/L		110	52 - 159	2	24
1,2-Dibromo-3-Chloropropane			5.00	5.17	I	ug/L		103	48 - 150	1	21
1,2-Dibromoethane (EDB)			5.00	5.26	I	ug/L		105	57 - 140	6	16
1,2-Dichlorobenzene			5.00	5.35		ug/L		107	63 - 131	4	25
1,2-Dichloroethane			5.00	5.01		ug/L		100	50 - 156	3	18
1,2-Dichloropropane			5.00	5.01		ug/L		100	61 - 133	4	26
1,3-Dichlorobenzene			5.00	5.37		ug/L		107	66 - 129	2	23
1,4-Dichlorobenzene			5.00	5.37		ug/L		107	65 - 133	0	23
2-Butanone (MEK)			50.0	61.6		ug/L		123	10 - 180	16	29
2-Hexanone			50.0	63.1		ug/L		126	12 - 180	13	28
4-Methyl-2-pentanone			50.0	67.3		ug/L		135	19 - 180	17	24
Acetone			50.0	58.4	J3	ug/L		117	10 - 180	33	19
Benzene			5.00	5.03		ug/L		101	56 - 136	1	14
Bromodichloromethane			5.00	5.32		ug/L		106	58 - 135	1	19
Bromoform			5.00	5.68		ug/L		114	46 - 148	6	18
Bromomethane			5.00	3.23		ug/L		65	10 - 173	23	29
Carbon disulfide			5.00	5.06		ug/L		101	43 - 153	4	26
Carbon tetrachloride			5.00	5.94		ug/L		119	54 - 156	1	27

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 670-72525/5
Matrix: Water
Analysis Batch: 72525

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chlorobenzene			5.00	5.19		ug/L		104	51 - 139	1	13
Chloroethane			5.00	5.09		ug/L		102	27 - 180	4	22
Chloroform			5.00	4.76	I	ug/L		95	58 - 139	2	17
Chloromethane			5.00	3.92		ug/L		78	33 - 154	6	31
cis-1,2-Dichloroethene			5.00	4.71		ug/L		94	56 - 128	4	17
cis-1,3-Dichloropropene			5.00	4.68		ug/L		94	64 - 128	1	20
Cyclohexane			5.00	5.32		ug/L		106	14 - 151	11	30
Dibromochloromethane			5.00	5.44		ug/L		109	50 - 140	10	18
Dichlorodifluoromethane			5.00	4.59		ug/L		92	10 - 180	7	26
Ethylbenzene			5.00	5.05		ug/L		101	63 - 133	4	18
Isopropylbenzene			5.00	5.40		ug/L		108	60 - 132	1	23
m,p-Xylenes			5.00	4.90		ug/L		98	64 - 133	3	18
Methyl acetate			10.0	13.5	J3	ug/L		135	70 - 130	10	30
Methyl tert-butyl ether			5.00	5.21		ug/L		104	51 - 145	1	22
Methylene Chloride			5.00	5.0	U	ug/L		79	43 - 142	11	23
o-Xylene			5.00	4.77		ug/L		95	61 - 129	2	16
Styrene			5.00	4.87		ug/L		97	59 - 136	2	32
Tetrachloroethene			5.00	5.23		ug/L		105	60 - 147	3	21
Toluene			5.00	4.84		ug/L		97	64 - 131	1	16
trans-1,2-Dichloroethene			5.00	5.03		ug/L		101	54 - 134	5	20
trans-1,3-Dichloropropene			5.00	4.91		ug/L		98	65 - 149	1	17
Trichloroethene			5.00	5.48		ug/L		110	62 - 135	3	20
Trichlorofluoromethane			5.00	5.54		ug/L		111	56 - 155	1	22
Vinyl chloride			5.00	5.11		ug/L		102	20 - 167	9	24
Xylenes, Total			10.0	9.67		ug/L		97	50 - 150	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Lab Sample ID: 185-805-F-5 MS
Matrix: Water
Analysis Batch: 72525

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	27.2		ug/L		136	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	23.1		ug/L		115	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	26.3		ug/L		132	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	25.3		ug/L		126	57 - 141
1,1-Dichloroethane	0.62	U	20.0	25.4		ug/L		127	57 - 142
1,1-Dichloroethene	0.94	U	20.0	27.1		ug/L		135	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	24.4		ug/L		122	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	21.4		ug/L		107	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	23.6		ug/L		118	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	24.2		ug/L		121	63 - 131
1,2-Dichloroethane	0.63	U	20.0	24.0		ug/L		120	50 - 156
1,2-Dichloropropane	0.80	U	20.0	22.9		ug/L		115	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 185-805-F-5 MS
Matrix: Water
Analysis Batch: 72525

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	0.77	U	20.0	23.8		ug/L		119	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	24.2		ug/L		121	65 - 133
2-Butanone (MEK)	4.5	U	200	222		ug/L		111	10 - 180
2-Hexanone	2.5	U	200	243		ug/L		121	12 - 180
4-Methyl-2-pentanone	5.0	U	200	252		ug/L		126	19 - 180
Acetone	25	U J3	200	213		ug/L		106	10 - 180
Benzene	0.71	U	20.0	25.2		ug/L		126	56 - 136
Bromodichloromethane	0.52	U	20.0	24.8		ug/L		124	58 - 135
Bromoform	0.75	U	20.0	22.6		ug/L		113	46 - 148
Bromomethane	0.95	U	20.0	24.8		ug/L		124	10 - 173
Carbon disulfide	2.5	U	20.0	25.3		ug/L		126	43 - 153
Carbon tetrachloride	0.94	U	20.0	29.4		ug/L		147	54 - 156
Chlorobenzene	0.72	U	20.0	24.9		ug/L		125	51 - 139
Chloroethane	0.98	U	20.0	27.4		ug/L		137	27 - 180
Chloroform	0.80	U	20.0	23.2		ug/L		116	59 - 139
Chloromethane	0.82	U	20.0	20.0		ug/L		100	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	24.0		ug/L		120	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	22.5		ug/L		113	64 - 128
Cyclohexane	0.93	U	20.0	26.2		ug/L		131	14 - 141
Dibromochloromethane	0.50	U	20.0	25.5		ug/L		128	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	25.2		ug/L		126	10 - 180
Ethylbenzene	0.69	U	20.0	26.1		ug/L		131	63 - 133
Isopropylbenzene	0.67	U	20.0	25.5		ug/L		127	60 - 132
m,p-Xylenes	1.3	U	20.0	25.4		ug/L		127	64 - 133
Methyl acetate	0.95	U J3	40.0	49.5		ug/L		124	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	23.6		ug/L		118	50 - 150
Methylene Chloride	5.0	U	20.0	21.9		ug/L		110	43 - 142
o-Xylene	0.53	U	20.0	24.2		ug/L		121	61 - 129
Styrene	0.61	U	20.0	25.0		ug/L		125	59 - 136
Tetrachloroethene	0.76	U	20.0	25.7		ug/L		129	60 - 147
Toluene	0.72	U	20.0	24.7		ug/L		123	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	26.1		ug/L		130	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	22.7		ug/L		113	65 - 149
Trichloroethene	0.89	U	20.0	26.1		ug/L		131	62 - 135
Trichlorofluoromethane	0.94	U	20.0	28.1		ug/L		140	56 - 155
Vinyl chloride	0.71	U	20.0	28.2		ug/L		141	20 - 167
Xylenes, Total	1.3	U	40.0	49.6		ug/L		124	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 185-805-F-5 MSD
Matrix: Water
Analysis Batch: 72525

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	26.4		ug/L		132	57 - 148	3	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	24.0		ug/L		120	60 - 139	4	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	26.3		ug/L		131	50 - 150	0	30
1,1,2-Trichloroethane	0.76	U	20.0	23.5		ug/L		117	57 - 141	7	16
1,1-Dichloroethane	0.62	U	20.0	24.5		ug/L		122	57 - 142	4	24
1,1-Dichloroethene	0.94	U	20.0	27.0		ug/L		135	49 - 139	0	16
1,2,4-Trichlorobenzene	0.70	U	20.0	26.0		ug/L		130	52 - 159	6	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	22.2		ug/L		111	48 - 150	4	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	22.9		ug/L		114	50 - 150	3	16
1,2-Dichlorobenzene	0.73	U	20.0	25.3		ug/L		126	63 - 131	4	25
1,2-Dichloroethane	0.63	U	20.0	22.9		ug/L		115	50 - 156	5	18
1,2-Dichloropropane	0.80	U	20.0	22.9		ug/L		115	61 - 133	0	26
1,3-Dichlorobenzene	0.77	U	20.0	24.6		ug/L		123	66 - 129	3	23
1,4-Dichlorobenzene	0.76	U	20.0	24.6		ug/L		123	65 - 133	2	23
2-Butanone (MEK)	4.5	U	200	216		ug/L		108	10 - 180	3	29
2-Hexanone	2.5	U	200	238		ug/L		119	12 - 180	2	28
4-Methyl-2-pentanone	5.0	U	200	243		ug/L		122	19 - 180	3	24
Acetone	25	U J3	200	212		ug/L		106	10 - 180	0	19
Benzene	0.71	U	20.0	24.4		ug/L		122	56 - 136	3	14
Bromodichloromethane	0.52	U	20.0	24.5		ug/L		122	58 - 135	1	19
Bromoform	0.75	U	20.0	22.5		ug/L		112	46 - 148	1	18
Bromomethane	0.95	U	20.0	26.6		ug/L		133	10 - 173	7	29
Carbon disulfide	2.5	U	20.0	25.2		ug/L		126	43 - 153	0	26
Carbon tetrachloride	0.94	U	20.0	29.4		ug/L		147	54 - 156	0	27
Chlorobenzene	0.72	U	20.0	24.0		ug/L		120	51 - 139	4	13
Chloroethane	0.98	U	20.0	25.2		ug/L		126	27 - 180	8	22
Chloroform	0.80	U	20.0	22.6		ug/L		113	59 - 139	3	17
Chloromethane	0.82	U	20.0	21.0		ug/L		105	33 - 154	5	31
cis-1,2-Dichloroethene	0.53	U	20.0	23.3		ug/L		117	56 - 128	3	17
cis-1,3-Dichloropropene	0.59	U	20.0	21.6		ug/L		108	64 - 128	4	20
Cyclohexane	0.93	U	20.0	25.9		ug/L		129	14 - 141	1	30
Dibromochloromethane	0.50	U	20.0	24.5		ug/L		122	50 - 150	4	18
Dichlorodifluoromethane	0.74	U	20.0	26.2		ug/L		131	10 - 180	4	26
Ethylbenzene	0.69	U	20.0	25.3		ug/L		127	63 - 133	3	18
Isopropylbenzene	0.67	U	20.0	25.8		ug/L		129	60 - 132	1	23
m,p-Xylenes	1.3	U	20.0	24.9		ug/L		125	64 - 133	2	18
Methyl acetate	0.95	U J3	40.0	49.2		ug/L		123	50 - 150	1	30
Methyl tert-butyl ether	0.60	U	20.0	23.2		ug/L		116	50 - 150	2	22
Methylene Chloride	5.0	U	20.0	21.7		ug/L		109	43 - 142	1	23
o-Xylene	0.53	U	20.0	23.9		ug/L		120	61 - 129	1	16
Styrene	0.61	U	20.0	24.4		ug/L		122	59 - 136	2	32
Tetrachloroethene	0.76	U	20.0	25.1		ug/L		126	60 - 147	2	21
Toluene	0.72	U	20.0	24.3		ug/L		121	64 - 131	2	16
trans-1,2-Dichloroethene	0.73	U	20.0	25.1		ug/L		126	54 - 134	4	20
trans-1,3-Dichloropropene	0.73	U	20.0	23.2		ug/L		116	65 - 149	2	17
Trichloroethene	0.89	U	20.0	24.9		ug/L		125	62 - 135	5	20
Trichlorofluoromethane	0.94	U	20.0	28.2		ug/L		141	56 - 155	1	22
Vinyl chloride	0.71	U	20.0	29.1		ug/L		145	20 - 167	3	24

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 185-805-F-5 MSD
Matrix: Water
Analysis Batch: 72525

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	1.3	U	40.0	48.8		ug/L		122	50 - 150	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: MB 670-72565/7
Matrix: Water
Analysis Batch: 72565

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/22/24 14:16	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/22/24 14:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/22/24 14:16	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/22/24 14:16	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/22/24 14:16	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/22/24 14:16	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/22/24 14:16	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/22/24 14:16	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/22/24 14:16	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/22/24 14:16	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/22/24 14:16	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/22/24 14:16	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/22/24 14:16	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/22/24 14:16	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/22/24 14:16	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/22/24 14:16	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/22/24 14:16	1
Acetone	25	U	50	25	ug/L			01/22/24 14:16	1
Benzene	0.71	U	1.0	0.71	ug/L			01/22/24 14:16	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/22/24 14:16	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/22/24 14:16	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/22/24 14:16	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/22/24 14:16	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/22/24 14:16	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/22/24 14:16	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/22/24 14:16	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/22/24 14:16	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/22/24 14:16	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/22/24 14:16	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/22/24 14:16	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/22/24 14:16	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/22/24 14:16	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/22/24 14:16	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/22/24 14:16	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/22/24 14:16	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/22/24 14:16	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72565/7
Matrix: Water
Analysis Batch: 72565

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	0.95	U	10	0.95	ug/L			01/22/24 14:16	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/22/24 14:16	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/22/24 14:16	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/22/24 14:16	1
Styrene	0.61	U	1.0	0.61	ug/L			01/22/24 14:16	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/22/24 14:16	1
Toluene	0.72	U	1.0	0.72	ug/L			01/22/24 14:16	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/22/24 14:16	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/22/24 14:16	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/22/24 14:16	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/22/24 14:16	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/22/24 14:16	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/22/24 14:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/22/24 14:16*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/22/24 14:16*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/22/24 14:16*	*1*

Lab Sample ID: LCS 670-72565/4
Matrix: Water
Analysis Batch: 72565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	19.8		ug/L		99	57 - 148
1,1,2,2-Tetrachloroethane	20.0	22.8		ug/L		114	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	19.0		ug/L		95	47 - 173
1,1,2-Trichloroethane	20.0	21.3		ug/L		107	57 - 141
1,1-Dichloroethane	20.0	19.5		ug/L		98	57 - 142
1,1-Dichloroethene	20.0	20.0		ug/L		100	47 - 139
1,2,4-Trichlorobenzene	20.0	19.6		ug/L		98	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	18.8		ug/L		94	48 - 150
1,2-Dibromoethane (EDB)	20.0	20.5		ug/L		103	57 - 140
1,2-Dichlorobenzene	20.0	19.5		ug/L		98	63 - 131
1,2-Dichloroethane	20.0	20.4		ug/L		102	50 - 156
1,2-Dichloropropane	20.0	19.8		ug/L		99	61 - 133
1,3-Dichlorobenzene	20.0	19.6		ug/L		98	66 - 129
1,4-Dichlorobenzene	20.0	19.7		ug/L		98	65 - 133
2-Butanone (MEK)	200	200		ug/L		100	10 - 180
2-Hexanone	200	201		ug/L		100	12 - 180
4-Methyl-2-pentanone	200	197		ug/L		98	19 - 180
Acetone	200	186		ug/L		93	10 - 180
Benzene	20.0	19.8		ug/L		99	56 - 136
Bromodichloromethane	20.0	20.2		ug/L		101	58 - 135
Bromoform	20.0	19.9		ug/L		99	46 - 148
Bromomethane	20.0	25.3		ug/L		127	10 - 173
Carbon disulfide	20.0	18.1		ug/L		91	43 - 153
Carbon tetrachloride	20.0	19.6		ug/L		98	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72565/4
Matrix: Water
Analysis Batch: 72565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	20.0	19.3		ug/L		97	51 - 139
Chloroethane	20.0	25.5		ug/L		127	27 - 180
Chloroform	20.0	20.1		ug/L		100	58 - 139
Chloromethane	20.0	17.8		ug/L		89	33 - 154
cis-1,2-Dichloroethene	20.0	19.6		ug/L		98	56 - 128
cis-1,3-Dichloropropene	20.0	18.4		ug/L		92	64 - 128
Cyclohexane	20.0	17.8		ug/L		89	14 - 151
Dibromochloromethane	20.0	19.6		ug/L		98	50 - 140
Dichlorodifluoromethane	20.0	26.8		ug/L		134	10 - 180
Ethylbenzene	20.0	18.6		ug/L		93	63 - 133
Isopropylbenzene	20.0	20.3		ug/L		101	60 - 132
m,p-Xylenes	20.0	18.2		ug/L		91	64 - 133
Methyl acetate	40.0	42.6		ug/L		106	70 - 130
Methyl tert-butyl ether	20.0	19.5		ug/L		97	51 - 145
Methylene Chloride	20.0	19.5		ug/L		98	43 - 142
o-Xylene	20.0	17.8		ug/L		89	61 - 129
Styrene	20.0	18.0		ug/L		90	59 - 136
Tetrachloroethene	20.0	18.5		ug/L		92	60 - 147
Toluene	20.0	19.1		ug/L		96	64 - 131
trans-1,2-Dichloroethene	20.0	19.2		ug/L		96	54 - 134
trans-1,3-Dichloropropene	20.0	20.4		ug/L		102	65 - 149
Trichloroethene	20.0	19.0		ug/L		95	62 - 135
Trichlorofluoromethane	20.0	28.2		ug/L		141	56 - 155
Vinyl chloride	20.0	21.4		ug/L		107	20 - 167
Xylenes, Total	40.0	36.0		ug/L		90	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*103*		*40 - 146*

Lab Sample ID: 670-33380-13 MS
Matrix: Water
Analysis Batch: 72565

Client Sample ID: LC34-DPT0598-068.0-20240118
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	23.1		ug/L		116	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	23.8		ug/L		119	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	22.6		ug/L		113	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	22.8		ug/L		114	57 - 141
1,1-Dichloroethane	0.62	U	20.0	21.9		ug/L		110	57 - 142
1,1-Dichloroethene	0.94	U	20.0	23.6		ug/L		118	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	20.9		ug/L		104	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	19.9		ug/L		100	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	21.5		ug/L		108	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	21.1		ug/L		105	63 - 131
1,2-Dichloroethane	0.63	U	20.0	22.1		ug/L		110	50 - 156
1,2-Dichloropropane	0.80	U	20.0	21.8		ug/L		109	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33380-13 MS
Matrix: Water
Analysis Batch: 72565

Client Sample ID: LC34-DPT0598-068.0-20240118
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	0.77	U	20.0	21.6		ug/L		108	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	21.6		ug/L		108	65 - 133
2-Butanone (MEK)	4.5	U	200	207		ug/L		104	10 - 180
2-Hexanone	2.5	U	200	202		ug/L		101	12 - 180
4-Methyl-2-pentanone	5.0	U	200	201		ug/L		100	19 - 180
Acetone	25	U	200	188		ug/L		94	10 - 180
Benzene	0.71	U	20.0	22.3		ug/L		112	56 - 136
Bromodichloromethane	0.52	U	20.0	22.0		ug/L		110	58 - 135
Bromoform	0.75	U	20.0	20.7		ug/L		103	46 - 148
Bromomethane	0.95	U	20.0	29.1		ug/L		145	10 - 173
Carbon disulfide	2.5	U	20.0	21.0		ug/L		105	43 - 153
Carbon tetrachloride	0.94	U	20.0	22.4		ug/L		112	54 - 156
Chlorobenzene	0.72	U	20.0	22.0		ug/L		110	51 - 139
Chloroethane	0.98	U	20.0	29.0		ug/L		145	27 - 180
Chloroform	0.80	U	20.0	21.8		ug/L		109	59 - 139
Chloromethane	0.82	U	20.0	19.8		ug/L		99	33 - 154
cis-1,2-Dichloroethene	2.8		20.0	25.4		ug/L		113	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	19.8		ug/L		99	64 - 128
Cyclohexane	0.93	U	20.0	21.3		ug/L		106	14 - 141
Dibromochloromethane	0.50	U	20.0	20.8		ug/L		104	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	31.5		ug/L		158	10 - 180
Ethylbenzene	0.69	U	20.0	22.4		ug/L		112	63 - 133
Isopropylbenzene	0.67	U	20.0	23.2		ug/L		116	60 - 132
m,p-Xylenes	1.3	U	20.0	21.1		ug/L		106	64 - 133
Methyl acetate	0.95	U	40.0	43.3		ug/L		108	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	21.0		ug/L		105	50 - 150
Methylene Chloride	5.0	U	20.0	21.2		ug/L		106	43 - 142
o-Xylene	0.53	U	20.0	20.3		ug/L		102	61 - 129
Styrene	0.61	U	20.0	19.6		ug/L		98	59 - 136
Tetrachloroethene	0.76	U	20.0	21.0		ug/L		105	60 - 147
Toluene	0.72	U	20.0	22.1		ug/L		111	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	22.0		ug/L		110	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	21.8		ug/L		109	65 - 149
Trichloroethene	1.2		20.0	23.0		ug/L		109	62 - 135
Trichlorofluoromethane	0.94	U J3	20.0	32.0	J3	ug/L		160	56 - 155
Vinyl chloride	0.71	U	20.0	25.1		ug/L		126	20 - 167
Xylenes, Total	1.3	U	40.0	41.4		ug/L		104	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*103*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33380-13 MSD
Matrix: Water
Analysis Batch: 72565

Client Sample ID: LC34-DPT0598-068.0-20240118
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	21.9		ug/L		109	57 - 148	6	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	22.9		ug/L		114	60 - 139	4	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	21.2		ug/L		106	50 - 150	7	30
1,1,2-Trichloroethane	0.76	U	20.0	22.1		ug/L		111	57 - 141	3	16
1,1-Dichloroethane	0.62	U	20.0	21.1		ug/L		105	57 - 142	4	24
1,1-Dichloroethene	0.94	U	20.0	22.4		ug/L		112	49 - 139	5	16
1,2,4-Trichlorobenzene	0.70	U	20.0	20.0		ug/L		100	52 - 159	4	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	20.0		ug/L		100	48 - 150	0	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	21.1		ug/L		105	50 - 150	2	16
1,2-Dichlorobenzene	0.73	U	20.0	20.0		ug/L		100	63 - 131	5	25
1,2-Dichloroethane	0.63	U	20.0	21.5		ug/L		107	50 - 156	3	18
1,2-Dichloropropane	0.80	U	20.0	20.8		ug/L		104	61 - 133	4	26
1,3-Dichlorobenzene	0.77	U	20.0	20.1		ug/L		101	66 - 129	7	23
1,4-Dichlorobenzene	0.76	U	20.0	20.9		ug/L		104	65 - 133	4	23
2-Butanone (MEK)	4.5	U	200	206		ug/L		103	10 - 180	1	29
2-Hexanone	2.5	U	200	204		ug/L		102	12 - 180	1	28
4-Methyl-2-pentanone	5.0	U	200	203		ug/L		102	19 - 180	1	24
Acetone	25	U	200	194		ug/L		97	10 - 180	3	19
Benzene	0.71	U	20.0	20.9		ug/L		104	56 - 136	7	14
Bromodichloromethane	0.52	U	20.0	21.2		ug/L		106	58 - 135	3	19
Bromoform	0.75	U	20.0	20.2		ug/L		101	46 - 148	2	18
Bromomethane	0.95	U	20.0	30.3		ug/L		151	10 - 173	4	29
Carbon disulfide	2.5	U	20.0	20.1		ug/L		101	43 - 153	4	26
Carbon tetrachloride	0.94	U	20.0	21.6		ug/L		108	54 - 156	4	27
Chlorobenzene	0.72	U	20.0	21.3		ug/L		107	51 - 139	3	13
Chloroethane	0.98	U	20.0	26.6		ug/L		133	27 - 180	8	22
Chloroform	0.80	U	20.0	21.4		ug/L		107	59 - 139	2	17
Chloromethane	0.82	U	20.0	19.0		ug/L		95	33 - 154	4	31
cis-1,2-Dichloroethene	2.8		20.0	24.1		ug/L		107	56 - 128	5	17
cis-1,3-Dichloropropene	0.59	U	20.0	19.1		ug/L		95	64 - 128	4	20
Cyclohexane	0.93	U	20.0	20.3		ug/L		102	14 - 141	5	30
Dibromochloromethane	0.50	U	20.0	20.6		ug/L		103	50 - 150	1	18
Dichlorodifluoromethane	0.74	U	20.0	30.3		ug/L		151	10 - 180	4	26
Ethylbenzene	0.69	U	20.0	20.9		ug/L		104	63 - 133	7	18
Isopropylbenzene	0.67	U	20.0	21.9		ug/L		109	60 - 132	6	23
m,p-Xylenes	1.3	U	20.0	20.5		ug/L		103	64 - 133	3	18
Methyl acetate	0.95	U	40.0	43.7		ug/L		109	50 - 150	1	30
Methyl tert-butyl ether	0.60	U	20.0	20.8		ug/L		104	50 - 150	1	22
Methylene Chloride	5.0	U	20.0	20.4		ug/L		102	43 - 142	4	23
o-Xylene	0.53	U	20.0	19.7		ug/L		99	61 - 129	3	16
Styrene	0.61	U	20.0	19.4		ug/L		97	59 - 136	1	32
Tetrachloroethene	0.76	U	20.0	20.1		ug/L		101	60 - 147	4	21
Toluene	0.72	U	20.0	21.0		ug/L		105	64 - 131	5	16
trans-1,2-Dichloroethene	0.73	U	20.0	21.2		ug/L		106	54 - 134	4	20
trans-1,3-Dichloropropene	0.73	U	20.0	21.6		ug/L		108	65 - 149	1	17
Trichloroethene	1.2		20.0	22.1		ug/L		104	62 - 135	4	20
Trichlorofluoromethane	0.94	U J3	20.0	29.9		ug/L		150	56 - 155	7	22
Vinyl chloride	0.71	U	20.0	24.5		ug/L		123	20 - 167	2	24

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33380-13 MSD
Matrix: Water
Analysis Batch: 72565

Client Sample ID: LC34-DPT0598-068.0-20240118
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	1.3	U	40.0	40.2		ug/L		101	50 - 150	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Lab Sample ID: MB 670-72669/8
Matrix: Water
Analysis Batch: 72669

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/23/24 13:06	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/23/24 13:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/23/24 13:06	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/23/24 13:06	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/23/24 13:06	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/23/24 13:06	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/23/24 13:06	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/23/24 13:06	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/23/24 13:06	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/23/24 13:06	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/23/24 13:06	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/23/24 13:06	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/23/24 13:06	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/23/24 13:06	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/23/24 13:06	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/23/24 13:06	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/23/24 13:06	1
Acetone	25	U	50	25	ug/L			01/23/24 13:06	1
Benzene	0.71	U	1.0	0.71	ug/L			01/23/24 13:06	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/23/24 13:06	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/23/24 13:06	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/23/24 13:06	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/23/24 13:06	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/23/24 13:06	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/23/24 13:06	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/23/24 13:06	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/23/24 13:06	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/23/24 13:06	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/23/24 13:06	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/23/24 13:06	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/23/24 13:06	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/23/24 13:06	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/23/24 13:06	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/23/24 13:06	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/23/24 13:06	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/23/24 13:06	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72669/8
Matrix: Water
Analysis Batch: 72669

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	0.95	U	10	0.95	ug/L			01/23/24 13:06	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/23/24 13:06	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/23/24 13:06	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/23/24 13:06	1
Styrene	0.61	U	1.0	0.61	ug/L			01/23/24 13:06	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/23/24 13:06	1
Toluene	0.72	U	1.0	0.72	ug/L			01/23/24 13:06	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/23/24 13:06	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/23/24 13:06	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/23/24 13:06	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/23/24 13:06	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/23/24 13:06	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/23/24 13:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/23/24 13:06*	*1*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*01/23/24 13:06*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/23/24 13:06*	*1*

Lab Sample ID: LCS 670-72669/5
Matrix: Water
Analysis Batch: 72669

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.4		ug/L		102	57 - 148
1,1,2,2-Tetrachloroethane	20.0	19.6		ug/L		98	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	19.2		ug/L		96	47 - 173
1,1,2-Trichloroethane	20.0	19.6		ug/L		98	57 - 141
1,1-Dichloroethane	20.0	24.2		ug/L		121	57 - 142
1,1-Dichloroethene	20.0	22.4		ug/L		112	47 - 139
1,2,4-Trichlorobenzene	20.0	16.3		ug/L		82	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	12.9		ug/L		65	48 - 150
1,2-Dibromoethane (EDB)	20.0	18.2		ug/L		91	57 - 140
1,2-Dichlorobenzene	20.0	19.7		ug/L		99	63 - 131
1,2-Dichloroethane	20.0	20.5		ug/L		102	50 - 156
1,2-Dichloropropane	20.0	24.3		ug/L		121	61 - 133
1,3-Dichlorobenzene	20.0	20.9		ug/L		105	66 - 129
1,4-Dichlorobenzene	20.0	20.8		ug/L		104	65 - 133
2-Butanone (MEK)	200	155		ug/L		77	10 - 180
2-Hexanone	200	187		ug/L		94	12 - 180
4-Methyl-2-pentanone	200	203		ug/L		101	19 - 180
Acetone	200	162		ug/L		81	10 - 180
Benzene	20.0	22.5		ug/L		112	56 - 136
Bromodichloromethane	20.0	21.4		ug/L		107	58 - 135
Bromoform	20.0	17.4		ug/L		87	46 - 148
Bromomethane	20.0	24.7		ug/L		123	10 - 173
Carbon disulfide	20.0	24.2		ug/L		121	43 - 153
Carbon tetrachloride	20.0	19.9		ug/L		99	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72669/5
Matrix: Water
Analysis Batch: 72669

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	20.0	21.3		ug/L		107	51 - 139
Chloroethane	20.0	26.7		ug/L		133	27 - 180
Chloroform	20.0	21.8		ug/L		109	58 - 139
Chloromethane	20.0	25.7		ug/L		129	33 - 154
cis-1,2-Dichloroethene	20.0	22.1		ug/L		111	56 - 128
cis-1,3-Dichloropropene	20.0	19.0		ug/L		95	64 - 128
Cyclohexane	20.0	24.0		ug/L		120	14 - 151
Dibromochloromethane	20.0	19.0		ug/L		95	50 - 140
Dichlorodifluoromethane	20.0	18.2		ug/L		91	10 - 180
Ethylbenzene	20.0	19.5		ug/L		97	63 - 133
Isopropylbenzene	20.0	21.4		ug/L		107	60 - 132
m,p-Xylenes	20.0	18.6		ug/L		93	64 - 133
Methyl acetate	40.0	29.5		ug/L		74	70 - 130
Methyl tert-butyl ether	20.0	16.5		ug/L		83	51 - 145
Methylene Chloride	20.0	26.3		ug/L		131	43 - 142
o-Xylene	20.0	17.4		ug/L		87	61 - 129
Styrene	20.0	18.3		ug/L		91	59 - 136
Tetrachloroethene	20.0	19.6		ug/L		98	60 - 147
Toluene	20.0	20.8		ug/L		104	64 - 131
trans-1,2-Dichloroethene	20.0	19.2		ug/L		96	54 - 134
trans-1,3-Dichloropropene	20.0	20.4		ug/L		102	65 - 149
Trichloroethene	20.0	20.7		ug/L		104	62 - 135
Trichlorofluoromethane	20.0	19.4		ug/L		97	56 - 155
Vinyl chloride	20.0	21.9		ug/L		110	20 - 167
Xylenes, Total	40.0	36.0		ug/L		90	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*
Dibromofluoromethane (Surr)	*97*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: 670-33457-B-9 MS
Matrix: Water
Analysis Batch: 72669

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	16	U	400	349		ug/L		87	57 - 148
1,1,2,2-Tetrachloroethane	11	U	400	412		ug/L		103	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	15	U	400	290		ug/L		73	50 - 150
1,1,2-Trichloroethane	15	U	400	422		ug/L		106	57 - 141
1,1-Dichloroethane	12	U	400	451		ug/L		113	57 - 142
1,1-Dichloroethene	19	U	400	352		ug/L		88	49 - 139
1,2,4-Trichlorobenzene	14	U	400	311		ug/L		78	52 - 159
1,2-Dibromo-3-Chloropropane	19	U	400	308		ug/L		77	48 - 150
1,2-Dibromoethane (EDB)	16	U	400	389		ug/L		97	50 - 150
1,2-Dichlorobenzene	15	U	400	379		ug/L		95	63 - 131
1,2-Dichloroethane	13	U	400	436		ug/L		109	50 - 156
1,2-Dichloropropane	16	U	400	471		ug/L		118	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33457-B-9 MS
Matrix: Water
Analysis Batch: 72669

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	15	U	400	375		ug/L		94	66 - 129
1,4-Dichlorobenzene	15	U	400	399		ug/L		100	65 - 133
2-Butanone (MEK)	90	U	4000	3540		ug/L		88	10 - 180
2-Hexanone	50	U	4000	4290		ug/L		107	12 - 180
4-Methyl-2-pentanone	100	U	4000	4570		ug/L		114	19 - 180
Acetone	500	U	4000	3580		ug/L		90	10 - 180
Benzene	14	U	400	409		ug/L		102	56 - 136
Bromodichloromethane	10	U	400	425		ug/L		106	58 - 135
Bromoform	15	U	400	348		ug/L		87	46 - 148
Bromomethane	19	U	400	430		ug/L		108	10 - 173
Carbon disulfide	50	U	400	338		ug/L		84	43 - 153
Carbon tetrachloride	19	U	400	339		ug/L		85	54 - 156
Chlorobenzene	14	U	400	399		ug/L		100	51 - 139
Chloroethane	20	U	400	432		ug/L		108	27 - 180
Chloroform	16	U	400	419		ug/L		105	59 - 139
Chloromethane	16	U	400	430		ug/L		107	33 - 154
cis-1,2-Dichloroethene	11	U	400	429		ug/L		107	56 - 128
cis-1,3-Dichloropropene	12	U	400	383		ug/L		96	64 - 128
Cyclohexane	19	U	400	354		ug/L		89	14 - 141
Dibromochloromethane	10	U	400	389		ug/L		97	50 - 150
Dichlorodifluoromethane	15	U	400	316		ug/L		79	10 - 180
Ethylbenzene	14	U	400	344		ug/L		86	63 - 133
Isopropylbenzene	13	U	400	333		ug/L		83	60 - 132
m,p-Xylenes	26	U	400	318		ug/L		79	64 - 133
Methyl acetate	19	U	800	785		ug/L		98	50 - 150
Methyl tert-butyl ether	12	U	400	361		ug/L		90	50 - 150
Methylene Chloride	100	U	400	494		ug/L		124	43 - 142
o-Xylene	11	U	400	310		ug/L		77	61 - 129
Styrene	12	U	400	342		ug/L		85	59 - 136
Tetrachloroethene	15	U	400	305		ug/L		76	60 - 147
Toluene	14	U	400	363		ug/L		91	64 - 131
trans-1,2-Dichloroethene	15	U	400	331		ug/L		83	54 - 134
trans-1,3-Dichloropropene	15	U	400	423		ug/L		106	65 - 149
Trichloroethene	18	U	400	354		ug/L		89	62 - 135
Trichlorofluoromethane	19	U	400	321		ug/L		80	56 - 155
Vinyl chloride	14	U	400	370		ug/L		93	20 - 167
Xylenes, Total	26	U	800	628		ug/L		79	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33457-B-9 MSD
Matrix: Water
Analysis Batch: 72669

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	16	U	400	330		ug/L		82	57 - 148	6	25
1,1,2,2-Tetrachloroethane	11	U	400	413		ug/L		103	60 - 139	0	17
1,1,2-Trichloro-1,2,2-trifluoroethane	15	U	400	284		ug/L		71	50 - 150	2	30
1,1,2-Trichloroethane	15	U	400	407		ug/L		102	57 - 141	4	16
1,1-Dichloroethane	12	U	400	431		ug/L		108	57 - 142	4	24
1,1-Dichloroethene	19	U	400	322		ug/L		81	49 - 139	9	16
1,2,4-Trichlorobenzene	14	U	400	312		ug/L		78	52 - 159	0	24
1,2-Dibromo-3-Chloropropane	19	U	400	301		ug/L		75	48 - 150	2	21
1,2-Dibromoethane (EDB)	16	U	400	359		ug/L		90	50 - 150	8	16
1,2-Dichlorobenzene	15	U	400	379		ug/L		95	63 - 131	0	25
1,2-Dichloroethane	13	U	400	419		ug/L		105	50 - 156	4	18
1,2-Dichloropropane	16	U	400	449		ug/L		112	61 - 133	5	26
1,3-Dichlorobenzene	15	U	400	382		ug/L		95	66 - 129	2	23
1,4-Dichlorobenzene	15	U	400	385		ug/L		96	65 - 133	4	23
2-Butanone (MEK)	90	U	4000	3470		ug/L		87	10 - 180	2	29
2-Hexanone	50	U	4000	4190		ug/L		105	12 - 180	2	28
4-Methyl-2-pentanone	100	U	4000	4450		ug/L		111	19 - 180	3	24
Acetone	500	U	4000	3750		ug/L		94	10 - 180	5	19
Benzene	14	U	400	394		ug/L		99	56 - 136	4	14
Bromodichloromethane	10	U	400	408		ug/L		102	58 - 135	4	19
Bromoform	15	U	400	351		ug/L		88	46 - 148	1	18
Bromomethane	19	U	400	406		ug/L		102	10 - 173	6	29
Carbon disulfide	50	U	400	323		ug/L		81	43 - 153	5	26
Carbon tetrachloride	19	U	400	312		ug/L		78	54 - 156	8	27
Chlorobenzene	14	U	400	388		ug/L		97	51 - 139	3	13
Chloroethane	20	U	400	456		ug/L		114	27 - 180	6	22
Chloroform	16	U	400	401		ug/L		100	59 - 139	4	17
Chloromethane	16	U	400	436		ug/L		109	33 - 154	1	31
cis-1,2-Dichloroethene	11	U	400	418		ug/L		105	56 - 128	3	17
cis-1,3-Dichloropropene	12	U	400	365		ug/L		91	64 - 128	5	20
Cyclohexane	19	U	400	341		ug/L		85	14 - 141	4	30
Dibromochloromethane	10	U	400	375		ug/L		94	50 - 150	4	18
Dichlorodifluoromethane	15	U	400	315		ug/L		79	10 - 180	0	26
Ethylbenzene	14	U	400	342		ug/L		86	63 - 133	0	18
Isopropylbenzene	13	U	400	328		ug/L		82	60 - 132	1	23
m,p-Xylenes	26	U	400	318		ug/L		79	64 - 133	0	18
Methyl acetate	19	U	800	746		ug/L		93	50 - 150	5	30
Methyl tert-butyl ether	12	U	400	355		ug/L		89	50 - 150	2	22
Methylene Chloride	100	U	400	503		ug/L		126	43 - 142	2	23
o-Xylene	11	U	400	313		ug/L		78	61 - 129	1	16
Styrene	12	U	400	336		ug/L		84	59 - 136	2	32
Tetrachloroethene	15	U	400	308		ug/L		77	60 - 147	1	21
Toluene	14	U	400	349		ug/L		87	64 - 131	4	16
trans-1,2-Dichloroethene	15	U	400	323		ug/L		81	54 - 134	2	20
trans-1,3-Dichloropropene	15	U	400	405		ug/L		101	65 - 149	4	17
Trichloroethene	18	U	400	346		ug/L		87	62 - 135	2	20
Trichlorofluoromethane	19	U	400	310		ug/L		77	56 - 155	4	22
Vinyl chloride	14	U	400	379		ug/L		95	20 - 167	2	24

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33457-B-9 MSD
Matrix: Water
Analysis Batch: 72669

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	26	U	800	631		ug/L		79	50 - 150	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: LB 670-72408/1-A
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/23/24 12:17	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/23/24 12:17	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/23/24 12:17	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/23/24 12:17	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/23/24 12:17	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/23/24 12:17	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/23/24 12:17	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/23/24 12:17	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/23/24 12:17	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/23/24 12:17	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/23/24 12:17	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/23/24 12:17	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/23/24 12:17	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/23/24 12:17	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/23/24 12:17	100
2-Hexanone	250	U	2000	250	ug/L			01/23/24 12:17	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/23/24 12:17	100
Acetone	2500	U	5000	2500	ug/L			01/23/24 12:17	100
Benzene	71	U	100	71	ug/L			01/23/24 12:17	100
Bromodichloromethane	52	U	100	52	ug/L			01/23/24 12:17	100
Bromoform	75	U	100	75	ug/L			01/23/24 12:17	100
Bromomethane	95	U	200	95	ug/L			01/23/24 12:17	100
Carbon disulfide	250	U	500	250	ug/L			01/23/24 12:17	100
Carbon tetrachloride	94	U	100	94	ug/L			01/23/24 12:17	100
Chlorobenzene	72	U	100	72	ug/L			01/23/24 12:17	100
Chloroethane	98	U	200	98	ug/L			01/23/24 12:17	100
Chloroform	80	U	500	80	ug/L			01/23/24 12:17	100
Chloromethane	82	U	200	82	ug/L			01/23/24 12:17	100
cis-1,2-Dichloroethene	53	U	100	53	ug/L			01/23/24 12:17	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/23/24 12:17	100
Cyclohexane	93	U	500	93	ug/L			01/23/24 12:17	100
Dibromochloromethane	50	U	100	50	ug/L			01/23/24 12:17	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/23/24 12:17	100
Ethylbenzene	69	U	100	69	ug/L			01/23/24 12:17	100
Isopropylbenzene	67	U	200	67	ug/L			01/23/24 12:17	100
m,p-Xylenes	130	U	200	130	ug/L			01/23/24 12:17	100

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LB 670-72408/1-A
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	95	U	1000	95	ug/L			01/23/24 12:17	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/23/24 12:17	100
Methylene Chloride	500	U	1000	500	ug/L			01/23/24 12:17	100
o-Xylene	53	U	100	53	ug/L			01/23/24 12:17	100
Styrene	61	U	100	61	ug/L			01/23/24 12:17	100
Tetrachloroethene	76	U	100	76	ug/L			01/23/24 12:17	100
Toluene	72	U	100	72	ug/L			01/23/24 12:17	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			01/23/24 12:17	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/23/24 12:17	100
Trichloroethene	89	U	100	89	ug/L			01/23/24 12:17	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/23/24 12:17	100
Vinyl chloride	71	U	100	71	ug/L			01/23/24 12:17	100
Xylenes, Total	130	U	200	130	ug/L			01/23/24 12:17	100

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/23/24 12:17*	*100*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/23/24 12:17*	*100*
Toluene-d8 (Surr)	*105*		*40 - 146*		*01/23/24 12:17*	*100*

Lab Sample ID: MB 670-72672/7
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/23/24 11:56	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/23/24 11:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/23/24 11:56	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/23/24 11:56	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/23/24 11:56	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/23/24 11:56	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/23/24 11:56	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/23/24 11:56	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/23/24 11:56	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/23/24 11:56	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/23/24 11:56	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/23/24 11:56	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/23/24 11:56	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/23/24 11:56	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/23/24 11:56	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/23/24 11:56	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/23/24 11:56	1
Acetone	25	U	50	25	ug/L			01/23/24 11:56	1
Benzene	0.71	U	1.0	0.71	ug/L			01/23/24 11:56	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/23/24 11:56	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/23/24 11:56	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/23/24 11:56	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/23/24 11:56	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/23/24 11:56	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72672/7
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/23/24 11:56	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/23/24 11:56	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/23/24 11:56	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/23/24 11:56	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/23/24 11:56	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/23/24 11:56	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/23/24 11:56	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/23/24 11:56	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/23/24 11:56	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/23/24 11:56	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/23/24 11:56	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/23/24 11:56	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/23/24 11:56	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/23/24 11:56	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/23/24 11:56	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/23/24 11:56	1
Styrene	0.61	U	1.0	0.61	ug/L			01/23/24 11:56	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/23/24 11:56	1
Toluene	0.72	U	1.0	0.72	ug/L			01/23/24 11:56	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/23/24 11:56	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/23/24 11:56	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/23/24 11:56	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/23/24 11:56	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/23/24 11:56	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/23/24 11:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/23/24 11:56*	*1*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/23/24 11:56*	*1*
Toluene-d8 (Surr)	*105*		*40 - 146*		*01/23/24 11:56*	*1*

Lab Sample ID: LCS 670-72672/4
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.8		ug/L		104	57 - 148
1,1,2,2-Tetrachloroethane	20.0	15.7		ug/L		78	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	23.4		ug/L		117	47 - 173
1,1,2-Trichloroethane	20.0	17.4		ug/L		87	57 - 141
1,1-Dichloroethane	20.0	20.0		ug/L		100	57 - 142
1,1-Dichloroethene	20.0	22.5		ug/L		113	47 - 139
1,2,4-Trichlorobenzene	20.0	19.0		ug/L		95	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	13.9		ug/L		70	48 - 150
1,2-Dibromoethane (EDB)	20.0	17.5		ug/L		87	57 - 140
1,2-Dichlorobenzene	20.0	20.4		ug/L		102	63 - 131
1,2-Dichloroethane	20.0	18.2		ug/L		91	50 - 156
1,2-Dichloropropane	20.0	19.2		ug/L		96	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72672/4
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	20.0	20.8		ug/L		104	66 - 129
1,4-Dichlorobenzene	20.0	20.8		ug/L		104	65 - 133
2-Butanone (MEK)	200	150		ug/L		75	10 - 180
2-Hexanone	200	139		ug/L		70	12 - 180
4-Methyl-2-pentanone	200	161		ug/L		80	19 - 180
Acetone	200	127		ug/L		64	10 - 180
Benzene	20.0	20.0		ug/L		100	56 - 136
Bromodichloromethane	20.0	20.2		ug/L		101	58 - 135
Bromoform	20.0	17.4		ug/L		87	46 - 148
Bromomethane	20.0	20.5		ug/L		102	10 - 173
Carbon disulfide	20.0	18.9		ug/L		95	43 - 153
Carbon tetrachloride	20.0	21.5		ug/L		107	54 - 156
Chlorobenzene	20.0	20.3		ug/L		101	51 - 139
Chloroethane	20.0	17.8		ug/L		89	27 - 180
Chloroform	20.0	20.9		ug/L		105	58 - 139
Chloromethane	20.0	18.3		ug/L		91	33 - 154
cis-1,2-Dichloroethene	20.0	18.8		ug/L		94	56 - 128
cis-1,3-Dichloropropene	20.0	18.1		ug/L		91	64 - 128
Cyclohexane	20.0	20.7		ug/L		103	14 - 151
Dibromochloromethane	20.0	19.0		ug/L		95	50 - 140
Dichlorodifluoromethane	20.0	22.3		ug/L		112	10 - 180
Ethylbenzene	20.0	20.9		ug/L		104	63 - 133
Isopropylbenzene	20.0	23.0		ug/L		115	60 - 132
m,p-Xylenes	20.0	20.4		ug/L		102	64 - 133
Methyl acetate	40.0	31.9		ug/L		80	70 - 130
Methyl tert-butyl ether	20.0	17.0		ug/L		85	51 - 145
Methylene Chloride	20.0	19.6		ug/L		98	43 - 142
o-Xylene	20.0	19.8		ug/L		99	61 - 129
Styrene	20.0	20.1		ug/L		100	59 - 136
Tetrachloroethene	20.0	22.7		ug/L		114	60 - 147
Toluene	20.0	20.6		ug/L		103	64 - 131
trans-1,2-Dichloroethene	20.0	20.3		ug/L		101	54 - 134
trans-1,3-Dichloropropene	20.0	18.5		ug/L		93	65 - 149
Trichloroethene	20.0	19.6		ug/L		98	62 - 135
Trichlorofluoromethane	20.0	21.6		ug/L		108	56 - 155
Vinyl chloride	20.0	19.4		ug/L		97	20 - 167
Xylenes, Total	40.0	40.2		ug/L		101	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*104*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72696/7
Matrix: Water
Analysis Batch: 72696

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/23/24 11:22	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/23/24 11:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/23/24 11:22	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/23/24 11:22	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/23/24 11:22	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/23/24 11:22	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/23/24 11:22	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/23/24 11:22	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/23/24 11:22	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/23/24 11:22	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/23/24 11:22	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/23/24 11:22	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/23/24 11:22	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/23/24 11:22	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/23/24 11:22	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/23/24 11:22	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/23/24 11:22	1
Acetone	25	U	50	25	ug/L			01/23/24 11:22	1
Benzene	0.71	U	1.0	0.71	ug/L			01/23/24 11:22	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/23/24 11:22	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/23/24 11:22	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/23/24 11:22	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/23/24 11:22	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/23/24 11:22	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/23/24 11:22	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/23/24 11:22	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/23/24 11:22	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/23/24 11:22	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/23/24 11:22	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/23/24 11:22	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/23/24 11:22	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/23/24 11:22	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/23/24 11:22	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/23/24 11:22	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/23/24 11:22	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/23/24 11:22	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/23/24 11:22	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/23/24 11:22	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/23/24 11:22	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/23/24 11:22	1
Styrene	0.61	U	1.0	0.61	ug/L			01/23/24 11:22	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/23/24 11:22	1
Toluene	0.72	U	1.0	0.72	ug/L			01/23/24 11:22	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/23/24 11:22	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/23/24 11:22	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/23/24 11:22	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/23/24 11:22	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/23/24 11:22	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72696/7
Matrix: Water
Analysis Batch: 72696

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/23/24 11:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*41 - 142*		*01/23/24 11:22*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/23/24 11:22*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/23/24 11:22*	*1*

Lab Sample ID: LCS 670-72696/4
Matrix: Water
Analysis Batch: 72696

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	5.00	4.90		ug/L		98	57 - 148
1,1,2,2-Tetrachloroethane	5.00	4.25		ug/L		85	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	5.07		ug/L		101	47 - 173
1,1,2-Trichloroethane	5.00	4.39		ug/L		88	57 - 141
1,1-Dichloroethane	5.00	5.09		ug/L		102	57 - 142
1,1-Dichloroethene	5.00	5.15		ug/L		103	47 - 139
1,2,4-Trichlorobenzene	5.00	4.72		ug/L		94	52 - 159
1,2-Dibromo-3-Chloropropane	5.00	3.29	I	ug/L		66	48 - 150
1,2-Dibromoethane (EDB)	5.00	4.41	I	ug/L		88	57 - 140
1,2-Dichlorobenzene	5.00	5.10		ug/L		102	63 - 131
1,2-Dichloroethane	5.00	4.93		ug/L		99	50 - 156
1,2-Dichloropropane	5.00	5.04		ug/L		101	61 - 133
1,3-Dichlorobenzene	5.00	5.27		ug/L		105	66 - 129
1,4-Dichlorobenzene	5.00	5.08		ug/L		102	65 - 133
2-Butanone (MEK)	50.0	41.0		ug/L		82	10 - 180
2-Hexanone	50.0	41.9		ug/L		84	12 - 180
4-Methyl-2-pentanone	50.0	37.9		ug/L		76	19 - 180
Acetone	50.0	38.7	I	ug/L		77	10 - 180
Benzene	5.00	4.91		ug/L		98	56 - 136
Bromodichloromethane	5.00	4.76		ug/L		95	58 - 135
Bromoform	5.00	4.53		ug/L		91	46 - 148
Bromomethane	5.00	5.41		ug/L		108	10 - 173
Carbon disulfide	5.00	4.51	I	ug/L		90	43 - 153
Carbon tetrachloride	5.00	4.74		ug/L		95	54 - 156
Chlorobenzene	5.00	5.01		ug/L		100	51 - 139
Chloroethane	5.00	4.49		ug/L		90	27 - 180
Chloroform	5.00	5.00		ug/L		100	58 - 139
Chloromethane	5.00	4.01		ug/L		80	33 - 154
cis-1,2-Dichloroethene	5.00	5.01		ug/L		100	56 - 128
cis-1,3-Dichloropropene	5.00	4.53		ug/L		91	64 - 128
Cyclohexane	5.00	4.83	I	ug/L		97	14 - 151
Dibromochloromethane	5.00	4.42		ug/L		88	50 - 140
Dichlorodifluoromethane	5.00	6.00		ug/L		120	10 - 180
Ethylbenzene	5.00	4.77		ug/L		95	63 - 133
Isopropylbenzene	5.00	5.66		ug/L		113	60 - 132
m,p-Xylenes	5.00	5.01		ug/L		100	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72696/4
Matrix: Water
Analysis Batch: 72696

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	10.0	8.65	I	ug/L		87	70 - 130
Methyl tert-butyl ether	5.00	4.45		ug/L		89	51 - 145
Methylene Chloride	5.00	5.02	I	ug/L		100	43 - 142
o-Xylene	5.00	4.96		ug/L		99	61 - 129
Styrene	5.00	4.66		ug/L		93	59 - 136
Tetrachloroethene	5.00	4.93		ug/L		99	60 - 147
Toluene	5.00	4.80		ug/L		96	64 - 131
trans-1,2-Dichloroethene	5.00	4.79		ug/L		96	54 - 134
trans-1,3-Dichloropropene	5.00	4.77		ug/L		95	65 - 149
Trichloroethene	5.00	4.64		ug/L		93	62 - 135
Trichlorofluoromethane	5.00	4.71		ug/L		94	56 - 155
Vinyl chloride	5.00	4.45		ug/L		89	20 - 167
Xylenes, Total	10.0	9.97		ug/L		100	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*
Dibromofluoromethane (Surr)	*103*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-33467-H-3 MS
Matrix: Water
Analysis Batch: 72696

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	22.6		ug/L		113	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	20.1		ug/L		100	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	24.9		ug/L		124	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	19.9		ug/L		100	57 - 141
1,1-Dichloroethane	0.62	U	20.0	22.5		ug/L		112	57 - 142
1,1-Dichloroethene	0.94	U	20.0	24.6		ug/L		123	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	20.4		ug/L		102	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	17.5		ug/L		88	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	20.1		ug/L		100	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	22.0		ug/L		110	63 - 131
1,2-Dichloroethane	0.63	U	20.0	21.9		ug/L		110	50 - 156
1,2-Dichloropropane	0.80	U	20.0	21.4		ug/L		107	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	22.9		ug/L		114	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	22.5		ug/L		112	65 - 133
2-Butanone (MEK)	4.5	U	200	183		ug/L		91	10 - 180
2-Hexanone	2.5	U	200	195		ug/L		97	12 - 180
4-Methyl-2-pentanone	5.0	U	200	184		ug/L		92	19 - 180
Acetone	25	U	200	167		ug/L		84	10 - 180
Benzene	0.71	U	20.0	22.6		ug/L		113	56 - 136
Bromodichloromethane	0.52	U	20.0	20.9		ug/L		104	58 - 135
Bromoform	0.75	U	20.0	19.2		ug/L		96	46 - 148
Bromomethane	0.95	U	20.0	19.1		ug/L		95	10 - 173
Carbon disulfide	2.5	U	20.0	23.8		ug/L		119	43 - 153
Carbon tetrachloride	0.94	U	20.0	22.7		ug/L		114	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33467-H-3 MS
Matrix: Water
Analysis Batch: 72696

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	21.7		ug/L		109	51 - 139
Chloroethane	0.98	U	20.0	18.9		ug/L		94	27 - 180
Chloroform	0.80	U	20.0	22.4		ug/L		112	59 - 139
Chloromethane	0.82	U	20.0	16.6		ug/L		83	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	22.3		ug/L		112	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	19.5		ug/L		97	64 - 128
Cyclohexane	0.93	U	20.0	24.9		ug/L		124	14 - 141
Dibromochloromethane	0.50	U	20.0	19.9		ug/L		99	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	22.5		ug/L		113	10 - 180
Ethylbenzene	0.69	U	20.0	22.0		ug/L		110	63 - 133
Isopropylbenzene	0.67	U	20.0	24.8		ug/L		124	60 - 132
m,p-Xylenes	1.3	U	20.0	22.3		ug/L		112	64 - 133
Methyl acetate	0.95	U	40.0	39.5		ug/L		99	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	20.0		ug/L		100	50 - 150
Methylene Chloride	5.0	U	20.0	21.4		ug/L		107	43 - 142
o-Xylene	0.53	U	20.0	22.1		ug/L		110	61 - 129
Styrene	0.61	U	20.0	20.5		ug/L		102	59 - 136
Tetrachloroethene	0.76	U	20.0	22.2		ug/L		111	60 - 147
Toluene	0.72	U	20.0	21.0		ug/L		105	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	22.3		ug/L		112	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	20.8		ug/L		104	65 - 149
Trichloroethene	0.89	U	20.0	21.4		ug/L		107	62 - 135
Trichlorofluoromethane	0.94	U	20.0	18.7		ug/L		93	56 - 155
Vinyl chloride	0.71	U	20.0	20.2		ug/L		101	20 - 167
Xylenes, Total	1.3	U	40.0	44.4		ug/L		111	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Lab Sample ID: 670-33467-H-3 MSD
Matrix: Water
Analysis Batch: 72696

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	21.5		ug/L		108	57 - 148	5	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	18.9		ug/L		95	60 - 139	6	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	23.7		ug/L		119	50 - 150	5	30
1,1,2-Trichloroethane	0.76	U	20.0	19.7		ug/L		99	57 - 141	1	16
1,1-Dichloroethane	0.62	U	20.0	21.3		ug/L		107	57 - 142	5	24
1,1-Dichloroethene	0.94	U	20.0	23.0		ug/L		115	49 - 139	7	16
1,2,4-Trichlorobenzene	0.70	U	20.0	19.1		ug/L		95	52 - 159	7	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	16.0		ug/L		80	48 - 150	9	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	19.7		ug/L		99	50 - 150	2	16
1,2-Dichlorobenzene	0.73	U	20.0	19.9		ug/L		100	63 - 131	10	25
1,2-Dichloroethane	0.63	U	20.0	21.7		ug/L		108	50 - 156	1	18
1,2-Dichloropropane	0.80	U	20.0	21.0		ug/L		105	61 - 133	2	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33467-H-3 MSD
Matrix: Water
Analysis Batch: 72696

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U	20.0	20.1		ug/L		100	66 - 129	13	23
1,4-Dichlorobenzene	0.76	U	20.0	20.0		ug/L		100	65 - 133	12	23
2-Butanone (MEK)	4.5	U	200	188		ug/L		94	10 - 180	3	29
2-Hexanone	2.5	U	200	205		ug/L		102	12 - 180	5	28
4-Methyl-2-pentanone	5.0	U	200	192		ug/L		96	19 - 180	4	24
Acetone	25	U	200	171		ug/L		86	10 - 180	2	19
Benzene	0.71	U	20.0	22.1		ug/L		111	56 - 136	2	14
Bromodichloromethane	0.52	U	20.0	20.7		ug/L		103	58 - 135	1	19
Bromoform	0.75	U	20.0	18.1		ug/L		90	46 - 148	6	18
Bromomethane	0.95	U	20.0	18.1		ug/L		90	10 - 173	6	29
Carbon disulfide	2.5	U	20.0	23.0		ug/L		115	43 - 153	3	26
Carbon tetrachloride	0.94	U	20.0	22.0		ug/L		110	54 - 156	3	27
Chlorobenzene	0.72	U	20.0	21.1		ug/L		105	51 - 139	3	13
Chloroethane	0.98	U	20.0	17.5		ug/L		88	27 - 180	7	22
Chloroform	0.80	U	20.0	21.7		ug/L		109	59 - 139	3	17
Chloromethane	0.82	U	20.0	16.0		ug/L		80	33 - 154	4	31
cis-1,2-Dichloroethene	0.53	U	20.0	22.0		ug/L		110	56 - 128	2	17
cis-1,3-Dichloropropene	0.59	U	20.0	18.9		ug/L		95	64 - 128	3	20
Cyclohexane	0.93	U	20.0	23.9		ug/L		120	14 - 141	4	30
Dibromochloromethane	0.50	U	20.0	20.4		ug/L		102	50 - 150	3	18
Dichlorodifluoromethane	0.74	U	20.0	21.9		ug/L		109	10 - 180	3	26
Ethylbenzene	0.69	U	20.0	20.9		ug/L		104	63 - 133	5	18
Isopropylbenzene	0.67	U	20.0	22.1		ug/L		111	60 - 132	11	23
m,p-Xylenes	1.3	U	20.0	21.2		ug/L		106	64 - 133	5	18
Methyl acetate	0.95	U	40.0	38.8		ug/L		97	50 - 150	2	30
Methyl tert-butyl ether	0.60	U	20.0	19.9		ug/L		99	50 - 150	0	22
Methylene Chloride	5.0	U	20.0	21.7		ug/L		108	43 - 142	2	23
o-Xylene	0.53	U	20.0	20.8		ug/L		104	61 - 129	6	16
Styrene	0.61	U	20.0	19.6		ug/L		98	59 - 136	4	32
Tetrachloroethene	0.76	U	20.0	21.7		ug/L		108	60 - 147	2	21
Toluene	0.72	U	20.0	20.8		ug/L		104	64 - 131	1	16
trans-1,2-Dichloroethene	0.73	U	20.0	21.6		ug/L		108	54 - 134	3	20
trans-1,3-Dichloropropene	0.73	U	20.0	20.7		ug/L		104	65 - 149	1	17
Trichloroethene	0.89	U	20.0	20.5		ug/L		102	62 - 135	4	20
Trichlorofluoromethane	0.94	U	20.0	19.7		ug/L		98	56 - 155	5	22
Vinyl chloride	0.71	U	20.0	19.4		ug/L		97	20 - 167	4	24
Xylenes, Total	1.3	U	40.0	42.0		ug/L		105	50 - 150	6	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33309-A-16 DU
Matrix: Water
Analysis Batch: 72696

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U		0.80	U	ug/L				NC	30
1,1,2,2-Tetrachloroethane	2.5			2.80		ug/L				11	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U		0.73	U	ug/L				NC	30
1,1,2-Trichloroethane	0.76	U		0.76	U	ug/L				NC	30
1,1-Dichloroethane	16			16.1		ug/L				2	30
1,1-Dichloroethene	0.94	U		0.94	U	ug/L				NC	30
1,2,4-Trichlorobenzene	0.70	U		0.70	U	ug/L				NC	30
1,2-Dibromo-3-Chloropropane	0.96	U		0.96	U	ug/L				NC	30
1,2-Dibromoethane (EDB)	0.78	U		0.78	U	ug/L				NC	30
1,2-Dichlorobenzene	0.73	U		0.73	U	ug/L				NC	30
1,2-Dichloroethane	0.63	U		0.63	U	ug/L				NC	30
1,2-Dichloropropane	0.80	U		0.80	U	ug/L				NC	30
1,3-Dichlorobenzene	7.7			8.35		ug/L				8	30
1,4-Dichlorobenzene	0.76	U		0.76	U	ug/L				NC	30
2-Butanone (MEK)	4.5	U		4.5	U	ug/L				NC	30
2-Hexanone	2.5	U		2.5	U	ug/L				NC	30
4-Methyl-2-pentanone	5.0	U		5.0	U	ug/L				NC	30
Acetone	25	U		25	U	ug/L				NC	30
Benzene	0.71	U		0.71	U	ug/L				NC	30
Bromodichloromethane	0.52	U		0.52	U	ug/L				NC	30
Bromoform	0.75	U		0.75	U	ug/L				NC	30
Bromomethane	14			13.5		ug/L				2	30
Carbon disulfide	2.5	U		2.5	U	ug/L				NC	30
Carbon tetrachloride	0.94	U		0.94	U	ug/L				NC	30
Chlorobenzene	0.72	U		0.72	U	ug/L				NC	30
Chloroethane	0.98	U		0.98	U	ug/L				NC	30
Chloroform	0.80	U		0.80	U	ug/L				NC	30
Chloromethane	0.82	U		0.82	U	ug/L				NC	30
cis-1,2-Dichloroethene	0.53	U		0.53	U	ug/L				NC	30
cis-1,3-Dichloropropene	14			13.6		ug/L				1	30
Cyclohexane	0.93	U		0.93	U	ug/L				NC	30
Dibromochloromethane	0.50	U		0.50	U	ug/L				NC	30
Dichlorodifluoromethane	0.74	U		0.74	U	ug/L				NC	30
Ethylbenzene	0.69	U		0.69	U	ug/L				NC	30
Isopropylbenzene	6.7			7.00		ug/L				4	30
m,p-Xylenes	1.3	U		1.3	U	ug/L				NC	30
Methyl acetate	0.95	U		0.95	U	ug/L				NC	30
Methyl tert-butyl ether	41			42.9		ug/L				5	30
Methylene Chloride	5.0	U		5.0	U	ug/L				NC	30
o-Xylene	0.53	U		0.53	U	ug/L				NC	30
Styrene	0.61	U		0.61	U	ug/L				NC	30
Tetrachloroethene	0.76	U		0.76	U	ug/L				NC	30
Toluene	0.72	U		0.72	U	ug/L				NC	30
trans-1,2-Dichloroethene	0.73	U		0.73	U	ug/L				NC	20
trans-1,3-Dichloropropene	7.4			7.73		ug/L				5	30
Trichloroethene	0.89	U		0.89	U	ug/L				NC	30
Trichlorofluoromethane	48			46.6		ug/L				2	30
Vinyl chloride	0.71	U		0.71	U	ug/L				NC	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33309-A-16 DU
Matrix: Water
Analysis Batch: 72696

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Xylenes, Total	1.3	U		1.3	U	ug/L				NC	30

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: MB 670-72903/8
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/24/24 13:55	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/24/24 13:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/24/24 13:55	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/24/24 13:55	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/24/24 13:55	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/24/24 13:55	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/24/24 13:55	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/24/24 13:55	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/24/24 13:55	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/24/24 13:55	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/24/24 13:55	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/24/24 13:55	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/24/24 13:55	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/24/24 13:55	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/24/24 13:55	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/24/24 13:55	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/24/24 13:55	1
Acetone	25	U	50	25	ug/L			01/24/24 13:55	1
Benzene	0.71	U	1.0	0.71	ug/L			01/24/24 13:55	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/24/24 13:55	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/24/24 13:55	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/24/24 13:55	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/24/24 13:55	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/24/24 13:55	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/24/24 13:55	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/24/24 13:55	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/24/24 13:55	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/24/24 13:55	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/24/24 13:55	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/24/24 13:55	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/24/24 13:55	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/24/24 13:55	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/24/24 13:55	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/24/24 13:55	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/24/24 13:55	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/24/24 13:55	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72903/8
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	0.95	U	10	0.95	ug/L			01/24/24 13:55	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/24/24 13:55	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/24/24 13:55	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/24/24 13:55	1
Styrene	0.61	U	1.0	0.61	ug/L			01/24/24 13:55	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/24/24 13:55	1
Toluene	0.72	U	1.0	0.72	ug/L			01/24/24 13:55	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/24/24 13:55	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/24/24 13:55	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/24/24 13:55	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/24/24 13:55	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/24/24 13:55	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/24/24 13:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/24/24 13:55*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/24/24 13:55*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 13:55*	*1*

Lab Sample ID: LCS 670-72903/5
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	21.6		ug/L		108	57 - 148
1,1,2,2-Tetrachloroethane	20.0	18.4		ug/L		92	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	21.6		ug/L		108	47 - 173
1,1,2-Trichloroethane	20.0	19.3		ug/L		97	57 - 141
1,1-Dichloroethane	20.0	19.6		ug/L		98	57 - 142
1,1-Dichloroethene	20.0	19.2		ug/L		96	47 - 139
1,2,4-Trichlorobenzene	20.0	20.9		ug/L		105	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	15.8		ug/L		79	48 - 150
1,2-Dibromoethane (EDB)	20.0	18.1		ug/L		91	57 - 140
1,2-Dichlorobenzene	20.0	19.6		ug/L		98	63 - 131
1,2-Dichloroethane	20.0	18.8		ug/L		94	50 - 156
1,2-Dichloropropane	20.0	18.9		ug/L		95	61 - 133
1,3-Dichlorobenzene	20.0	19.9		ug/L		99	66 - 129
1,4-Dichlorobenzene	20.0	20.1		ug/L		100	65 - 133
2-Butanone (MEK)	200	164		ug/L		82	10 - 180
2-Hexanone	200	173		ug/L		87	12 - 180
4-Methyl-2-pentanone	200	183		ug/L		91	19 - 180
Acetone	200	156		ug/L		78	10 - 180
Benzene	20.0	19.1		ug/L		96	56 - 136
Bromodichloromethane	20.0	20.2		ug/L		101	58 - 135
Bromoform	20.0	17.7		ug/L		88	46 - 148
Bromomethane	20.0	12.8		ug/L		64	10 - 173
Carbon disulfide	20.0	16.0		ug/L		80	43 - 153
Carbon tetrachloride	20.0	22.8		ug/L		114	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72903/5
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	20.0	19.3		ug/L		97	51 - 139
Chloroethane	20.0	18.7		ug/L		94	27 - 180
Chloroform	20.0	19.0		ug/L		95	58 - 139
Chloromethane	20.0	10.5		ug/L		53	33 - 154
cis-1,2-Dichloroethene	20.0	18.7		ug/L		94	56 - 128
cis-1,3-Dichloropropene	20.0	17.7		ug/L		88	64 - 128
Cyclohexane	20.0	21.0		ug/L		105	14 - 151
Dibromochloromethane	20.0	19.7		ug/L		98	50 - 140
Dichlorodifluoromethane	20.0	15.1		ug/L		75	10 - 180
Ethylbenzene	20.0	20.3		ug/L		102	63 - 133
Isopropylbenzene	20.0	20.6		ug/L		103	60 - 132
m,p-Xylenes	20.0	19.7		ug/L		98	64 - 133
Methyl acetate	40.0	33.3		ug/L		83	70 - 130
Methyl tert-butyl ether	20.0	18.5		ug/L		92	51 - 145
Methylene Chloride	20.0	17.6		ug/L		88	43 - 142
o-Xylene	20.0	19.1		ug/L		96	61 - 129
Styrene	20.0	19.7		ug/L		98	59 - 136
Tetrachloroethene	20.0	20.7		ug/L		103	60 - 147
Toluene	20.0	19.5		ug/L		97	64 - 131
trans-1,2-Dichloroethene	20.0	18.8		ug/L		94	54 - 134
trans-1,3-Dichloropropene	20.0	18.5		ug/L		92	65 - 149
Trichloroethene	20.0	19.7		ug/L		98	62 - 135
Trichlorofluoromethane	20.0	20.0		ug/L		100	56 - 155
Vinyl chloride	20.0	16.2		ug/L		81	20 - 167
Xylenes, Total	40.0	38.8		ug/L		97	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: MB 670-72911/7
Matrix: Water
Analysis Batch: 72911

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/24/24 15:00	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/24/24 15:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/24/24 15:00	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/24/24 15:00	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/24/24 15:00	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/24/24 15:00	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/24/24 15:00	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/24/24 15:00	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/24/24 15:00	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/24/24 15:00	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/24/24 15:00	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/24/24 15:00	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72911/7
Matrix: Water
Analysis Batch: 72911

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/24/24 15:00	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/24/24 15:00	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/24/24 15:00	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/24/24 15:00	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/24/24 15:00	1
Acetone	25	U	50	25	ug/L			01/24/24 15:00	1
Benzene	0.71	U	1.0	0.71	ug/L			01/24/24 15:00	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/24/24 15:00	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/24/24 15:00	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/24/24 15:00	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/24/24 15:00	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/24/24 15:00	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/24/24 15:00	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/24/24 15:00	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/24/24 15:00	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/24/24 15:00	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/24/24 15:00	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/24/24 15:00	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/24/24 15:00	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/24/24 15:00	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/24/24 15:00	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/24/24 15:00	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/24/24 15:00	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/24/24 15:00	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/24/24 15:00	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/24/24 15:00	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/24/24 15:00	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/24/24 15:00	1
Styrene	0.61	U	1.0	0.61	ug/L			01/24/24 15:00	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/24/24 15:00	1
Toluene	0.72	U	1.0	0.72	ug/L			01/24/24 15:00	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/24/24 15:00	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/24/24 15:00	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/24/24 15:00	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/24/24 15:00	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/24/24 15:00	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/24/24 15:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/24/24 15:00*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/24/24 15:00*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/24/24 15:00*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72911/4
Matrix: Water
Analysis Batch: 72911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	5.00	4.81		ug/L		96	57 - 148
1,1,2,2-Tetrachloroethane	5.00	5.00		ug/L		100	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	4.73		ug/L		95	47 - 173
1,1,2-Trichloroethane	5.00	4.76		ug/L		95	57 - 141
1,1-Dichloroethane	5.00	5.30		ug/L		106	57 - 142
1,1-Dichloroethene	5.00	5.04		ug/L		101	47 - 139
1,2,4-Trichlorobenzene	5.00	5.03		ug/L		101	52 - 159
1,2-Dibromo-3-Chloropropane	5.00	3.71	I	ug/L		74	48 - 150
1,2-Dibromoethane (EDB)	5.00	4.72	I	ug/L		94	57 - 140
1,2-Dichlorobenzene	5.00	5.32		ug/L		106	63 - 131
1,2-Dichloroethane	5.00	5.07		ug/L		101	50 - 156
1,2-Dichloropropane	5.00	4.96		ug/L		99	61 - 133
1,3-Dichlorobenzene	5.00	5.57		ug/L		111	66 - 129
1,4-Dichlorobenzene	5.00	5.39		ug/L		108	65 - 133
2-Butanone (MEK)	50.0	39.7		ug/L		79	10 - 180
2-Hexanone	50.0	43.0		ug/L		86	12 - 180
4-Methyl-2-pentanone	50.0	39.8		ug/L		80	19 - 180
Acetone	50.0	41.9	I	ug/L		84	10 - 180
Benzene	5.00	5.27		ug/L		105	56 - 136
Bromodichloromethane	5.00	5.12		ug/L		102	58 - 135
Bromoform	5.00	4.28		ug/L		86	46 - 148
Bromomethane	5.00	4.38		ug/L		88	10 - 173
Carbon disulfide	5.00	5.37		ug/L		107	43 - 153
Carbon tetrachloride	5.00	4.82		ug/L		96	54 - 156
Chlorobenzene	5.00	5.27		ug/L		105	51 - 139
Chloroethane	5.00	3.83		ug/L		77	27 - 180
Chloroform	5.00	5.15		ug/L		103	58 - 139
Chloromethane	5.00	4.00		ug/L		80	33 - 154
cis-1,2-Dichloroethene	5.00	5.51		ug/L		110	56 - 128
cis-1,3-Dichloropropene	5.00	4.63		ug/L		93	64 - 128
Cyclohexane	5.00	4.79	I	ug/L		96	14 - 151
Dibromochloromethane	5.00	4.69		ug/L		94	50 - 140
Dichlorodifluoromethane	5.00	3.58		ug/L		72	10 - 180
Ethylbenzene	5.00	5.27		ug/L		105	63 - 133
Isopropylbenzene	5.00	5.98		ug/L		120	60 - 132
m,p-Xylenes	5.00	5.21		ug/L		104	64 - 133
Methyl acetate	10.0	8.93	I	ug/L		89	70 - 130
Methyl tert-butyl ether	5.00	4.66		ug/L		93	51 - 145
Methylene Chloride	5.00	5.33	I	ug/L		107	43 - 142
o-Xylene	5.00	5.13		ug/L		103	61 - 129
Styrene	5.00	4.82		ug/L		96	59 - 136
Tetrachloroethene	5.00	4.92		ug/L		98	60 - 147
Toluene	5.00	5.18		ug/L		104	64 - 131
trans-1,2-Dichloroethene	5.00	5.35		ug/L		107	54 - 134
trans-1,3-Dichloropropene	5.00	4.91		ug/L		98	65 - 149
Trichloroethene	5.00	5.02		ug/L		100	62 - 135
Trichlorofluoromethane	5.00	3.66		ug/L		73	56 - 155
Vinyl chloride	5.00	3.96		ug/L		79	20 - 167

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72911/4
Matrix: Water
Analysis Batch: 72911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Xylenes, Total			10.0	10.3		ug/L		103	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-33514-B-1 MS
Matrix: Water
Analysis Batch: 72911

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1,1-Trichloroethane	0.80	U	20.0	23.2		ug/L		116	57 - 148		
1,1,2,2-Tetrachloroethane	0.54	U	20.0	20.1		ug/L		100	60 - 139		
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	25.0		ug/L		125	50 - 150		
1,1,2-Trichloroethane	0.76	U	20.0	20.6		ug/L		103	57 - 141		
1,1-Dichloroethane	0.62	U	20.0	22.5		ug/L		112	57 - 142		
1,1-Dichloroethene	0.94	U	20.0	25.4		ug/L		127	49 - 139		
1,2,4-Trichlorobenzene	0.70	U	20.0	20.9		ug/L		105	52 - 159		
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	16.9		ug/L		84	48 - 150		
1,2-Dibromoethane (EDB)	0.78	U	20.0	20.4		ug/L		102	50 - 150		
1,2-Dichlorobenzene	0.73	U	20.0	22.1		ug/L		111	63 - 131		
1,2-Dichloroethane	0.63	U	20.0	22.6		ug/L		113	50 - 156		
1,2-Dichloropropane	0.80	U	20.0	22.7		ug/L		114	61 - 133		
1,3-Dichlorobenzene	0.77	U	20.0	22.6		ug/L		113	66 - 129		
1,4-Dichlorobenzene	0.76	U	20.0	21.8		ug/L		109	65 - 133		
2-Butanone (MEK)	4.5	U	200	190		ug/L		95	10 - 180		
2-Hexanone	2.5	U	200	212		ug/L		106	12 - 180		
4-Methyl-2-pentanone	5.0	U	200	196		ug/L		98	19 - 180		
Acetone	25	U	200	183		ug/L		92	10 - 180		
Benzene	0.71	U	20.0	23.7		ug/L		118	56 - 136		
Bromodichloromethane	4.6		20.0	27.1		ug/L		112	58 - 135		
Bromoform	0.75	U	20.0	19.1		ug/L		96	46 - 148		
Bromomethane	0.95	U	20.0	17.1		ug/L		86	10 - 173		
Carbon disulfide	2.5	U	20.0	24.2		ug/L		121	43 - 153		
Carbon tetrachloride	0.94	U	20.0	23.2		ug/L		116	54 - 156		
Chlorobenzene	0.72	U	20.0	21.8		ug/L		109	51 - 139		
Chloroethane	0.98	U	20.0	18.9		ug/L		95	27 - 180		
Chloroform	11		20.0	34.6		ug/L		117	59 - 139		
Chloromethane	0.82	U	20.0	15.6		ug/L		78	33 - 154		
cis-1,2-Dichloroethene	0.53	U	20.0	23.0		ug/L		115	56 - 128		
cis-1,3-Dichloropropene	0.59	U	20.0	18.6		ug/L		93	64 - 128		
Cyclohexane	0.93	U	20.0	24.8		ug/L		124	14 - 141		
Dibromochloromethane	1.8		20.0	23.2		ug/L		107	50 - 150		
Dichlorodifluoromethane	0.74	U	20.0	21.3		ug/L		107	10 - 180		
Ethylbenzene	0.69	U	20.0	22.5		ug/L		113	63 - 133		
Isopropylbenzene	0.67	U	20.0	24.2		ug/L		121	60 - 132		
m,p-Xylenes	1.3	U	20.0	22.7		ug/L		114	64 - 133		

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33514-B-1 MS
Matrix: Water
Analysis Batch: 72911

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	0.95	U	40.0	41.3		ug/L		103	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	20.8		ug/L		104	50 - 150
Methylene Chloride	5.0	U	20.0	22.2		ug/L		111	43 - 142
o-Xylene	0.53	U	20.0	22.3		ug/L		112	61 - 129
Styrene	0.61	U	20.0	21.2		ug/L		106	59 - 136
Tetrachloroethene	0.76	U	20.0	22.8		ug/L		114	60 - 147
Toluene	0.72	U	20.0	21.8		ug/L		109	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	23.6		ug/L		118	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	21.1		ug/L		106	65 - 149
Trichloroethene	0.89	U	20.0	22.4		ug/L		112	62 - 135
Trichlorofluoromethane	0.94	U	20.0	20.1		ug/L		101	56 - 155
Vinyl chloride	0.71	U	20.0	19.5		ug/L		98	20 - 167
Xylenes, Total	1.3	U	40.0	45.0		ug/L		113	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Lab Sample ID: 670-33514-B-1 MSD
Matrix: Water
Analysis Batch: 72911

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	23.3		ug/L		116	57 - 148	0	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	19.7		ug/L		99	60 - 139	2	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	24.2		ug/L		121	50 - 150	3	30
1,1,2-Trichloroethane	0.76	U	20.0	21.2		ug/L		106	57 - 141	3	16
1,1-Dichloroethane	0.62	U	20.0	22.4		ug/L		112	57 - 142	1	24
1,1-Dichloroethene	0.94	U	20.0	24.0		ug/L		120	49 - 139	6	16
1,2,4-Trichlorobenzene	0.70	U	20.0	21.0		ug/L		105	52 - 159	0	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	16.4		ug/L		82	48 - 150	3	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	20.8		ug/L		104	50 - 150	2	16
1,2-Dichlorobenzene	0.73	U	20.0	21.6		ug/L		108	63 - 131	2	25
1,2-Dichloroethane	0.63	U	20.0	22.7		ug/L		114	50 - 156	1	18
1,2-Dichloropropane	0.80	U	20.0	22.5		ug/L		113	61 - 133	1	26
1,3-Dichlorobenzene	0.77	U	20.0	22.1		ug/L		111	66 - 129	2	23
1,4-Dichlorobenzene	0.76	U	20.0	22.3		ug/L		111	65 - 133	2	23
2-Butanone (MEK)	4.5	U	200	195		ug/L		98	10 - 180	3	29
2-Hexanone	2.5	U	200	219		ug/L		110	12 - 180	3	28
4-Methyl-2-pentanone	5.0	U	200	203		ug/L		102	19 - 180	4	24
Acetone	25	U	200	195		ug/L		97	10 - 180	6	19
Benzene	0.71	U	20.0	23.1		ug/L		115	56 - 136	3	14
Bromodichloromethane	4.6		20.0	26.4		ug/L		109	58 - 135	3	19
Bromoform	0.75	U	20.0	19.6		ug/L		98	46 - 148	3	18
Bromomethane	0.95	U	20.0	15.7		ug/L		79	10 - 173	9	29
Carbon disulfide	2.5	U	20.0	24.1		ug/L		121	43 - 153	0	26
Carbon tetrachloride	0.94	U	20.0	23.0		ug/L		115	54 - 156	1	27

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33514-B-1 MSD
Matrix: Water
Analysis Batch: 72911

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chlorobenzene	0.72	U	20.0	21.9		ug/L		109	51 - 139	0	13
Chloroethane	0.98	U	20.0	18.6		ug/L		93	27 - 180	2	22
Chloroform	11		20.0	33.8		ug/L		114	59 - 139	2	17
Chloromethane	0.82	U	20.0	16.4		ug/L		82	33 - 154	5	31
cis-1,2-Dichloroethene	0.53	U	20.0	22.8		ug/L		114	56 - 128	1	17
cis-1,3-Dichloropropene	0.59	U	20.0	18.1		ug/L		90	64 - 128	3	20
Cyclohexane	0.93	U	20.0	25.0		ug/L		125	14 - 141	1	30
Dibromochloromethane	1.8		20.0	23.0		ug/L		106	50 - 150	1	18
Dichlorodifluoromethane	0.74	U	20.0	20.4		ug/L		102	10 - 180	4	26
Ethylbenzene	0.69	U	20.0	22.3		ug/L		112	63 - 133	1	18
Isopropylbenzene	0.67	U	20.0	24.3		ug/L		122	60 - 132	1	23
m,p-Xylenes	1.3	U	20.0	22.3		ug/L		111	64 - 133	2	18
Methyl acetate	0.95	U	40.0	38.4		ug/L		96	50 - 150	7	30
Methyl tert-butyl ether	0.60	U	20.0	21.0		ug/L		105	50 - 150	1	22
Methylene Chloride	5.0	U	20.0	21.4		ug/L		107	43 - 142	4	23
o-Xylene	0.53	U	20.0	21.9		ug/L		109	61 - 129	2	16
Styrene	0.61	U	20.0	20.5		ug/L		102	59 - 136	3	32
Tetrachloroethene	0.76	U	20.0	22.5		ug/L		113	60 - 147	1	21
Toluene	0.72	U	20.0	21.8		ug/L		109	64 - 131	0	16
trans-1,2-Dichloroethene	0.73	U	20.0	22.9		ug/L		114	54 - 134	3	20
trans-1,3-Dichloropropene	0.73	U	20.0	20.8		ug/L		104	65 - 149	2	17
Trichloroethene	0.89	U	20.0	22.3		ug/L		112	62 - 135	0	20
Trichlorofluoromethane	0.94	U	20.0	19.0		ug/L		95	56 - 155	6	22
Vinyl chloride	0.71	U	20.0	19.3		ug/L		96	20 - 167	1	24
Xylenes, Total	1.3	U	40.0	44.2		ug/L		111	50 - 150	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Lab Sample ID: MB 670-73081/8
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/25/24 11:16	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/25/24 11:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/25/24 11:16	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/25/24 11:16	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/25/24 11:16	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/25/24 11:16	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/25/24 11:16	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/25/24 11:16	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/25/24 11:16	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/25/24 11:16	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/25/24 11:16	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/25/24 11:16	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-73081/8
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/25/24 11:16	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/25/24 11:16	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/25/24 11:16	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/25/24 11:16	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/25/24 11:16	1
Acetone	25	U	50	25	ug/L			01/25/24 11:16	1
Benzene	0.71	U	1.0	0.71	ug/L			01/25/24 11:16	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/25/24 11:16	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/25/24 11:16	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/25/24 11:16	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/25/24 11:16	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/25/24 11:16	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/25/24 11:16	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/25/24 11:16	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/25/24 11:16	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/25/24 11:16	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/25/24 11:16	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/25/24 11:16	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/25/24 11:16	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/25/24 11:16	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/25/24 11:16	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/25/24 11:16	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/25/24 11:16	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/25/24 11:16	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/25/24 11:16	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/25/24 11:16	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/25/24 11:16	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/25/24 11:16	1
Styrene	0.61	U	1.0	0.61	ug/L			01/25/24 11:16	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/25/24 11:16	1
Toluene	0.72	U	1.0	0.72	ug/L			01/25/24 11:16	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/25/24 11:16	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/25/24 11:16	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/25/24 11:16	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/25/24 11:16	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/25/24 11:16	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/25/24 11:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/25/24 11:16*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/25/24 11:16*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/25/24 11:16*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-73081/4
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	5.00	5.07		ug/L		101	57 - 148
1,1,2,2-Tetrachloroethane	5.00	4.66		ug/L		93	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	5.21		ug/L		104	47 - 173
1,1,2-Trichloroethane	5.00	4.83		ug/L		97	57 - 141
1,1-Dichloroethane	5.00	5.05		ug/L		101	57 - 142
1,1-Dichloroethene	5.00	4.77		ug/L		95	47 - 139
1,2,4-Trichlorobenzene	5.00	4.68		ug/L		94	52 - 159
1,2-Dibromo-3-Chloropropane	5.00	3.30	I	ug/L		66	48 - 150
1,2-Dibromoethane (EDB)	5.00	4.31	I	ug/L		86	57 - 140
1,2-Dichlorobenzene	5.00	5.14		ug/L		103	63 - 131
1,2-Dichloroethane	5.00	4.54		ug/L		91	50 - 156
1,2-Dichloropropane	5.00	4.51		ug/L		90	61 - 133
1,3-Dichlorobenzene	5.00	5.31		ug/L		106	66 - 129
1,4-Dichlorobenzene	5.00	5.30		ug/L		106	65 - 133
2-Butanone (MEK)	50.0	38.5		ug/L		77	10 - 180
2-Hexanone	50.0	38.5		ug/L		77	12 - 180
4-Methyl-2-pentanone	50.0	39.5		ug/L		79	19 - 180
Acetone	50.0	37.2	I	ug/L		74	10 - 180
Benzene	5.00	4.56		ug/L		91	56 - 136
Bromodichloromethane	5.00	5.03		ug/L		101	58 - 135
Bromoform	5.00	4.56		ug/L		91	46 - 148
Bromomethane	5.00	2.95		ug/L		59	10 - 173
Carbon disulfide	5.00	3.47	I	ug/L		69	43 - 153
Carbon tetrachloride	5.00	5.64		ug/L		113	54 - 156
Chlorobenzene	5.00	4.97		ug/L		99	51 - 139
Chloroethane	5.00	3.95		ug/L		79	27 - 180
Chloroform	5.00	4.81	I	ug/L		96	58 - 139
Chloromethane	5.00	3.27		ug/L		65	33 - 154
cis-1,2-Dichloroethene	5.00	4.47		ug/L		89	56 - 128
cis-1,3-Dichloropropene	5.00	4.44		ug/L		89	64 - 128
Cyclohexane	5.00	4.36	I	ug/L		87	14 - 151
Dibromochloromethane	5.00	4.87		ug/L		97	50 - 140
Dichlorodifluoromethane	5.00	4.71		ug/L		94	10 - 180
Ethylbenzene	5.00	4.96		ug/L		99	63 - 133
Isopropylbenzene	5.00	4.95		ug/L		99	60 - 132
m,p-Xylenes	5.00	4.70		ug/L		94	64 - 133
Methyl acetate	10.0	7.76	I	ug/L		78	70 - 130
Methyl tert-butyl ether	5.00	4.25		ug/L		85	51 - 145
Methylene Chloride	5.00	5.0	U	ug/L		77	43 - 142
o-Xylene	5.00	4.66		ug/L		93	61 - 129
Styrene	5.00	4.47		ug/L		89	59 - 136
Tetrachloroethene	5.00	5.03		ug/L		101	60 - 147
Toluene	5.00	4.86		ug/L		97	64 - 131
trans-1,2-Dichloroethene	5.00	4.61		ug/L		92	54 - 134
trans-1,3-Dichloropropene	5.00	4.25		ug/L		85	65 - 149
Trichloroethene	5.00	4.92		ug/L		98	62 - 135
Trichlorofluoromethane	5.00	5.41		ug/L		108	56 - 155
Vinyl chloride	5.00	4.64		ug/L		93	20 - 167

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-73081/4
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Xylenes, Total			10.0	9.36		ug/L		94	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*104*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Lab Sample ID: LCSD 670-73081/5
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			5.00	4.91		ug/L		98	57 - 148	3	25
1,1,2,2-Tetrachloroethane			5.00	4.80		ug/L		96	60 - 139	3	17
1,1,2-Trichloro-1,2,2-trifluoroethane			5.00	4.64		ug/L		93	47 - 173	12	30
1,1,2-Trichloroethane			5.00	4.65		ug/L		93	57 - 141	4	16
1,1-Dichloroethane			5.00	4.72		ug/L		94	57 - 142	7	24
1,1-Dichloroethene			5.00	4.60		ug/L		92	47 - 139	4	16
1,2,4-Trichlorobenzene			5.00	4.51		ug/L		90	52 - 159	4	24
1,2-Dibromo-3-Chloropropane			5.00	3.75	I	ug/L		75	48 - 150	13	21
1,2-Dibromoethane (EDB)			5.00	4.28	I	ug/L		86	57 - 140	1	16
1,2-Dichlorobenzene			5.00	4.95		ug/L		99	63 - 131	4	25
1,2-Dichloroethane			5.00	4.33		ug/L		87	50 - 156	5	18
1,2-Dichloropropane			5.00	4.58		ug/L		92	61 - 133	2	26
1,3-Dichlorobenzene			5.00	4.93		ug/L		99	66 - 129	7	23
1,4-Dichlorobenzene			5.00	4.94		ug/L		99	65 - 133	7	23
2-Butanone (MEK)			50.0	40.1		ug/L		80	10 - 180	4	29
2-Hexanone			50.0	42.6		ug/L		85	12 - 180	10	28
4-Methyl-2-pentanone			50.0	44.0		ug/L		88	19 - 180	11	24
Acetone			50.0	36.0	I	ug/L		72	10 - 180	3	19
Benzene			5.00	4.46		ug/L		89	56 - 136	2	14
Bromodichloromethane			5.00	4.73		ug/L		95	58 - 135	6	19
Bromoform			5.00	4.79		ug/L		96	46 - 148	5	18
Bromomethane			5.00	2.21		ug/L		44	10 - 173	28	29
Carbon disulfide			5.00	3.16	I	ug/L		63	43 - 153	9	26
Carbon tetrachloride			5.00	5.24		ug/L		105	54 - 156	7	27
Chlorobenzene			5.00	4.61		ug/L		92	51 - 139	7	13
Chloroethane			5.00	4.37		ug/L		87	27 - 180	10	22
Chloroform			5.00	4.42	I	ug/L		88	58 - 139	8	17
Chloromethane			5.00	3.44		ug/L		69	33 - 154	5	31
cis-1,2-Dichloroethene			5.00	4.49		ug/L		90	56 - 128	1	17
cis-1,3-Dichloropropene			5.00	4.13		ug/L		83	64 - 128	7	20
Cyclohexane			5.00	4.13	I	ug/L		83	14 - 151	5	30
Dibromochloromethane			5.00	4.83		ug/L		97	50 - 140	1	18
Dichlorodifluoromethane			5.00	4.46		ug/L		89	10 - 180	5	26
Ethylbenzene			5.00	4.68		ug/L		94	63 - 133	6	18
Isopropylbenzene			5.00	4.82		ug/L		96	60 - 132	3	23
m,p-Xylenes			5.00	4.46		ug/L		89	64 - 133	5	18

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 670-73081/5
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methyl acetate			10.0	9.29	I	ug/L		93	70 - 130	18	30
Methyl tert-butyl ether			5.00	4.26		ug/L		85	51 - 145	0	22
Methylene Chloride			5.00	5.0	U	ug/L		78	43 - 142	0	23
o-Xylene			5.00	4.38		ug/L		88	61 - 129	6	16
Styrene			5.00	4.33		ug/L		87	59 - 136	3	32
Tetrachloroethene			5.00	4.65		ug/L		93	60 - 147	8	21
Toluene			5.00	4.49		ug/L		90	64 - 131	8	16
trans-1,2-Dichloroethene			5.00	4.14		ug/L		83	54 - 134	11	20
trans-1,3-Dichloropropene			5.00	4.22		ug/L		84	65 - 149	1	17
Trichloroethene			5.00	4.56		ug/L		91	62 - 135	8	20
Trichlorofluoromethane			5.00	4.98		ug/L		100	56 - 155	8	22
Vinyl chloride			5.00	4.38		ug/L		88	20 - 167	6	24
Xylenes, Total			10.0	8.84		ug/L		88	50 - 150	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: 670-33615-D-1 MS
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	21.2		ug/L		106	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	19.1		ug/L		96	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	22.3		ug/L		111	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	19.3		ug/L		97	57 - 141
1,1-Dichloroethane	0.62	U	20.0	19.1		ug/L		95	57 - 142
1,1-Dichloroethene	0.94	U	20.0	19.4		ug/L		97	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	19.2		ug/L		96	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	16.4		ug/L		82	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	17.9		ug/L		89	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	20.0		ug/L		100	63 - 131
1,2-Dichloroethane	0.63	U	20.0	18.0		ug/L		90	50 - 156
1,2-Dichloropropane	0.80	U	20.0	18.1		ug/L		91	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	19.7		ug/L		99	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	20.1		ug/L		100	65 - 133
2-Butanone (MEK)	4.5	U	200	166		ug/L		83	10 - 180
2-Hexanone	2.5	U	200	179		ug/L		90	12 - 180
4-Methyl-2-pentanone	5.0	U	200	187		ug/L		94	19 - 180
Acetone	25	U	200	169		ug/L		84	10 - 180
Benzene	0.71	U	20.0	18.7		ug/L		93	56 - 136
Bromodichloromethane	12		20.0	32.6		ug/L		104	58 - 135
Bromoform	0.75	U	20.0	17.5		ug/L		88	46 - 148
Bromomethane	0.95	U	20.0	10.0		ug/L		50	10 - 173
Carbon disulfide	2.5	U	20.0	13.8		ug/L		69	43 - 153
Carbon tetrachloride	0.94	U	20.0	22.9		ug/L		115	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33615-D-1 MS
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	19.1		ug/L		95	51 - 139
Chloroethane	0.98	U	20.0	15.2		ug/L		76	27 - 180
Chloroform	53		20.0	76.9		ug/L		119	59 - 139
Chloromethane	1.1	I	20.0	12.7		ug/L		58	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	17.9		ug/L		90	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	17.3		ug/L		86	64 - 128
Cyclohexane	0.93	U	20.0	19.4		ug/L		97	14 - 141
Dibromochloromethane	1.8		20.0	21.8		ug/L		100	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	17.3		ug/L		86	10 - 180
Ethylbenzene	0.69	U	20.0	20.5		ug/L		103	63 - 133
Isopropylbenzene	0.67	U	20.0	20.6		ug/L		103	60 - 132
m,p-Xylenes	1.3	U	20.0	20.6		ug/L		103	64 - 133
Methyl acetate	0.95	U	40.0	39.0		ug/L		98	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	17.7		ug/L		88	50 - 150
Methylene Chloride	5.0	U	20.0	16.2		ug/L		81	43 - 142
o-Xylene	0.53	U	20.0	19.1		ug/L		96	61 - 129
Styrene	0.61	U	20.0	20.1		ug/L		100	59 - 136
Tetrachloroethene	0.76	U	20.0	20.5		ug/L		103	60 - 147
Toluene	0.72	U	20.0	18.7		ug/L		93	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	18.1		ug/L		90	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	18.3		ug/L		91	65 - 149
Trichloroethene	0.89	U	20.0	19.1		ug/L		95	62 - 135
Trichlorofluoromethane	0.94	U	20.0	18.9		ug/L		95	56 - 155
Vinyl chloride	0.71	U	20.0	16.5		ug/L		82	20 - 167
Xylenes, Total	1.3	U	40.0	39.7		ug/L		99	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-33615-D-1 MSD
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	20.5		ug/L		102	57 - 148	4	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	19.8		ug/L		99	60 - 139	3	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	21.1		ug/L		105	50 - 150	6	30
1,1,2-Trichloroethane	0.76	U	20.0	19.5		ug/L		97	57 - 141	1	16
1,1-Dichloroethane	0.62	U	20.0	19.1		ug/L		95	57 - 142	0	24
1,1-Dichloroethene	0.94	U	20.0	18.7		ug/L		94	49 - 139	4	16
1,2,4-Trichlorobenzene	0.70	U	20.0	19.0		ug/L		95	52 - 159	1	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	17.5		ug/L		87	48 - 150	6	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	18.4		ug/L		92	50 - 150	3	16
1,2-Dichlorobenzene	0.73	U	20.0	20.4		ug/L		102	63 - 131	2	25
1,2-Dichloroethane	0.63	U	20.0	18.7		ug/L		93	50 - 156	4	18
1,2-Dichloropropane	0.80	U	20.0	18.5		ug/L		92	61 - 133	2	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33615-D-1 MSD
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U	20.0	20.5		ug/L		103	66 - 129	4	23
1,4-Dichlorobenzene	0.76	U	20.0	20.4		ug/L		102	65 - 133	1	23
2-Butanone (MEK)	4.5	U	200	171		ug/L		85	10 - 180	3	29
2-Hexanone	2.5	U	200	188		ug/L		94	12 - 180	5	28
4-Methyl-2-pentanone	5.0	U	200	195		ug/L		98	19 - 180	4	24
Acetone	25	U	200	188		ug/L		94	10 - 180	11	19
Benzene	0.71	U	20.0	18.5		ug/L		92	56 - 136	1	14
Bromodichloromethane	12		20.0	31.9		ug/L		100	58 - 135	2	19
Bromoform	0.75	U	20.0	18.6		ug/L		93	46 - 148	6	18
Bromomethane	0.95	U	20.0	13.4		ug/L		67	10 - 173	29	29
Carbon disulfide	2.5	U	20.0	14.2		ug/L		71	43 - 153	3	26
Carbon tetrachloride	0.94	U	20.0	22.4		ug/L		112	54 - 156	3	27
Chlorobenzene	0.72	U	20.0	19.5		ug/L		98	51 - 139	2	13
Chloroethane	0.98	U	20.0	18.0		ug/L		90	27 - 180	17	22
Chloroform	53		20.0	75.9		ug/L		114	59 - 139	1	17
Chloromethane	1.1	I	20.0	14.9		ug/L		69	33 - 154	16	31
cis-1,2-Dichloroethene	0.53	U	20.0	17.9		ug/L		89	56 - 128	0	17
cis-1,3-Dichloropropene	0.59	U	20.0	17.5		ug/L		87	64 - 128	1	20
Cyclohexane	0.93	U	20.0	18.6		ug/L		93	14 - 141	4	30
Dibromochloromethane	1.8		20.0	21.9		ug/L		101	50 - 150	0	18
Dichlorodifluoromethane	0.74	U	20.0	19.5		ug/L		97	10 - 180	12	26
Ethylbenzene	0.69	U	20.0	20.3		ug/L		102	63 - 133	1	18
Isopropylbenzene	0.67	U	20.0	21.4		ug/L		107	60 - 132	4	23
m,p-Xylenes	1.3	U	20.0	20.2		ug/L		101	64 - 133	2	18
Methyl acetate	0.95	U	40.0	44.1		ug/L		110	50 - 150	12	30
Methyl tert-butyl ether	0.60	U	20.0	17.9		ug/L		89	50 - 150	1	22
Methylene Chloride	5.0	U	20.0	17.2		ug/L		86	43 - 142	6	23
o-Xylene	0.53	U	20.0	19.8		ug/L		99	61 - 129	3	16
Styrene	0.61	U	20.0	20.1		ug/L		100	59 - 136	0	32
Tetrachloroethene	0.76	U	20.0	20.0		ug/L		100	60 - 147	2	21
Toluene	0.72	U	20.0	18.7		ug/L		94	64 - 131	0	16
trans-1,2-Dichloroethene	0.73	U	20.0	17.8		ug/L		89	54 - 134	1	20
trans-1,3-Dichloropropene	0.73	U	20.0	18.4		ug/L		92	65 - 149	0	17
Trichloroethene	0.89	U	20.0	18.9		ug/L		95	62 - 135	1	20
Trichlorofluoromethane	0.94	U	20.0	22.2		ug/L		111	56 - 155	16	22
Vinyl chloride	0.71	U	20.0	19.6		ug/L		98	20 - 167	17	24
Xylenes, Total	1.3	U	40.0	40.0		ug/L		100	50 - 150	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-73281/8
Matrix: Water
Analysis Batch: 73281

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/26/24 11:55	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/26/24 11:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/26/24 11:55	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/26/24 11:55	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/26/24 11:55	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/26/24 11:55	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/26/24 11:55	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/26/24 11:55	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/26/24 11:55	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/26/24 11:55	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/26/24 11:55	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/26/24 11:55	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/26/24 11:55	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/26/24 11:55	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/26/24 11:55	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/26/24 11:55	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/26/24 11:55	1
Acetone	25	U	50	25	ug/L			01/26/24 11:55	1
Benzene	0.71	U	1.0	0.71	ug/L			01/26/24 11:55	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/26/24 11:55	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/26/24 11:55	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/26/24 11:55	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/26/24 11:55	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/26/24 11:55	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/26/24 11:55	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/26/24 11:55	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/26/24 11:55	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/26/24 11:55	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/26/24 11:55	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/26/24 11:55	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/26/24 11:55	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/26/24 11:55	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/26/24 11:55	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/26/24 11:55	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/26/24 11:55	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/26/24 11:55	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/26/24 11:55	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/26/24 11:55	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/26/24 11:55	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/26/24 11:55	1
Styrene	0.61	U	1.0	0.61	ug/L			01/26/24 11:55	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/26/24 11:55	1
Toluene	0.72	U	1.0	0.72	ug/L			01/26/24 11:55	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/26/24 11:55	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/26/24 11:55	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/26/24 11:55	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/26/24 11:55	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/26/24 11:55	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-73281/8
Matrix: Water
Analysis Batch: 73281

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/26/24 11:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*01/26/24 11:55*	*1*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/26/24 11:55*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/26/24 11:55*	*1*

Lab Sample ID: LCS 670-73281/4
Matrix: Water
Analysis Batch: 73281

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	5.00	4.88		ug/L		98	57 - 148
1,1,2,2-Tetrachloroethane	5.00	4.51		ug/L		90	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	5.36		ug/L		107	47 - 173
1,1,2-Trichloroethane	5.00	4.33		ug/L		87	57 - 141
1,1-Dichloroethane	5.00	4.72		ug/L		94	57 - 142
1,1-Dichloroethene	5.00	4.57		ug/L		91	47 - 139
1,2,4-Trichlorobenzene	5.00	4.80		ug/L		96	52 - 159
1,2-Dibromo-3-Chloropropane	5.00	3.50	I	ug/L		70	48 - 150
1,2-Dibromoethane (EDB)	5.00	4.04	I	ug/L		81	57 - 140
1,2-Dichlorobenzene	5.00	4.96		ug/L		99	63 - 131
1,2-Dichloroethane	5.00	4.44		ug/L		89	50 - 156
1,2-Dichloropropane	5.00	4.55		ug/L		91	61 - 133
1,3-Dichlorobenzene	5.00	5.05		ug/L		101	66 - 129
1,4-Dichlorobenzene	5.00	5.13		ug/L		103	65 - 133
2-Butanone (MEK)	50.0	36.4		ug/L		73	10 - 180
2-Hexanone	50.0	37.8		ug/L		76	12 - 180
4-Methyl-2-pentanone	50.0	40.0		ug/L		80	19 - 180
Acetone	50.0	36.4	I	ug/L		73	10 - 180
Benzene	5.00	4.46		ug/L		89	56 - 136
Bromodichloromethane	5.00	4.73		ug/L		95	58 - 135
Bromoform	5.00	4.12		ug/L		82	46 - 148
Bromomethane	5.00	2.46		ug/L		49	10 - 173
Carbon disulfide	5.00	3.32	I	ug/L		66	43 - 153
Carbon tetrachloride	5.00	5.48		ug/L		110	54 - 156
Chlorobenzene	5.00	4.81		ug/L		96	51 - 139
Chloroethane	5.00	3.97		ug/L		79	27 - 180
Chloroform	5.00	4.40	I	ug/L		88	58 - 139
Chloromethane	5.00	3.10		ug/L		62	33 - 154
cis-1,2-Dichloroethene	5.00	4.27		ug/L		85	56 - 128
cis-1,3-Dichloropropene	5.00	4.03		ug/L		81	64 - 128
Cyclohexane	5.00	4.34	I	ug/L		87	14 - 151
Dibromochloromethane	5.00	4.74		ug/L		95	50 - 140
Dichlorodifluoromethane	5.00	4.79		ug/L		96	10 - 180
Ethylbenzene	5.00	4.62		ug/L		92	63 - 133
Isopropylbenzene	5.00	4.99		ug/L		100	60 - 132
m,p-Xylenes	5.00	4.61		ug/L		92	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-73281/4
Matrix: Water
Analysis Batch: 73281

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Methyl acetate			10.0	7.98	I	ug/L		80	70 - 130		
Methyl tert-butyl ether			5.00	4.10		ug/L		82	51 - 145		
Methylene Chloride			5.00	5.0	U	ug/L		62	43 - 142		
o-Xylene			5.00	4.22		ug/L		84	61 - 129		
Styrene			5.00	4.34		ug/L		87	59 - 136		
Tetrachloroethene			5.00	4.50		ug/L		90	60 - 147		
Toluene			5.00	4.49		ug/L		90	64 - 131		
trans-1,2-Dichloroethene			5.00	4.16		ug/L		83	54 - 134		
trans-1,3-Dichloropropene			5.00	4.32		ug/L		86	65 - 149		
Trichloroethene			5.00	4.69		ug/L		94	62 - 135		
Trichlorofluoromethane			5.00	5.13		ug/L		103	56 - 155		
Vinyl chloride			5.00	4.21		ug/L		84	20 - 167		
Xylenes, Total			10.0	8.83		ug/L		88	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: LCSD 670-73281/5
Matrix: Water
Analysis Batch: 73281

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			5.00	4.83		ug/L		97	57 - 148	1	25
1,1,2,2-Tetrachloroethane			5.00	5.03		ug/L		101	60 - 139	11	17
1,1,2-Trichloro-1,2,2-trifluoroethane			5.00	4.97		ug/L		99	47 - 173	8	30
1,1,2-Trichloroethane			5.00	4.89		ug/L		98	57 - 141	12	16
1,1-Dichloroethane			5.00	4.66		ug/L		93	57 - 142	1	24
1,1-Dichloroethene			5.00	4.26		ug/L		85	47 - 139	7	16
1,2,4-Trichlorobenzene			5.00	4.39		ug/L		88	52 - 159	9	24
1,2-Dibromo-3-Chloropropane			5.00	3.83	I	ug/L		77	48 - 150	9	21
1,2-Dibromoethane (EDB)			5.00	4.28	I	ug/L		86	57 - 140	6	16
1,2-Dichlorobenzene			5.00	4.85		ug/L		97	63 - 131	2	25
1,2-Dichloroethane			5.00	4.27		ug/L		85	50 - 156	4	18
1,2-Dichloropropane			5.00	4.55		ug/L		91	61 - 133	0	26
1,3-Dichlorobenzene			5.00	4.89		ug/L		98	66 - 129	3	23
1,4-Dichlorobenzene			5.00	4.72		ug/L		94	65 - 133	8	23
2-Butanone (MEK)			50.0	39.3		ug/L		79	10 - 180	8	29
2-Hexanone			50.0	45.0		ug/L		90	12 - 180	17	28
4-Methyl-2-pentanone			50.0	46.1		ug/L		92	19 - 180	14	24
Acetone			50.0	41.9	I	ug/L		84	10 - 180	14	19
Benzene			5.00	4.28		ug/L		86	56 - 136	4	14
Bromodichloromethane			5.00	4.52		ug/L		90	58 - 135	5	19
Bromoform			5.00	4.66		ug/L		93	46 - 148	12	18
Bromomethane			5.00	2.66		ug/L		53	10 - 173	8	29
Carbon disulfide			5.00	3.03	I	ug/L		61	43 - 153	9	26
Carbon tetrachloride			5.00	4.96		ug/L		99	54 - 156	10	27

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 670-73281/5
Matrix: Water
Analysis Batch: 73281

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chlorobenzene			5.00	4.74		ug/L		95	51 - 139	1	13
Chloroethane			5.00	3.51		ug/L		70	27 - 180	12	22
Chloroform			5.00	4.32	I	ug/L		86	58 - 139	2	17
Chloromethane			5.00	3.03		ug/L		61	33 - 154	2	31
cis-1,2-Dichloroethene			5.00	3.96		ug/L		79	56 - 128	8	17
cis-1,3-Dichloropropene			5.00	4.11		ug/L		82	64 - 128	2	20
Cyclohexane			5.00	4.08	I	ug/L		82	14 - 151	6	30
Dibromochloromethane			5.00	4.67		ug/L		93	50 - 140	2	18
Dichlorodifluoromethane			5.00	4.87		ug/L		97	10 - 180	2	26
Ethylbenzene			5.00	4.85		ug/L		97	63 - 133	5	18
Isopropylbenzene			5.00	4.84		ug/L		97	60 - 132	3	23
m,p-Xylenes			5.00	4.54		ug/L		91	64 - 133	2	18
Methyl acetate			10.0	9.23	I	ug/L		92	70 - 130	15	30
Methyl tert-butyl ether			5.00	4.31		ug/L		86	51 - 145	5	22
Methylene Chloride			5.00	5.0	U	ug/L		64	43 - 142	2	23
o-Xylene			5.00	4.38		ug/L		88	61 - 129	4	16
Styrene			5.00	4.29		ug/L		86	59 - 136	1	32
Tetrachloroethene			5.00	4.61		ug/L		92	60 - 147	3	21
Toluene			5.00	4.36		ug/L		87	64 - 131	3	16
trans-1,2-Dichloroethene			5.00	3.94		ug/L		79	54 - 134	5	20
trans-1,3-Dichloropropene			5.00	4.38		ug/L		88	65 - 149	1	17
Trichloroethene			5.00	4.66		ug/L		93	62 - 135	1	20
Trichlorofluoromethane			5.00	4.84		ug/L		97	56 - 155	6	22
Vinyl chloride			5.00	4.44		ug/L		89	20 - 167	5	24
Xylenes, Total			10.0	8.92		ug/L		89	50 - 150	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-33663-C-1 MS
Matrix: Water
Analysis Batch: 73281

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	21.3		ug/L		107	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	19.1		ug/L		95	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	20.8		ug/L		104	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	20.3		ug/L		102	57 - 141
1,1-Dichloroethane	0.62	U	20.0	19.2		ug/L		96	57 - 142
1,1-Dichloroethene	0.94	U	20.0	18.9		ug/L		94	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	19.1		ug/L		95	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	17.4		ug/L		87	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	18.5		ug/L		93	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	20.4		ug/L		102	63 - 131
1,2-Dichloroethane	0.63	U	20.0	18.8		ug/L		94	50 - 156
1,2-Dichloropropane	0.80	U	20.0	17.9		ug/L		89	61 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33663-C-1 MS
Matrix: Water
Analysis Batch: 73281

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	0.77	U	20.0	20.8		ug/L		104	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	20.6		ug/L		103	65 - 133
2-Butanone (MEK)	4.5	U	200	172		ug/L		86	10 - 180
2-Hexanone	2.5	U	200	193		ug/L		97	12 - 180
4-Methyl-2-pentanone	5.0	U	200	202		ug/L		101	19 - 180
Acetone	25	U	200	194		ug/L		97	10 - 180
Benzene	0.71	U	20.0	18.9		ug/L		94	56 - 136
Bromodichloromethane	3.2		20.0	23.9		ug/L		103	58 - 135
Bromoform	0.75	U	20.0	19.3		ug/L		97	46 - 148
Bromomethane	0.95	U	20.0	11.9		ug/L		60	10 - 173
Carbon disulfide	2.5	U	20.0	13.7		ug/L		69	43 - 153
Carbon tetrachloride	0.94	U	20.0	21.7		ug/L		109	54 - 156
Chlorobenzene	0.72	U	20.0	20.5		ug/L		102	51 - 139
Chloroethane	0.98	U	20.0	18.0		ug/L		90	27 - 180
Chloroform	11		20.0	30.0		ug/L		94	59 - 139
Chloromethane	0.82	U	20.0	13.6		ug/L		68	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	18.7		ug/L		93	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	17.0		ug/L		85	64 - 128
Cyclohexane	0.93	U	20.0	18.3		ug/L		91	14 - 141
Dibromochloromethane	1.1		20.0	21.3		ug/L		101	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	18.9		ug/L		94	10 - 180
Ethylbenzene	0.69	U	20.0	21.7		ug/L		109	63 - 133
Isopropylbenzene	0.67	U	20.0	22.3		ug/L		112	60 - 132
m,p-Xylenes	1.3	U	20.0	20.8		ug/L		104	64 - 133
Methyl acetate	0.95	U	40.0	42.4		ug/L		106	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	18.3		ug/L		92	50 - 150
Methylene Chloride	5.0	U	20.0	17.4		ug/L		87	43 - 142
o-Xylene	0.53	U	20.0	20.2		ug/L		101	61 - 129
Styrene	0.61	U	20.0	21.0		ug/L		105	59 - 136
Tetrachloroethene	0.76	U	20.0	20.2		ug/L		101	60 - 147
Toluene	0.72	U	20.0	19.4		ug/L		97	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	18.0		ug/L		90	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	18.3		ug/L		91	65 - 149
Trichloroethene	0.89	U	20.0	20.5		ug/L		102	62 - 135
Trichlorofluoromethane	0.94	U	20.0	21.9		ug/L		110	56 - 155
Vinyl chloride	0.71	U	20.0	19.2		ug/L		96	20 - 167
Xylenes, Total	1.3	U	40.0	41.0		ug/L		103	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*103*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33663-C-1 MSD
Matrix: Water
Analysis Batch: 73281

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	21.6		ug/L		108	57 - 148	1	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	18.7		ug/L		93	60 - 139	2	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	20.8		ug/L		104	50 - 150	0	30
1,1,2-Trichloroethane	0.76	U	20.0	20.2		ug/L		101	57 - 141	1	16
1,1-Dichloroethane	0.62	U	20.0	20.3		ug/L		101	57 - 142	5	24
1,1-Dichloroethene	0.94	U	20.0	19.2		ug/L		96	49 - 139	2	16
1,2,4-Trichlorobenzene	0.70	U	20.0	20.1		ug/L		101	52 - 159	5	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	18.9		ug/L		94	48 - 150	8	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	19.0		ug/L		95	50 - 150	2	16
1,2-Dichlorobenzene	0.73	U	20.0	20.9		ug/L		104	63 - 131	2	25
1,2-Dichloroethane	0.63	U	20.0	19.4		ug/L		97	50 - 156	3	18
1,2-Dichloropropane	0.80	U	20.0	18.5		ug/L		92	61 - 133	3	26
1,3-Dichlorobenzene	0.77	U	20.0	20.7		ug/L		104	66 - 129	0	23
1,4-Dichlorobenzene	0.76	U	20.0	20.3		ug/L		101	65 - 133	2	23
2-Butanone (MEK)	4.5	U	200	187		ug/L		93	10 - 180	8	29
2-Hexanone	2.5	U	200	205		ug/L		102	12 - 180	6	28
4-Methyl-2-pentanone	5.0	U	200	212		ug/L		106	19 - 180	4	24
Acetone	25	U	200	198		ug/L		99	10 - 180	2	19
Benzene	0.71	U	20.0	19.0		ug/L		95	56 - 136	0	14
Bromodichloromethane	3.2		20.0	24.2		ug/L		105	58 - 135	1	19
Bromoform	0.75	U	20.0	19.3		ug/L		96	46 - 148	0	18
Bromomethane	0.95	U	20.0	12.7		ug/L		64	10 - 173	6	29
Carbon disulfide	2.5	U	20.0	13.7		ug/L		68	43 - 153	0	26
Carbon tetrachloride	0.94	U	20.0	22.9		ug/L		115	54 - 156	5	27
Chlorobenzene	0.72	U	20.0	20.2		ug/L		101	51 - 139	1	13
Chloroethane	0.98	U	20.0	18.1		ug/L		91	27 - 180	0	22
Chloroform	11		20.0	30.7		ug/L		98	59 - 139	2	17
Chloromethane	0.82	U	20.0	13.8		ug/L		69	33 - 154	2	31
cis-1,2-Dichloroethene	0.53	U	20.0	19.0		ug/L		95	56 - 128	2	17
cis-1,3-Dichloropropene	0.59	U	20.0	17.3		ug/L		86	64 - 128	1	20
Cyclohexane	0.93	U	20.0	18.9		ug/L		94	14 - 141	3	30
Dibromochloromethane	1.1		20.0	22.2		ug/L		105	50 - 150	4	18
Dichlorodifluoromethane	0.74	U	20.0	19.0		ug/L		95	10 - 180	1	26
Ethylbenzene	0.69	U	20.0	21.3		ug/L		106	63 - 133	2	18
Isopropylbenzene	0.67	U	20.0	21.6		ug/L		108	60 - 132	3	23
m,p-Xylenes	1.3	U	20.0	21.1		ug/L		106	64 - 133	2	18
Methyl acetate	0.95	U	40.0	42.9		ug/L		107	50 - 150	1	30
Methyl tert-butyl ether	0.60	U	20.0	19.3		ug/L		97	50 - 150	6	22
Methylene Chloride	5.0	U	20.0	17.2		ug/L		86	43 - 142	1	23
o-Xylene	0.53	U	20.0	20.3		ug/L		101	61 - 129	0	16
Styrene	0.61	U	20.0	20.9		ug/L		104	59 - 136	0	32
Tetrachloroethene	0.76	U	20.0	19.8		ug/L		99	60 - 147	2	21
Toluene	0.72	U	20.0	20.2		ug/L		101	64 - 131	4	16
trans-1,2-Dichloroethene	0.73	U	20.0	18.5		ug/L		92	54 - 134	3	20
trans-1,3-Dichloropropene	0.73	U	20.0	19.0		ug/L		95	65 - 149	4	17
Trichloroethene	0.89	U	20.0	21.2		ug/L		106	62 - 135	3	20
Trichlorofluoromethane	0.94	U	20.0	22.2		ug/L		111	56 - 155	1	22
Vinyl chloride	0.71	U	20.0	19.1		ug/L		95	20 - 167	1	24

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33663-C-1 MSD
Matrix: Water
Analysis Batch: 73281

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	1.3	U	40.0	41.4		ug/L		104	50 - 150	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-33365-C-1-B MS
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	80	U	2000	1900		ug/L		95	57 - 148
1,1,2,2-Tetrachloroethane	54	U	2000	1570		ug/L		78	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	2130		ug/L		106	50 - 150
1,1,2-Trichloroethane	76	U	2000	1680		ug/L		84	57 - 141
1,1-Dichloroethane	62	U	2000	1890		ug/L		95	57 - 142
1,1-Dichloroethene	94	U	2000	2070		ug/L		104	49 - 139
1,2,4-Trichlorobenzene	70	U	2000	1740		ug/L		87	52 - 159
1,2-Dibromo-3-Chloropropane	96	U	2000	1410		ug/L		71	48 - 150
1,2-Dibromoethane (EDB)	78	U	2000	1680		ug/L		84	50 - 150
1,2-Dichlorobenzene	73	U	2000	2010		ug/L		100	63 - 131
1,2-Dichloroethane	63	U	2000	1830		ug/L		92	50 - 156
1,2-Dichloropropane	80	U	2000	1920		ug/L		96	61 - 133
1,3-Dichlorobenzene	77	U	2000	1940		ug/L		97	66 - 129
1,4-Dichlorobenzene	76	U	2000	1970		ug/L		98	65 - 133
2-Butanone (MEK)	450	U	20000	14000		ug/L		70	10 - 180
2-Hexanone	250	U	20000	14500		ug/L		73	12 - 180
4-Methyl-2-pentanone	500	U	20000	16900		ug/L		85	19 - 180
Acetone	2500	U	20000	12500		ug/L		62	10 - 180
Benzene	71	U	2000	1970		ug/L		99	56 - 136
Bromodichloromethane	52	U	2000	1910		ug/L		95	58 - 135
Bromoform	75	U	2000	1750		ug/L		88	46 - 148
Bromomethane	95	U	2000	2060		ug/L		103	10 - 173
Carbon disulfide	250	U	2000	1890		ug/L		94	43 - 153
Carbon tetrachloride	94	U	2000	1950		ug/L		97	54 - 156
Chlorobenzene	72	U	2000	1950		ug/L		97	51 - 139
Chloroethane	98	U	2000	1910		ug/L		95	27 - 180
Chloroform	80	U	2000	1990		ug/L		100	59 - 139
Chloromethane	82	U	2000	1780		ug/L		89	33 - 154
cis-1,2-Dichloroethene	53	U	2000	1900		ug/L		95	56 - 128
cis-1,3-Dichloropropene	59	U	2000	1720		ug/L		86	64 - 128
Cyclohexane	93	U	2000	1720		ug/L		86	14 - 141
Dibromochloromethane	50	U	2000	1950		ug/L		98	50 - 150
Dichlorodifluoromethane	74	U	2000	1930		ug/L		97	10 - 180
Ethylbenzene	69	U	2000	1910		ug/L		96	63 - 133
Isopropylbenzene	67	U	2000	2150		ug/L		108	60 - 132
m,p-Xylenes	130	U	2000	1980		ug/L		99	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33365-C-1-B MS
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	95	U	4000	3170		ug/L		79	50 - 150
Methyl tert-butyl ether	60	U	2000	1600		ug/L		80	50 - 150
Methylene Chloride	500	U	2000	1970		ug/L		99	43 - 142
o-Xylene	53	U	2000	1890		ug/L		94	61 - 129
Styrene	61	U	2000	1820		ug/L		91	59 - 136
Tetrachloroethene	76	U	2000	2000		ug/L		100	60 - 147
Toluene	72	U	2000	1880		ug/L		94	64 - 131
trans-1,2-Dichloroethene	73	U	2000	1830		ug/L		92	54 - 134
trans-1,3-Dichloropropene	73	U	2000	1890		ug/L		95	65 - 149
Trichloroethene	89	U	2000	1930		ug/L		96	62 - 135
Trichlorofluoromethane	94	U	2000	1920		ug/L		96	56 - 155
Vinyl chloride	71	U	2000	1870		ug/L		93	20 - 167
Xylenes, Total	130	U	4000	3870		ug/L		97	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Lab Sample ID: 670-33365-C-1-B MSD
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	80	U	2000	1940		ug/L		97	57 - 148	2	25
1,1,2,2-Tetrachloroethane	54	U	2000	1740		ug/L		87	60 - 139	11	17
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	2030		ug/L		101	50 - 150	5	30
1,1,2-Trichloroethane	76	U	2000	1770		ug/L		89	57 - 141	5	16
1,1-Dichloroethane	62	U	2000	1910		ug/L		96	57 - 142	1	24
1,1-Dichloroethene	94	U	2000	1910		ug/L		95	49 - 139	8	16
1,2,4-Trichlorobenzene	70	U	2000	1900		ug/L		95	52 - 159	9	24
1,2-Dibromo-3-Chloropropane	96	U	2000	1610		ug/L		80	48 - 150	13	21
1,2-Dibromoethane (EDB)	78	U	2000	1780		ug/L		89	50 - 150	5	16
1,2-Dichlorobenzene	73	U	2000	2080		ug/L		104	63 - 131	4	25
1,2-Dichloroethane	63	U	2000	1730		ug/L		87	50 - 156	6	18
1,2-Dichloropropane	80	U	2000	1940		ug/L		97	61 - 133	1	26
1,3-Dichlorobenzene	77	U	2000	2080		ug/L		104	66 - 129	7	23
1,4-Dichlorobenzene	76	U	2000	2060		ug/L		103	65 - 133	5	23
2-Butanone (MEK)	450	U	20000	15900		ug/L		79	10 - 180	12	29
2-Hexanone	250	U	20000	15600		ug/L		78	12 - 180	7	28
4-Methyl-2-pentanone	500	U	20000	17600		ug/L		88	19 - 180	4	24
Acetone	2500	U	20000	13500		ug/L		67	10 - 180	8	19
Benzene	71	U	2000	1940		ug/L		97	56 - 136	2	14
Bromodichloromethane	52	U	2000	1950		ug/L		98	58 - 135	2	19
Bromoform	75	U	2000	1940		ug/L		97	46 - 148	10	18
Bromomethane	95	U	2000	2110		ug/L		106	10 - 173	2	29
Carbon disulfide	250	U	2000	1820		ug/L		91	43 - 153	4	26
Carbon tetrachloride	94	U	2000	1980		ug/L		99	54 - 156	2	27

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33365-C-1-B MSD
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chlorobenzene	72	U	2000	1980		ug/L		99	51 - 139	2	13
Chloroethane	98	U	2000	1840		ug/L		92	27 - 180	3	22
Chloroform	80	U	2000	2080		ug/L		104	59 - 139	4	17
Chloromethane	82	U	2000	1800		ug/L		90	33 - 154	1	31
cis-1,2-Dichloroethene	53	U	2000	1850		ug/L		93	56 - 128	3	17
cis-1,3-Dichloropropene	59	U	2000	1770		ug/L		89	64 - 128	3	20
Cyclohexane	93	U	2000	1860		ug/L		93	14 - 141	8	30
Dibromochloromethane	50	U	2000	1990		ug/L		99	50 - 150	2	18
Dichlorodifluoromethane	74	U	2000	1920		ug/L		96	10 - 180	0	26
Ethylbenzene	69	U	2000	1990		ug/L		100	63 - 133	4	18
Isopropylbenzene	67	U	2000	2310		ug/L		116	60 - 132	7	23
m,p-Xylenes	130	U	2000	2050		ug/L		103	64 - 133	3	18
Methyl acetate	95	U	4000	3550		ug/L		89	50 - 150	12	30
Methyl tert-butyl ether	60	U	2000	1620		ug/L		81	50 - 150	2	22
Methylene Chloride	500	U	2000	1890		ug/L		94	43 - 142	4	23
o-Xylene	53	U	2000	1940		ug/L		97	61 - 129	2	16
Styrene	61	U	2000	1980		ug/L		99	59 - 136	9	32
Tetrachloroethene	76	U	2000	2070		ug/L		103	60 - 147	3	21
Toluene	72	U	2000	1970		ug/L		98	64 - 131	5	16
trans-1,2-Dichloroethene	73	U	2000	1950		ug/L		97	54 - 134	6	20
trans-1,3-Dichloropropene	73	U	2000	1870		ug/L		94	65 - 149	1	17
Trichloroethene	89	U	2000	1880		ug/L		94	62 - 135	2	20
Trichlorofluoromethane	94	U	2000	1960		ug/L		98	56 - 155	2	22
Vinyl chloride	71	U	2000	1940		ug/L		97	20 - 167	4	24
Xylenes, Total	130	U	4000	3990		ug/L		100	50 - 150	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Lab Sample ID: 670-33334-A-1-A MS
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane - DL	80	U	2000	1960		ug/L		98	57 - 148
1,1,2,2-Tetrachloroethane - DL	54	U	2000	1880		ug/L		94	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	73	U	2000	2020		ug/L		101	50 - 150
1,1,2-Trichloroethane - DL	76	U	2000	2000		ug/L		100	57 - 141
1,1-Dichloroethane - DL	62	U	2000	1930		ug/L		97	57 - 142
1,1-Dichloroethene - DL	94	U	2000	1870		ug/L		93	49 - 139
1,2,4-Trichlorobenzene - DL	70	U	2000	2070		ug/L		104	52 - 159
1,2-Dibromo-3-Chloropropane - DL	96	U	2000	1810		ug/L		91	48 - 150
1,2-Dibromoethane (EDB) - DL	78	U	2000	1800		ug/L		90	50 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-33334-A-1-A MS
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichlorobenzene - DL	73	U	2000	2000		ug/L		100	63 - 131
1,2-Dichloroethane - DL	63	U	2000	1820		ug/L		91	50 - 156
1,2-Dichloropropane - DL	80	U	2000	1800		ug/L		90	61 - 133
1,3-Dichlorobenzene - DL	77	U	2000	1870		ug/L		94	66 - 129
1,4-Dichlorobenzene - DL	76	U	2000	1910		ug/L		95	65 - 133
2-Butanone (MEK) - DL	450	U	20000	17300		ug/L		86	10 - 180
2-Hexanone - DL	250	U	20000	19200		ug/L		96	12 - 180
4-Methyl-2-pentanone - DL	500	U	20000	20100		ug/L		101	19 - 180
Acetone - DL	2500	U	20000	16600		ug/L		83	10 - 180
Benzene - DL	71	U	2000	1840		ug/L		92	56 - 136
Bromodichloromethane - DL	52	U	2000	1990		ug/L		99	58 - 135
Bromoform - DL	75	U	2000	1820		ug/L		91	46 - 148
Bromomethane - DL	95	U	2000	1300		ug/L		65	10 - 173
Carbon disulfide - DL	250	U	2000	1540		ug/L		77	43 - 153
Carbon tetrachloride - DL	94	U	2000	2090		ug/L		104	54 - 156
Chlorobenzene - DL	72	U	2000	1910		ug/L		95	51 - 139
Chloroethane - DL	98	U	2000	1740		ug/L		87	27 - 180
Chloroform - DL	80	U	2000	1850		ug/L		93	59 - 139
Chloromethane - DL	82	U	2000	1060		ug/L		53	33 - 154
cis-1,2-Dichloroethene - DL	53	U	2000	1760		ug/L		88	56 - 128
cis-1,3-Dichloropropene - DL	59	U	2000	1770		ug/L		89	64 - 128
Cyclohexane - DL	93	U	2000	1950		ug/L		97	14 - 141
Dibromochloromethane - DL	50	U	2000	2000		ug/L		100	50 - 150
Dichlorodifluoromethane - DL	74	U	2000	1520		ug/L		76	10 - 180
Ethylbenzene - DL	69	U	2000	1950		ug/L		98	63 - 133
Isopropylbenzene - DL	67	U	2000	1920		ug/L		96	60 - 132
m,p-Xylenes - DL	130	U	2000	1950		ug/L		97	64 - 133
Methyl acetate - DL	95	U	4000	3880		ug/L		97	50 - 150
Methyl tert-butyl ether - DL	60	U	2000	1850		ug/L		93	50 - 150
Methylene Chloride - DL	500	U	2000	1660		ug/L		83	43 - 142
o-Xylene - DL	53	U	2000	1860		ug/L		93	61 - 129
Styrene - DL	61	U	2000	1950		ug/L		97	59 - 136
Tetrachloroethene - DL	76	U	2000	1950		ug/L		97	60 - 147
Toluene - DL	72	U	2000	1840		ug/L		92	64 - 131
trans-1,2-Dichloroethene - DL	73	U	2000	1770		ug/L		89	54 - 134
trans-1,3-Dichloropropene - DL	73	U	2000	1860		ug/L		93	65 - 149
Trichloroethene - DL	89	U	2000	1900		ug/L		95	62 - 135
Trichlorofluoromethane - DL	94	U	2000	1920		ug/L		96	56 - 155
Vinyl chloride - DL	71	U	2000	1620		ug/L		81	20 - 167
Xylenes, Total - DL	130	U	4000	3810		ug/L		95	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*95*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*100*		*53 - 146*
Toluene-d8 (Surr) - DL	*100*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-33334-A-1-A MSD
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane - DL	80	U	2000	1970		ug/L		99	57 - 148	1	25
1,1,2,2-Tetrachloroethane - DL	54	U	2000	1950		ug/L		98	60 - 139	4	17
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	73	U	2000	2010		ug/L		101	50 - 150	0	30
1,1,2-Trichloroethane - DL	76	U	2000	1980		ug/L		99	57 - 141	1	16
1,1-Dichloroethane - DL	62	U	2000	1870		ug/L		93	57 - 142	3	24
1,1-Dichloroethene - DL	94	U	2000	1800		ug/L		90	49 - 139	4	16
1,2,4-Trichlorobenzene - DL	70	U	2000	1870		ug/L		93	52 - 159	10	24
1,2-Dibromo-3-Chloropropane - DL	96	U	2000	1720		ug/L		86	48 - 150	5	21
1,2-Dibromoethane (EDB) - DL	78	U	2000	1810		ug/L		91	50 - 150	0	16
1,2-Dichlorobenzene - DL	73	U	2000	1960		ug/L		98	63 - 131	2	25
1,2-Dichloroethane - DL	63	U	2000	1770		ug/L		89	50 - 156	3	18
1,2-Dichloropropane - DL	80	U	2000	1780		ug/L		89	61 - 133	1	26
1,3-Dichlorobenzene - DL	77	U	2000	1880		ug/L		94	66 - 129	0	23
1,4-Dichlorobenzene - DL	76	U	2000	1930		ug/L		96	65 - 133	1	23
2-Butanone (MEK) - DL	450	U	20000	17300		ug/L		86	10 - 180	0	29
2-Hexanone - DL	250	U	20000	18800		ug/L		94	12 - 180	2	28
4-Methyl-2-pentanone - DL	500	U	20000	19700		ug/L		99	19 - 180	2	24
Acetone - DL	2500	U	20000	17100		ug/L		86	10 - 180	3	19
Benzene - DL	71	U	2000	1800		ug/L		90	56 - 136	3	14
Bromodichloromethane - DL	52	U	2000	1950		ug/L		97	58 - 135	2	19
Bromoform - DL	75	U	2000	1770		ug/L		88	46 - 148	3	18
Bromomethane - DL	95	U	2000	1320		ug/L		66	10 - 173	2	29
Carbon disulfide - DL	250	U	2000	1470		ug/L		73	43 - 153	5	26
Carbon tetrachloride - DL	94	U	2000	2120		ug/L		106	54 - 156	2	27
Chlorobenzene - DL	72	U	2000	1920		ug/L		96	51 - 139	0	13
Chloroethane - DL	98	U	2000	1740		ug/L		87	27 - 180	0	22
Chloroform - DL	80	U	2000	1820		ug/L		91	59 - 139	2	17
Chloromethane - DL	82	U	2000	1040		ug/L		52	33 - 154	2	31
cis-1,2-Dichloroethene - DL	53	U	2000	1780		ug/L		89	56 - 128	1	17
cis-1,3-Dichloropropene - DL	59	U	2000	1710		ug/L		85	64 - 128	4	20
Cyclohexane - DL	93	U	2000	1870		ug/L		93	14 - 141	4	30
Dibromochloromethane - DL	50	U	2000	1940		ug/L		97	50 - 150	3	18
Dichlorodifluoromethane - DL	74	U	2000	1500		ug/L		75	10 - 180	2	26
Ethylbenzene - DL	69	U	2000	1920		ug/L		96	63 - 133	1	18
Isopropylbenzene - DL	67	U	2000	1970		ug/L		98	60 - 132	2	23
m,p-Xylenes - DL	130	U	2000	1900		ug/L		95	64 - 133	3	18
Methyl acetate - DL	95	U	4000	3780		ug/L		95	50 - 150	2	30
Methyl tert-butyl ether - DL	60	U	2000	1820		ug/L		91	50 - 150	2	22
Methylene Chloride - DL	500	U	2000	1620		ug/L		81	43 - 142	2	23
o-Xylene - DL	53	U	2000	1850		ug/L		93	61 - 129	0	16
Styrene - DL	61	U	2000	1910		ug/L		95	59 - 136	2	32
Tetrachloroethene - DL	76	U	2000	1860		ug/L		93	60 - 147	5	21
Toluene - DL	72	U	2000	1830		ug/L		92	64 - 131	0	16
trans-1,2-Dichloroethene - DL	73	U	2000	1770		ug/L		89	54 - 134	0	20
trans-1,3-Dichloropropene - DL	73	U	2000	1790		ug/L		90	65 - 149	4	17
Trichloroethene - DL	89	U	2000	1880		ug/L		94	62 - 135	1	20
Trichlorofluoromethane - DL	94	U	2000	1850		ug/L		92	56 - 155	4	22

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-33334-A-1-A MSD
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Vinyl chloride - DL	71	U	2000	1570		ug/L		78	20 - 167	3	24
Xylenes, Total - DL	130	U	4000	3750		ug/L		94	50 - 150	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*97*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*101*		*53 - 146*
Toluene-d8 (Surr) - DL	*99*		*40 - 146*

GC/MS VOA

Leach Batch: 72408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 670-72408/1-A	Method Blank	Total/NA	Water	1311	
670-33334-A-1-A MS - DL	Matrix Spike	TCLP	Water	1311	
670-33334-A-1-A MSD - DL	Matrix Spike Duplicate	TCLP	Water	1311	
670-33365-C-1-B MS	Matrix Spike	TCLP	Water	1311	
670-33365-C-1-B MSD	Matrix Spike Duplicate	TCLP	Water	1311	

Analysis Batch: 72517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33380-1 - DL	LC34-DPT0598-033.0-20240117	Total/NA	Water	8260D	
670-33380-2 - DL	LC34-DPT0596-068.0-20240117	Total/NA	Water	8260D	
670-33380-3 - DL	LC34-DPT0598-038.0-20240117	Total/NA	Water	8260D	
670-33380-4 - DL	LC34-DPT0598-043.0-20240117	Total/NA	Water	8260D	
670-33380-5 - DL	LC34-DPT0596-073.0-20240117	Total/NA	Water	8260D	
670-33380-6 - DL	LC34-DPT0598-048.0-20240117	Total/NA	Water	8260D	
670-33380-7 - DL	LC34-DPT0596-078.0-20240117	Total/NA	Water	8260D	
670-33380-8 - DL	LC34-DPT0598-053.0-20240117	Total/NA	Water	8260D	
670-33380-9 - DL	LC34-DPT0598-058.0-20240117	Total/NA	Water	8260D	
670-33380-10 - DL	LC34-DPT0596-083.0-20240117	Total/NA	Water	8260D	
670-33380-11 - DL	LC34-DPT0596-088.0-20240117	Total/NA	Water	8260D	
670-33380-12 - DL	LC34-DPT0598-063.0-20240117	Total/NA	Water	8260D	
MB 670-72517/9	Method Blank	Total/NA	Water	8260D	
LCS 670-72517/6	Lab Control Sample	Total/NA	Water	8260D	
670-33380-7 MS	LC34-DPT0596-078.0-20240117	Total/NA	Water	8260D	
670-33380-7 MSD	LC34-DPT0596-078.0-20240117	Total/NA	Water	8260D	

Analysis Batch: 72521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33380-33	LC34-DPT0593-008.0-20240118	Total/NA	Water	8260D	
670-33380-34	LC34-DPT0594-023.0-20240118	Total/NA	Water	8260D	
670-33380-36	LC34-DPT0593-013.0-20240118	Total/NA	Water	8260D	
MB 670-72521/9	Method Blank	Total/NA	Water	8260D	
LCS 670-72521/6	Lab Control Sample	Total/NA	Water	8260D	
670-33373-C-1 MS	Matrix Spike	Total/NA	Water	8260D	
670-33373-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 72525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33380-40 - DL	LC34-DPT0594-028.0-20240118	Total/NA	Water	8260D	
670-33380-41 - DL	LC34-DPT0593-028.0-20240118	Total/NA	Water	8260D	
670-33380-42 - DL	LC34-DPT0595-058.0-20240118	Total/NA	Water	8260D	
670-33380-43 - DL	LC34-DPT0594-033.0-20240118	Total/NA	Water	8260D	
670-33380-44 - DL	LC34-DPT0593-033.0-20240118	Total/NA	Water	8260D	
670-33380-45 - DL	LC34-DPT0594-038.0-20240118	Total/NA	Water	8260D	
670-33380-46 - DL	LC34-DPT0593-038.0-20240118	Total/NA	Water	8260D	
670-33380-47 - DL	LC34-DPT0595-063.0-20240118	Total/NA	Water	8260D	
MB 670-72525/8	Method Blank	Total/NA	Water	8260D	
LCS 670-72525/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 670-72525/5	Lab Control Sample Dup	Total/NA	Water	8260D	
185-805-F-5 MS	Matrix Spike	Total/NA	Water	8260D	
185-805-F-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

GC/MS VOA

Analysis Batch: 72565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33380-13	LC34-DPT0598-068.0-20240118	Total/NA	Water	8260D	
670-33380-14 - DL	LC34-DPT0596-093.0-20240118	Total/NA	Water	8260D	
670-33380-15 - DL	LC34-DPT0598-073.0-20240118	Total/NA	Water	8260D	
670-33380-17 - DL	LC34-DPT0598-078.0-20240118	Total/NA	Water	8260D	
670-33380-18 - DL	LC34-DPT0598-083.0-20240118	Total/NA	Water	8260D	
670-33380-19 - DL	LC34-DPT0598-088.0-20240118	Total/NA	Water	8260D	
670-33380-21 - DL	LC34-DPT0598-093.0-20240118	Total/NA	Water	8260D	
670-33380-25 - DL	LC34-DPT0598-098.0-20240118	Total/NA	Water	8260D	
670-33380-27 - DL	LC34-DPT0595-033.0-20240118	Total/NA	Water	8260D	
670-33380-28 - DL	LC34-DPT0594-008.0-20240118	Total/NA	Water	8260D	
670-33380-29 - DL	LC34-DPT0595-038.0-20240118	Total/NA	Water	8260D	
670-33380-30 - DL	LC34-DPT0594-013.0-20240118	Total/NA	Water	8260D	
670-33380-31 - DL	LC34-DPT0595-043.0-20240118	Total/NA	Water	8260D	
670-33380-32 - DL	LC34-DPT0594-018.0-20240118	Total/NA	Water	8260D	
MB 670-72565/7	Method Blank	Total/NA	Water	8260D	
LCS 670-72565/4	Lab Control Sample	Total/NA	Water	8260D	
670-33380-13 MS	LC34-DPT0598-068.0-20240118	Total/NA	Water	8260D	
670-33380-13 MSD	LC34-DPT0598-068.0-20240118	Total/NA	Water	8260D	

Analysis Batch: 72669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33380-6 - DL	LC34-DPT0598-048.0-20240117	Total/NA	Water	8260D	
670-33380-18 - DL	LC34-DPT0598-083.0-20240118	Total/NA	Water	8260D	
670-33380-42 - DL2	LC34-DPT0595-058.0-20240118	Total/NA	Water	8260D	
670-33380-43 - DL	LC34-DPT0594-033.0-20240118	Total/NA	Water	8260D	
670-33380-48 - DL	LC34-DPT0594-043.0-20240118	Total/NA	Water	8260D	
670-33380-49 - DL	LC34-DPT0594-048.0-20240118	Total/NA	Water	8260D	
670-33380-50 - DL	LC34-DPT0593-043.0-20240118	Total/NA	Water	8260D	
670-33380-51 - DL	LC34-DPT0594-053.0-20240118	Total/NA	Water	8260D	
670-33380-52 - DL	LC34-DPT0593-048.0-20240118	Total/NA	Water	8260D	
670-33380-55 - DL	LC34-DPT0594-058.0-20240118	Total/NA	Water	8260D	
MB 670-72669/8	Method Blank	Total/NA	Water	8260D	
LCS 670-72669/5	Lab Control Sample	Total/NA	Water	8260D	
670-33457-B-9 MS	Matrix Spike	Total/NA	Water	8260D	
670-33457-B-9 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 72672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33380-35 - DL	LC34-DPT0595-048.0-20240118	Total/NA	Water	8260D	
670-33380-38 - DL	LC34-DPT0595-053.0-20240118	Total/NA	Water	8260D	
670-33380-39 - DL	LC34-DPT0593-023.0-20240118	Total/NA	Water	8260D	
LB 670-72408/1-A	Method Blank	Total/NA	Water	8260D	72408
MB 670-72672/7	Method Blank	Total/NA	Water	8260D	
LCS 670-72672/4	Lab Control Sample	Total/NA	Water	8260D	
670-33365-C-1-B MS	Matrix Spike	TCLP	Water	8260D	72408
670-33365-C-1-B MSD	Matrix Spike Duplicate	TCLP	Water	8260D	72408

Analysis Batch: 72696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33380-16 - DL	LC34-DPT0596-098.0-20240118	Total/NA	Water	8260D	
670-33380-20	LC34-DPT0595-008.0-20240118	Total/NA	Water	8260D	

GC/MS VOA (Continued)

Analysis Batch: 72696 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33380-22	LC34-DPT0595-013.0-20240118	Total/NA	Water	8260D	
670-33380-23	LC34-DPT0595-018.0-20230118	Total/NA	Water	8260D	
670-33380-24	LC34-DPT0595-023.0-20240118	Total/NA	Water	8260D	
670-33380-26	LC34-DPT0595-028.0-20240118	Total/NA	Water	8260D	
MB 670-72696/7	Method Blank	Total/NA	Water	8260D	
LCS 670-72696/4	Lab Control Sample	Total/NA	Water	8260D	
670-33467-H-3 MS	Matrix Spike	Total/NA	Water	8260D	
670-33467-H-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	
670-33309-A-16 DU	Duplicate	Total/NA	Water	8260D	

Analysis Batch: 72903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33380-37	LC34-DPT0593-018.0-20240118	Total/NA	Water	8260D	
670-33380-38 - DL	LC34-DPT0595-053.0-20240118	Total/NA	Water	8260D	
670-33380-46 - DL	LC34-DPT0593-038.0-20240118	Total/NA	Water	8260D	
670-33380-47	LC34-DPT0595-063.0-20240118	Total/NA	Water	8260D	
670-33380-48 - DL	LC34-DPT0594-043.0-20240118	Total/NA	Water	8260D	
670-33380-49 - DL	LC34-DPT0594-048.0-20240118	Total/NA	Water	8260D	
670-33380-51 - DL	LC34-DPT0594-053.0-20240118	Total/NA	Water	8260D	
670-33380-52 - DL	LC34-DPT0593-048.0-20240118	Total/NA	Water	8260D	
670-33380-53	LC34-DPT0595-073.0-20240118	Total/NA	Water	8260D	
MB 670-72903/8	Method Blank	Total/NA	Water	8260D	
LCS 670-72903/5	Lab Control Sample	Total/NA	Water	8260D	
670-33334-A-1-A MS - DL	Matrix Spike	TCLP	Water	8260D	72408
670-33334-A-1-A MSD - DL	Matrix Spike Duplicate	TCLP	Water	8260D	72408

Analysis Batch: 72911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33380-16	LC34-DPT0596-098.0-20240118	Total/NA	Water	8260D	
670-33380-20	LC34-DPT0595-008.0-20240118	Total/NA	Water	8260D	
MB 670-72911/7	Method Blank	Total/NA	Water	8260D	
LCS 670-72911/4	Lab Control Sample	Total/NA	Water	8260D	
670-33514-B-1 MS	Matrix Spike	Total/NA	Water	8260D	
670-33514-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 73081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33380-54	LC34-DPT0595-068.0-20240118	Total/NA	Water	8260D	
670-33380-55 - DL	LC34-DPT0594-058.0-20240118	Total/NA	Water	8260D	
MB 670-73081/8	Method Blank	Total/NA	Water	8260D	
LCS 670-73081/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 670-73081/5	Lab Control Sample Dup	Total/NA	Water	8260D	
670-33615-D-1 MS	Matrix Spike	Total/NA	Water	8260D	
670-33615-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 73281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33380-55	LC34-DPT0594-058.0-20240118	Total/NA	Water	8260D	
MB 670-73281/8	Method Blank	Total/NA	Water	8260D	
LCS 670-73281/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 670-73281/5	Lab Control Sample Dup	Total/NA	Water	8260D	

GC/MS VOA (Continued)

Analysis Batch: 73281 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33663-C-1 MS	Matrix Spike	Total/NA	Water	8260D	
670-33663-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0598-033.0-20240117
Lab Sample ID: 670-33380-1
Date Collected: 01/17/24 14:35
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	72517	KG	EET ORL	01/22/24 20:33

Client Sample ID: LC34-DPT0596-068.0-20240117
Lab Sample ID: 670-33380-2
Date Collected: 01/17/24 14:45
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	72517	KG	EET ORL	01/22/24 18:42

Client Sample ID: LC34-DPT0598-038.0-20240117
Lab Sample ID: 670-33380-3
Date Collected: 01/17/24 14:55
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	250	72517	KG	EET ORL	01/22/24 19:57

Client Sample ID: LC34-DPT0598-043.0-20240117
Lab Sample ID: 670-33380-4
Date Collected: 01/17/24 15:10
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	250	72517	KG	EET ORL	01/22/24 20:15

Client Sample ID: LC34-DPT0596-073.0-20240117
Lab Sample ID: 670-33380-5
Date Collected: 01/17/24 15:15
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72517	KG	EET ORL	01/22/24 19:22

Client Sample ID: LC34-DPT0598-048.0-20240117
Lab Sample ID: 670-33380-6
Date Collected: 01/17/24 15:30
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	72517	KG	EET ORL	01/22/24 20:50
Total/NA	Analysis	8260D	DL	1000	72669	AAM	EET ORL	01/23/24 19:18

Client Sample ID: LC34-DPT0596-078.0-20240117
Lab Sample ID: 670-33380-7
Date Collected: 01/17/24 15:45
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	72517	KG	EET ORL	01/22/24 14:30

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0598-053.0-20240117
Lab Sample ID: 670-33380-8
Date Collected: 01/17/24 15:50
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	72517	KG	EET ORL	01/22/24 21:08

Client Sample ID: LC34-DPT0598-058.0-20240117
Lab Sample ID: 670-33380-9
Date Collected: 01/17/24 16:10
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	250	72517	KG	EET ORL	01/22/24 19:40

Client Sample ID: LC34-DPT0596-083.0-20240117
Lab Sample ID: 670-33380-10
Date Collected: 01/17/24 16:15
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	72517	KG	EET ORL	01/22/24 19:02

Client Sample ID: LC34-DPT0596-088.0-20240117
Lab Sample ID: 670-33380-11
Date Collected: 01/17/24 16:50
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	72517	KG	EET ORL	01/22/24 18:05

Client Sample ID: LC34-DPT0598-063.0-20240117
Lab Sample ID: 670-33380-12
Date Collected: 01/17/24 16:55
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	72517	KG	EET ORL	01/22/24 18:22

Client Sample ID: LC34-DPT0598-068.0-20240118
Lab Sample ID: 670-33380-13
Date Collected: 01/18/24 07:25
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72565	T1Y	EET ORL	01/22/24 15:18

Client Sample ID: LC34-DPT0596-093.0-20240118
Lab Sample ID: 670-33380-14
Date Collected: 01/18/24 07:40
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	250	72565	T1Y	EET ORL	01/22/24 20:27

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33380-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0598-073.0-20240118
Lab Sample ID: 670-33380-15
Date Collected: 01/18/24 07:55
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	72565	T1Y	EET ORL	01/22/24 16:31

Client Sample ID: LC34-DPT0596-098.0-20240118
Lab Sample ID: 670-33380-16
Date Collected: 01/18/24 08:20
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	72696	T1Y	EET ORL	01/23/24 18:21
Total/NA	Analysis	8260D		25	72911	P1K	EET ORL	01/24/24 18:00

Client Sample ID: LC34-DPT0598-078.0-20240118
Lab Sample ID: 670-33380-17
Date Collected: 01/18/24 08:20
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5000	72565	T1Y	EET ORL	01/22/24 21:56

Client Sample ID: LC34-DPT0598-083.0-20240118
Lab Sample ID: 670-33380-18
Date Collected: 01/18/24 09:00
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10000	72669	AAM	EET ORL	01/23/24 20:34
Total/NA	Analysis	8260D	DL	5000	72565	T1Y	EET ORL	01/22/24 22:14

Client Sample ID: LC34-DPT0598-088.0-20240118
Lab Sample ID: 670-33380-19
Date Collected: 01/18/24 09:25
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	72565	T1Y	EET ORL	01/22/24 20:45

Client Sample ID: LC34-DPT0595-008.0-20240118
Lab Sample ID: 670-33380-20
Date Collected: 01/18/24 09:45
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72696	T1Y	EET ORL	01/23/24 16:51
Total/NA	Analysis	8260D		5	72911	P1K	EET ORL	01/24/24 18:20

Client Sample ID: LC34-DPT0598-093.0-20240118
Lab Sample ID: 670-33380-21
Date Collected: 01/18/24 09:55
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	72565	T1Y	EET ORL	01/22/24 21:03

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0595-013.0-20240118
Lab Sample ID: 670-33380-22
Date Collected: 01/18/24 10:00
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72696	T1Y	EET ORL	01/23/24 17:09

Client Sample ID: LC34-DPT0595-018.0-20230118
Lab Sample ID: 670-33380-23
Date Collected: 01/18/24 10:15
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72696	T1Y	EET ORL	01/23/24 17:26

Client Sample ID: LC34-DPT0595-023.0-20240118
Lab Sample ID: 670-33380-24
Date Collected: 01/18/24 10:30
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72696	T1Y	EET ORL	01/23/24 17:44

Client Sample ID: LC34-DPT0598-098.0-20240118
Lab Sample ID: 670-33380-25
Date Collected: 01/18/24 10:30
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2000	72565	T1Y	EET ORL	01/22/24 21:38

Client Sample ID: LC34-DPT0595-028.0-20240118
Lab Sample ID: 670-33380-26
Date Collected: 01/18/24 10:45
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72696	T1Y	EET ORL	01/23/24 18:01

Client Sample ID: LC34-DPT0595-033.0-20240118
Lab Sample ID: 670-33380-27
Date Collected: 01/18/24 11:00
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	72565	T1Y	EET ORL	01/22/24 18:32

Client Sample ID: LC34-DPT0594-008.0-20240118
Lab Sample ID: 670-33380-28
Date Collected: 01/18/24 11:10
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	72565	T1Y	EET ORL	01/22/24 18:52

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0595-038.0-20240118
Lab Sample ID: 670-33380-29
Date Collected: 01/18/24 11:15
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72565	T1Y	EET ORL	01/22/24 20:09

Client Sample ID: LC34-DPT0594-013.0-20240118
Lab Sample ID: 670-33380-30
Date Collected: 01/18/24 11:20
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	72565	T1Y	EET ORL	01/22/24 17:12

Client Sample ID: LC34-DPT0595-043.0-20240118
Lab Sample ID: 670-33380-31
Date Collected: 01/18/24 11:30
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72565	T1Y	EET ORL	01/22/24 21:20

Client Sample ID: LC34-DPT0594-018.0-20240118
Lab Sample ID: 670-33380-32
Date Collected: 01/18/24 11:30
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	72565	T1Y	EET ORL	01/22/24 16:52

Client Sample ID: LC34-DPT0593-008.0-20240118
Lab Sample ID: 670-33380-33
Date Collected: 01/18/24 11:35
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72521	AAM	EET ORL	01/22/24 20:54

Client Sample ID: LC34-DPT0594-023.0-20240118
Lab Sample ID: 670-33380-34
Date Collected: 01/18/24 11:45
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72521	AAM	EET ORL	01/22/24 21:13

Client Sample ID: LC34-DPT0595-048.0-20240118
Lab Sample ID: 670-33380-35
Date Collected: 01/18/24 11:45
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72672	AAM	EET ORL	01/23/24 19:38

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33380-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0593-013.0-20240118
Lab Sample ID: 670-33380-36
Date Collected: 01/18/24 11:50
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72521	AAM	EET ORL	01/22/24 21:31

Client Sample ID: LC34-DPT0593-018.0-20240118
Lab Sample ID: 670-33380-37
Date Collected: 01/18/24 12:05
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72903	AAM	EET ORL	01/24/24 16:57

Client Sample ID: LC34-DPT0595-053.0-20240118
Lab Sample ID: 670-33380-38
Date Collected: 01/18/24 12:10
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	72903	AAM	EET ORL	01/24/24 18:49
Total/NA	Analysis	8260D	DL	50	72672	AAM	EET ORL	01/23/24 18:56

Client Sample ID: LC34-DPT0593-023.0-20240118
Lab Sample ID: 670-33380-39
Date Collected: 01/18/24 12:20
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	72672	AAM	EET ORL	01/23/24 15:32

Client Sample ID: LC34-DPT0594-028.0-20240118
Lab Sample ID: 670-33380-40
Date Collected: 01/18/24 12:25
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	72525	LT	EET ORL	01/22/24 18:48

Client Sample ID: LC34-DPT0593-028.0-20240118
Lab Sample ID: 670-33380-41
Date Collected: 01/18/24 12:35
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72525	LT	EET ORL	01/22/24 21:04

Client Sample ID: LC34-DPT0595-058.0-20240118
Lab Sample ID: 670-33380-42
Date Collected: 01/18/24 12:45
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL2	50	72669	AAM	EET ORL	01/23/24 15:45
Total/NA	Analysis	8260D	DL	10	72525	LT	EET ORL	01/22/24 19:29

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0594-033.0-20240118
Lab Sample ID: 670-33380-43
Date Collected: 01/18/24 12:45
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	72669	AAM	EET ORL	01/23/24 15:23
Total/NA	Analysis	8260D	DL	10	72525	LT	EET ORL	01/22/24 19:50

Client Sample ID: LC34-DPT0593-033.0-20240118
Lab Sample ID: 670-33380-44
Date Collected: 01/18/24 12:50
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	72525	LT	EET ORL	01/22/24 20:10

Client Sample ID: LC34-DPT0594-038.0-20240118
Lab Sample ID: 670-33380-45
Date Collected: 01/18/24 13:00
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	72525	LT	EET ORL	01/22/24 21:22

Client Sample ID: LC34-DPT0593-038.0-20240118
Lab Sample ID: 670-33380-46
Date Collected: 01/18/24 13:10
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	72525	LT	EET ORL	01/22/24 19:09
Total/NA	Analysis	8260D	DL	100	72903	AAM	EET ORL	01/24/24 18:31

Client Sample ID: LC34-DPT0595-063.0-20240118
Lab Sample ID: 670-33380-47
Date Collected: 01/18/24 13:15
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	250	72525	LT	EET ORL	01/22/24 21:40
Total/NA	Analysis	8260D		1	72903	AAM	EET ORL	01/24/24 17:14

Client Sample ID: LC34-DPT0594-043.0-20240118
Lab Sample ID: 670-33380-48
Date Collected: 01/18/24 13:15
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	72669	AAM	EET ORL	01/23/24 17:43
Total/NA	Analysis	8260D	DL	250	72903	AAM	EET ORL	01/24/24 19:25

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Client Sample ID: LC34-DPT0594-048.0-20240118
Lab Sample ID: 670-33380-49
Date Collected: 01/18/24 13:30
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72669	AAM	EET ORL	01/23/24 19:37
Total/NA	Analysis	8260D	DL	5000	72903	AAM	EET ORL	01/24/24 20:36

Client Sample ID: LC34-DPT0593-043.0-20240118
Lab Sample ID: 670-33380-50
Date Collected: 01/18/24 13:35
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2000	72669	AAM	EET ORL	01/23/24 20:15

Client Sample ID: LC34-DPT0594-053.0-20240118
Lab Sample ID: 670-33380-51
Date Collected: 01/18/24 13:50
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72669	AAM	EET ORL	01/23/24 18:59
Total/NA	Analysis	8260D	DL	50000	72903	AAM	EET ORL	01/24/24 21:12

Client Sample ID: LC34-DPT0593-048.0-20240118
Lab Sample ID: 670-33380-52
Date Collected: 01/18/24 14:00
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72669	AAM	EET ORL	01/23/24 16:47
Total/NA	Analysis	8260D	DL	5000	72903	AAM	EET ORL	01/24/24 20:54

Client Sample ID: LC34-DPT0595-073.0-20240118
Lab Sample ID: 670-33380-53
Date Collected: 01/18/24 14:05
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72903	AAM	EET ORL	01/24/24 17:32

Client Sample ID: LC34-DPT0595-068.0-20240118
Lab Sample ID: 670-33380-54
Date Collected: 01/18/24 13:40
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	73081	AAM	EET ORL	01/25/24 14:36

Client Sample ID: LC34-DPT0594-058.0-20240118
Lab Sample ID: 670-33380-55
Date Collected: 01/18/24 14:10
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72669	AAM	EET ORL	01/23/24 17:06

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33380-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0594-058.0-20240118
Lab Sample ID: 670-33380-55
Date Collected: 01/18/24 14:10
Matrix: Water
Date Received: 01/19/24 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5000	73081	AAM	EET ORL	01/25/24 17:02
Total/NA	Analysis	8260D		10000	73281	P1K	EET ORL	01/26/24 20:05

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-33380-1
Project/Site: NASA KSC LC34 DPT

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-33380-1	LC34-DPT0598-033.0-20240117	Water	01/17/24 14:35	01/19/24 11:04
670-33380-2	LC34-DPT0596-068.0-20240117	Water	01/17/24 14:45	01/19/24 11:04
670-33380-3	LC34-DPT0598-038.0-20240117	Water	01/17/24 14:55	01/19/24 11:04
670-33380-4	LC34-DPT0598-043.0-20240117	Water	01/17/24 15:10	01/19/24 11:04
670-33380-5	LC34-DPT0596-073.0-20240117	Water	01/17/24 15:15	01/19/24 11:04
670-33380-6	LC34-DPT0598-048.0-20240117	Water	01/17/24 15:30	01/19/24 11:04
670-33380-7	LC34-DPT0596-078.0-20240117	Water	01/17/24 15:45	01/19/24 11:04
670-33380-8	LC34-DPT0598-053.0-20240117	Water	01/17/24 15:50	01/19/24 11:04
670-33380-9	LC34-DPT0598-058.0-20240117	Water	01/17/24 16:10	01/19/24 11:04
670-33380-10	LC34-DPT0596-083.0-20240117	Water	01/17/24 16:15	01/19/24 11:04
670-33380-11	LC34-DPT0596-088.0-20240117	Water	01/17/24 16:50	01/19/24 11:04
670-33380-12	LC34-DPT0598-063.0-20240117	Water	01/17/24 16:55	01/19/24 11:04
670-33380-13	LC34-DPT0598-068.0-20240118	Water	01/18/24 07:25	01/19/24 11:04
670-33380-14	LC34-DPT0596-093.0-20240118	Water	01/18/24 07:40	01/19/24 11:04
670-33380-15	LC34-DPT0598-073.0-20240118	Water	01/18/24 07:55	01/19/24 11:04
670-33380-16	LC34-DPT0596-098.0-20240118	Water	01/18/24 08:20	01/19/24 11:04
670-33380-17	LC34-DPT0598-078.0-20240118	Water	01/18/24 08:20	01/19/24 11:04
670-33380-18	LC34-DPT0598-083.0-20240118	Water	01/18/24 09:00	01/19/24 11:04
670-33380-19	LC34-DPT0598-088.0-20240118	Water	01/18/24 09:25	01/19/24 11:04
670-33380-20	LC34-DPT0595-008.0-20240118	Water	01/18/24 09:45	01/19/24 11:04
670-33380-21	LC34-DPT0598-093.0-20240118	Water	01/18/24 09:55	01/19/24 11:04
670-33380-22	LC34-DPT0595-013.0-20240118	Water	01/18/24 10:00	01/19/24 11:04
670-33380-23	LC34-DPT0595-018.0-20230118	Water	01/18/24 10:15	01/19/24 11:04
670-33380-24	LC34-DPT0595-023.0-20240118	Water	01/18/24 10:30	01/19/24 11:04
670-33380-25	LC34-DPT0598-098.0-20240118	Water	01/18/24 10:30	01/19/24 11:04
670-33380-26	LC34-DPT0595-028.0-20240118	Water	01/18/24 10:45	01/19/24 11:04
670-33380-27	LC34-DPT0595-033.0-20240118	Water	01/18/24 11:00	01/19/24 11:04
670-33380-28	LC34-DPT0594-008.0-20240118	Water	01/18/24 11:10	01/19/24 11:04
670-33380-29	LC34-DPT0595-038.0-20240118	Water	01/18/24 11:15	01/19/24 11:04
670-33380-30	LC34-DPT0594-013.0-20240118	Water	01/18/24 11:20	01/19/24 11:04
670-33380-31	LC34-DPT0595-043.0-20240118	Water	01/18/24 11:30	01/19/24 11:04
670-33380-32	LC34-DPT0594-018.0-20240118	Water	01/18/24 11:30	01/19/24 11:04
670-33380-33	LC34-DPT0593-008.0-20240118	Water	01/18/24 11:35	01/19/24 11:04
670-33380-34	LC34-DPT0594-023.0-20240118	Water	01/18/24 11:45	01/19/24 11:04
670-33380-35	LC34-DPT0595-048.0-20240118	Water	01/18/24 11:45	01/19/24 11:04
670-33380-36	LC34-DPT0593-013.0-20240118	Water	01/18/24 11:50	01/19/24 11:04
670-33380-37	LC34-DPT0593-018.0-20240118	Water	01/18/24 12:05	01/19/24 11:04
670-33380-38	LC34-DPT0595-053.0-20240118	Water	01/18/24 12:10	01/19/24 11:04
670-33380-39	LC34-DPT0593-023.0-20240118	Water	01/18/24 12:20	01/19/24 11:04
670-33380-40	LC34-DPT0594-028.0-20240118	Water	01/18/24 12:25	01/19/24 11:04
670-33380-41	LC34-DPT0593-028.0-20240118	Water	01/18/24 12:35	01/19/24 11:04
670-33380-42	LC34-DPT0595-058.0-20240118	Water	01/18/24 12:45	01/19/24 11:04
670-33380-43	LC34-DPT0594-033.0-20240118	Water	01/18/24 12:45	01/19/24 11:04
670-33380-44	LC34-DPT0593-033.0-20240118	Water	01/18/24 12:50	01/19/24 11:04
670-33380-45	LC34-DPT0594-038.0-20240118	Water	01/18/24 13:00	01/19/24 11:04
670-33380-46	LC34-DPT0593-038.0-20240118	Water	01/18/24 13:10	01/19/24 11:04
670-33380-47	LC34-DPT0595-063.0-20240118	Water	01/18/24 13:15	01/19/24 11:04
670-33380-48	LC34-DPT0594-043.0-20240118	Water	01/18/24 13:15	01/19/24 11:04
670-33380-49	LC34-DPT0594-048.0-20240118	Water	01/18/24 13:30	01/19/24 11:04
670-33380-50	LC34-DPT0593-043.0-20240118	Water	01/18/24 13:35	01/19/24 11:04
670-33380-51	LC34-DPT0594-053.0-20240118	Water	01/18/24 13:50	01/19/24 11:04
670-33380-52	LC34-DPT0593-048.0-20240118	Water	01/18/24 14:00	01/19/24 11:04
670-33380-53	LC34-DPT0595-073.0-20240118	Water	01/18/24 14:05	01/19/24 11:04
670-33380-54	LC34-DPT0595-068.0-20240118	Water	01/18/24 13:40	01/19/24 11:04

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33380-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-33380-55	LC34-DPT0594-058.0-20240118	Water	01/18/24 14:10	01/19/24 11:04

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

Client Contact Info

Name:
Tetra Tech, Inc.

Address :

Address 2:

City, State Zip:
Merritt Island,
Florida 32953

Phone:

Deliverables:

Special Instructions:

Client Contact Info

Company:
Tetra Tech, Inc.

Project Manager
Dylnicki, Kaitlin

Purchase Order:
1179322

Project Reference:

Work Order:
112G08985

Site Name:
NASA KSC LC34

Email:

Sampler:
Chuck Sorden/Natalie Fabbri

Proposed Due Date:

Description:
LC34 Annual DPT

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-DPT0598-033.0-20240117	Grab	Water	1/17/2024 14:35	FL			X	X	2	2	4
2	LC34-DPT0596-068.0-20240117	Grab	Water	1/17/2024 14:45	FL			X	X	2	2	4
3	LC34-DPT0598-038.0-20240117	Grab	Water	1/17/2024 14:55	FL			X	X	2	2	4
4	LC34-DPT0598-043.0-20240117	Grab	Water	1/17/2024 15:10	FL			X	X	2	2	4
5	LC34-DPT0596-073.0-20240117	Grab	Water	1/17/2024 15:15	FL			X	X	2	2	4
6	LC34-DPT0598-048.0-20240117	Grab	Water	1/17/2024 15:30	FL			X	X	2	2	4
7	LC34-DPT0596-078.0-20240117	Grab	Water	1/17/2024 15:45	FL			X	X	2	2	4
8	LC34-DPT0598-053.0-20240117	Grab	Water	1/17/2024 15:50	FL			X	X	2	2	4
9	LC34-DPT0598-058.0-20240117	Grab	Water	1/17/2024 16:10	FL			X	X	2	2	4
10	LC34-DPT0596-083.0-20240117	Grab	Water	1/17/2024 16:15	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

Client Contact Info

Name:
Tetra Tech, Inc.

Address :

Address 2:

City, State Zip:
Merritt Island,
Florida 32953

Phone:

Deliverables:

Special Instructions:

Client Contact Info

Company:
Tetra Tech, Inc.

Project Manager
Dylnicki, Kaitlin

Purchase Order:
1179322

Project Reference:

Work Order:
112G08985

Site Name:
NASA KSC LC34

Email:

Sampler:
Chuck Sorden/Natalie Fabbri

Proposed Due Date:

Description:
LC34 Annual DPT

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
11	LC34-DPT0596-088.0-20240117	Grab	Water	1/17/2024 16:50	FL			X	X	2	2	4
12	LC34-DPT0598-063.0-20240117	Grab	Water	1/17/2024 16:55	FL			X	X	2	2	4
13	LC34-DPT0598-068.0-20240118	Grab	Water	1/18/2024 07:25	FL			X	X	2	2	4
14	LC34-DPT0596-093.0-20240118	Grab	Water	1/18/2024 07:40	FL			X	X	2	2	4
15	LC34-DPT0598-073.0-20240118	Grab	Water	1/18/2024 07:55	FL			X	X	2	2	4
16	LC34-DPT0596-098.0-20240118	Grab	Water	1/18/2024 08:20	FL			X	X	2	2	4
17	LC34-DPT0598-078.0-20240118	Grab	Water	1/18/2024 08:20	FL			X	X	2	2	4
18	LC34-DPT0598-083.0-20240118	Grab	Water	1/18/2024 09:00	FL			X	X	2	2	4
19	LC34-DPT0598-088.0-20240118	Grab	Water	1/18/2024 09:25	FL			X	X	2	2	4
20	LC34-DPT0595-008.0-20240118	Grab	Water	1/18/2024 09:45	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
21	LC34-DPT0598-093.0-20240118	Grab	Water	1/18/2024 09:55	FL							
22	LC34-DPT0595-013.0-20240118	Grab	Water	1/18/2024 10:00	FL							
23	LC34-DPT0595-018.0-20230118	Grab	Water	1/18/2024 10:15	FL							
24	LC34-DPT0595-023.0-20240118	Grab	Water	1/18/2024 10:30	FL							
25	LC34-DPT0598-098.0-20240118	Grab	Water	1/18/2024 10:30	FL							
26	LC34-DPT0595-028.0-20240118	Grab	Water	1/18/2024 10:45	FL							
27	LC34-DPT0595-033.0-20240118	Grab	Water	1/18/2024 11:00	FL							
28	LC34-DPT0594-008.0-20240118	Grab	Water	1/18/2024 11:10	FL							
29	LC34-DPT0595-038.0-20240118	Grab	Water	1/18/2024 11:15	FL							
30	LC34-DPT0594-013.0-20240118	Grab	Water	1/18/2024 11:20	FL			X	X	2	2	4
31	LC34-DPT0595-043.0-20240118	Grab	Water	1/18/2024 11:30	FL			X	X	2	2	4
32	LC34-DPT0594-018.0-20240118	Grab	Water	1/18/2024 11:30	FL			X	X	2	2	4
33	LC34-DPT0593-008.0-20240118	Grab	Water	1/18/2024 11:35	FL			X	X	2	2	4
34	LC34-DPT0594-023.0-20240118	Grab	Water	1/18/2024 11:45	FL			X	X	2	2	4
35	LC34-DPT0595-048.0-20240118	Grab	Water	1/18/2024 11:45	FL			X	X	2	2	4
36	LC34-DPT0593-013.0-20240118	Grab	Water	1/18/2024 11:50	FL			X	X	2	2	4
37	LC34-DPT0593-018.0-20240118	Grab	Water	1/18/2024 12:05	FL			X	X	2	2	4
38	LC34-DPT0595-053.0-20240118	Grab	Water	1/18/2024 12:10	FL			X	X	2	2	4
39	LC34-DPT0593-023.0-20240118	Grab	Water	1/18/2024 12:20	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
40	LC34-DPT0594-028.0-20240118	Grab	Water	1/18/2024 12:25	FL							
41	LC34-DPT0593-028.0-20240118	Grab	Water	1/18/2024 12:35	FL							
42	LC34-DPT0595-058.0-20240118	Grab	Water	1/18/2024 12:45	FL							
43	LC34-DPT0594-033.0-20240118	Grab	Water	1/18/2024 12:45	FL							
44	LC34-DPT0593-033.0-20240118	Grab	Water	1/18/2024 12:50	FL							
45	LC34-DPT0594-038.0-20240118	Grab	Water	1/18/2024 13:00	FL							
46	LC34-DPT0593-038.0-20240118	Grab	Water	1/18/2024 13:10	FL							
47	LC34-DPT0595-063.0-20240118	Grab	Water	1/18/2024 13:15	FL							
48	LC34-DPT0594-043.0-20240118	Grab	Water	1/18/2024 13:15	FL							
49	LC34-DPT0594-048.0-20240118	Grab	Water	1/18/2024 13:30	FL			X	X	2	2	4
50	LC34-DPT0593-043.0-20240118	Grab	Water	1/18/2024 13:35	FL			X	X	2	2	4
51	LC34-DPT0594-053.0-20240118	Grab	Water	1/18/2024 13:50	FL			X	X	2	2	4
52	LC34-DPT0593-048.0-20240118	Grab	Water	1/18/2024 14:00	FL			X	X	2	2	4
53	LC34-DPT0595-068.0-20240118	Grab	Water	1/18/2024 14:05	FL			X	X	2	2	4
54	LC34-DPT0595-068.0-20240118	Grab	Water	1/18/2024 13:40	FL			X	X	2	2	4
55	LC34-DPT0594-058.0-20240118	Grab	Water	1/18/2024 14:10	FL			X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4

8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]														Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	**Total Bottles For Sample**
X	X														2	2	**4**
X	X														2	2	**4**
X	X														2	2	**4**
X	X														2	2	**4**
X	X														2	2	**4**
X	X														2	2	**4**
X	X														2	2	**4**
X	X														2	2	**4**
X	X														2	2	**4**
X	X														2	2	**4**

8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]														Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
X	X														2	2	4
X	X														2	2	4
X	X														2	2	4
X	X														2	2	4
X	X														2	2	4

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Rolled Back By:	Date/Time:	eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:
Chuck Sorden	1/18/24 14:23	Chuck Sorden	1/18/24 14:23	Chuck Sorden	1/18/24 14:26	Chuck Sorden	1/18/24 14:27
Lab Accepted By:	Date/Time:						
Clerisier, Meline	1/19/24 11:04						

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ☐ Contains Methods That May Expire Soon: ☐

Client Contact Info

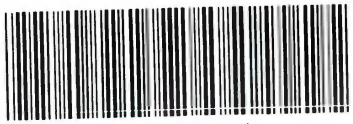
Name:
Tetra Tech, Inc.
Address :
Address 2:
City, State Zip:
Merritt Island,
Florida 32953
Phone:
Deliverables:
Special Instructions:

Client Contact Info

Company:
Tetra Tech, Inc.
Purchase Order:
1179322
Work Order:
112G08985
Email:
Proposed Due Date:

Project Manager
Dylnicki, Kaitlin
Project Reference:
Site Name:
NASA KSC LC34
Sampler:
Chuck Sorden/Natalie Fabbri
Description:
LC34 Annual DPT

Methods and Bottles



Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-DPT0598-033.0-20240117	Grab	Water	1/17/2024 14:35	FL			X	X	2	2	4
2	LC34-DPT0596-068.0-20240117	Grab	Water	1/17/2024 14:45	FL			X	X	2	2	4
3	LC34-DPT0598-038.0-20240117	Grab	Water	1/17/2024 14:55	FL			X	X	2	2	4
4	LC34-DPT0598-043.0-20240117	Grab	Water	1/17/2024 15:10	FL			X	X	2	2	4
5	LC34-DPT0596-073.0-20240117	Grab	Water	1/17/2024 15:15	FL			X	X	2	2	4
6	LC34-DPT0598-048.0-20240117	Grab	Water	1/17/2024 15:30	FL			X	X	2	2	4
7	LC34-DPT0596-078.0-20240117	Grab	Water	1/17/2024 15:45	FL			X	X	2	2	4
8	LC34-DPT0598-053.0-20240117	Grab	Water	1/17/2024 15:50	FL			X	X	2	2	4
9	LC34-DPT0598-058.0-20240117	Grab	Water	1/17/2024 16:10	FL			X	X	2	2	4
10	LC34-DPT0596-083.0-20240117	Grab	Water	1/17/2024 16:15	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ☐ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name:
Tetra Tech, Inc.

Address :

Address 2

City, State Zip:
Merritt Island,
Florida 32953

Phone:

Deliverables:

Special Instructions:

Client Contact Info

Company:
Tetra Tech, Inc.

Project Manager
Dylnicki, Kaitlin

Purchase Order:
1179322

Project Reference:

Work Order:
112G08985

Site Name:
NASA KSC LC34

Email:

Sampler:
Chuck Sorden/Natalie Fabbri

Proposed Due Date:

Description:
LC34 Annual DPT

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
11	LC34-DPT0596-088.0-20240117	Grab	Water	1/17/2024 16:50	FL			X	X	2	2	4
12	LC34-DPT0598-063.0-20240117	Grab	Water	1/17/2024 16:55	FL			X	X	2	2	4
13	LC34-DPT0598-068.0-20240118	Grab	Water	1/18/2024 07:25	FL			X	X	2	2	4
14	LC34-DPT0596-093.0-20240118	Grab	Water	1/18/2024 07:40	FL			X	X	2	2	4
15	LC34-DPT0598-073.0-20240118	Grab	Water	1/18/2024 07:55	FL			X	X	2	2	4
16	LC34-DPT0596-098.0-20240118	Grab	Water	1/18/2024 08:20	FL			X	X	2	2	4
17	LC34-DPT0598-078.0-20240118	Grab	Water	1/18/2024 08:20	FL			X	X	2	2	4
18	LC34-DPT0598-083.0-20240118	Grab	Water	1/18/2024 09:00	FL			X	X	2	2	4
19	LC34-DPT0598-088.0-20240118	Grab	Water	1/18/2024 09:25	FL			X	X	2	2	4
20	LC34-DPT0595-008.0-20240118	Grab	Water	1/18/2024 09:45	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

amples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
21	LC34-DPT0598-093.0-20240118	Grab	Water	1/18/2024 09:55	FL							
22	LC34-DPT0595-013.0-20240118	Grab	Water	1/18/2024 10:00	FL							
23	LC34-DPT0595-018.0-20230118	Grab	Water	1/18/2024 10:15	FL							
24	LC34-DPT0595-023.0-20240118	Grab	Water	1/18/2024 10:30	FL							
25	LC34-DPT0598-098.0-20240118	Grab	Water	1/18/2024 10:30	FL							
26	LC34-DPT0595-028.0-20240118	Grab	Water	1/18/2024 10:45	FL							
27	LC34-DPT0595-033.0-20240118	Grab	Water	1/18/2024 11:00	FL							
28	LC34-DPT0594-008.0-20240118	Grab	Water	1/18/2024 11:10	FL							
29	LC34-DPT0595-038.0-20240118	Grab	Water	1/18/2024 11:15	FL							
30	LC34-DPT0594-013.0-20240118	Grab	Water	1/18/2024 11:20	FL			X	X	2	2	4
31	LC34-DPT0595-043.0-20240118	Grab	Water	1/18/2024 11:30	FL			X	X	2	2	4
32	LC34-DPT0594-018.0-20240118	Grab	Water	1/18/2024 11:30	FL			X	X	2	2	4
33	LC34-DPT0593-008.0-20240118	Grab	Water	1/18/2024 11:35	FL			X	X	2	2	4
34	LC34-DPT0594-023.0-20240118	Grab	Water	1/18/2024 11:45	FL			X	X	2	2	4
35	LC34-DPT0595-048.0-20240118	Grab	Water	1/18/2024 11:45	FL			X	X	2	2	4
36	LC34-DPT0593-013.0-20240118	Grab	Water	1/18/2024 11:50	FL			X	X	2	2	4
37	LC34-DPT0593-018.0-20240118	Grab	Water	1/18/2024 12:05	FL			X	X	2	2	4
38	LC34-DPT0595-053.0-20240118	Grab	Water	1/18/2024 12:10	FL			X	X	2	2	4
39	LC34-DPT0593-023.0-20240118	Grab	Water	1/18/2024 12:20	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

amples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
40	LC34-DPT0594-028.0-20240118	Grab	Water	1/18/2024 12:25	FL							
41	LC34-DPT0593-028.0-20240118	Grab	Water	1/18/2024 12:35	FL							
42	LC34-DPT0595-058.0-20240118	Grab	Water	1/18/2024 12:45	FL							
43	LC34-DPT0594-033.0-20240118	Grab	Water	1/18/2024 12:45	FL							
44	LC34-DPT0593-033.0-20240118	Grab	Water	1/18/2024 12:50	FL							
45	LC34-DPT0594-038.0-20240118	Grab	Water	1/18/2024 13:00	FL							
46	LC34-DPT0593-038.0-20240118	Grab	Water	1/18/2024 13:10	FL							
47	LC34-DPT0595-063.0-20240118	Grab	Water	1/18/2024 13:15	FL							
48	LC34-DPT0594-043.0-20240118	Grab	Water	1/18/2024 13:15	FL							
49	LC34-DPT0594-048.0-20240118	Grab	Water	1/18/2024 13:30	FL			X	X	2	2	4
50	LC34-DPT0593-043.0-20240118	Grab	Water	1/18/2024 13:35	FL			X	X	2	2	4
51	LC34-DPT0594-053.0-20240118	Grab	Water	1/18/2024 13:50	FL			X	X	2	2	4
52	LC34-DPT0593-048.0-20240118	Grab	Water	1/18/2024 14:[illegible]				X	X	2	2	4
53	LC34-DPT0595-068.0-20240118	Grab	Water	1/18/2024 14:05	FL			X	X	2	2	4
54	LC34-DPT0595-068.0-20240118	Grab	Water	1/18/2024 14:[illegible]				X	X	2	2	4
55	LC34-DPT0594-058.0-20240118	Grab	Water	1/18/2024 14:10	FL			X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4

Chain of Custody Number: **246609**

8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
X	X	2	2	4
X	X	2	2	4
X	X	2	2	4
X	X	2	2	4
X	X	2	2	4
X	X	2	2	4
X	X	2	2	4
X	X	2	2	4
X	X	2	2	4
X	X	2	2	4

8260D/5030B_UP (MOD) NASA LC34 Custom [400]	8260D/5030C (MOD) NASA LC34 Custom [FUL]														Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
X	X														2	2	4
X	X														2	2	4
X	X														2	2	4
X	X														2	2	4
X	X														2	2	4

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Rolled Back By:	Date/Time:	eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:
Chuck Sorden	1/18/24 14:23	Chuck Sorden	1/18/24 14:23	Chuck Sorden	1/18/24 14:26	Chuck Sorden	1/18/24 14:27
Lab Accepted By:	Date/Time:						
Clerisier, Meline	1/19/24 11:04						

1.2/1.2 0.5/0.5

596°

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-33380-1

Login Number: 33380
List Number: 1
Creator: Clerisier, Meline

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34 DPT

JOB NUMBER

670-33457-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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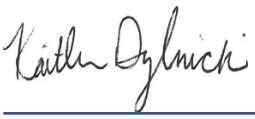
Authorization



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Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
L	Off-scale high. Actual value is known to be greater than the value given.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-33457-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/20/2024 9:11 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.5°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72669 recovered above the upper control limit for 1,1-Dichloroethane, 1,2-Dichloropropane, Bromomethane, Carbon disulfide, Chloroethane, Cyclohexane and Methylene Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-72669/4).

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72669 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane and Methyl acetate. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0593-063.0-20240118 (670-33457-7), LC34-DPT0594-073.0-20240118 (670-33457-8), LC34-DPT0595-088.0-20240118 (670-33457-9), LC34-DPT0597-088.0-20240119 (670-33457-10) and LC34-DPT0593-068.0-20240118 (670-33457-11). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72672 recovered outside acceptance criteria, low biased, for 1,1,2,2-Tetrachloroethane, 1,2-Dibromo-3-Chloropropane, 2-Butanone (MEK), 2-Hexanone, 4-Methyl-2-pentanone, Acetone, Chloromethane and Methyl acetate. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0593-053.0-20240118 (670-33457-1), LC34-DPT0595-078.0-20240118 (670-33457-2), LC34-DPT0594-063.0-20240118 (670-33457-3), LC34-DPT0593-058.0-20240118 (670-33457-4), LC34-DPT0595-083.0-20240118 (670-33457-5) and LC34-DPT0594-068.0-20240118 (670-33457-6). Elevated reporting limits (RLs) are provided.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 670-72674 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72674 recovered outside acceptance criteria, low biased, for Chloromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0595-093.0-20240118 (670-33457-13), LC34-DPT0593-073.0-20240118 (670-33457-14), LC34-DPT0594-083.0-20240118 (670-33457-15), LC34-DPT0595-098.0-20240118 (670-33457-16), LC34-DPT0593-078.0-20240118 (670-33457-17), LC34-DPT0594-088.0-20240118 (670-33457-18), LC34-DPT0593-083.0-20240119 (670-33457-19), LC34-DPT0594-098.0-20240119

(670-33457-20) and LC34-DPT0593-088.0-20240119 (670-33457-21). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72862 recovered outside acceptance criteria, low biased, for Bromomethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0593-053.0-20240118 (670-33457-1), LC34-DPT0593-058.0-20240118 (670-33457-4), LC34-DPT0594-068.0-20240118 (670-33457-6), LC34-DPT0594-078.0-20240118 (670-33457-12), LC34-DPT0597-008.0-20240119 (670-33457-22), LC34-DPT0597-013.0-20240119 (670-33457-23), LC34-DPT0597-018.0-20240119 (670-33457-24), LC34-DPT0594-098.0-20240119 (670-33457-25), LC34-DPT0593-093.0-20240119 (670-33457-26), LC34-DPT0597-023.0-20240119 (670-33457-27), LC34-DPT0597-028.0-20240119 (670-33457-28), LC34-DPT0597-048.0-20240119 (670-33457-29), LC34-DPT0593-098.0-20240119 (670-33457-30), LC34-DPT0597-073.0-20240119 (670-33457-31), LC34-DPT0597-053.0-20240119 (670-33457-32), LC34-DPT0597-098.0-20240119 (670-33457-33) and LC34-DPT0597-033.0-20240119 (670-33457-34). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72868 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane, 1,2-Dichloroethane, 2-Butanone (MEK), 2-Hexanone, 4-Methyl-2-pentanone, Acetone, Methyl acetate and Methyl tert-butyl ether. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 670-72868 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The laboratory control sample (LCS) for analytical batch 670-72868 recovered outside control limits for the following analytes: Methyl acetate. A low-level RL spiked at the reporting limit, was prepared with this batch. The affected target analytes recovered within acceptance limits; therefore, the RL demonstrates the analytical system had sufficient sensitivity to detect the compounds had they been present. Since the affected target compounds were not detected in the samples, the data have been reported and qualified.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0597-058.0-20240119 (670-33457-36). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-72903 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane and Bromomethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0597-088.0-20240119 (670-33457-10), LC34-DPT0593-068.0-20240118 (670-33457-11) and LC34-DPT0593-078.0-20240118 (670-33457-17). Elevated reporting limits (RLs) are provided.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0595-093.0-20240118 (670-33457-13), LC34-DPT0593-073.0-20240118 (670-33457-14), LC34-DPT0594-083.0-20240118 (670-33457-15), LC34-DPT0597-093.0-20240119 (670-33457-35), LC34-DPT0597-038.0-20240119 (670-33457-37), LC34-DPT0597-078.0-20240119 (670-33457-38), LC34-DPT0597-043.0-20240119 (670-33457-39), LC34-DPT0597-063.0-20240119 (670-33457-40), LC34-DPT0597-083.0-20240119 (670-33457-41) and LC34-DPT0597-068.0-20240119 (670-33457-42). Elevated reporting limits (RLs) are provided.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-DPT0594-078.0-20240118 (670-33457-12), LC34-DPT0595-093.0-20240118 (670-33457-13), LC34-DPT0597-053.0-20240119 (670-33457-32), LC34-DPT0597-093.0-20240119 (670-33457-35), LC34-DPT0597-058.0-20240119 (670-33457-36), LC34-DPT0597-078.0-20240119 (670-33457-38), LC34-DPT0597-063.0-20240119 (670-33457-40) and LC34-DPT0597-083.0-20240119 (670-33457-41). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-73081 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane, 2-Butanone (MEK), Acetone, Bromomethane, Carbon disulfide, Chloromethane, Dichlorodifluoromethane and Methyl acetate. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Orlando

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33457-1

Client Sample ID: LC34-DPT0593-053.0-20240118 — Lab Sample ID: 670-33457-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	85000		2000	1100	ug/L	2000		8260D	Total/NA
Trichloroethene - DL	130000		10000	8900	ug/L	10000		8260D	Total/NA
Vinyl chloride - DL	14000		2000	1400	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-DPT0595-078.0-20240118 — Lab Sample ID: 670-33457-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1000		200	110	ug/L	200		8260D	Total/NA
Trichloroethene - DL	5200		200	180	ug/L	200		8260D	Total/NA
Vinyl chloride - DL	300		200	140	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-DPT0594-063.0-20240118 — Lab Sample ID: 670-33457-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	6300		1000	530	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	79000		1000	890	ug/L	1000		8260D	Total/NA
Vinyl chloride - DL	2200		1000	710	ug/L	1000		8260D	Total/NA

Client Sample ID: LC34-DPT0593-058.0-20240118 — Lab Sample ID: 670-33457-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	160000		2000	1100	ug/L	2000		8260D	Total/NA
trans-1,2-Dichloroethene - DL	3300		2000	1500	ug/L	2000		8260D	Total/NA
Trichloroethene - DL	180000		2000	1800	ug/L	2000		8260D	Total/NA
Vinyl chloride - DL	15000		2000	1400	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-DPT0595-083.0-20240118 — Lab Sample ID: 670-33457-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	13		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	2.1		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	7.4		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0594-068.0-20240118 — Lab Sample ID: 670-33457-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	3300		1000	530	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	130000		2000	1800	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-DPT0593-063.0-20240118 — Lab Sample ID: 670-33457-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1500		200	110	ug/L	200		8260D	Total/NA
Trichloroethene - DL	9400		200	180	ug/L	200		8260D	Total/NA
Vinyl chloride - DL	340		200	140	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-DPT0594-073.0-20240118 — Lab Sample ID: 670-33457-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	950	I	1000	530	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	78000		1000	890	ug/L	1000		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33457-1

Client Sample ID: LC34-DPT0595-088.0-20240118 — Lab Sample ID: 670-33457-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	5.6		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	2.8		1.0	0.89	ug/L	1		8260D	Total/NA
Vinyl chloride	2.3		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0597-088.0-20240119 — Lab Sample ID: 670-33457-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1400		250	130	ug/L	250		8260D	Total/NA
Trichloroethene - DL	14000		500	450	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-DPT0593-068.0-20240118 — Lab Sample ID: 670-33457-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	2800		500	270	ug/L	500		8260D	Total/NA
Trichloroethene - DL	47000		500	450	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-DPT0594-078.0-20240118 — Lab Sample ID: 670-33457-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	5000	I	10000	3700	ug/L	5000		8260D	Total/NA
cis-1,2-Dichloroethene - DL	8300		5000	2700	ug/L	5000		8260D	Total/NA
Trichloroethene - DL	1400000		20000	18000	ug/L	20000		8260D	Total/NA

Client Sample ID: LC34-DPT0595-093.0-20240118 — Lab Sample ID: 670-33457-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.1		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	1.5		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0593-073.0-20240118 — Lab Sample ID: 670-33457-14

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	34		25	13	ug/L	25		8260D	Total/NA
Trichloroethene - DL	2500		100	89	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-DPT0594-083.0-20240118 — Lab Sample ID: 670-33457-15

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1200		250	130	ug/L	250		8260D	Total/NA
Trichloroethene - DL	14000		250	220	ug/L	250		8260D	Total/NA

Client Sample ID: LC34-DPT0595-098.0-20240118 — Lab Sample ID: 670-33457-16

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4.0		1.0	0.53	ug/L	1		8260D	Total/NA
Trichloroethene	1.0		1.0	0.89	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-DPT0593-078.0-20240118 — Lab Sample ID: 670-33457-17

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	34		5.0	2.7	ug/L	5		8260D	Total/NA
Trichloroethene - DL	360		5.0	4.5	ug/L	5		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33457-1

Client Sample ID: LC34-DPT0594-088.0-20240118 — Lab Sample ID: 670-33457-18

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	4900		1000	530	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	54000		1000	890	ug/L	1000		8260D	Total/NA

Client Sample ID: LC34-DPT0593-083.0-20240119 — Lab Sample ID: 670-33457-19

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1400		200	110	ug/L	200		8260D	Total/NA
Trichloroethene - DL	30000		1000	890	ug/L	1000		8260D	Total/NA
Vinyl chloride - DL	250		200	140	ug/L	200		8260D	Total/NA

Client Sample ID: LC34-DPT0594-098.0-20240119 — Lab Sample ID: 670-33457-20

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	3200		2000	1100	ug/L	2000		8260D	Total/NA
Trichloroethene - DL	88000		2000	1800	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-DPT0593-088.0-20240119 — Lab Sample ID: 670-33457-21

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene - DL	31000		500	450	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-DPT0597-008.0-20240119 — Lab Sample ID: 670-33457-22

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	100		50	27	ug/L	50		8260D	Total/NA
Trichloroethene - DL	1500		50	45	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-DPT0597-013.0-20240119 — Lab Sample ID: 670-33457-23

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	2300		50	27	ug/L	50		8260D	Total/NA
Trichloroethene - DL	3400		50	45	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-DPT0597-018.0-20240119 — Lab Sample ID: 670-33457-24

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK) - DL	150	I	200	90	ug/L	20		8260D	Total/NA
cis-1,2-Dichloroethene - DL	690		20	11	ug/L	20		8260D	Total/NA
Trichloroethene - DL	150		20	18	ug/L	20		8260D	Total/NA
Vinyl chloride - DL	27		20	14	ug/L	20		8260D	Total/NA

Client Sample ID: LC34-DPT0594-098.0-20240119 — Lab Sample ID: 670-33457-25

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	760		500	270	ug/L	500		8260D	Total/NA
Trichloroethene - DL	34000		500	450	ug/L	500		8260D	Total/NA

Client Sample ID: LC34-DPT0593-093.0-20240119 — Lab Sample ID: 670-33457-26

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	2200		500	270	ug/L	500		8260D	Total/NA
Trichloroethene - DL	26000		500	450	ug/L	500		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33457-1

Client Sample ID: LC34-DPT0597-023.0-20240119 — Lab Sample ID: 670-33457-27

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	380		10	5.3	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	88		10	7.1	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-DPT0597-028.0-20240119 — Lab Sample ID: 670-33457-28

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	410		10	5.3	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	82		10	7.1	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-DPT0597-048.0-20240119 — Lab Sample ID: 670-33457-29

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	61000		2000	1100	ug/L	2000		8260D	Total/NA
trans-1,2-Dichloroethene - DL	1800	I	2000	1500	ug/L	2000		8260D	Total/NA
Trichloroethene - DL	130000		2000	1800	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-DPT0593-098.0-20240119 — Lab Sample ID: 670-33457-30

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	230		100	53	ug/L	100		8260D	Total/NA
Trichloroethene - DL	7100		100	89	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-DPT0597-073.0-20240119 — Lab Sample ID: 670-33457-31

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	9.4	I	10	5.3	ug/L	10		8260D	Total/NA
Trichloroethene - DL	380		10	8.9	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-DPT0597-053.0-20240119 — Lab Sample ID: 670-33457-32

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	47000		5000	2700	ug/L	5000		8260D	Total/NA
Trichloroethene - DL	620000		10000	8900	ug/L	10000		8260D	Total/NA

Client Sample ID: LC34-DPT0597-098.0-20240119 — Lab Sample ID: 670-33457-33

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1400		1000	530	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	66000		1000	890	ug/L	1000		8260D	Total/NA

Client Sample ID: LC34-DPT0597-033.0-20240119 — Lab Sample ID: 670-33457-34

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1600		50	27	ug/L	50		8260D	Total/NA
trans-1,2-Dichloroethene - DL	46	I	50	37	ug/L	50		8260D	Total/NA
Trichloroethene - DL	61		50	45	ug/L	50		8260D	Total/NA
Vinyl chloride - DL	190		50	36	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-DPT0597-093.0-20240119 — Lab Sample ID: 670-33457-35

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	810	I	1000	530	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	87000		1000	890	ug/L	1000		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33457-1

Client Sample ID: LC34-DPT0597-058.0-20240119 — Lab Sample ID: 670-33457-36

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	42000		2500	1300	ug/L	2500		8260D	Total/NA
Trichloroethene - DL	700000		10000	8900	ug/L	10000		8260D	Total/NA
Vinyl chloride - DL	2300	I	2500	1800	ug/L	2500		8260D	Total/NA

Client Sample ID: LC34-DPT0597-038.0-20240119 — Lab Sample ID: 670-33457-37

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	2000		100	53	ug/L	100		8260D	Total/NA
Vinyl chloride - DL	310		100	71	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-DPT0597-078.0-20240119 — Lab Sample ID: 670-33457-38

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	7300		500	270	ug/L	500		8260D	Total/NA
Trichloroethene - DL	140000		5000	4500	ug/L	5000		8260D	Total/NA

Client Sample ID: LC34-DPT0597-043.0-20240119 — Lab Sample ID: 670-33457-39

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	38000		1000	530	ug/L	1000		8260D	Total/NA
trans-1,2-Dichloroethene - DL	1100		1000	730	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	13000		1000	890	ug/L	1000		8260D	Total/NA

Client Sample ID: LC34-DPT0597-063.0-20240119 — Lab Sample ID: 670-33457-40

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	30000		2000	1100	ug/L	2000		8260D	Total/NA
Trichloroethene - DL	300000		5000	4500	ug/L	5000		8260D	Total/NA
Vinyl chloride - DL	1400	I	2000	1400	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-DPT0597-083.0-20240119 — Lab Sample ID: 670-33457-41

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	2400		1000	530	ug/L	1000		8260D	Total/NA
Trichloroethene - DL	100000		2000	1800	ug/L	2000		8260D	Total/NA

Client Sample ID: LC34-DPT0597-068.0-20240119 — Lab Sample ID: 670-33457-42

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	74	I	100	53	ug/L	100		8260D	Total/NA
Trichloroethene - DL	5300		100	89	ug/L	100		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33457-1

Client Sample ID: LC34-DPT0593-053.0-20240118
Date Collected: 01/18/24 14:20
Date Received: 01/20/24 09:11

Lab Sample ID: 670-33457-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1600	U	2000	1600	ug/L			01/23/24 21:02	2000
1,1,2,2-Tetrachloroethane	1100	U	2000	1100	ug/L			01/23/24 21:02	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U	4000	1500	ug/L			01/23/24 21:02	2000
1,1,2-Trichloroethane	1500	U	4000	1500	ug/L			01/23/24 21:02	2000
1,1-Dichloroethane	1200	U	2000	1200	ug/L			01/23/24 21:02	2000
1,1-Dichloroethene	1900	U	2000	1900	ug/L			01/23/24 21:02	2000
1,2,4-Trichlorobenzene	1400	U	4000	1400	ug/L			01/23/24 21:02	2000
1,2-Dibromo-3-Chloropropane	1900	U	20000	1900	ug/L			01/23/24 21:02	2000
1,2-Dibromoethane (EDB)	1600	U	24000	1600	ug/L			01/23/24 21:02	2000
1,2-Dichlorobenzene	1500	U	2000	1500	ug/L			01/23/24 21:02	2000
1,2-Dichloroethane	1300	U	2000	1300	ug/L			01/23/24 21:02	2000
1,2-Dichloropropane	1600	U	2000	1600	ug/L			01/23/24 21:02	2000
1,3-Dichlorobenzene	1500	U	2000	1500	ug/L			01/23/24 21:02	2000
1,4-Dichlorobenzene	1500	U	2000	1500	ug/L			01/23/24 21:02	2000
2-Butanone (MEK)	9000	U	20000	9000	ug/L			01/23/24 21:02	2000
2-Hexanone	5000	U	40000	5000	ug/L			01/23/24 21:02	2000
4-Methyl-2-pentanone	10000	U	40000	10000	ug/L			01/23/24 21:02	2000
Acetone	50000	U	100000	50000	ug/L			01/23/24 21:02	2000
Benzene	1400	U	2000	1400	ug/L			01/23/24 21:02	2000
Bromodichloromethane	1000	U	2000	1000	ug/L			01/23/24 21:02	2000
Bromoform	1500	U	2000	1500	ug/L			01/23/24 21:02	2000
Bromomethane	1900	U	4000	1900	ug/L			01/23/24 21:02	2000
Carbon disulfide	5000	U	10000	5000	ug/L			01/23/24 21:02	2000
Carbon tetrachloride	1900	U	2000	1900	ug/L			01/23/24 21:02	2000
Chlorobenzene	1400	U	2000	1400	ug/L			01/23/24 21:02	2000
Chloroethane	2000	U	4000	2000	ug/L			01/23/24 21:02	2000
Chloroform	1600	U	10000	1600	ug/L			01/23/24 21:02	2000
Chloromethane	1600	U	4000	1600	ug/L			01/23/24 21:02	2000
cis-1,2-Dichloroethene	**85000**		2000	1100	ug/L			01/23/24 21:02	2000
cis-1,3-Dichloropropene	1200	U	2000	1200	ug/L			01/23/24 21:02	2000
Cyclohexane	1900	U	10000	1900	ug/L			01/23/24 21:02	2000
Dibromochloromethane	1000	U	2000	1000	ug/L			01/23/24 21:02	2000
Dichlorodifluoromethane	1500	U	2000	1500	ug/L			01/23/24 21:02	2000
Ethylbenzene	1400	U	2000	1400	ug/L			01/23/24 21:02	2000
Isopropylbenzene	1300	U	4000	1300	ug/L			01/23/24 21:02	2000
m,p-Xylenes	2600	U	4000	2600	ug/L			01/23/24 21:02	2000
Methyl acetate	1900	U	20000	1900	ug/L			01/23/24 21:02	2000
Methyl tert-butyl ether	1200	U	4000	1200	ug/L			01/23/24 21:02	2000
Methylene Chloride	10000	U	20000	10000	ug/L			01/23/24 21:02	2000
o-Xylene	1100	U	2000	1100	ug/L			01/23/24 21:02	2000
Styrene	1200	U	2000	1200	ug/L			01/23/24 21:02	2000
Tetrachloroethene	1500	U	2000	1500	ug/L			01/23/24 21:02	2000
Toluene	1400	U	2000	1400	ug/L			01/23/24 21:02	2000
trans-1,2-Dichloroethene	1500	U	2000	1500	ug/L			01/23/24 21:02	2000
trans-1,3-Dichloropropene	1500	U	2000	1500	ug/L			01/23/24 21:02	2000
Trichloroethene	**130000**		10000	8900	ug/L			01/24/24 17:49	10000
Trichlorofluoromethane	1900	U	2000	1900	ug/L			01/23/24 21:02	2000
Vinyl chloride	**14000**		2000	1400	ug/L			01/23/24 21:02	2000
Xylenes, Total	2600	U	4000	2600	ug/L			01/23/24 21:02	2000

Client Sample ID: LC34-DPT0593-053.0-20240118
Lab Sample ID: 670-33457-1

Date Collected: 01/18/24 14:20
Matrix: Water
Date Received: 01/20/24 09:11

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*01/23/24 21:02*	*2000*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*01/24/24 17:49*	*10000*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*01/23/24 21:02*	*2000*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/24/24 17:49*	*10000*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/23/24 21:02*	*2000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/24/24 17:49*	*10000*

Client Sample ID: LC34-DPT0595-078.0-20240118
Lab Sample ID: 670-33457-2

Date Collected: 01/18/24 14:25
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	160	U	200	160	ug/L			01/23/24 19:59	200
1,1,2,2-Tetrachloroethane	110	U	200	110	ug/L			01/23/24 19:59	200
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	400	150	ug/L			01/23/24 19:59	200
1,1,2-Trichloroethane	150	U	400	150	ug/L			01/23/24 19:59	200
1,1-Dichloroethane	120	U	200	120	ug/L			01/23/24 19:59	200
1,1-Dichloroethene	190	U	200	190	ug/L			01/23/24 19:59	200
1,2,4-Trichlorobenzene	140	U	400	140	ug/L			01/23/24 19:59	200
1,2-Dibromo-3-Chloropropane	190	U	2000	190	ug/L			01/23/24 19:59	200
1,2-Dibromoethane (EDB)	160	U	2400	160	ug/L			01/23/24 19:59	200
1,2-Dichlorobenzene	150	U	200	150	ug/L			01/23/24 19:59	200
1,2-Dichloroethane	130	U	200	130	ug/L			01/23/24 19:59	200
1,2-Dichloropropane	160	U	200	160	ug/L			01/23/24 19:59	200
1,3-Dichlorobenzene	150	U	200	150	ug/L			01/23/24 19:59	200
1,4-Dichlorobenzene	150	U	200	150	ug/L			01/23/24 19:59	200
2-Butanone (MEK)	900	U	2000	900	ug/L			01/23/24 19:59	200
2-Hexanone	500	U	4000	500	ug/L			01/23/24 19:59	200
4-Methyl-2-pentanone	1000	U	4000	1000	ug/L			01/23/24 19:59	200
Acetone	5000	U	10000	5000	ug/L			01/23/24 19:59	200
Benzene	140	U	200	140	ug/L			01/23/24 19:59	200
Bromodichloromethane	100	U	200	100	ug/L			01/23/24 19:59	200
Bromoform	150	U	200	150	ug/L			01/23/24 19:59	200
Bromomethane	190	U	400	190	ug/L			01/23/24 19:59	200
Carbon disulfide	500	U	1000	500	ug/L			01/23/24 19:59	200
Carbon tetrachloride	190	U	200	190	ug/L			01/23/24 19:59	200
Chlorobenzene	140	U	200	140	ug/L			01/23/24 19:59	200
Chloroethane	200	U	400	200	ug/L			01/23/24 19:59	200
Chloroform	160	U	1000	160	ug/L			01/23/24 19:59	200
Chloromethane	160	U	400	160	ug/L			01/23/24 19:59	200
cis-1,2-Dichloroethene	**1000**		200	110	ug/L			01/23/24 19:59	200
cis-1,3-Dichloropropene	120	U	200	120	ug/L			01/23/24 19:59	200
Cyclohexane	190	U	1000	190	ug/L			01/23/24 19:59	200
Dibromochloromethane	100	U	200	100	ug/L			01/23/24 19:59	200
Dichlorodifluoromethane	150	U	200	150	ug/L			01/23/24 19:59	200
Ethylbenzene	140	U	200	140	ug/L			01/23/24 19:59	200
Isopropylbenzene	130	U	400	130	ug/L			01/23/24 19:59	200
m,p-Xylenes	260	U	400	260	ug/L			01/23/24 19:59	200
Methyl acetate	190	U	2000	190	ug/L			01/23/24 19:59	200

Client Sample ID: LC34-DPT0595-078.0-20240118
Lab Sample ID: 670-33457-2

Date Collected: 01/18/24 14:25
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	120	U	400	120	ug/L			01/23/24 19:59	200
Methylene Chloride	1000	U	2000	1000	ug/L			01/23/24 19:59	200
o-Xylene	110	U	200	110	ug/L			01/23/24 19:59	200
Styrene	120	U	200	120	ug/L			01/23/24 19:59	200
Tetrachloroethene	150	U	200	150	ug/L			01/23/24 19:59	200
Toluene	140	U	200	140	ug/L			01/23/24 19:59	200
trans-1,2-Dichloroethene	150	U	200	150	ug/L			01/23/24 19:59	200
trans-1,3-Dichloropropene	150	U	200	150	ug/L			01/23/24 19:59	200
Trichloroethene	**5200**		200	180	ug/L			01/23/24 19:59	200
Trichlorofluoromethane	190	U	200	190	ug/L			01/23/24 19:59	200
Vinyl chloride	**300**		200	140	ug/L			01/23/24 19:59	200
Xylenes, Total	260	U	400	260	ug/L			01/23/24 19:59	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/23/24 19:59*	*200*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/23/24 19:59*	*200*
Toluene-d8 (Surr)	*103*		*40 - 146*		*01/23/24 19:59*	*200*

Client Sample ID: LC34-DPT0594-063.0-20240118
Lab Sample ID: 670-33457-3

Date Collected: 01/18/24 14:35
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/23/24 20:20	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/23/24 20:20	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/23/24 20:20	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/23/24 20:20	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/23/24 20:20	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/23/24 20:20	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/23/24 20:20	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/23/24 20:20	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/23/24 20:20	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/23/24 20:20	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/23/24 20:20	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/23/24 20:20	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/23/24 20:20	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/23/24 20:20	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/23/24 20:20	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/23/24 20:20	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/23/24 20:20	1000
Acetone	25000	U	50000	25000	ug/L			01/23/24 20:20	1000
Benzene	710	U	1000	710	ug/L			01/23/24 20:20	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/23/24 20:20	1000
Bromoform	750	U	1000	750	ug/L			01/23/24 20:20	1000
Bromomethane	950	U	2000	950	ug/L			01/23/24 20:20	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/23/24 20:20	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/23/24 20:20	1000
Chlorobenzene	720	U	1000	720	ug/L			01/23/24 20:20	1000
Chloroethane	980	U	2000	980	ug/L			01/23/24 20:20	1000

Client Sample ID: LC34-DPT0594-063.0-20240118
Lab Sample ID: 670-33457-3

Date Collected: 01/18/24 14:35
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	800	U	5000	800	ug/L			01/23/24 20:20	1000
Chloromethane	820	U	2000	820	ug/L			01/23/24 20:20	1000
cis-1,2-Dichloroethene	**6300**		1000	530	ug/L			01/23/24 20:20	1000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/23/24 20:20	1000
Cyclohexane	930	U	5000	930	ug/L			01/23/24 20:20	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/23/24 20:20	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/23/24 20:20	1000
Ethylbenzene	690	U	1000	690	ug/L			01/23/24 20:20	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/23/24 20:20	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/23/24 20:20	1000
Methyl acetate	950	U	10000	950	ug/L			01/23/24 20:20	1000
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/23/24 20:20	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/23/24 20:20	1000
o-Xylene	530	U	1000	530	ug/L			01/23/24 20:20	1000
Styrene	610	U	1000	610	ug/L			01/23/24 20:20	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/23/24 20:20	1000
Toluene	720	U	1000	720	ug/L			01/23/24 20:20	1000
trans-1,2-Dichloroethene	730	U	1000	730	ug/L			01/23/24 20:20	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/23/24 20:20	1000
Trichloroethene	**79000**		1000	890	ug/L			01/23/24 20:20	1000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/23/24 20:20	1000
Vinyl chloride	**2200**		1000	710	ug/L			01/23/24 20:20	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/23/24 20:20	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*01/23/24 20:20*	*1000*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*01/23/24 20:20*	*1000*
Toluene-d8 (Surr)	*104*		*40 - 146*		*01/23/24 20:20*	*1000*

Client Sample ID: LC34-DPT0593-058.0-20240118
Lab Sample ID: 670-33457-4

Date Collected: 01/18/24 14:45
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1600	U	2000	1600	ug/L			01/24/24 16:38	2000
1,1,2,2-Tetrachloroethane	1100	U	2000	1100	ug/L			01/24/24 16:38	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U	4000	1500	ug/L			01/24/24 16:38	2000
1,1,2-Trichloroethane	1500	U	4000	1500	ug/L			01/24/24 16:38	2000
1,1-Dichloroethane	1200	U	2000	1200	ug/L			01/24/24 16:38	2000
1,1-Dichloroethene	1900	U	2000	1900	ug/L			01/24/24 16:38	2000
1,2,4-Trichlorobenzene	1400	U	4000	1400	ug/L			01/24/24 16:38	2000
1,2-Dibromo-3-Chloropropane	1900	U	20000	1900	ug/L			01/24/24 16:38	2000
1,2-Dibromoethane (EDB)	1600	U	24000	1600	ug/L			01/24/24 16:38	2000
1,2-Dichlorobenzene	1500	U	2000	1500	ug/L			01/24/24 16:38	2000
1,2-Dichloroethane	1300	U	2000	1300	ug/L			01/24/24 16:38	2000
1,2-Dichloropropane	1600	U	2000	1600	ug/L			01/24/24 16:38	2000
1,3-Dichlorobenzene	1500	U	2000	1500	ug/L			01/24/24 16:38	2000
1,4-Dichlorobenzene	1500	U	2000	1500	ug/L			01/24/24 16:38	2000
2-Butanone (MEK)	9000	U	20000	9000	ug/L			01/24/24 16:38	2000

Client Sample ID: LC34-DPT0593-058.0-20240118
Lab Sample ID: 670-33457-4

Date Collected: 01/18/24 14:45
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	5000	U	40000	5000	ug/L			01/24/24 16:38	2000
4-Methyl-2-pentanone	10000	U	40000	10000	ug/L			01/24/24 16:38	2000
Acetone	50000	U	100000	50000	ug/L			01/24/24 16:38	2000
Benzene	1400	U	2000	1400	ug/L			01/24/24 16:38	2000
Bromodichloromethane	1000	U	2000	1000	ug/L			01/24/24 16:38	2000
Bromoform	1500	U	2000	1500	ug/L			01/24/24 16:38	2000
Bromomethane	1900	U	4000	1900	ug/L			01/24/24 16:38	2000
Carbon disulfide	5000	U	10000	5000	ug/L			01/24/24 16:38	2000
Carbon tetrachloride	1900	U	2000	1900	ug/L			01/24/24 16:38	2000
Chlorobenzene	1400	U	2000	1400	ug/L			01/24/24 16:38	2000
Chloroethane	2000	U	4000	2000	ug/L			01/24/24 16:38	2000
Chloroform	1600	U	10000	1600	ug/L			01/24/24 16:38	2000
Chloromethane	1600	U	4000	1600	ug/L			01/24/24 16:38	2000
cis-1,2-Dichloroethene	**160000**		2000	1100	ug/L			01/24/24 16:38	2000
cis-1,3-Dichloropropene	1200	U	2000	1200	ug/L			01/24/24 16:38	2000
Cyclohexane	1900	U	10000	1900	ug/L			01/24/24 16:38	2000
Dibromochloromethane	1000	U	2000	1000	ug/L			01/24/24 16:38	2000
Dichlorodifluoromethane	1500	U	2000	1500	ug/L			01/24/24 16:38	2000
Ethylbenzene	1400	U	2000	1400	ug/L			01/24/24 16:38	2000
Isopropylbenzene	1300	U	4000	1300	ug/L			01/24/24 16:38	2000
m,p-Xylenes	2600	U	4000	2600	ug/L			01/24/24 16:38	2000
Methyl acetate	1900	U	20000	1900	ug/L			01/24/24 16:38	2000
Methyl tert-butyl ether	1200	U	4000	1200	ug/L			01/24/24 16:38	2000
Methylene Chloride	10000	U	20000	10000	ug/L			01/24/24 16:38	2000
o-Xylene	1100	U	2000	1100	ug/L			01/24/24 16:38	2000
Styrene	1200	U	2000	1200	ug/L			01/24/24 16:38	2000
Tetrachloroethene	1500	U	2000	1500	ug/L			01/24/24 16:38	2000
Toluene	1400	U	2000	1400	ug/L			01/24/24 16:38	2000
trans-1,2-Dichloroethene	**3300**		2000	1500	ug/L			01/24/24 16:38	2000
trans-1,3-Dichloropropene	1500	U	2000	1500	ug/L			01/24/24 16:38	2000
Trichloroethene	**180000**		2000	1800	ug/L			01/24/24 16:38	2000
Trichlorofluoromethane	1900	U	2000	1900	ug/L			01/24/24 16:38	2000
Vinyl chloride	**15000**		2000	1400	ug/L			01/24/24 16:38	2000
Xylenes, Total	2600	U	4000	2600	ug/L			01/24/24 16:38	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/24/24 16:38*	*2000*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/24/24 16:38*	*2000*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 16:38*	*2000*

Client Sample ID: LC34-DPT0595-083.0-20240118
Lab Sample ID: 670-33457-5

Date Collected: 01/18/24 14:55
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/24/24 12:46	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/24/24 12:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/24/24 12:46	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/24/24 12:46	1

Client Sample ID: LC34-DPT0595-083.0-20240118
Lab Sample ID: 670-33457-5
Date Collected: 01/18/24 14:55
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/24/24 12:46	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/24/24 12:46	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/24/24 12:46	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/24/24 12:46	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/24/24 12:46	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/24/24 12:46	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/24/24 12:46	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/24/24 12:46	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/24/24 12:46	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/24/24 12:46	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/24/24 12:46	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/24/24 12:46	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/24/24 12:46	1
Acetone	25	U	50	25	ug/L			01/24/24 12:46	1
Benzene	0.71	U	1.0	0.71	ug/L			01/24/24 12:46	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/24/24 12:46	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/24/24 12:46	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/24/24 12:46	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/24/24 12:46	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/24/24 12:46	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/24/24 12:46	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/24/24 12:46	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/24/24 12:46	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/24/24 12:46	1
cis-1,2-Dichloroethene	**13**		1.0	0.53	ug/L			01/24/24 12:46	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/24/24 12:46	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/24/24 12:46	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/24/24 12:46	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/24/24 12:46	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/24/24 12:46	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/24/24 12:46	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/24/24 12:46	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/24/24 12:46	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/24/24 12:46	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/24/24 12:46	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/24/24 12:46	1
Styrene	0.61	U	1.0	0.61	ug/L			01/24/24 12:46	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/24/24 12:46	1
Toluene	0.72	U	1.0	0.72	ug/L			01/24/24 12:46	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/24/24 12:46	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/24/24 12:46	1
Trichloroethene	**2.1**		1.0	0.89	ug/L			01/24/24 12:46	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/24/24 12:46	1
Vinyl chloride	**7.4**		1.0	0.71	ug/L			01/24/24 12:46	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/24/24 12:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/24/24 12:46*	*1*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/24/24 12:46*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/24/24 12:46*	*1*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33457-1

Client Sample ID: LC34-DPT0594-068.0-20240118
Date Collected: 01/18/24 15:00
Date Received: 01/20/24 09:11

Lab Sample ID: 670-33457-6
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/23/24 20:41	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/23/24 20:41	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/23/24 20:41	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/23/24 20:41	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/23/24 20:41	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/23/24 20:41	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/23/24 20:41	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/23/24 20:41	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/23/24 20:41	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/23/24 20:41	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/23/24 20:41	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/23/24 20:41	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/23/24 20:41	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/23/24 20:41	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/23/24 20:41	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/23/24 20:41	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/23/24 20:41	1000
Acetone	25000	U	50000	25000	ug/L			01/23/24 20:41	1000
Benzene	710	U	1000	710	ug/L			01/23/24 20:41	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/23/24 20:41	1000
Bromoform	750	U	1000	750	ug/L			01/23/24 20:41	1000
Bromomethane	950	U	2000	950	ug/L			01/23/24 20:41	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/23/24 20:41	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/23/24 20:41	1000
Chlorobenzene	720	U	1000	720	ug/L			01/23/24 20:41	1000
Chloroethane	980	U	2000	980	ug/L			01/23/24 20:41	1000
Chloroform	800	U	5000	800	ug/L			01/23/24 20:41	1000
Chloromethane	820	U	2000	820	ug/L			01/23/24 20:41	1000
cis-1,2-Dichloroethene	**3300**		1000	530	ug/L			01/23/24 20:41	1000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/23/24 20:41	1000
Cyclohexane	930	U	5000	930	ug/L			01/23/24 20:41	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/23/24 20:41	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/23/24 20:41	1000
Ethylbenzene	690	U	1000	690	ug/L			01/23/24 20:41	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/23/24 20:41	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/23/24 20:41	1000
Methyl acetate	950	U	10000	950	ug/L			01/23/24 20:41	1000
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/23/24 20:41	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/23/24 20:41	1000
o-Xylene	530	U	1000	530	ug/L			01/23/24 20:41	1000
Styrene	610	U	1000	610	ug/L			01/23/24 20:41	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/23/24 20:41	1000
Toluene	720	U	1000	720	ug/L			01/23/24 20:41	1000
trans-1,2-Dichloroethene	730	U	1000	730	ug/L			01/23/24 20:41	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/23/24 20:41	1000
Trichloroethene	**130000**		2000	1800	ug/L			01/24/24 16:21	2000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/23/24 20:41	1000
Vinyl chloride	710	U	1000	710	ug/L			01/23/24 20:41	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/23/24 20:41	1000

Client Sample ID: LC34-DPT0594-068.0-20240118
Lab Sample ID: 670-33457-6

Date Collected: 01/18/24 15:00
Matrix: Water
Date Received: 01/20/24 09:11

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		41 - 142		01/23/24 20:41	1000
4-Bromofluorobenzene (Surr)	96		41 - 142		01/24/24 16:21	2000
Dibromofluoromethane (Surr)	109		53 - 146		01/23/24 20:41	1000
Dibromofluoromethane (Surr)	103		53 - 146		01/24/24 16:21	2000
Toluene-d8 (Surr)	105		40 - 146		01/23/24 20:41	1000
Toluene-d8 (Surr)	100		40 - 146		01/24/24 16:21	2000

Client Sample ID: LC34-DPT0593-063.0-20240118
Lab Sample ID: 670-33457-7

Date Collected: 01/18/24 15:10
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	160	U	200	160	ug/L			01/23/24 17:25	200
1,1,2,2-Tetrachloroethane	110	U	200	110	ug/L			01/23/24 17:25	200
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	400	150	ug/L			01/23/24 17:25	200
1,1,2-Trichloroethane	150	U	400	150	ug/L			01/23/24 17:25	200
1,1-Dichloroethane	120	U	200	120	ug/L			01/23/24 17:25	200
1,1-Dichloroethene	190	U	200	190	ug/L			01/23/24 17:25	200
1,2,4-Trichlorobenzene	140	U	400	140	ug/L			01/23/24 17:25	200
1,2-Dibromo-3-Chloropropane	190	U	2000	190	ug/L			01/23/24 17:25	200
1,2-Dibromoethane (EDB)	160	U	2400	160	ug/L			01/23/24 17:25	200
1,2-Dichlorobenzene	150	U	200	150	ug/L			01/23/24 17:25	200
1,2-Dichloroethane	130	U	200	130	ug/L			01/23/24 17:25	200
1,2-Dichloropropane	160	U	200	160	ug/L			01/23/24 17:25	200
1,3-Dichlorobenzene	150	U	200	150	ug/L			01/23/24 17:25	200
1,4-Dichlorobenzene	150	U	200	150	ug/L			01/23/24 17:25	200
2-Butanone (MEK)	900	U	2000	900	ug/L			01/23/24 17:25	200
2-Hexanone	500	U	4000	500	ug/L			01/23/24 17:25	200
4-Methyl-2-pentanone	1000	U	4000	1000	ug/L			01/23/24 17:25	200
Acetone	5000	U	10000	5000	ug/L			01/23/24 17:25	200
Benzene	140	U	200	140	ug/L			01/23/24 17:25	200
Bromodichloromethane	100	U	200	100	ug/L			01/23/24 17:25	200
Bromoform	150	U	200	150	ug/L			01/23/24 17:25	200
Bromomethane	190	U	400	190	ug/L			01/23/24 17:25	200
Carbon disulfide	500	U	1000	500	ug/L			01/23/24 17:25	200
Carbon tetrachloride	190	U	200	190	ug/L			01/23/24 17:25	200
Chlorobenzene	140	U	200	140	ug/L			01/23/24 17:25	200
Chloroethane	200	U	400	200	ug/L			01/23/24 17:25	200
Chloroform	160	U	1000	160	ug/L			01/23/24 17:25	200
Chloromethane	160	U	400	160	ug/L			01/23/24 17:25	200
cis-1,2-Dichloroethene	**1500**		200	110	ug/L			01/24/24 19:07	200
cis-1,3-Dichloropropene	120	U	200	120	ug/L			01/23/24 17:25	200
Cyclohexane	190	U	1000	190	ug/L			01/23/24 17:25	200
Dibromochloromethane	100	U	200	100	ug/L			01/23/24 17:25	200
Dichlorodifluoromethane	150	U	200	150	ug/L			01/23/24 17:25	200
Ethylbenzene	140	U	200	140	ug/L			01/23/24 17:25	200
Isopropylbenzene	130	U	400	130	ug/L			01/23/24 17:25	200
m,p-Xylenes	260	U	400	260	ug/L			01/23/24 17:25	200
Methyl acetate	190	U	2000	190	ug/L			01/23/24 17:25	200

Client Sample ID: LC34-DPT0593-063.0-20240118
Lab Sample ID: 670-33457-7

Date Collected: 01/18/24 15:10
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	120	U	400	120	ug/L			01/23/24 17:25	200
Methylene Chloride	1000	U	2000	1000	ug/L			01/23/24 17:25	200
o-Xylene	110	U	200	110	ug/L			01/23/24 17:25	200
Styrene	120	U	200	120	ug/L			01/23/24 17:25	200
Tetrachloroethene	150	U	200	150	ug/L			01/23/24 17:25	200
Toluene	140	U	200	140	ug/L			01/23/24 17:25	200
trans-1,2-Dichloroethene	150	U	200	150	ug/L			01/23/24 17:25	200
trans-1,3-Dichloropropene	150	U	200	150	ug/L			01/23/24 17:25	200
Trichloroethene	**9400**		200	180	ug/L			01/24/24 19:07	200
Trichlorofluoromethane	190	U	200	190	ug/L			01/23/24 17:25	200
Vinyl chloride	**340**		200	140	ug/L			01/23/24 17:25	200
Xylenes, Total	260	U	400	260	ug/L			01/23/24 17:25	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/23/24 17:25*	*200*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*01/24/24 19:07*	*200*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*01/23/24 17:25*	*200*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/24/24 19:07*	*200*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/23/24 17:25*	*200*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 19:07*	*200*

Client Sample ID: LC34-DPT0594-073.0-20240118
Lab Sample ID: 670-33457-8

Date Collected: 01/18/24 15:30
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/23/24 19:56	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/23/24 19:56	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/23/24 19:56	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/23/24 19:56	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/23/24 19:56	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/23/24 19:56	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/23/24 19:56	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/23/24 19:56	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/23/24 19:56	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/23/24 19:56	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/23/24 19:56	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/23/24 19:56	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/23/24 19:56	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/23/24 19:56	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/23/24 19:56	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/23/24 19:56	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/23/24 19:56	1000
Acetone	25000	U	50000	25000	ug/L			01/23/24 19:56	1000
Benzene	710	U	1000	710	ug/L			01/23/24 19:56	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/23/24 19:56	1000
Bromoform	750	U	1000	750	ug/L			01/23/24 19:56	1000
Bromomethane	950	U	2000	950	ug/L			01/23/24 19:56	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/23/24 19:56	1000

Client Sample ID: LC34-DPT0594-073.0-20240118
Lab Sample ID: 670-33457-8

Date Collected: 01/18/24 15:30
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	940	U	1000	940	ug/L			01/23/24 19:56	1000
Chlorobenzene	720	U	1000	720	ug/L			01/23/24 19:56	1000
Chloroethane	980	U	2000	980	ug/L			01/23/24 19:56	1000
Chloroform	800	U	5000	800	ug/L			01/23/24 19:56	1000
Chloromethane	820	U	2000	820	ug/L			01/23/24 19:56	1000
cis-1,2-Dichloroethene	**950**	**I**	1000	530	ug/L			01/23/24 19:56	1000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/23/24 19:56	1000
Cyclohexane	930	U	5000	930	ug/L			01/23/24 19:56	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/23/24 19:56	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/23/24 19:56	1000
Ethylbenzene	690	U	1000	690	ug/L			01/23/24 19:56	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/23/24 19:56	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/23/24 19:56	1000
Methyl acetate	950	U	10000	950	ug/L			01/23/24 19:56	1000
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/23/24 19:56	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/23/24 19:56	1000
o-Xylene	530	U	1000	530	ug/L			01/23/24 19:56	1000
Styrene	610	U	1000	610	ug/L			01/23/24 19:56	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/23/24 19:56	1000
Toluene	720	U	1000	720	ug/L			01/23/24 19:56	1000
trans-1,2-Dichloroethene	730	U	1000	730	ug/L			01/23/24 19:56	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/23/24 19:56	1000
Trichloroethene	**78000**		1000	890	ug/L			01/23/24 19:56	1000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/23/24 19:56	1000
Vinyl chloride	710	U	1000	710	ug/L			01/23/24 19:56	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/23/24 19:56	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/23/24 19:56*	*1000*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/23/24 19:56*	*1000*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/23/24 19:56*	*1000*

Client Sample ID: LC34-DPT0595-088.0-20240118
Lab Sample ID: 670-33457-9

Date Collected: 01/18/24 15:30
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/24/24 16:21	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/24/24 16:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/24/24 16:21	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/24/24 16:21	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/24/24 16:21	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/24/24 16:21	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/24/24 16:21	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/24/24 16:21	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/24/24 16:21	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/24/24 16:21	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/24/24 16:21	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/24/24 16:21	1

Client Sample ID: LC34-DPT0595-088.0-20240118
Lab Sample ID: 670-33457-9

Date Collected: 01/18/24 15:30
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/24/24 16:21	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/24/24 16:21	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/24/24 16:21	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/24/24 16:21	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/24/24 16:21	1
Acetone	25	U	50	25	ug/L			01/24/24 16:21	1
Benzene	0.71	U	1.0	0.71	ug/L			01/24/24 16:21	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/24/24 16:21	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/24/24 16:21	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/24/24 16:21	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/24/24 16:21	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/24/24 16:21	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/24/24 16:21	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/24/24 16:21	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/24/24 16:21	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/24/24 16:21	1
cis-1,2-Dichloroethene	**5.6**		1.0	0.53	ug/L			01/24/24 16:21	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/24/24 16:21	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/24/24 16:21	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/24/24 16:21	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/24/24 16:21	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/24/24 16:21	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/24/24 16:21	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/24/24 16:21	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/24/24 16:21	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/24/24 16:21	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/24/24 16:21	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/24/24 16:21	1
Styrene	0.61	U	1.0	0.61	ug/L			01/24/24 16:21	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/24/24 16:21	1
Toluene	0.72	U	1.0	0.72	ug/L			01/24/24 16:21	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/24/24 16:21	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/24/24 16:21	1
Trichloroethene	**2.8**		1.0	0.89	ug/L			01/24/24 16:21	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/24/24 16:21	1
Vinyl chloride	**2.3**		1.0	0.71	ug/L			01/24/24 16:21	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/24/24 16:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/24/24 16:21*	*1*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/24/24 16:21*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/24/24 16:21*	*1*

Client Sample ID: LC34-DPT0597-088.0-20240119
Lab Sample ID: 670-33457-10

Date Collected: 01/19/24 12:45
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	200	U	250	200	ug/L			01/24/24 19:43	250

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33457-1

Client Sample ID: LC34-DPT0597-088.0-20240119
Date Collected: 01/19/24 12:45
Date Received: 01/20/24 09:11

Lab Sample ID: 670-33457-10
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	140	U	250	140	ug/L			01/24/24 19:43	250
1,1,2-Trichloro-1,2,2-trifluoroethane	180	U	500	180	ug/L			01/24/24 19:43	250
1,1,2-Trichloroethane	190	U	500	190	ug/L			01/24/24 19:43	250
1,1-Dichloroethane	160	U	250	160	ug/L			01/24/24 19:43	250
1,1-Dichloroethene	240	U	250	240	ug/L			01/24/24 19:43	250
1,2,4-Trichlorobenzene	180	U	500	180	ug/L			01/24/24 19:43	250
1,2-Dibromo-3-Chloropropane	240	U	2500	240	ug/L			01/24/24 19:43	250
1,2-Dibromoethane (EDB)	200	U	3000	200	ug/L			01/24/24 19:43	250
1,2-Dichlorobenzene	180	U	250	180	ug/L			01/24/24 19:43	250
1,2-Dichloroethane	160	U	250	160	ug/L			01/24/24 19:43	250
1,2-Dichloropropane	200	U	250	200	ug/L			01/24/24 19:43	250
1,3-Dichlorobenzene	190	U	250	190	ug/L			01/24/24 19:43	250
1,4-Dichlorobenzene	190	U	250	190	ug/L			01/24/24 19:43	250
2-Butanone (MEK)	1100	U	2500	1100	ug/L			01/24/24 19:43	250
2-Hexanone	630	U	5000	630	ug/L			01/24/24 19:43	250
4-Methyl-2-pentanone	1300	U	5000	1300	ug/L			01/24/24 19:43	250
Acetone	6300	U	13000	6300	ug/L			01/24/24 19:43	250
Benzene	180	U	250	180	ug/L			01/24/24 19:43	250
Bromodichloromethane	130	U	250	130	ug/L			01/24/24 19:43	250
Bromoform	190	U	250	190	ug/L			01/24/24 19:43	250
Bromomethane	240	U	500	240	ug/L			01/24/24 19:43	250
Carbon disulfide	630	U	1300	630	ug/L			01/24/24 19:43	250
Carbon tetrachloride	240	U	250	240	ug/L			01/24/24 19:43	250
Chlorobenzene	180	U	250	180	ug/L			01/24/24 19:43	250
Chloroethane	250	U	500	250	ug/L			01/24/24 19:43	250
Chloroform	200	U	1300	200	ug/L			01/24/24 19:43	250
Chloromethane	210	U	500	210	ug/L			01/24/24 19:43	250
cis-1,2-Dichloroethene	**1400**		250	130	ug/L			01/24/24 19:43	250
cis-1,3-Dichloropropene	150	U	250	150	ug/L			01/24/24 19:43	250
Cyclohexane	230	U	1300	230	ug/L			01/24/24 19:43	250
Dibromochloromethane	130	U	250	130	ug/L			01/24/24 19:43	250
Dichlorodifluoromethane	190	U	250	190	ug/L			01/24/24 19:43	250
Ethylbenzene	170	U	250	170	ug/L			01/24/24 19:43	250
Isopropylbenzene	170	U	500	170	ug/L			01/24/24 19:43	250
m,p-Xylenes	330	U	500	330	ug/L			01/24/24 19:43	250
Methyl acetate	240	U	2500	240	ug/L			01/24/24 19:43	250
Methyl tert-butyl ether	150	U	500	150	ug/L			01/24/24 19:43	250
Methylene Chloride	1300	U	2500	1300	ug/L			01/24/24 19:43	250
o-Xylene	130	U	250	130	ug/L			01/24/24 19:43	250
Styrene	150	U	250	150	ug/L			01/24/24 19:43	250
Tetrachloroethene	190	U	250	190	ug/L			01/24/24 19:43	250
Toluene	180	U	250	180	ug/L			01/24/24 19:43	250
trans-1,2-Dichloroethene	180	U	250	180	ug/L			01/24/24 19:43	250
trans-1,3-Dichloropropene	180	U	250	180	ug/L			01/24/24 19:43	250
Trichloroethene	**14000**		500	450	ug/L			01/23/24 18:21	500
Trichlorofluoromethane	240	U	250	240	ug/L			01/24/24 19:43	250
Vinyl chloride	180	U	250	180	ug/L			01/24/24 19:43	250
Xylenes, Total	330	U	500	330	ug/L			01/24/24 19:43	250

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0597-088.0-20240119
Lab Sample ID: 670-33457-10
Date Collected: 01/19/24 12:45
Matrix: Water
Date Received: 01/20/24 09:11

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/23/24 18:21*	*500*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/24/24 19:43*	*250*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*01/23/24 18:21*	*500*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/24/24 19:43*	*250*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/23/24 18:21*	*500*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 19:43*	*250*

Client Sample ID: LC34-DPT0593-068.0-20240118
Lab Sample ID: 670-33457-11
Date Collected: 01/18/24 15:45
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			01/24/24 20:00	500
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			01/24/24 20:00	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			01/24/24 20:00	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			01/24/24 20:00	500
1,1-Dichloroethane	310	U	500	310	ug/L			01/24/24 20:00	500
1,1-Dichloroethene	470	U	500	470	ug/L			01/24/24 20:00	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			01/24/24 20:00	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			01/24/24 20:00	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			01/24/24 20:00	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			01/24/24 20:00	500
1,2-Dichloroethane	320	U	500	320	ug/L			01/24/24 20:00	500
1,2-Dichloropropane	400	U	500	400	ug/L			01/24/24 20:00	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			01/24/24 20:00	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			01/24/24 20:00	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			01/24/24 20:00	500
2-Hexanone	1300	U	10000	1300	ug/L			01/24/24 20:00	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			01/24/24 20:00	500
Acetone	13000	U	25000	13000	ug/L			01/24/24 20:00	500
Benzene	360	U	500	360	ug/L			01/24/24 20:00	500
Bromodichloromethane	260	U	500	260	ug/L			01/24/24 20:00	500
Bromoform	380	U	500	380	ug/L			01/24/24 20:00	500
Bromomethane	480	U	1000	480	ug/L			01/24/24 20:00	500
Carbon disulfide	1300	U	2500	1300	ug/L			01/24/24 20:00	500
Carbon tetrachloride	470	U	500	470	ug/L			01/24/24 20:00	500
Chlorobenzene	360	U	500	360	ug/L			01/24/24 20:00	500
Chloroethane	490	U	1000	490	ug/L			01/24/24 20:00	500
Chloroform	400	U	2500	400	ug/L			01/24/24 20:00	500
Chloromethane	410	U	1000	410	ug/L			01/24/24 20:00	500
cis-1,2-Dichloroethene	**2800**		500	270	ug/L			01/24/24 20:00	500
cis-1,3-Dichloropropene	300	U	500	300	ug/L			01/24/24 20:00	500
Cyclohexane	470	U	2500	470	ug/L			01/24/24 20:00	500
Dibromochloromethane	250	U	500	250	ug/L			01/24/24 20:00	500
Dichlorodifluoromethane	370	U	500	370	ug/L			01/24/24 20:00	500
Ethylbenzene	350	U	500	350	ug/L			01/24/24 20:00	500
Isopropylbenzene	340	U	1000	340	ug/L			01/24/24 20:00	500
m,p-Xylenes	650	U	1000	650	ug/L			01/24/24 20:00	500
Methyl acetate	480	U	5000	480	ug/L			01/24/24 20:00	500

Client Sample ID: LC34-DPT0593-068.0-20240118
Lab Sample ID: 670-33457-11

Date Collected: 01/18/24 15:45
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	300	U	1000	300	ug/L			01/24/24 20:00	500
Methylene Chloride	2500	U	5000	2500	ug/L			01/24/24 20:00	500
o-Xylene	270	U	500	270	ug/L			01/24/24 20:00	500
Styrene	310	U	500	310	ug/L			01/24/24 20:00	500
Tetrachloroethene	380	U	500	380	ug/L			01/24/24 20:00	500
Toluene	360	U	500	360	ug/L			01/24/24 20:00	500
trans-1,2-Dichloroethene	370	U	500	370	ug/L			01/24/24 20:00	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			01/24/24 20:00	500
Trichloroethene	**47000**		500	450	ug/L			01/23/24 18:02	500
Trichlorofluoromethane	470	U	500	470	ug/L			01/24/24 20:00	500
Vinyl chloride	360	U	500	360	ug/L			01/24/24 20:00	500
Xylenes, Total	650	U	1000	650	ug/L			01/24/24 20:00	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/23/24 18:02*	*500*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/24/24 20:00*	*500*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*01/23/24 18:02*	*500*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/24/24 20:00*	*500*
Toluene-d8 (Surr)	*103*		*40 - 146*		*01/23/24 18:02*	*500*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/24/24 20:00*	*500*

Client Sample ID: LC34-DPT0594-078.0-20240118
Lab Sample ID: 670-33457-12

Date Collected: 01/18/24 15:50
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4000	U	5000	4000	ug/L			01/24/24 17:14	5000
1,1,2,2-Tetrachloroethane	2700	U	5000	2700	ug/L			01/24/24 17:14	5000
1,1,2-Trichloro-1,2,2-trifluoroethane	**5000**	**I**	10000	3700	ug/L			01/24/24 17:14	5000
1,1,2-Trichloroethane	3800	U	10000	3800	ug/L			01/24/24 17:14	5000
1,1-Dichloroethane	3100	U	5000	3100	ug/L			01/24/24 17:14	5000
1,1-Dichloroethene	4700	U	5000	4700	ug/L			01/24/24 17:14	5000
1,2,4-Trichlorobenzene	3500	U	10000	3500	ug/L			01/24/24 17:14	5000
1,2-Dibromo-3-Chloropropane	4800	U	50000	4800	ug/L			01/24/24 17:14	5000
1,2-Dibromoethane (EDB)	3900	U	60000	3900	ug/L			01/24/24 17:14	5000
1,2-Dichlorobenzene	3700	U	5000	3700	ug/L			01/24/24 17:14	5000
1,2-Dichloroethane	3200	U	5000	3200	ug/L			01/24/24 17:14	5000
1,2-Dichloropropane	4000	U	5000	4000	ug/L			01/24/24 17:14	5000
1,3-Dichlorobenzene	3900	U	5000	3900	ug/L			01/24/24 17:14	5000
1,4-Dichlorobenzene	3800	U	5000	3800	ug/L			01/24/24 17:14	5000
2-Butanone (MEK)	23000	U	50000	23000	ug/L			01/24/24 17:14	5000
2-Hexanone	13000	U	100000	13000	ug/L			01/24/24 17:14	5000
4-Methyl-2-pentanone	25000	U	100000	25000	ug/L			01/24/24 17:14	5000
Acetone	130000	U	250000	130000	ug/L			01/24/24 17:14	5000
Benzene	3600	U	5000	3600	ug/L			01/24/24 17:14	5000
Bromodichloromethane	2600	U	5000	2600	ug/L			01/24/24 17:14	5000
Bromoform	3800	U	5000	3800	ug/L			01/24/24 17:14	5000
Bromomethane	4800	U	10000	4800	ug/L			01/24/24 17:14	5000

Client Sample ID: LC34-DPT0594-078.0-20240118
Lab Sample ID: 670-33457-12

Date Collected: 01/18/24 15:50
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	13000	U	25000	13000	ug/L			01/24/24 17:14	5000
Carbon tetrachloride	4700	U	5000	4700	ug/L			01/24/24 17:14	5000
Chlorobenzene	3600	U	5000	3600	ug/L			01/24/24 17:14	5000
Chloroethane	4900	U	10000	4900	ug/L			01/24/24 17:14	5000
Chloroform	4000	U	25000	4000	ug/L			01/24/24 17:14	5000
Chloromethane	4100	U	10000	4100	ug/L			01/24/24 17:14	5000
cis-1,2-Dichloroethene	**8300**		5000	2700	ug/L			01/24/24 17:14	5000
cis-1,3-Dichloropropene	3000	U	5000	3000	ug/L			01/24/24 17:14	5000
Cyclohexane	4700	U	25000	4700	ug/L			01/24/24 17:14	5000
Dibromochloromethane	2500	U	5000	2500	ug/L			01/24/24 17:14	5000
Dichlorodifluoromethane	3700	U	5000	3700	ug/L			01/24/24 17:14	5000
Ethylbenzene	3500	U	5000	3500	ug/L			01/24/24 17:14	5000
Isopropylbenzene	3400	U	10000	3400	ug/L			01/24/24 17:14	5000
m,p-Xylenes	6500	U	10000	6500	ug/L			01/24/24 17:14	5000
Methyl acetate	4800	U	50000	4800	ug/L			01/24/24 17:14	5000
Methyl tert-butyl ether	3000	U	10000	3000	ug/L			01/24/24 17:14	5000
Methylene Chloride	25000	U	50000	25000	ug/L			01/24/24 17:14	5000
o-Xylene	2700	U	5000	2700	ug/L			01/24/24 17:14	5000
Styrene	3100	U	5000	3100	ug/L			01/24/24 17:14	5000
Tetrachloroethene	3800	U	5000	3800	ug/L			01/24/24 17:14	5000
Toluene	3600	U	5000	3600	ug/L			01/24/24 17:14	5000
trans-1,2-Dichloroethene	3700	U	5000	3700	ug/L			01/24/24 17:14	5000
trans-1,3-Dichloropropene	3700	U	5000	3700	ug/L			01/24/24 17:14	5000
Trichloroethene	**1400000**		20000	18000	ug/L			01/25/24 18:32	20000
Trichlorofluoromethane	4700	U	5000	4700	ug/L			01/24/24 17:14	5000
Vinyl chloride	3600	U	5000	3600	ug/L			01/24/24 17:14	5000
Xylenes, Total	6500	U	10000	6500	ug/L			01/24/24 17:14	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/24/24 17:14*	*5000*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/25/24 18:32*	*20000*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/24/24 17:14*	*5000*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/25/24 18:32*	*20000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/24/24 17:14*	*5000*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/25/24 18:32*	*20000*

Client Sample ID: LC34-DPT0595-093.0-20240118
Lab Sample ID: 670-33457-13

Date Collected: 01/18/24 16:00
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/25/24 14:18	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/25/24 14:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/25/24 14:18	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/25/24 14:18	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/25/24 14:18	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/25/24 14:18	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/25/24 14:18	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/25/24 14:18	1

Client Sample ID: LC34-DPT0595-093.0-20240118
Lab Sample ID: 670-33457-13
Date Collected: 01/18/24 16:00
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/25/24 14:18	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/25/24 14:18	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/25/24 14:18	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/25/24 14:18	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/25/24 14:18	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/25/24 14:18	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/25/24 14:18	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/25/24 14:18	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/25/24 14:18	1
Acetone	25	U	50	25	ug/L			01/25/24 14:18	1
Benzene	0.71	U	1.0	0.71	ug/L			01/25/24 14:18	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/25/24 14:18	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/25/24 14:18	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/25/24 14:18	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/25/24 14:18	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/25/24 14:18	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/25/24 14:18	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/25/24 14:18	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/25/24 14:18	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/25/24 14:18	1
cis-1,2-Dichloroethene	**2.1**		1.0	0.53	ug/L			01/25/24 14:18	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/25/24 14:18	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/25/24 14:18	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/25/24 14:18	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/25/24 14:18	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/25/24 14:18	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/25/24 14:18	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/25/24 14:18	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/25/24 14:18	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/25/24 14:18	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/25/24 14:18	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/25/24 14:18	1
Styrene	0.61	U	1.0	0.61	ug/L			01/25/24 14:18	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/25/24 14:18	1
Toluene	0.72	U	1.0	0.72	ug/L			01/25/24 14:18	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/25/24 14:18	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/25/24 14:18	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/25/24 14:18	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/25/24 14:18	1
Vinyl chloride	**1.5**		1.0	0.71	ug/L			01/25/24 14:18	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/25/24 14:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/25/24 14:18*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/25/24 14:18*	*1*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/25/24 14:18*	*1*

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0593-073.0-20240118
Lab Sample ID: 670-33457-14
Date Collected: 01/18/24 16:15
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			01/24/24 16:00	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			01/24/24 16:00	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			01/24/24 16:00	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			01/24/24 16:00	25
1,1-Dichloroethane	16	U	25	16	ug/L			01/24/24 16:00	25
1,1-Dichloroethene	24	U	25	24	ug/L			01/24/24 16:00	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			01/24/24 16:00	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			01/24/24 16:00	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			01/24/24 16:00	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			01/24/24 16:00	25
1,2-Dichloroethane	16	U	25	16	ug/L			01/24/24 16:00	25
1,2-Dichloropropane	20	U	25	20	ug/L			01/24/24 16:00	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			01/24/24 16:00	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			01/24/24 16:00	25
2-Butanone (MEK)	110	U	250	110	ug/L			01/24/24 16:00	25
2-Hexanone	63	U	500	63	ug/L			01/24/24 16:00	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			01/24/24 16:00	25
Acetone	630	U	1300	630	ug/L			01/24/24 16:00	25
Benzene	18	U	25	18	ug/L			01/24/24 16:00	25
Bromodichloromethane	13	U	25	13	ug/L			01/24/24 16:00	25
Bromoform	19	U	25	19	ug/L			01/24/24 16:00	25
Bromomethane	24	U	50	24	ug/L			01/24/24 16:00	25
Carbon disulfide	63	U	130	63	ug/L			01/24/24 16:00	25
Carbon tetrachloride	24	U	25	24	ug/L			01/24/24 16:00	25
Chlorobenzene	18	U	25	18	ug/L			01/24/24 16:00	25
Chloroethane	25	U	50	25	ug/L			01/24/24 16:00	25
Chloroform	20	U	130	20	ug/L			01/24/24 16:00	25
Chloromethane	21	U	50	21	ug/L			01/24/24 16:00	25
cis-1,2-Dichloroethene	**34**		25	13	ug/L			01/24/24 16:00	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			01/24/24 16:00	25
Cyclohexane	23	U	130	23	ug/L			01/24/24 16:00	25
Dibromochloromethane	13	U	25	13	ug/L			01/24/24 16:00	25
Dichlorodifluoromethane	19	U	25	19	ug/L			01/24/24 16:00	25
Ethylbenzene	17	U	25	17	ug/L			01/24/24 16:00	25
Isopropylbenzene	17	U	50	17	ug/L			01/24/24 16:00	25
m,p-Xylenes	33	U	50	33	ug/L			01/24/24 16:00	25
Methyl acetate	24	U J3	250	24	ug/L			01/24/24 16:00	25
Methyl tert-butyl ether	15	U	50	15	ug/L			01/24/24 16:00	25
Methylene Chloride	130	U	250	130	ug/L			01/24/24 16:00	25
o-Xylene	13	U	25	13	ug/L			01/24/24 16:00	25
Styrene	15	U	25	15	ug/L			01/24/24 16:00	25
Tetrachloroethene	19	U	25	19	ug/L			01/24/24 16:00	25
Toluene	18	U	25	18	ug/L			01/24/24 16:00	25
trans-1,2-Dichloroethene	18	U	25	18	ug/L			01/24/24 16:00	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			01/24/24 16:00	25
Trichloroethene	**2500**		100	89	ug/L			01/23/24 21:28	100
Trichlorofluoromethane	24	U	25	24	ug/L			01/24/24 16:00	25
Vinyl chloride	18	U	25	18	ug/L			01/24/24 16:00	25
Xylenes, Total	33	U	50	33	ug/L			01/24/24 16:00	25

Client Sample ID: LC34-DPT0593-073.0-20240118
Lab Sample ID: 670-33457-14

Date Collected: 01/18/24 16:15
Matrix: Water
Date Received: 01/20/24 09:11

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/23/24 21:28*	*100*
4-Bromofluorobenzene (Surr)	*88*		*41 - 142*		*01/24/24 16:00*	*25*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/23/24 21:28*	*100*
Dibromofluoromethane (Surr)	*112*		*53 - 146*		*01/24/24 16:00*	*25*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/23/24 21:28*	*100*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/24/24 16:00*	*25*

Client Sample ID: LC34-DPT0594-083.0-20240118
Lab Sample ID: 670-33457-15

Date Collected: 01/18/24 16:20
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	200	U	250	200	ug/L			01/24/24 18:41	250
1,1,2,2-Tetrachloroethane	140	U	250	140	ug/L			01/24/24 18:41	250
1,1,2-Trichloro-1,2,2-trifluoroethane	180	U	500	180	ug/L			01/24/24 18:41	250
1,1,2-Trichloroethane	190	U	500	190	ug/L			01/24/24 18:41	250
1,1-Dichloroethane	160	U	250	160	ug/L			01/24/24 18:41	250
1,1-Dichloroethene	240	U	250	240	ug/L			01/24/24 18:41	250
1,2,4-Trichlorobenzene	180	U	500	180	ug/L			01/24/24 18:41	250
1,2-Dibromo-3-Chloropropane	240	U	2500	240	ug/L			01/24/24 18:41	250
1,2-Dibromoethane (EDB)	200	U	3000	200	ug/L			01/24/24 18:41	250
1,2-Dichlorobenzene	180	U	250	180	ug/L			01/24/24 18:41	250
1,2-Dichloroethane	160	U	250	160	ug/L			01/24/24 18:41	250
1,2-Dichloropropane	200	U	250	200	ug/L			01/24/24 18:41	250
1,3-Dichlorobenzene	190	U	250	190	ug/L			01/24/24 18:41	250
1,4-Dichlorobenzene	190	U	250	190	ug/L			01/24/24 18:41	250
2-Butanone (MEK)	1100	U	2500	1100	ug/L			01/24/24 18:41	250
2-Hexanone	630	U	5000	630	ug/L			01/24/24 18:41	250
4-Methyl-2-pentanone	1300	U	5000	1300	ug/L			01/24/24 18:41	250
Acetone	6300	U	13000	6300	ug/L			01/24/24 18:41	250
Benzene	180	U	250	180	ug/L			01/24/24 18:41	250
Bromodichloromethane	130	U	250	130	ug/L			01/24/24 18:41	250
Bromoform	190	U	250	190	ug/L			01/24/24 18:41	250
Bromomethane	240	U	500	240	ug/L			01/24/24 18:41	250
Carbon disulfide	630	U	1300	630	ug/L			01/24/24 18:41	250
Carbon tetrachloride	240	U	250	240	ug/L			01/24/24 18:41	250
Chlorobenzene	180	U	250	180	ug/L			01/24/24 18:41	250
Chloroethane	250	U	500	250	ug/L			01/24/24 18:41	250
Chloroform	200	U	1300	200	ug/L			01/24/24 18:41	250
Chloromethane	210	U	500	210	ug/L			01/24/24 18:41	250
cis-1,2-Dichloroethene	**1200**		250	130	ug/L			01/24/24 18:41	250
cis-1,3-Dichloropropene	150	U	250	150	ug/L			01/24/24 18:41	250
Cyclohexane	230	U	1300	230	ug/L			01/24/24 18:41	250
Dibromochloromethane	130	U	250	130	ug/L			01/24/24 18:41	250
Dichlorodifluoromethane	190	U	250	190	ug/L			01/24/24 18:41	250
Ethylbenzene	170	U	250	170	ug/L			01/24/24 18:41	250
Isopropylbenzene	170	U	500	170	ug/L			01/24/24 18:41	250
m,p-Xylenes	330	U	500	330	ug/L			01/24/24 18:41	250
Methyl acetate	240	U J3	2500	240	ug/L			01/24/24 18:41	250

Client Sample ID: LC34-DPT0594-083.0-20240118
Lab Sample ID: 670-33457-15

Date Collected: 01/18/24 16:20
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	150	U	500	150	ug/L			01/24/24 18:41	250
Methylene Chloride	1300	U	2500	1300	ug/L			01/24/24 18:41	250
o-Xylene	130	U	250	130	ug/L			01/24/24 18:41	250
Styrene	150	U	250	150	ug/L			01/24/24 18:41	250
Tetrachloroethene	190	U	250	190	ug/L			01/24/24 18:41	250
Toluene	180	U	250	180	ug/L			01/24/24 18:41	250
trans-1,2-Dichloroethene	180	U	250	180	ug/L			01/24/24 18:41	250
trans-1,3-Dichloropropene	180	U	250	180	ug/L			01/24/24 18:41	250
Trichloroethene	**14000**		250	220	ug/L			01/24/24 18:41	250
Trichlorofluoromethane	240	U	250	240	ug/L			01/24/24 18:41	250
Vinyl chloride	180	U	250	180	ug/L			01/24/24 18:41	250
Xylenes, Total	330	U	500	330	ug/L			01/24/24 18:41	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*41 - 142*		*01/24/24 18:41*	*250*
Dibromofluoromethane (Surr)	*112*		*53 - 146*		*01/24/24 18:41*	*250*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 18:41*	*250*

Client Sample ID: LC34-DPT0595-098.0-20240118
Lab Sample ID: 670-33457-16

Date Collected: 01/18/24 16:35
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/24/24 16:39	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/24/24 16:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/24/24 16:39	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/24/24 16:39	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/24/24 16:39	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/24/24 16:39	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/24/24 16:39	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/24/24 16:39	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/24/24 16:39	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/24/24 16:39	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/24/24 16:39	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/24/24 16:39	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/24/24 16:39	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/24/24 16:39	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/24/24 16:39	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/24/24 16:39	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/24/24 16:39	1
Acetone	25	U	50	25	ug/L			01/24/24 16:39	1
Benzene	0.71	U	1.0	0.71	ug/L			01/24/24 16:39	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/24/24 16:39	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/24/24 16:39	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/24/24 16:39	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/24/24 16:39	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/24/24 16:39	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/24/24 16:39	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/24/24 16:39	1

Client Sample ID: LC34-DPT0595-098.0-20240118
Lab Sample ID: 670-33457-16

Date Collected: 01/18/24 16:35
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	0.80	U	5.0	0.80	ug/L			01/24/24 16:39	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/24/24 16:39	1
cis-1,2-Dichloroethene	**4.0**		1.0	0.53	ug/L			01/24/24 16:39	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/24/24 16:39	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/24/24 16:39	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/24/24 16:39	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/24/24 16:39	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/24/24 16:39	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/24/24 16:39	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/24/24 16:39	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/24/24 16:39	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/24/24 16:39	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/24/24 16:39	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/24/24 16:39	1
Styrene	0.61	U	1.0	0.61	ug/L			01/24/24 16:39	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/24/24 16:39	1
Toluene	0.72	U	1.0	0.72	ug/L			01/24/24 16:39	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/24/24 16:39	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/24/24 16:39	1
Trichloroethene	**1.0**		1.0	0.89	ug/L			01/24/24 16:39	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/24/24 16:39	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/24/24 16:39	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/24/24 16:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/24/24 16:39*	*1*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/24/24 16:39*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/24/24 16:39*	*1*

Client Sample ID: LC34-DPT0593-078.0-20240118
Lab Sample ID: 670-33457-17

Date Collected: 01/18/24 16:45
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			01/24/24 17:53	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			01/24/24 17:53	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			01/24/24 17:53	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			01/24/24 17:53	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			01/24/24 17:53	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			01/24/24 17:53	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			01/24/24 17:53	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			01/24/24 17:53	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			01/24/24 17:53	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			01/24/24 17:53	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			01/24/24 17:53	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			01/24/24 17:53	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			01/24/24 17:53	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			01/24/24 17:53	5
2-Butanone (MEK)	23	U	50	23	ug/L			01/24/24 17:53	5

Client Sample ID: LC34-DPT0593-078.0-20240118
Lab Sample ID: 670-33457-17

Date Collected: 01/18/24 16:45
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	13	U	100	13	ug/L			01/24/24 17:53	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			01/24/24 17:53	5
Acetone	130	U	250	130	ug/L			01/24/24 17:53	5
Benzene	3.6	U	5.0	3.6	ug/L			01/24/24 17:53	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			01/24/24 17:53	5
Bromoform	3.8	U	5.0	3.8	ug/L			01/24/24 17:53	5
Bromomethane	4.8	U	10	4.8	ug/L			01/24/24 17:53	5
Carbon disulfide	13	U	25	13	ug/L			01/24/24 17:53	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			01/24/24 17:53	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			01/24/24 17:53	5
Chloroethane	4.9	U	10	4.9	ug/L			01/24/24 17:53	5
Chloroform	4.0	U	25	4.0	ug/L			01/24/24 17:53	5
Chloromethane	4.1	U	10	4.1	ug/L			01/24/24 17:53	5
cis-1,2-Dichloroethene	**34**		5.0	2.7	ug/L			01/24/24 17:53	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			01/24/24 17:53	5
Cyclohexane	4.7	U	25	4.7	ug/L			01/24/24 17:53	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			01/24/24 17:53	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			01/24/24 17:53	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			01/24/24 17:53	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			01/24/24 17:53	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			01/24/24 17:53	5
Methyl acetate	4.8	U	50	4.8	ug/L			01/24/24 17:53	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			01/24/24 17:53	5
Methylene Chloride	25	U	50	25	ug/L			01/24/24 17:53	5
o-Xylene	2.7	U	5.0	2.7	ug/L			01/24/24 17:53	5
Styrene	3.1	U	5.0	3.1	ug/L			01/24/24 17:53	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			01/24/24 17:53	5
Toluene	3.6	U	5.0	3.6	ug/L			01/24/24 17:53	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			01/24/24 17:53	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			01/24/24 17:53	5
Trichloroethene	**360**		5.0	4.5	ug/L			01/24/24 17:53	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			01/24/24 17:53	5
Vinyl chloride	3.6	U	5.0	3.6	ug/L			01/24/24 17:53	5
Xylenes, Total	6.5	U	10	6.5	ug/L			01/24/24 17:53	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/24/24 17:53*	*5*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/24/24 17:53*	*5*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/24/24 17:53*	*5*

Client Sample ID: LC34-DPT0594-088.0-20240118
Lab Sample ID: 670-33457-18

Date Collected: 01/18/24 16:55
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/23/24 22:39	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/23/24 22:39	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/23/24 22:39	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/23/24 22:39	1000

Client Sample ID: LC34-DPT0594-088.0-20240118
Lab Sample ID: 670-33457-18
Date Collected: 01/18/24 16:55
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	620	U	1000	620	ug/L			01/23/24 22:39	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/23/24 22:39	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/23/24 22:39	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/23/24 22:39	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/23/24 22:39	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/23/24 22:39	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/23/24 22:39	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/23/24 22:39	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/23/24 22:39	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/23/24 22:39	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/23/24 22:39	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/23/24 22:39	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/23/24 22:39	1000
Acetone	25000	U	50000	25000	ug/L			01/23/24 22:39	1000
Benzene	710	U	1000	710	ug/L			01/23/24 22:39	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/23/24 22:39	1000
Bromoform	750	U	1000	750	ug/L			01/23/24 22:39	1000
Bromomethane	950	U	2000	950	ug/L			01/23/24 22:39	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/23/24 22:39	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/23/24 22:39	1000
Chlorobenzene	720	U	1000	720	ug/L			01/23/24 22:39	1000
Chloroethane	980	U	2000	980	ug/L			01/23/24 22:39	1000
Chloroform	800	U	5000	800	ug/L			01/23/24 22:39	1000
Chloromethane	820	U	2000	820	ug/L			01/23/24 22:39	1000
cis-1,2-Dichloroethene	**4900**		1000	530	ug/L			01/23/24 22:39	1000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/23/24 22:39	1000
Cyclohexane	930	U	5000	930	ug/L			01/23/24 22:39	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/23/24 22:39	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/23/24 22:39	1000
Ethylbenzene	690	U	1000	690	ug/L			01/23/24 22:39	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/23/24 22:39	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/23/24 22:39	1000
Methyl acetate	950	U	10000	950	ug/L			01/23/24 22:39	1000
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/23/24 22:39	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/23/24 22:39	1000
o-Xylene	530	U	1000	530	ug/L			01/23/24 22:39	1000
Styrene	610	U	1000	610	ug/L			01/23/24 22:39	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/23/24 22:39	1000
Toluene	720	U	1000	720	ug/L			01/23/24 22:39	1000
trans-1,2-Dichloroethene	730	U	1000	730	ug/L			01/23/24 22:39	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/23/24 22:39	1000
Trichloroethene	**54000**		1000	890	ug/L			01/23/24 22:39	1000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/23/24 22:39	1000
Vinyl chloride	710	U	1000	710	ug/L			01/23/24 22:39	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/23/24 22:39	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/23/24 22:39*	*1000*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/23/24 22:39*	*1000*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/23/24 22:39*	*1000*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33457-1

Client Sample ID: LC34-DPT0593-083.0-20240119
Date Collected: 01/19/24 07:55
Date Received: 01/20/24 09:11

Lab Sample ID: 670-33457-19
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	160	U	200	160	ug/L			01/23/24 21:46	200
1,1,2,2-Tetrachloroethane	110	U	200	110	ug/L			01/23/24 21:46	200
1,1,2-Trichloro-1,2,2-trifluoroethane	150	U	400	150	ug/L			01/23/24 21:46	200
1,1,2-Trichloroethane	150	U	400	150	ug/L			01/23/24 21:46	200
1,1-Dichloroethane	120	U	200	120	ug/L			01/23/24 21:46	200
1,1-Dichloroethene	190	U	200	190	ug/L			01/23/24 21:46	200
1,2,4-Trichlorobenzene	140	U	400	140	ug/L			01/23/24 21:46	200
1,2-Dibromo-3-Chloropropane	190	U	2000	190	ug/L			01/23/24 21:46	200
1,2-Dibromoethane (EDB)	160	U	2400	160	ug/L			01/23/24 21:46	200
1,2-Dichlorobenzene	150	U	200	150	ug/L			01/23/24 21:46	200
1,2-Dichloroethane	130	U	200	130	ug/L			01/23/24 21:46	200
1,2-Dichloropropane	160	U	200	160	ug/L			01/23/24 21:46	200
1,3-Dichlorobenzene	150	U	200	150	ug/L			01/23/24 21:46	200
1,4-Dichlorobenzene	150	U	200	150	ug/L			01/23/24 21:46	200
2-Butanone (MEK)	900	U	2000	900	ug/L			01/23/24 21:46	200
2-Hexanone	500	U	4000	500	ug/L			01/23/24 21:46	200
4-Methyl-2-pentanone	1000	U	4000	1000	ug/L			01/23/24 21:46	200
Acetone	5000	U	10000	5000	ug/L			01/23/24 21:46	200
Benzene	140	U	200	140	ug/L			01/23/24 21:46	200
Bromodichloromethane	100	U	200	100	ug/L			01/23/24 21:46	200
Bromoform	150	U	200	150	ug/L			01/23/24 21:46	200
Bromomethane	190	U	400	190	ug/L			01/23/24 21:46	200
Carbon disulfide	500	U	1000	500	ug/L			01/23/24 21:46	200
Carbon tetrachloride	190	U	200	190	ug/L			01/23/24 21:46	200
Chlorobenzene	140	U	200	140	ug/L			01/23/24 21:46	200
Chloroethane	200	U	400	200	ug/L			01/23/24 21:46	200
Chloroform	160	U	1000	160	ug/L			01/23/24 21:46	200
Chloromethane	160	U	400	160	ug/L			01/23/24 21:46	200
cis-1,2-Dichloroethene	**1400**		200	110	ug/L			01/23/24 21:46	200
cis-1,3-Dichloropropene	120	U	200	120	ug/L			01/23/24 21:46	200
Cyclohexane	190	U	1000	190	ug/L			01/23/24 21:46	200
Dibromochloromethane	100	U	200	100	ug/L			01/23/24 21:46	200
Dichlorodifluoromethane	150	U	200	150	ug/L			01/23/24 21:46	200
Ethylbenzene	140	U	200	140	ug/L			01/23/24 21:46	200
Isopropylbenzene	130	U	400	130	ug/L			01/23/24 21:46	200
m,p-Xylenes	260	U	400	260	ug/L			01/23/24 21:46	200
Methyl acetate	190	U	2000	190	ug/L			01/23/24 21:46	200
Methyl tert-butyl ether	120	U	400	120	ug/L			01/23/24 21:46	200
Methylene Chloride	1000	U	2000	1000	ug/L			01/23/24 21:46	200
o-Xylene	110	U	200	110	ug/L			01/23/24 21:46	200
Styrene	120	U	200	120	ug/L			01/23/24 21:46	200
Tetrachloroethene	150	U	200	150	ug/L			01/23/24 21:46	200
Toluene	140	U	200	140	ug/L			01/23/24 21:46	200
trans-1,2-Dichloroethene	150	U	200	150	ug/L			01/23/24 21:46	200
trans-1,3-Dichloropropene	150	U	200	150	ug/L			01/23/24 21:46	200
Trichloroethene	**30000**		1000	890	ug/L			01/24/24 20:18	1000
Trichlorofluoromethane	190	U	200	190	ug/L			01/23/24 21:46	200
Vinyl chloride	**250**		200	140	ug/L			01/23/24 21:46	200
Xylenes, Total	260	U	400	260	ug/L			01/23/24 21:46	200

Client Sample ID: LC34-DPT0593-083.0-20240119
Lab Sample ID: 670-33457-19

Date Collected: 01/19/24 07:55
Matrix: Water
Date Received: 01/20/24 09:11

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		41 - 142		01/23/24 21:46	200
4-Bromofluorobenzene (Surr)	101		41 - 142		01/24/24 20:18	1000
Dibromofluoromethane (Surr)	104		53 - 146		01/23/24 21:46	200
Dibromofluoromethane (Surr)	104		53 - 146		01/24/24 20:18	1000
Toluene-d8 (Surr)	99		40 - 146		01/23/24 21:46	200
Toluene-d8 (Surr)	100		40 - 146		01/24/24 20:18	1000

Client Sample ID: LC34-DPT0594-098.0-20240119
Lab Sample ID: 670-33457-20

Date Collected: 01/19/24 08:10
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1600	U	2000	1600	ug/L			01/23/24 22:57	2000
1,1,2,2-Tetrachloroethane	1100	U	2000	1100	ug/L			01/23/24 22:57	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U	4000	1500	ug/L			01/23/24 22:57	2000
1,1,2-Trichloroethane	1500	U	4000	1500	ug/L			01/23/24 22:57	2000
1,1-Dichloroethane	1200	U	2000	1200	ug/L			01/23/24 22:57	2000
1,1-Dichloroethene	1900	U	2000	1900	ug/L			01/23/24 22:57	2000
1,2,4-Trichlorobenzene	1400	U	4000	1400	ug/L			01/23/24 22:57	2000
1,2-Dibromo-3-Chloropropane	1900	U	20000	1900	ug/L			01/23/24 22:57	2000
1,2-Dibromoethane (EDB)	1600	U	24000	1600	ug/L			01/23/24 22:57	2000
1,2-Dichlorobenzene	1500	U	2000	1500	ug/L			01/23/24 22:57	2000
1,2-Dichloroethane	1300	U	2000	1300	ug/L			01/23/24 22:57	2000
1,2-Dichloropropane	1600	U	2000	1600	ug/L			01/23/24 22:57	2000
1,3-Dichlorobenzene	1500	U	2000	1500	ug/L			01/23/24 22:57	2000
1,4-Dichlorobenzene	1500	U	2000	1500	ug/L			01/23/24 22:57	2000
2-Butanone (MEK)	9000	U	20000	9000	ug/L			01/23/24 22:57	2000
2-Hexanone	5000	U	40000	5000	ug/L			01/23/24 22:57	2000
4-Methyl-2-pentanone	10000	U	40000	10000	ug/L			01/23/24 22:57	2000
Acetone	50000	U	100000	50000	ug/L			01/23/24 22:57	2000
Benzene	1400	U	2000	1400	ug/L			01/23/24 22:57	2000
Bromodichloromethane	1000	U	2000	1000	ug/L			01/23/24 22:57	2000
Bromoform	1500	U	2000	1500	ug/L			01/23/24 22:57	2000
Bromomethane	1900	U	4000	1900	ug/L			01/23/24 22:57	2000
Carbon disulfide	5000	U	10000	5000	ug/L			01/23/24 22:57	2000
Carbon tetrachloride	1900	U	2000	1900	ug/L			01/23/24 22:57	2000
Chlorobenzene	1400	U	2000	1400	ug/L			01/23/24 22:57	2000
Chloroethane	2000	U	4000	2000	ug/L			01/23/24 22:57	2000
Chloroform	1600	U	10000	1600	ug/L			01/23/24 22:57	2000
Chloromethane	1600	U	4000	1600	ug/L			01/23/24 22:57	2000
cis-1,2-Dichloroethene	**3200**		2000	1100	ug/L			01/23/24 22:57	2000
cis-1,3-Dichloropropene	1200	U	2000	1200	ug/L			01/23/24 22:57	2000
Cyclohexane	1900	U	10000	1900	ug/L			01/23/24 22:57	2000
Dibromochloromethane	1000	U	2000	1000	ug/L			01/23/24 22:57	2000
Dichlorodifluoromethane	1500	U	2000	1500	ug/L			01/23/24 22:57	2000
Ethylbenzene	1400	U	2000	1400	ug/L			01/23/24 22:57	2000
Isopropylbenzene	1300	U	4000	1300	ug/L			01/23/24 22:57	2000
m,p-Xylenes	2600	U	4000	2600	ug/L			01/23/24 22:57	2000
Methyl acetate	1900	U	20000	1900	ug/L			01/23/24 22:57	2000

Client Sample ID: LC34-DPT0594-098.0-20240119
Lab Sample ID: 670-33457-20

Date Collected: 01/19/24 08:10
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	1200	U	4000	1200	ug/L			01/23/24 22:57	2000
Methylene Chloride	10000	U	20000	10000	ug/L			01/23/24 22:57	2000
o-Xylene	1100	U	2000	1100	ug/L			01/23/24 22:57	2000
Styrene	1200	U	2000	1200	ug/L			01/23/24 22:57	2000
Tetrachloroethene	1500	U	2000	1500	ug/L			01/23/24 22:57	2000
Toluene	1400	U	2000	1400	ug/L			01/23/24 22:57	2000
trans-1,2-Dichloroethene	1500	U	2000	1500	ug/L			01/23/24 22:57	2000
trans-1,3-Dichloropropene	1500	U	2000	1500	ug/L			01/23/24 22:57	2000
Trichloroethene	**88000**		2000	1800	ug/L			01/23/24 22:57	2000
Trichlorofluoromethane	1900	U	2000	1900	ug/L			01/23/24 22:57	2000
Vinyl chloride	1400	U	2000	1400	ug/L			01/23/24 22:57	2000
Xylenes, Total	2600	U	4000	2600	ug/L			01/23/24 22:57	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/23/24 22:57*	*2000*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/23/24 22:57*	*2000*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/23/24 22:57*	*2000*

Client Sample ID: LC34-DPT0593-088.0-20240119
Lab Sample ID: 670-33457-21

Date Collected: 01/19/24 08:30
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			01/23/24 22:22	500
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			01/23/24 22:22	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			01/23/24 22:22	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			01/23/24 22:22	500
1,1-Dichloroethane	310	U	500	310	ug/L			01/23/24 22:22	500
1,1-Dichloroethene	470	U	500	470	ug/L			01/23/24 22:22	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			01/23/24 22:22	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			01/23/24 22:22	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			01/23/24 22:22	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			01/23/24 22:22	500
1,2-Dichloroethane	320	U	500	320	ug/L			01/23/24 22:22	500
1,2-Dichloropropane	400	U	500	400	ug/L			01/23/24 22:22	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			01/23/24 22:22	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			01/23/24 22:22	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			01/23/24 22:22	500
2-Hexanone	1300	U	10000	1300	ug/L			01/23/24 22:22	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			01/23/24 22:22	500
Acetone	13000	U	25000	13000	ug/L			01/23/24 22:22	500
Benzene	360	U	500	360	ug/L			01/23/24 22:22	500
Bromodichloromethane	260	U	500	260	ug/L			01/23/24 22:22	500
Bromoform	380	U	500	380	ug/L			01/23/24 22:22	500
Bromomethane	480	U	1000	480	ug/L			01/23/24 22:22	500
Carbon disulfide	1300	U	2500	1300	ug/L			01/23/24 22:22	500
Carbon tetrachloride	470	U	500	470	ug/L			01/23/24 22:22	500
Chlorobenzene	360	U	500	360	ug/L			01/23/24 22:22	500
Chloroethane	490	U	1000	490	ug/L			01/23/24 22:22	500

Client Sample ID: LC34-DPT0593-088.0-20240119
Lab Sample ID: 670-33457-21

Date Collected: 01/19/24 08:30
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	400	U	2500	400	ug/L			01/23/24 22:22	500
Chloromethane	410	U	1000	410	ug/L			01/23/24 22:22	500
cis-1,2-Dichloroethene	270	U	500	270	ug/L			01/23/24 22:22	500
cis-1,3-Dichloropropene	300	U	500	300	ug/L			01/23/24 22:22	500
Cyclohexane	470	U	2500	470	ug/L			01/23/24 22:22	500
Dibromochloromethane	250	U	500	250	ug/L			01/23/24 22:22	500
Dichlorodifluoromethane	370	U	500	370	ug/L			01/23/24 22:22	500
Ethylbenzene	350	U	500	350	ug/L			01/23/24 22:22	500
Isopropylbenzene	340	U	1000	340	ug/L			01/23/24 22:22	500
m,p-Xylenes	650	U	1000	650	ug/L			01/23/24 22:22	500
Methyl acetate	480	U	5000	480	ug/L			01/23/24 22:22	500
Methyl tert-butyl ether	300	U	1000	300	ug/L			01/23/24 22:22	500
Methylene Chloride	2500	U	5000	2500	ug/L			01/23/24 22:22	500
o-Xylene	270	U	500	270	ug/L			01/23/24 22:22	500
Styrene	310	U	500	310	ug/L			01/23/24 22:22	500
Tetrachloroethene	380	U	500	380	ug/L			01/23/24 22:22	500
Toluene	360	U	500	360	ug/L			01/23/24 22:22	500
trans-1,2-Dichloroethene	370	U	500	370	ug/L			01/23/24 22:22	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			01/23/24 22:22	500
Trichloroethene	**31000**		500	450	ug/L			01/23/24 22:22	500
Trichlorofluoromethane	470	U	500	470	ug/L			01/23/24 22:22	500
Vinyl chloride	360	U	500	360	ug/L			01/23/24 22:22	500
Xylenes, Total	650	U	1000	650	ug/L			01/23/24 22:22	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*01/23/24 22:22*	*500*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/23/24 22:22*	*500*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/23/24 22:22*	*500*

Client Sample ID: LC34-DPT0597-008.0-20240119
Lab Sample ID: 670-33457-22

Date Collected: 01/19/24 08:35
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	40	U	50	40	ug/L			01/24/24 14:08	50
1,1,2,2-Tetrachloroethane	27	U	50	27	ug/L			01/24/24 14:08	50
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	100	37	ug/L			01/24/24 14:08	50
1,1,2-Trichloroethane	38	U	100	38	ug/L			01/24/24 14:08	50
1,1-Dichloroethane	31	U	50	31	ug/L			01/24/24 14:08	50
1,1-Dichloroethene	47	U	50	47	ug/L			01/24/24 14:08	50
1,2,4-Trichlorobenzene	35	U	100	35	ug/L			01/24/24 14:08	50
1,2-Dibromo-3-Chloropropane	48	U	500	48	ug/L			01/24/24 14:08	50
1,2-Dibromoethane (EDB)	39	U	600	39	ug/L			01/24/24 14:08	50
1,2-Dichlorobenzene	37	U	50	37	ug/L			01/24/24 14:08	50
1,2-Dichloroethane	32	U	50	32	ug/L			01/24/24 14:08	50
1,2-Dichloropropane	40	U	50	40	ug/L			01/24/24 14:08	50
1,3-Dichlorobenzene	39	U	50	39	ug/L			01/24/24 14:08	50
1,4-Dichlorobenzene	38	U	50	38	ug/L			01/24/24 14:08	50
2-Butanone (MEK)	230	U	500	230	ug/L			01/24/24 14:08	50

Client Sample ID: LC34-DPT0597-008.0-20240119
Lab Sample ID: 670-33457-22

Date Collected: 01/19/24 08:35
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	130	U	1000	130	ug/L			01/24/24 14:08	50
4-Methyl-2-pentanone	250	U	1000	250	ug/L			01/24/24 14:08	50
Acetone	1300	U	2500	1300	ug/L			01/24/24 14:08	50
Benzene	36	U	50	36	ug/L			01/24/24 14:08	50
Bromodichloromethane	26	U	50	26	ug/L			01/24/24 14:08	50
Bromoform	38	U	50	38	ug/L			01/24/24 14:08	50
Bromomethane	48	U	100	48	ug/L			01/24/24 14:08	50
Carbon disulfide	130	U	250	130	ug/L			01/24/24 14:08	50
Carbon tetrachloride	47	U	50	47	ug/L			01/24/24 14:08	50
Chlorobenzene	36	U	50	36	ug/L			01/24/24 14:08	50
Chloroethane	49	U	100	49	ug/L			01/24/24 14:08	50
Chloroform	40	U	250	40	ug/L			01/24/24 14:08	50
Chloromethane	41	U	100	41	ug/L			01/24/24 14:08	50
cis-1,2-Dichloroethene	**100**		50	27	ug/L			01/24/24 14:08	50
cis-1,3-Dichloropropene	30	U	50	30	ug/L			01/24/24 14:08	50
Cyclohexane	47	U	250	47	ug/L			01/24/24 14:08	50
Dibromochloromethane	25	U	50	25	ug/L			01/24/24 14:08	50
Dichlorodifluoromethane	37	U	50	37	ug/L			01/24/24 14:08	50
Ethylbenzene	35	U	50	35	ug/L			01/24/24 14:08	50
Isopropylbenzene	34	U	100	34	ug/L			01/24/24 14:08	50
m,p-Xylenes	65	U	100	65	ug/L			01/24/24 14:08	50
Methyl acetate	48	U	500	48	ug/L			01/24/24 14:08	50
Methyl tert-butyl ether	30	U	100	30	ug/L			01/24/24 14:08	50
Methylene Chloride	250	U	500	250	ug/L			01/24/24 14:08	50
o-Xylene	27	U	50	27	ug/L			01/24/24 14:08	50
Styrene	31	U	50	31	ug/L			01/24/24 14:08	50
Tetrachloroethene	38	U	50	38	ug/L			01/24/24 14:08	50
Toluene	36	U	50	36	ug/L			01/24/24 14:08	50
trans-1,2-Dichloroethene	37	U	50	37	ug/L			01/24/24 14:08	50
trans-1,3-Dichloropropene	37	U	50	37	ug/L			01/24/24 14:08	50
Trichloroethene	**1500**		50	45	ug/L			01/24/24 14:08	50
Trichlorofluoromethane	47	U	50	47	ug/L			01/24/24 14:08	50
Vinyl chloride	36	U	50	36	ug/L			01/24/24 14:08	50
Xylenes, Total	65	U	100	65	ug/L			01/24/24 14:08	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/24/24 14:08*	*50*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/24/24 14:08*	*50*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/24/24 14:08*	*50*

Client Sample ID: LC34-DPT0597-013.0-20240119
Lab Sample ID: 670-33457-23

Date Collected: 01/19/24 08:45
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	40	U	50	40	ug/L			01/24/24 14:28	50
1,1,2,2-Tetrachloroethane	27	U	50	27	ug/L			01/24/24 14:28	50
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	100	37	ug/L			01/24/24 14:28	50
1,1,2-Trichloroethane	38	U	100	38	ug/L			01/24/24 14:28	50

Client Sample ID: LC34-DPT0597-013.0-20240119
Lab Sample ID: 670-33457-23
Date Collected: 01/19/24 08:45
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	31	U	50	31	ug/L			01/24/24 14:28	50
1,1-Dichloroethene	47	U	50	47	ug/L			01/24/24 14:28	50
1,2,4-Trichlorobenzene	35	U	100	35	ug/L			01/24/24 14:28	50
1,2-Dibromo-3-Chloropropane	48	U	500	48	ug/L			01/24/24 14:28	50
1,2-Dibromoethane (EDB)	39	U	600	39	ug/L			01/24/24 14:28	50
1,2-Dichlorobenzene	37	U	50	37	ug/L			01/24/24 14:28	50
1,2-Dichloroethane	32	U	50	32	ug/L			01/24/24 14:28	50
1,2-Dichloropropane	40	U	50	40	ug/L			01/24/24 14:28	50
1,3-Dichlorobenzene	39	U	50	39	ug/L			01/24/24 14:28	50
1,4-Dichlorobenzene	38	U	50	38	ug/L			01/24/24 14:28	50
2-Butanone (MEK)	230	U	500	230	ug/L			01/24/24 14:28	50
2-Hexanone	130	U	1000	130	ug/L			01/24/24 14:28	50
4-Methyl-2-pentanone	250	U	1000	250	ug/L			01/24/24 14:28	50
Acetone	1300	U	2500	1300	ug/L			01/24/24 14:28	50
Benzene	36	U	50	36	ug/L			01/24/24 14:28	50
Bromodichloromethane	26	U	50	26	ug/L			01/24/24 14:28	50
Bromoform	38	U	50	38	ug/L			01/24/24 14:28	50
Bromomethane	48	U	100	48	ug/L			01/24/24 14:28	50
Carbon disulfide	130	U	250	130	ug/L			01/24/24 14:28	50
Carbon tetrachloride	47	U	50	47	ug/L			01/24/24 14:28	50
Chlorobenzene	36	U	50	36	ug/L			01/24/24 14:28	50
Chloroethane	49	U	100	49	ug/L			01/24/24 14:28	50
Chloroform	40	U	250	40	ug/L			01/24/24 14:28	50
Chloromethane	41	U	100	41	ug/L			01/24/24 14:28	50
cis-1,2-Dichloroethene	**2300**		50	27	ug/L			01/24/24 14:28	50
cis-1,3-Dichloropropene	30	U	50	30	ug/L			01/24/24 14:28	50
Cyclohexane	47	U	250	47	ug/L			01/24/24 14:28	50
Dibromochloromethane	25	U	50	25	ug/L			01/24/24 14:28	50
Dichlorodifluoromethane	37	U	50	37	ug/L			01/24/24 14:28	50
Ethylbenzene	35	U	50	35	ug/L			01/24/24 14:28	50
Isopropylbenzene	34	U	100	34	ug/L			01/24/24 14:28	50
m,p-Xylenes	65	U	100	65	ug/L			01/24/24 14:28	50
Methyl acetate	48	U	500	48	ug/L			01/24/24 14:28	50
Methyl tert-butyl ether	30	U	100	30	ug/L			01/24/24 14:28	50
Methylene Chloride	250	U	500	250	ug/L			01/24/24 14:28	50
o-Xylene	27	U	50	27	ug/L			01/24/24 14:28	50
Styrene	31	U	50	31	ug/L			01/24/24 14:28	50
Tetrachloroethene	38	U	50	38	ug/L			01/24/24 14:28	50
Toluene	36	U	50	36	ug/L			01/24/24 14:28	50
trans-1,2-Dichloroethene	37	U	50	37	ug/L			01/24/24 14:28	50
trans-1,3-Dichloropropene	37	U	50	37	ug/L			01/24/24 14:28	50
Trichloroethene	**3400**		50	45	ug/L			01/24/24 14:28	50
Trichlorofluoromethane	47	U	50	47	ug/L			01/24/24 14:28	50
Vinyl chloride	36	U	50	36	ug/L			01/24/24 14:28	50
Xylenes, Total	65	U	100	65	ug/L			01/24/24 14:28	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/24/24 14:28*	*50*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/24/24 14:28*	*50*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/24/24 14:28*	*50*

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0597-018.0-20240119
Lab Sample ID: 670-33457-24
Date Collected: 01/19/24 09:00
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	16	U	20	16	ug/L			01/24/24 10:59	20
1,1,2,2-Tetrachloroethane	11	U	20	11	ug/L			01/24/24 10:59	20
1,1,2-Trichloro-1,2,2-trifluoroethane	15	U	40	15	ug/L			01/24/24 10:59	20
1,1,2-Trichloroethane	15	U	40	15	ug/L			01/24/24 10:59	20
1,1-Dichloroethane	12	U	20	12	ug/L			01/24/24 10:59	20
1,1-Dichloroethene	19	U	20	19	ug/L			01/24/24 10:59	20
1,2,4-Trichlorobenzene	14	U	40	14	ug/L			01/24/24 10:59	20
1,2-Dibromo-3-Chloropropane	19	U	200	19	ug/L			01/24/24 10:59	20
1,2-Dibromoethane (EDB)	16	U	240	16	ug/L			01/24/24 10:59	20
1,2-Dichlorobenzene	15	U	20	15	ug/L			01/24/24 10:59	20
1,2-Dichloroethane	13	U	20	13	ug/L			01/24/24 10:59	20
1,2-Dichloropropane	16	U	20	16	ug/L			01/24/24 10:59	20
1,3-Dichlorobenzene	15	U	20	15	ug/L			01/24/24 10:59	20
1,4-Dichlorobenzene	15	U	20	15	ug/L			01/24/24 10:59	20
2-Butanone (MEK)	**150**	**I**	200	90	ug/L			01/24/24 10:59	20
2-Hexanone	50	U	400	50	ug/L			01/24/24 10:59	20
4-Methyl-2-pentanone	100	U	400	100	ug/L			01/24/24 10:59	20
Acetone	500	U	1000	500	ug/L			01/24/24 10:59	20
Benzene	14	U	20	14	ug/L			01/24/24 10:59	20
Bromodichloromethane	10	U	20	10	ug/L			01/24/24 10:59	20
Bromoform	15	U	20	15	ug/L			01/24/24 10:59	20
Bromomethane	19	U	40	19	ug/L			01/24/24 10:59	20
Carbon disulfide	50	U	100	50	ug/L			01/24/24 10:59	20
Carbon tetrachloride	19	U	20	19	ug/L			01/24/24 10:59	20
Chlorobenzene	14	U	20	14	ug/L			01/24/24 10:59	20
Chloroethane	20	U	40	20	ug/L			01/24/24 10:59	20
Chloroform	16	U	100	16	ug/L			01/24/24 10:59	20
Chloromethane	16	U	40	16	ug/L			01/24/24 10:59	20
cis-1,2-Dichloroethene	**690**		20	11	ug/L			01/24/24 10:59	20
cis-1,3-Dichloropropene	12	U	20	12	ug/L			01/24/24 10:59	20
Cyclohexane	19	U	100	19	ug/L			01/24/24 10:59	20
Dibromochloromethane	10	U	20	10	ug/L			01/24/24 10:59	20
Dichlorodifluoromethane	15	U	20	15	ug/L			01/24/24 10:59	20
Ethylbenzene	14	U	20	14	ug/L			01/24/24 10:59	20
Isopropylbenzene	13	U	40	13	ug/L			01/24/24 10:59	20
m,p-Xylenes	26	U	40	26	ug/L			01/24/24 10:59	20
Methyl acetate	19	U	200	19	ug/L			01/24/24 10:59	20
Methyl tert-butyl ether	12	U	40	12	ug/L			01/24/24 10:59	20
Methylene Chloride	100	U	200	100	ug/L			01/24/24 10:59	20
o-Xylene	11	U	20	11	ug/L			01/24/24 10:59	20
Styrene	12	U	20	12	ug/L			01/24/24 10:59	20
Tetrachloroethene	15	U	20	15	ug/L			01/24/24 10:59	20
Toluene	14	U	20	14	ug/L			01/24/24 10:59	20
trans-1,2-Dichloroethene	15	U	20	15	ug/L			01/24/24 10:59	20
trans-1,3-Dichloropropene	15	U	20	15	ug/L			01/24/24 10:59	20
Trichloroethene	**150**		20	18	ug/L			01/24/24 10:59	20
Trichlorofluoromethane	19	U	20	19	ug/L			01/24/24 10:59	20
Vinyl chloride	**27**		20	14	ug/L			01/24/24 10:59	20
Xylenes, Total	26	U	40	26	ug/L			01/24/24 10:59	20

Client Sample ID: LC34-DPT0597-018.0-20240119
Lab Sample ID: 670-33457-24

Date Collected: 01/19/24 09:00
Matrix: Water
Date Received: 01/20/24 09:11

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		41 - 142		01/24/24 10:59	20
Dibromofluoromethane (Surr)	105		53 - 146		01/24/24 10:59	20
Toluene-d8 (Surr)	100		40 - 146		01/24/24 10:59	20

Client Sample ID: LC34-DPT0594-098.0-20240119
Lab Sample ID: 670-33457-25

Date Collected: 01/19/24 09:00
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			01/24/24 15:27	500
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			01/24/24 15:27	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			01/24/24 15:27	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			01/24/24 15:27	500
1,1-Dichloroethane	310	U	500	310	ug/L			01/24/24 15:27	500
1,1-Dichloroethene	470	U	500	470	ug/L			01/24/24 15:27	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			01/24/24 15:27	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			01/24/24 15:27	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			01/24/24 15:27	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			01/24/24 15:27	500
1,2-Dichloroethane	320	U	500	320	ug/L			01/24/24 15:27	500
1,2-Dichloropropane	400	U	500	400	ug/L			01/24/24 15:27	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			01/24/24 15:27	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			01/24/24 15:27	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			01/24/24 15:27	500
2-Hexanone	1300	U	10000	1300	ug/L			01/24/24 15:27	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			01/24/24 15:27	500
Acetone	13000	U	25000	13000	ug/L			01/24/24 15:27	500
Benzene	360	U	500	360	ug/L			01/24/24 15:27	500
Bromodichloromethane	260	U	500	260	ug/L			01/24/24 15:27	500
Bromoform	380	U	500	380	ug/L			01/24/24 15:27	500
Bromomethane	480	U	1000	480	ug/L			01/24/24 15:27	500
Carbon disulfide	1300	U	2500	1300	ug/L			01/24/24 15:27	500
Carbon tetrachloride	470	U	500	470	ug/L			01/24/24 15:27	500
Chlorobenzene	360	U	500	360	ug/L			01/24/24 15:27	500
Chloroethane	490	U	1000	490	ug/L			01/24/24 15:27	500
Chloroform	400	U	2500	400	ug/L			01/24/24 15:27	500
Chloromethane	410	U	1000	410	ug/L			01/24/24 15:27	500
cis-1,2-Dichloroethene	**760**		500	270	ug/L			01/24/24 15:27	500
cis-1,3-Dichloropropene	300	U	500	300	ug/L			01/24/24 15:27	500
Cyclohexane	470	U	2500	470	ug/L			01/24/24 15:27	500
Dibromochloromethane	250	U	500	250	ug/L			01/24/24 15:27	500
Dichlorodifluoromethane	370	U	500	370	ug/L			01/24/24 15:27	500
Ethylbenzene	350	U	500	350	ug/L			01/24/24 15:27	500
Isopropylbenzene	340	U	1000	340	ug/L			01/24/24 15:27	500
m,p-Xylenes	650	U	1000	650	ug/L			01/24/24 15:27	500
Methyl acetate	480	U	5000	480	ug/L			01/24/24 15:27	500
Methyl tert-butyl ether	300	U	1000	300	ug/L			01/24/24 15:27	500
Methylene Chloride	2500	U	5000	2500	ug/L			01/24/24 15:27	500
o-Xylene	270	U	500	270	ug/L			01/24/24 15:27	500

Client Sample ID: LC34-DPT0594-098.0-20240119
Lab Sample ID: 670-33457-25

Date Collected: 01/19/24 09:00
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	310	U	500	310	ug/L			01/24/24 15:27	500
Tetrachloroethene	380	U	500	380	ug/L			01/24/24 15:27	500
Toluene	360	U	500	360	ug/L			01/24/24 15:27	500
trans-1,2-Dichloroethene	370	U	500	370	ug/L			01/24/24 15:27	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			01/24/24 15:27	500
Trichloroethene	**34000**		500	450	ug/L			01/24/24 15:27	500
Trichlorofluoromethane	470	U	500	470	ug/L			01/24/24 15:27	500
Vinyl chloride	360	U	500	360	ug/L			01/24/24 15:27	500
Xylenes, Total	650	U	1000	650	ug/L			01/24/24 15:27	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*01/24/24 15:27*	*500*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/24/24 15:27*	*500*
Toluene-d8 (Surr)	*98*		*40 - 146*		*01/24/24 15:27*	*500*

Client Sample ID: LC34-DPT0593-093.0-20240119
Lab Sample ID: 670-33457-26

Date Collected: 01/19/24 09:05
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			01/24/24 15:45	500
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			01/24/24 15:45	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			01/24/24 15:45	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			01/24/24 15:45	500
1,1-Dichloroethane	310	U	500	310	ug/L			01/24/24 15:45	500
1,1-Dichloroethene	470	U	500	470	ug/L			01/24/24 15:45	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			01/24/24 15:45	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			01/24/24 15:45	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			01/24/24 15:45	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			01/24/24 15:45	500
1,2-Dichloroethane	320	U	500	320	ug/L			01/24/24 15:45	500
1,2-Dichloropropane	400	U	500	400	ug/L			01/24/24 15:45	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			01/24/24 15:45	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			01/24/24 15:45	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			01/24/24 15:45	500
2-Hexanone	1300	U	10000	1300	ug/L			01/24/24 15:45	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			01/24/24 15:45	500
Acetone	13000	U	25000	13000	ug/L			01/24/24 15:45	500
Benzene	360	U	500	360	ug/L			01/24/24 15:45	500
Bromodichloromethane	260	U	500	260	ug/L			01/24/24 15:45	500
Bromoform	380	U	500	380	ug/L			01/24/24 15:45	500
Bromomethane	480	U	1000	480	ug/L			01/24/24 15:45	500
Carbon disulfide	1300	U	2500	1300	ug/L			01/24/24 15:45	500
Carbon tetrachloride	470	U	500	470	ug/L			01/24/24 15:45	500
Chlorobenzene	360	U	500	360	ug/L			01/24/24 15:45	500
Chloroethane	490	U	1000	490	ug/L			01/24/24 15:45	500
Chloroform	400	U	2500	400	ug/L			01/24/24 15:45	500
Chloromethane	410	U	1000	410	ug/L			01/24/24 15:45	500
cis-1,2-Dichloroethene	**2200**		500	270	ug/L			01/24/24 15:45	500

Client Sample ID: LC34-DPT0593-093.0-20240119
Lab Sample ID: 670-33457-26

Date Collected: 01/19/24 09:05
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	300	U	500	300	ug/L			01/24/24 15:45	500
Cyclohexane	470	U	2500	470	ug/L			01/24/24 15:45	500
Dibromochloromethane	250	U	500	250	ug/L			01/24/24 15:45	500
Dichlorodifluoromethane	370	U	500	370	ug/L			01/24/24 15:45	500
Ethylbenzene	350	U	500	350	ug/L			01/24/24 15:45	500
Isopropylbenzene	340	U	1000	340	ug/L			01/24/24 15:45	500
m,p-Xylenes	650	U	1000	650	ug/L			01/24/24 15:45	500
Methyl acetate	480	U	5000	480	ug/L			01/24/24 15:45	500
Methyl tert-butyl ether	300	U	1000	300	ug/L			01/24/24 15:45	500
Methylene Chloride	2500	U	5000	2500	ug/L			01/24/24 15:45	500
o-Xylene	270	U	500	270	ug/L			01/24/24 15:45	500
Styrene	310	U	500	310	ug/L			01/24/24 15:45	500
Tetrachloroethene	380	U	500	380	ug/L			01/24/24 15:45	500
Toluene	360	U	500	360	ug/L			01/24/24 15:45	500
trans-1,2-Dichloroethene	370	U	500	370	ug/L			01/24/24 15:45	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			01/24/24 15:45	500
Trichloroethene	**26000**		500	450	ug/L			01/24/24 15:45	500
Trichlorofluoromethane	470	U	500	470	ug/L			01/24/24 15:45	500
Vinyl chloride	360	U	500	360	ug/L			01/24/24 15:45	500
Xylenes, Total	650	U	1000	650	ug/L			01/24/24 15:45	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/24/24 15:45*	*500*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/24/24 15:45*	*500*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 15:45*	*500*

Client Sample ID: LC34-DPT0597-023.0-20240119
Lab Sample ID: 670-33457-27

Date Collected: 01/19/24 09:15
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			01/24/24 13:06	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			01/24/24 13:06	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			01/24/24 13:06	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			01/24/24 13:06	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			01/24/24 13:06	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			01/24/24 13:06	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			01/24/24 13:06	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			01/24/24 13:06	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			01/24/24 13:06	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			01/24/24 13:06	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			01/24/24 13:06	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			01/24/24 13:06	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			01/24/24 13:06	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			01/24/24 13:06	10
2-Butanone (MEK)	45	U	100	45	ug/L			01/24/24 13:06	10
2-Hexanone	25	U	200	25	ug/L			01/24/24 13:06	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			01/24/24 13:06	10
Acetone	250	U	500	250	ug/L			01/24/24 13:06	10

Client Sample ID: LC34-DPT0597-023.0-20240119
Lab Sample ID: 670-33457-27

Date Collected: 01/19/24 09:15
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	7.1	U	10	7.1	ug/L			01/24/24 13:06	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			01/24/24 13:06	10
Bromoform	7.5	U	10	7.5	ug/L			01/24/24 13:06	10
Bromomethane	9.5	U	20	9.5	ug/L			01/24/24 13:06	10
Carbon disulfide	25	U	50	25	ug/L			01/24/24 13:06	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			01/24/24 13:06	10
Chlorobenzene	7.2	U	10	7.2	ug/L			01/24/24 13:06	10
Chloroethane	9.8	U	20	9.8	ug/L			01/24/24 13:06	10
Chloroform	8.0	U	50	8.0	ug/L			01/24/24 13:06	10
Chloromethane	8.2	U	20	8.2	ug/L			01/24/24 13:06	10
cis-1,2-Dichloroethene	**380**		10	5.3	ug/L			01/24/24 13:06	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			01/24/24 13:06	10
Cyclohexane	9.3	U	50	9.3	ug/L			01/24/24 13:06	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			01/24/24 13:06	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			01/24/24 13:06	10
Ethylbenzene	6.9	U	10	6.9	ug/L			01/24/24 13:06	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			01/24/24 13:06	10
m,p-Xylenes	13	U	20	13	ug/L			01/24/24 13:06	10
Methyl acetate	9.5	U	100	9.5	ug/L			01/24/24 13:06	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			01/24/24 13:06	10
Methylene Chloride	50	U	100	50	ug/L			01/24/24 13:06	10
o-Xylene	5.3	U	10	5.3	ug/L			01/24/24 13:06	10
Styrene	6.1	U	10	6.1	ug/L			01/24/24 13:06	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			01/24/24 13:06	10
Toluene	7.2	U	10	7.2	ug/L			01/24/24 13:06	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			01/24/24 13:06	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			01/24/24 13:06	10
Trichloroethene	8.9	U	10	8.9	ug/L			01/24/24 13:06	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			01/24/24 13:06	10
Vinyl chloride	**88**		10	7.1	ug/L			01/24/24 13:06	10
Xylenes, Total	13	U	20	13	ug/L			01/24/24 13:06	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*01/24/24 13:06*	*10*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/24/24 13:06*	*10*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/24/24 13:06*	*10*

Client Sample ID: LC34-DPT0597-028.0-20240119
Lab Sample ID: 670-33457-28

Date Collected: 01/19/24 09:30
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			01/24/24 13:27	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			01/24/24 13:27	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			01/24/24 13:27	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			01/24/24 13:27	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			01/24/24 13:27	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			01/24/24 13:27	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			01/24/24 13:27	10

Client Sample ID: LC34-DPT0597-028.0-20240119
Lab Sample ID: 670-33457-28
Date Collected: 01/19/24 09:30
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			01/24/24 13:27	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			01/24/24 13:27	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			01/24/24 13:27	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			01/24/24 13:27	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			01/24/24 13:27	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			01/24/24 13:27	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			01/24/24 13:27	10
2-Butanone (MEK)	45	U	100	45	ug/L			01/24/24 13:27	10
2-Hexanone	25	U	200	25	ug/L			01/24/24 13:27	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			01/24/24 13:27	10
Acetone	250	U	500	250	ug/L			01/24/24 13:27	10
Benzene	7.1	U	10	7.1	ug/L			01/24/24 13:27	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			01/24/24 13:27	10
Bromoform	7.5	U	10	7.5	ug/L			01/24/24 13:27	10
Bromomethane	9.5	U	20	9.5	ug/L			01/24/24 13:27	10
Carbon disulfide	25	U	50	25	ug/L			01/24/24 13:27	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			01/24/24 13:27	10
Chlorobenzene	7.2	U	10	7.2	ug/L			01/24/24 13:27	10
Chloroethane	9.8	U	20	9.8	ug/L			01/24/24 13:27	10
Chloroform	8.0	U	50	8.0	ug/L			01/24/24 13:27	10
Chloromethane	8.2	U	20	8.2	ug/L			01/24/24 13:27	10
cis-1,2-Dichloroethene	**410**		10	5.3	ug/L			01/24/24 13:27	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			01/24/24 13:27	10
Cyclohexane	9.3	U	50	9.3	ug/L			01/24/24 13:27	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			01/24/24 13:27	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			01/24/24 13:27	10
Ethylbenzene	6.9	U	10	6.9	ug/L			01/24/24 13:27	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			01/24/24 13:27	10
m,p-Xylenes	13	U	20	13	ug/L			01/24/24 13:27	10
Methyl acetate	9.5	U	100	9.5	ug/L			01/24/24 13:27	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			01/24/24 13:27	10
Methylene Chloride	50	U	100	50	ug/L			01/24/24 13:27	10
o-Xylene	5.3	U	10	5.3	ug/L			01/24/24 13:27	10
Styrene	6.1	U	10	6.1	ug/L			01/24/24 13:27	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			01/24/24 13:27	10
Toluene	7.2	U	10	7.2	ug/L			01/24/24 13:27	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			01/24/24 13:27	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			01/24/24 13:27	10
Trichloroethene	8.9	U	10	8.9	ug/L			01/24/24 13:27	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			01/24/24 13:27	10
Vinyl chloride	**82**		10	7.1	ug/L			01/24/24 13:27	10
Xylenes, Total	13	U	20	13	ug/L			01/24/24 13:27	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/24/24 13:27*	*10*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/24/24 13:27*	*10*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 13:27*	*10*

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0597-048.0-20240119
Lab Sample ID: 670-33457-29
Date Collected: 01/19/24 10:35
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1600	U	2000	1600	ug/L			01/24/24 16:56	2000
1,1,2,2-Tetrachloroethane	1100	U	2000	1100	ug/L			01/24/24 16:56	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U	4000	1500	ug/L			01/24/24 16:56	2000
1,1,2-Trichloroethane	1500	U	4000	1500	ug/L			01/24/24 16:56	2000
1,1-Dichloroethane	1200	U	2000	1200	ug/L			01/24/24 16:56	2000
1,1-Dichloroethene	1900	U	2000	1900	ug/L			01/24/24 16:56	2000
1,2,4-Trichlorobenzene	1400	U	4000	1400	ug/L			01/24/24 16:56	2000
1,2-Dibromo-3-Chloropropane	1900	U	20000	1900	ug/L			01/24/24 16:56	2000
1,2-Dibromoethane (EDB)	1600	U	24000	1600	ug/L			01/24/24 16:56	2000
1,2-Dichlorobenzene	1500	U	2000	1500	ug/L			01/24/24 16:56	2000
1,2-Dichloroethane	1300	U	2000	1300	ug/L			01/24/24 16:56	2000
1,2-Dichloropropane	1600	U	2000	1600	ug/L			01/24/24 16:56	2000
1,3-Dichlorobenzene	1500	U	2000	1500	ug/L			01/24/24 16:56	2000
1,4-Dichlorobenzene	1500	U	2000	1500	ug/L			01/24/24 16:56	2000
2-Butanone (MEK)	9000	U	20000	9000	ug/L			01/24/24 16:56	2000
2-Hexanone	5000	U	40000	5000	ug/L			01/24/24 16:56	2000
4-Methyl-2-pentanone	10000	U	40000	10000	ug/L			01/24/24 16:56	2000
Acetone	50000	U	100000	50000	ug/L			01/24/24 16:56	2000
Benzene	1400	U	2000	1400	ug/L			01/24/24 16:56	2000
Bromodichloromethane	1000	U	2000	1000	ug/L			01/24/24 16:56	2000
Bromoform	1500	U	2000	1500	ug/L			01/24/24 16:56	2000
Bromomethane	1900	U	4000	1900	ug/L			01/24/24 16:56	2000
Carbon disulfide	5000	U	10000	5000	ug/L			01/24/24 16:56	2000
Carbon tetrachloride	1900	U	2000	1900	ug/L			01/24/24 16:56	2000
Chlorobenzene	1400	U	2000	1400	ug/L			01/24/24 16:56	2000
Chloroethane	2000	U	4000	2000	ug/L			01/24/24 16:56	2000
Chloroform	1600	U	10000	1600	ug/L			01/24/24 16:56	2000
Chloromethane	1600	U	4000	1600	ug/L			01/24/24 16:56	2000
cis-1,2-Dichloroethene	**61000**		2000	1100	ug/L			01/24/24 16:56	2000
cis-1,3-Dichloropropene	1200	U	2000	1200	ug/L			01/24/24 16:56	2000
Cyclohexane	1900	U	10000	1900	ug/L			01/24/24 16:56	2000
Dibromochloromethane	1000	U	2000	1000	ug/L			01/24/24 16:56	2000
Dichlorodifluoromethane	1500	U	2000	1500	ug/L			01/24/24 16:56	2000
Ethylbenzene	1400	U	2000	1400	ug/L			01/24/24 16:56	2000
Isopropylbenzene	1300	U	4000	1300	ug/L			01/24/24 16:56	2000
m,p-Xylenes	2600	U	4000	2600	ug/L			01/24/24 16:56	2000
Methyl acetate	1900	U	20000	1900	ug/L			01/24/24 16:56	2000
Methyl tert-butyl ether	1200	U	4000	1200	ug/L			01/24/24 16:56	2000
Methylene Chloride	10000	U	20000	10000	ug/L			01/24/24 16:56	2000
o-Xylene	1100	U	2000	1100	ug/L			01/24/24 16:56	2000
Styrene	1200	U	2000	1200	ug/L			01/24/24 16:56	2000
Tetrachloroethene	1500	U	2000	1500	ug/L			01/24/24 16:56	2000
Toluene	1400	U	2000	1400	ug/L			01/24/24 16:56	2000
trans-1,2-Dichloroethene	**1800**	**I**	2000	1500	ug/L			01/24/24 16:56	2000
trans-1,3-Dichloropropene	1500	U	2000	1500	ug/L			01/24/24 16:56	2000
Trichloroethene	**130000**		2000	1800	ug/L			01/24/24 16:56	2000
Trichlorofluoromethane	1900	U	2000	1900	ug/L			01/24/24 16:56	2000
Vinyl chloride	1400	U	2000	1400	ug/L			01/24/24 16:56	2000
Xylenes, Total	2600	U	4000	2600	ug/L			01/24/24 16:56	2000

Client Sample ID: LC34-DPT0597-048.0-20240119
Lab Sample ID: 670-33457-29

Date Collected: 01/19/24 10:35
Matrix: Water
Date Received: 01/20/24 09:11

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/24/24 16:56*	*2000*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/24/24 16:56*	*2000*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 16:56*	*2000*

Client Sample ID: LC34-DPT0593-098.0-20240119
Lab Sample ID: 670-33457-30

Date Collected: 01/19/24 09:40
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/24/24 15:10	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/24/24 15:10	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/24/24 15:10	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/24/24 15:10	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/24/24 15:10	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/24/24 15:10	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/24/24 15:10	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/24/24 15:10	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/24/24 15:10	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/24/24 15:10	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/24/24 15:10	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/24/24 15:10	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/24/24 15:10	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/24/24 15:10	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/24/24 15:10	100
2-Hexanone	250	U	2000	250	ug/L			01/24/24 15:10	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/24/24 15:10	100
Acetone	2500	U	5000	2500	ug/L			01/24/24 15:10	100
Benzene	71	U	100	71	ug/L			01/24/24 15:10	100
Bromodichloromethane	52	U	100	52	ug/L			01/24/24 15:10	100
Bromoform	75	U	100	75	ug/L			01/24/24 15:10	100
Bromomethane	95	U	200	95	ug/L			01/24/24 15:10	100
Carbon disulfide	250	U	500	250	ug/L			01/24/24 15:10	100
Carbon tetrachloride	94	U	100	94	ug/L			01/24/24 15:10	100
Chlorobenzene	72	U	100	72	ug/L			01/24/24 15:10	100
Chloroethane	98	U	200	98	ug/L			01/24/24 15:10	100
Chloroform	80	U	500	80	ug/L			01/24/24 15:10	100
Chloromethane	82	U	200	82	ug/L			01/24/24 15:10	100
cis-1,2-Dichloroethene	**230**		100	53	ug/L			01/24/24 15:10	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/24/24 15:10	100
Cyclohexane	93	U	500	93	ug/L			01/24/24 15:10	100
Dibromochloromethane	50	U	100	50	ug/L			01/24/24 15:10	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/24/24 15:10	100
Ethylbenzene	69	U	100	69	ug/L			01/24/24 15:10	100
Isopropylbenzene	67	U	200	67	ug/L			01/24/24 15:10	100
m,p-Xylenes	130	U	200	130	ug/L			01/24/24 15:10	100
Methyl acetate	95	U	1000	95	ug/L			01/24/24 15:10	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/24/24 15:10	100
Methylene Chloride	500	U	1000	500	ug/L			01/24/24 15:10	100
o-Xylene	53	U	100	53	ug/L			01/24/24 15:10	100

Client Sample ID: LC34-DPT0593-098.0-20240119

Lab Sample ID: 670-33457-30

Date Collected: 01/19/24 09:40

Matrix: Water

Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	61	U	100	61	ug/L			01/24/24 15:10	100
Tetrachloroethene	76	U	100	76	ug/L			01/24/24 15:10	100
Toluene	72	U	100	72	ug/L			01/24/24 15:10	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			01/24/24 15:10	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/24/24 15:10	100
Trichloroethene	**7100**		100	89	ug/L			01/24/24 15:10	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/24/24 15:10	100
Vinyl chloride	71	U	100	71	ug/L			01/24/24 15:10	100
Xylenes, Total	130	U	200	130	ug/L			01/24/24 15:10	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/24/24 15:10*	*100*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/24/24 15:10*	*100*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/24/24 15:10*	*100*

Client Sample ID: LC34-DPT0597-073.0-20240119

Lab Sample ID: 670-33457-31

Date Collected: 01/19/24 12:55

Matrix: Water

Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			01/24/24 13:47	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			01/24/24 13:47	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			01/24/24 13:47	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			01/24/24 13:47	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			01/24/24 13:47	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			01/24/24 13:47	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			01/24/24 13:47	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			01/24/24 13:47	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			01/24/24 13:47	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			01/24/24 13:47	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			01/24/24 13:47	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			01/24/24 13:47	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			01/24/24 13:47	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			01/24/24 13:47	10
2-Butanone (MEK)	45	U	100	45	ug/L			01/24/24 13:47	10
2-Hexanone	25	U	200	25	ug/L			01/24/24 13:47	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			01/24/24 13:47	10
Acetone	250	U	500	250	ug/L			01/24/24 13:47	10
Benzene	7.1	U	10	7.1	ug/L			01/24/24 13:47	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			01/24/24 13:47	10
Bromoform	7.5	U	10	7.5	ug/L			01/24/24 13:47	10
Bromomethane	9.5	U	20	9.5	ug/L			01/24/24 13:47	10
Carbon disulfide	25	U	50	25	ug/L			01/24/24 13:47	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			01/24/24 13:47	10
Chlorobenzene	7.2	U	10	7.2	ug/L			01/24/24 13:47	10
Chloroethane	9.8	U	20	9.8	ug/L			01/24/24 13:47	10
Chloroform	8.0	U	50	8.0	ug/L			01/24/24 13:47	10
Chloromethane	8.2	U	20	8.2	ug/L			01/24/24 13:47	10
cis-1,2-Dichloroethene	**9.4**	**I**	10	5.3	ug/L			01/24/24 13:47	10

Client Sample ID: LC34-DPT0597-073.0-20240119
Lab Sample ID: 670-33457-31

Date Collected: 01/19/24 12:55
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			01/24/24 13:47	10
Cyclohexane	9.3	U	50	9.3	ug/L			01/24/24 13:47	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			01/24/24 13:47	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			01/24/24 13:47	10
Ethylbenzene	6.9	U	10	6.9	ug/L			01/24/24 13:47	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			01/24/24 13:47	10
m,p-Xylenes	13	U	20	13	ug/L			01/24/24 13:47	10
Methyl acetate	9.5	U	100	9.5	ug/L			01/24/24 13:47	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			01/24/24 13:47	10
Methylene Chloride	50	U	100	50	ug/L			01/24/24 13:47	10
o-Xylene	5.3	U	10	5.3	ug/L			01/24/24 13:47	10
Styrene	6.1	U	10	6.1	ug/L			01/24/24 13:47	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			01/24/24 13:47	10
Toluene	7.2	U	10	7.2	ug/L			01/24/24 13:47	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			01/24/24 13:47	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			01/24/24 13:47	10
Trichloroethene	**380**		10	8.9	ug/L			01/24/24 13:47	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			01/24/24 13:47	10
Vinyl chloride	7.1	U	10	7.1	ug/L			01/24/24 13:47	10
Xylenes, Total	13	U	20	13	ug/L			01/24/24 13:47	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/24/24 13:47*	*10*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/24/24 13:47*	*10*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/24/24 13:47*	*10*

Client Sample ID: LC34-DPT0597-053.0-20240119
Lab Sample ID: 670-33457-32

Date Collected: 01/19/24 11:00
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4000	U	5000	4000	ug/L			01/24/24 17:32	5000
1,1,2,2-Tetrachloroethane	2700	U	5000	2700	ug/L			01/24/24 17:32	5000
1,1,2-Trichloro-1,2,2-trifluoroethane	3700	U	10000	3700	ug/L			01/24/24 17:32	5000
1,1,2-Trichloroethane	3800	U	10000	3800	ug/L			01/24/24 17:32	5000
1,1-Dichloroethane	3100	U	5000	3100	ug/L			01/24/24 17:32	5000
1,1-Dichloroethene	4700	U	5000	4700	ug/L			01/24/24 17:32	5000
1,2,4-Trichlorobenzene	3500	U	10000	3500	ug/L			01/24/24 17:32	5000
1,2-Dibromo-3-Chloropropane	4800	U	50000	4800	ug/L			01/24/24 17:32	5000
1,2-Dibromoethane (EDB)	3900	U	60000	3900	ug/L			01/24/24 17:32	5000
1,2-Dichlorobenzene	3700	U	5000	3700	ug/L			01/24/24 17:32	5000
1,2-Dichloroethane	3200	U	5000	3200	ug/L			01/24/24 17:32	5000
1,2-Dichloropropane	4000	U	5000	4000	ug/L			01/24/24 17:32	5000
1,3-Dichlorobenzene	3900	U	5000	3900	ug/L			01/24/24 17:32	5000
1,4-Dichlorobenzene	3800	U	5000	3800	ug/L			01/24/24 17:32	5000
2-Butanone (MEK)	23000	U	50000	23000	ug/L			01/24/24 17:32	5000
2-Hexanone	13000	U	100000	13000	ug/L			01/24/24 17:32	5000
4-Methyl-2-pentanone	25000	U	100000	25000	ug/L			01/24/24 17:32	5000
Acetone	130000	U	250000	130000	ug/L			01/24/24 17:32	5000

Client Sample ID: LC34-DPT0597-053.0-20240119
Lab Sample ID: 670-33457-32

Date Collected: 01/19/24 11:00
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	3600	U	5000	3600	ug/L			01/24/24 17:32	5000
Bromodichloromethane	2600	U	5000	2600	ug/L			01/24/24 17:32	5000
Bromoform	3800	U	5000	3800	ug/L			01/24/24 17:32	5000
Bromomethane	4800	U	10000	4800	ug/L			01/24/24 17:32	5000
Carbon disulfide	13000	U	25000	13000	ug/L			01/24/24 17:32	5000
Carbon tetrachloride	4700	U	5000	4700	ug/L			01/24/24 17:32	5000
Chlorobenzene	3600	U	5000	3600	ug/L			01/24/24 17:32	5000
Chloroethane	4900	U	10000	4900	ug/L			01/24/24 17:32	5000
Chloroform	4000	U	25000	4000	ug/L			01/24/24 17:32	5000
Chloromethane	4100	U	10000	4100	ug/L			01/24/24 17:32	5000
cis-1,2-Dichloroethene	**47000**		5000	2700	ug/L			01/24/24 17:32	5000
cis-1,3-Dichloropropene	3000	U	5000	3000	ug/L			01/24/24 17:32	5000
Cyclohexane	4700	U	25000	4700	ug/L			01/24/24 17:32	5000
Dibromochloromethane	2500	U	5000	2500	ug/L			01/24/24 17:32	5000
Dichlorodifluoromethane	3700	U	5000	3700	ug/L			01/24/24 17:32	5000
Ethylbenzene	3500	U	5000	3500	ug/L			01/24/24 17:32	5000
Isopropylbenzene	3400	U	10000	3400	ug/L			01/24/24 17:32	5000
m,p-Xylenes	6500	U	10000	6500	ug/L			01/24/24 17:32	5000
Methyl acetate	4800	U	50000	4800	ug/L			01/24/24 17:32	5000
Methyl tert-butyl ether	3000	U	10000	3000	ug/L			01/24/24 17:32	5000
Methylene Chloride	25000	U	50000	25000	ug/L			01/24/24 17:32	5000
o-Xylene	2700	U	5000	2700	ug/L			01/24/24 17:32	5000
Styrene	3100	U	5000	3100	ug/L			01/24/24 17:32	5000
Tetrachloroethene	3800	U	5000	3800	ug/L			01/24/24 17:32	5000
Toluene	3600	U	5000	3600	ug/L			01/24/24 17:32	5000
trans-1,2-Dichloroethene	3700	U	5000	3700	ug/L			01/24/24 17:32	5000
trans-1,3-Dichloropropene	3700	U	5000	3700	ug/L			01/24/24 17:32	5000
Trichloroethene	**620000**		10000	8900	ug/L			01/25/24 18:32	10000
Trichlorofluoromethane	4700	U	5000	4700	ug/L			01/24/24 17:32	5000
Vinyl chloride	3600	U	5000	3600	ug/L			01/24/24 17:32	5000
Xylenes, Total	6500	U	10000	6500	ug/L			01/24/24 17:32	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/24/24 17:32*	*5000*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/25/24 18:32*	*10000*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/24/24 17:32*	*5000*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/25/24 18:32*	*10000*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/24/24 17:32*	*5000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/25/24 18:32*	*10000*

Client Sample ID: LC34-DPT0597-098.0-20240119
Lab Sample ID: 670-33457-33

Date Collected: 01/19/24 14:50
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/24/24 16:03	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/24/24 16:03	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/24/24 16:03	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/24/24 16:03	1000

Client Sample ID: LC34-DPT0597-098.0-20240119
Lab Sample ID: 670-33457-33
Date Collected: 01/19/24 14:50
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	620	U	1000	620	ug/L			01/24/24 16:03	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/24/24 16:03	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/24/24 16:03	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/24/24 16:03	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/24/24 16:03	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/24/24 16:03	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/24/24 16:03	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/24/24 16:03	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/24/24 16:03	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/24/24 16:03	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/24/24 16:03	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/24/24 16:03	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/24/24 16:03	1000
Acetone	25000	U	50000	25000	ug/L			01/24/24 16:03	1000
Benzene	710	U	1000	710	ug/L			01/24/24 16:03	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/24/24 16:03	1000
Bromoform	750	U	1000	750	ug/L			01/24/24 16:03	1000
Bromomethane	950	U	2000	950	ug/L			01/24/24 16:03	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/24/24 16:03	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/24/24 16:03	1000
Chlorobenzene	720	U	1000	720	ug/L			01/24/24 16:03	1000
Chloroethane	980	U	2000	980	ug/L			01/24/24 16:03	1000
Chloroform	800	U	5000	800	ug/L			01/24/24 16:03	1000
Chloromethane	820	U	2000	820	ug/L			01/24/24 16:03	1000
cis-1,2-Dichloroethene	**1400**		1000	530	ug/L			01/24/24 16:03	1000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/24/24 16:03	1000
Cyclohexane	930	U	5000	930	ug/L			01/24/24 16:03	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/24/24 16:03	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/24/24 16:03	1000
Ethylbenzene	690	U	1000	690	ug/L			01/24/24 16:03	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/24/24 16:03	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/24/24 16:03	1000
Methyl acetate	950	U	10000	950	ug/L			01/24/24 16:03	1000
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/24/24 16:03	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/24/24 16:03	1000
o-Xylene	530	U	1000	530	ug/L			01/24/24 16:03	1000
Styrene	610	U	1000	610	ug/L			01/24/24 16:03	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/24/24 16:03	1000
Toluene	720	U	1000	720	ug/L			01/24/24 16:03	1000
trans-1,2-Dichloroethene	730	U	1000	730	ug/L			01/24/24 16:03	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/24/24 16:03	1000
Trichloroethene	**66000**		1000	890	ug/L			01/24/24 16:03	1000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/24/24 16:03	1000
Vinyl chloride	710	U	1000	710	ug/L			01/24/24 16:03	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/24/24 16:03	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/24/24 16:03*	*1000*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/24/24 16:03*	*1000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/24/24 16:03*	*1000*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33457-1

Client Sample ID: LC34-DPT0597-033.0-20240119
Date Collected: 01/19/24 09:45
Date Received: 01/20/24 09:11

Lab Sample ID: 670-33457-34
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	40	U	50	40	ug/L			01/24/24 14:49	50
1,1,2,2-Tetrachloroethane	27	U	50	27	ug/L			01/24/24 14:49	50
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	100	37	ug/L			01/24/24 14:49	50
1,1,2-Trichloroethane	38	U	100	38	ug/L			01/24/24 14:49	50
1,1-Dichloroethane	31	U	50	31	ug/L			01/24/24 14:49	50
1,1-Dichloroethene	47	U	50	47	ug/L			01/24/24 14:49	50
1,2,4-Trichlorobenzene	35	U	100	35	ug/L			01/24/24 14:49	50
1,2-Dibromo-3-Chloropropane	48	U	500	48	ug/L			01/24/24 14:49	50
1,2-Dibromoethane (EDB)	39	U	600	39	ug/L			01/24/24 14:49	50
1,2-Dichlorobenzene	37	U	50	37	ug/L			01/24/24 14:49	50
1,2-Dichloroethane	32	U	50	32	ug/L			01/24/24 14:49	50
1,2-Dichloropropane	40	U	50	40	ug/L			01/24/24 14:49	50
1,3-Dichlorobenzene	39	U	50	39	ug/L			01/24/24 14:49	50
1,4-Dichlorobenzene	38	U	50	38	ug/L			01/24/24 14:49	50
2-Butanone (MEK)	230	U	500	230	ug/L			01/24/24 14:49	50
2-Hexanone	130	U	1000	130	ug/L			01/24/24 14:49	50
4-Methyl-2-pentanone	250	U	1000	250	ug/L			01/24/24 14:49	50
Acetone	1300	U	2500	1300	ug/L			01/24/24 14:49	50
Benzene	36	U	50	36	ug/L			01/24/24 14:49	50
Bromodichloromethane	26	U	50	26	ug/L			01/24/24 14:49	50
Bromoform	38	U	50	38	ug/L			01/24/24 14:49	50
Bromomethane	48	U	100	48	ug/L			01/24/24 14:49	50
Carbon disulfide	130	U	250	130	ug/L			01/24/24 14:49	50
Carbon tetrachloride	47	U	50	47	ug/L			01/24/24 14:49	50
Chlorobenzene	36	U	50	36	ug/L			01/24/24 14:49	50
Chloroethane	49	U	100	49	ug/L			01/24/24 14:49	50
Chloroform	40	U	250	40	ug/L			01/24/24 14:49	50
Chloromethane	41	U	100	41	ug/L			01/24/24 14:49	50
cis-1,2-Dichloroethene	**1600**		50	27	ug/L			01/24/24 14:49	50
cis-1,3-Dichloropropene	30	U	50	30	ug/L			01/24/24 14:49	50
Cyclohexane	47	U	250	47	ug/L			01/24/24 14:49	50
Dibromochloromethane	25	U	50	25	ug/L			01/24/24 14:49	50
Dichlorodifluoromethane	37	U	50	37	ug/L			01/24/24 14:49	50
Ethylbenzene	35	U	50	35	ug/L			01/24/24 14:49	50
Isopropylbenzene	34	U	100	34	ug/L			01/24/24 14:49	50
m,p-Xylenes	65	U	100	65	ug/L			01/24/24 14:49	50
Methyl acetate	48	U	500	48	ug/L			01/24/24 14:49	50
Methyl tert-butyl ether	30	U	100	30	ug/L			01/24/24 14:49	50
Methylene Chloride	250	U	500	250	ug/L			01/24/24 14:49	50
o-Xylene	27	U	50	27	ug/L			01/24/24 14:49	50
Styrene	31	U	50	31	ug/L			01/24/24 14:49	50
Tetrachloroethene	38	U	50	38	ug/L			01/24/24 14:49	50
Toluene	36	U	50	36	ug/L			01/24/24 14:49	50
trans-1,2-Dichloroethene	**46**	**I**	50	37	ug/L			01/24/24 14:49	50
trans-1,3-Dichloropropene	37	U	50	37	ug/L			01/24/24 14:49	50
Trichloroethene	**61**		50	45	ug/L			01/24/24 14:49	50
Trichlorofluoromethane	47	U	50	47	ug/L			01/24/24 14:49	50
Vinyl chloride	**190**		50	36	ug/L			01/24/24 14:49	50
Xylenes, Total	65	U	100	65	ug/L			01/24/24 14:49	50

Client Sample ID: LC34-DPT0597-033.0-20240119

Lab Sample ID: 670-33457-34

Date Collected: 01/19/24 09:45

Matrix: Water

Date Received: 01/20/24 09:11

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/24/24 14:49*	*50*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/24/24 14:49*	*50*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 14:49*	*50*

Client Sample ID: LC34-DPT0597-093.0-20240119

Lab Sample ID: 670-33457-35

Date Collected: 01/19/24 13:20

Matrix: Water

Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/24/24 19:38	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/24/24 19:38	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/24/24 19:38	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/24/24 19:38	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/24/24 19:38	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/24/24 19:38	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/24/24 19:38	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/24/24 19:38	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/24/24 19:38	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/24/24 19:38	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/24/24 19:38	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/24/24 19:38	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/24/24 19:38	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/24/24 19:38	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/24/24 19:38	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/24/24 19:38	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/24/24 19:38	1000
Acetone	25000	U	50000	25000	ug/L			01/24/24 19:38	1000
Benzene	710	U	1000	710	ug/L			01/24/24 19:38	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/24/24 19:38	1000
Bromoform	750	U	1000	750	ug/L			01/24/24 19:38	1000
Bromomethane	950	U	2000	950	ug/L			01/24/24 19:38	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/24/24 19:38	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/24/24 19:38	1000
Chlorobenzene	720	U	1000	720	ug/L			01/24/24 19:38	1000
Chloroethane	980	U	2000	980	ug/L			01/24/24 19:38	1000
Chloroform	800	U	5000	800	ug/L			01/24/24 19:38	1000
Chloromethane	820	U	2000	820	ug/L			01/24/24 19:38	1000
cis-1,2-Dichloroethene	**810**	**I**	1000	530	ug/L			01/24/24 19:38	1000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/24/24 19:38	1000
Cyclohexane	930	U	5000	930	ug/L			01/24/24 19:38	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/24/24 19:38	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/24/24 19:38	1000
Ethylbenzene	690	U	1000	690	ug/L			01/24/24 19:38	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/24/24 19:38	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/24/24 19:38	1000
Methyl acetate	950	U J3	10000	950	ug/L			01/24/24 19:38	1000
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/24/24 19:38	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/24/24 19:38	1000
o-Xylene	530	U	1000	530	ug/L			01/24/24 19:38	1000

Client Sample ID: LC34-DPT0597-093.0-20240119
Lab Sample ID: 670-33457-35

Date Collected: 01/19/24 13:20
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	610	U	1000	610	ug/L			01/24/24 19:38	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/24/24 19:38	1000
Toluene	720	U	1000	720	ug/L			01/24/24 19:38	1000
trans-1,2-Dichloroethene	730	U	1000	730	ug/L			01/24/24 19:38	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/24/24 19:38	1000
Trichloroethene	**87000**		1000	890	ug/L			01/25/24 16:27	1000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/24/24 19:38	1000
Vinyl chloride	710	U	1000	710	ug/L			01/24/24 19:38	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/24/24 19:38	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*41 - 142*		*01/24/24 19:38*	*1000*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/25/24 16:27*	*1000*
Dibromofluoromethane (Surr)	*111*		*53 - 146*		*01/24/24 19:38*	*1000*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/25/24 16:27*	*1000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/24/24 19:38*	*1000*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/25/24 16:27*	*1000*

Client Sample ID: LC34-DPT0597-058.0-20240119
Lab Sample ID: 670-33457-36

Date Collected: 01/19/24 11:30
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	2000	U	2500	2000	ug/L			01/24/24 13:40	2500
1,1,2,2-Tetrachloroethane	1400	U	2500	1400	ug/L			01/24/24 13:40	2500
1,1,2-Trichloro-1,2,2-trifluoroethane	1800	U	5000	1800	ug/L			01/24/24 13:40	2500
1,1,2-Trichloroethane	1900	U	5000	1900	ug/L			01/24/24 13:40	2500
1,1-Dichloroethane	1600	U	2500	1600	ug/L			01/24/24 13:40	2500
1,1-Dichloroethene	2400	U	2500	2400	ug/L			01/24/24 13:40	2500
1,2,4-Trichlorobenzene	1800	U	5000	1800	ug/L			01/24/24 13:40	2500
1,2-Dibromo-3-Chloropropane	2400	U	25000	2400	ug/L			01/24/24 13:40	2500
1,2-Dibromoethane (EDB)	2000	U	30000	2000	ug/L			01/24/24 13:40	2500
1,2-Dichlorobenzene	1800	U	2500	1800	ug/L			01/24/24 13:40	2500
1,2-Dichloroethane	1600	U	2500	1600	ug/L			01/24/24 13:40	2500
1,2-Dichloropropane	2000	U	2500	2000	ug/L			01/24/24 13:40	2500
1,3-Dichlorobenzene	1900	U	2500	1900	ug/L			01/24/24 13:40	2500
1,4-Dichlorobenzene	1900	U	2500	1900	ug/L			01/24/24 13:40	2500
2-Butanone (MEK)	11000	U	25000	11000	ug/L			01/24/24 13:40	2500
2-Hexanone	6300	U	50000	6300	ug/L			01/24/24 13:40	2500
4-Methyl-2-pentanone	13000	U	50000	13000	ug/L			01/24/24 13:40	2500
Acetone	63000	U	130000	63000	ug/L			01/24/24 13:40	2500
Benzene	1800	U	2500	1800	ug/L			01/24/24 13:40	2500
Bromodichloromethane	1300	U	2500	1300	ug/L			01/24/24 13:40	2500
Bromoform	1900	U	2500	1900	ug/L			01/24/24 13:40	2500
Bromomethane	2400	U	5000	2400	ug/L			01/24/24 13:40	2500
Carbon disulfide	6300	U	13000	6300	ug/L			01/24/24 13:40	2500
Carbon tetrachloride	2400	U	2500	2400	ug/L			01/24/24 13:40	2500
Chlorobenzene	1800	U	2500	1800	ug/L			01/24/24 13:40	2500
Chloroethane	2500	U	5000	2500	ug/L			01/24/24 13:40	2500

Client Sample ID: LC34-DPT0597-058.0-20240119
Lab Sample ID: 670-33457-36

Date Collected: 01/19/24 11:30
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	2000	U	13000	2000	ug/L			01/24/24 13:40	2500
Chloromethane	2100	U	5000	2100	ug/L			01/24/24 13:40	2500
cis-1,2-Dichloroethene	**42000**		2500	1300	ug/L			01/24/24 13:40	2500
cis-1,3-Dichloropropene	1500	U	2500	1500	ug/L			01/24/24 13:40	2500
Cyclohexane	2300	U	13000	2300	ug/L			01/24/24 13:40	2500
Dibromochloromethane	1300	U	2500	1300	ug/L			01/24/24 13:40	2500
Dichlorodifluoromethane	1900	U	2500	1900	ug/L			01/24/24 13:40	2500
Ethylbenzene	1700	U	2500	1700	ug/L			01/24/24 13:40	2500
Isopropylbenzene	1700	U	5000	1700	ug/L			01/24/24 13:40	2500
m,p-Xylenes	3300	U	5000	3300	ug/L			01/24/24 13:40	2500
Methyl acetate	2400	U J3	25000	2400	ug/L			01/24/24 13:40	2500
Methyl tert-butyl ether	1500	U	5000	1500	ug/L			01/24/24 13:40	2500
Methylene Chloride	13000	U	25000	13000	ug/L			01/24/24 13:40	2500
o-Xylene	1300	U	2500	1300	ug/L			01/24/24 13:40	2500
Styrene	1500	U	2500	1500	ug/L			01/24/24 13:40	2500
Tetrachloroethene	1900	U	2500	1900	ug/L			01/24/24 13:40	2500
Toluene	1800	U	2500	1800	ug/L			01/24/24 13:40	2500
trans-1,2-Dichloroethene	1800	U	2500	1800	ug/L			01/24/24 13:40	2500
trans-1,3-Dichloropropene	1800	U	2500	1800	ug/L			01/24/24 13:40	2500
Trichloroethene	**700000**		10000	8900	ug/L			01/25/24 18:14	10000
Trichlorofluoromethane	2400	U	2500	2400	ug/L			01/24/24 13:40	2500
Vinyl chloride	**2300**	**I**	2500	1800	ug/L			01/24/24 13:40	2500
Xylenes, Total	3300	U	5000	3300	ug/L			01/24/24 13:40	2500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*41 - 142*		*01/24/24 13:40*	*2500*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/25/24 18:14*	*10000*
Dibromofluoromethane (Surr)	*111*		*53 - 146*		*01/24/24 13:40*	*2500*
Dibromofluoromethane (Surr)	*103*		*53 - 146*		*01/25/24 18:14*	*10000*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 13:40*	*2500*
Toluene-d8 (Surr)	*102*		*40 - 146*		*01/25/24 18:14*	*10000*

Client Sample ID: LC34-DPT0597-038.0-20240119
Lab Sample ID: 670-33457-37

Date Collected: 01/19/24 10:00
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/24/24 16:48	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/24/24 16:48	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/24/24 16:48	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/24/24 16:48	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/24/24 16:48	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/24/24 16:48	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/24/24 16:48	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/24/24 16:48	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/24/24 16:48	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/24/24 16:48	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/24/24 16:48	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/24/24 16:48	100

Client Sample ID: LC34-DPT0597-038.0-20240119
Lab Sample ID: 670-33457-37

Date Collected: 01/19/24 10:00
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/24/24 16:48	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/24/24 16:48	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/24/24 16:48	100
2-Hexanone	250	U	2000	250	ug/L			01/24/24 16:48	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/24/24 16:48	100
Acetone	2500	U	5000	2500	ug/L			01/24/24 16:48	100
Benzene	71	U	100	71	ug/L			01/24/24 16:48	100
Bromodichloromethane	52	U	100	52	ug/L			01/24/24 16:48	100
Bromoform	75	U	100	75	ug/L			01/24/24 16:48	100
Bromomethane	95	U	200	95	ug/L			01/24/24 16:48	100
Carbon disulfide	250	U	500	250	ug/L			01/24/24 16:48	100
Carbon tetrachloride	94	U	100	94	ug/L			01/24/24 16:48	100
Chlorobenzene	72	U	100	72	ug/L			01/24/24 16:48	100
Chloroethane	98	U	200	98	ug/L			01/24/24 16:48	100
Chloroform	80	U	500	80	ug/L			01/24/24 16:48	100
Chloromethane	82	U	200	82	ug/L			01/24/24 16:48	100
cis-1,2-Dichloroethene	**2000**		100	53	ug/L			01/24/24 16:48	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/24/24 16:48	100
Cyclohexane	93	U	500	93	ug/L			01/24/24 16:48	100
Dibromochloromethane	50	U	100	50	ug/L			01/24/24 16:48	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/24/24 16:48	100
Ethylbenzene	69	U	100	69	ug/L			01/24/24 16:48	100
Isopropylbenzene	67	U	200	67	ug/L			01/24/24 16:48	100
m,p-Xylenes	130	U	200	130	ug/L			01/24/24 16:48	100
Methyl acetate	95	U J3	1000	95	ug/L			01/24/24 16:48	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/24/24 16:48	100
Methylene Chloride	500	U	1000	500	ug/L			01/24/24 16:48	100
o-Xylene	53	U	100	53	ug/L			01/24/24 16:48	100
Styrene	61	U	100	61	ug/L			01/24/24 16:48	100
Tetrachloroethene	76	U	100	76	ug/L			01/24/24 16:48	100
Toluene	72	U	100	72	ug/L			01/24/24 16:48	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			01/24/24 16:48	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/24/24 16:48	100
Trichloroethene	89	U	100	89	ug/L			01/24/24 16:48	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/24/24 16:48	100
Vinyl chloride	**310**		100	71	ug/L			01/24/24 16:48	100
Xylenes, Total	130	U	200	130	ug/L			01/24/24 16:48	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*41 - 142*		*01/24/24 16:48*	*100*
Dibromofluoromethane (Surr)	*111*		*53 - 146*		*01/24/24 16:48*	*100*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/24/24 16:48*	*100*

Client Sample ID: LC34-DPT0597-078.0-20240119
Lab Sample ID: 670-33457-38

Date Collected: 01/19/24 11:45
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	400	U	500	400	ug/L			01/24/24 19:38	500

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33457-1

Client Sample ID: LC34-DPT0597-078.0-20240119
Date Collected: 01/19/24 11:45
Date Received: 01/20/24 09:11

Lab Sample ID: 670-33457-38
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	270	U	500	270	ug/L			01/24/24 19:38	500
1,1,2-Trichloro-1,2,2-trifluoroethane	370	U	1000	370	ug/L			01/24/24 19:38	500
1,1,2-Trichloroethane	380	U	1000	380	ug/L			01/24/24 19:38	500
1,1-Dichloroethane	310	U	500	310	ug/L			01/24/24 19:38	500
1,1-Dichloroethene	470	U	500	470	ug/L			01/24/24 19:38	500
1,2,4-Trichlorobenzene	350	U	1000	350	ug/L			01/24/24 19:38	500
1,2-Dibromo-3-Chloropropane	480	U	5000	480	ug/L			01/24/24 19:38	500
1,2-Dibromoethane (EDB)	390	U	6000	390	ug/L			01/24/24 19:38	500
1,2-Dichlorobenzene	370	U	500	370	ug/L			01/24/24 19:38	500
1,2-Dichloroethane	320	U	500	320	ug/L			01/24/24 19:38	500
1,2-Dichloropropane	400	U	500	400	ug/L			01/24/24 19:38	500
1,3-Dichlorobenzene	390	U	500	390	ug/L			01/24/24 19:38	500
1,4-Dichlorobenzene	380	U	500	380	ug/L			01/24/24 19:38	500
2-Butanone (MEK)	2300	U	5000	2300	ug/L			01/24/24 19:38	500
2-Hexanone	1300	U	10000	1300	ug/L			01/24/24 19:38	500
4-Methyl-2-pentanone	2500	U	10000	2500	ug/L			01/24/24 19:38	500
Acetone	13000	U	25000	13000	ug/L			01/24/24 19:38	500
Benzene	360	U	500	360	ug/L			01/24/24 19:38	500
Bromodichloromethane	260	U	500	260	ug/L			01/24/24 19:38	500
Bromoform	380	U	500	380	ug/L			01/24/24 19:38	500
Bromomethane	480	U	1000	480	ug/L			01/24/24 19:38	500
Carbon disulfide	1300	U	2500	1300	ug/L			01/24/24 19:38	500
Carbon tetrachloride	470	U	500	470	ug/L			01/24/24 19:38	500
Chlorobenzene	360	U	500	360	ug/L			01/24/24 19:38	500
Chloroethane	490	U	1000	490	ug/L			01/24/24 19:38	500
Chloroform	400	U	2500	400	ug/L			01/24/24 19:38	500
Chloromethane	410	U	1000	410	ug/L			01/24/24 19:38	500
cis-1,2-Dichloroethene	**7300**		500	270	ug/L			01/24/24 19:38	500
cis-1,3-Dichloropropene	300	U	500	300	ug/L			01/24/24 19:38	500
Cyclohexane	470	U	2500	470	ug/L			01/24/24 19:38	500
Dibromochloromethane	250	U	500	250	ug/L			01/24/24 19:38	500
Dichlorodifluoromethane	370	U	500	370	ug/L			01/24/24 19:38	500
Ethylbenzene	350	U	500	350	ug/L			01/24/24 19:38	500
Isopropylbenzene	340	U	1000	340	ug/L			01/24/24 19:38	500
m,p-Xylenes	650	U	1000	650	ug/L			01/24/24 19:38	500
Methyl acetate	480	U J3	5000	480	ug/L			01/24/24 19:38	500
Methyl tert-butyl ether	300	U	1000	300	ug/L			01/24/24 19:38	500
Methylene Chloride	2500	U	5000	2500	ug/L			01/24/24 19:38	500
o-Xylene	270	U	500	270	ug/L			01/24/24 19:38	500
Styrene	310	U	500	310	ug/L			01/24/24 19:38	500
Tetrachloroethene	380	U	500	380	ug/L			01/24/24 19:38	500
Toluene	360	U	500	360	ug/L			01/24/24 19:38	500
trans-1,2-Dichloroethene	370	U	500	370	ug/L			01/24/24 19:38	500
trans-1,3-Dichloropropene	370	U	500	370	ug/L			01/24/24 19:38	500
Trichloroethene	**140000**		5000	4500	ug/L			01/25/24 17:39	5000
Trichlorofluoromethane	470	U	500	470	ug/L			01/24/24 19:38	500
Vinyl chloride	360	U	500	360	ug/L			01/24/24 19:38	500
Xylenes, Total	650	U	1000	650	ug/L			01/24/24 19:38	500

Client Sample ID: LC34-DPT0597-078.0-20240119
Lab Sample ID: 670-33457-38

Date Collected: 01/19/24 11:45
Matrix: Water
Date Received: 01/20/24 09:11

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*41 - 142*		*01/24/24 19:38*	*500*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/25/24 17:39*	*5000*
Dibromofluoromethane (Surr)	*112*		*53 - 146*		*01/24/24 19:38*	*500*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/25/24 17:39*	*5000*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 19:38*	*500*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/25/24 17:39*	*5000*

Client Sample ID: LC34-DPT0597-043.0-20240119
Lab Sample ID: 670-33457-39

Date Collected: 01/19/24 10:15
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/24/24 19:57	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/24/24 19:57	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/24/24 19:57	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/24/24 19:57	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/24/24 19:57	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/24/24 19:57	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/24/24 19:57	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/24/24 19:57	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/24/24 19:57	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/24/24 19:57	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/24/24 19:57	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/24/24 19:57	1000
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/24/24 19:57	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/24/24 19:57	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/24/24 19:57	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/24/24 19:57	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/24/24 19:57	1000
Acetone	25000	U	50000	25000	ug/L			01/24/24 19:57	1000
Benzene	710	U	1000	710	ug/L			01/24/24 19:57	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/24/24 19:57	1000
Bromoform	750	U	1000	750	ug/L			01/24/24 19:57	1000
Bromomethane	950	U	2000	950	ug/L			01/24/24 19:57	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/24/24 19:57	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/24/24 19:57	1000
Chlorobenzene	720	U	1000	720	ug/L			01/24/24 19:57	1000
Chloroethane	980	U	2000	980	ug/L			01/24/24 19:57	1000
Chloroform	800	U	5000	800	ug/L			01/24/24 19:57	1000
Chloromethane	820	U	2000	820	ug/L			01/24/24 19:57	1000
cis-1,2-Dichloroethene	**38000**		1000	530	ug/L			01/24/24 19:57	1000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/24/24 19:57	1000
Cyclohexane	930	U	5000	930	ug/L			01/24/24 19:57	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/24/24 19:57	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/24/24 19:57	1000
Ethylbenzene	690	U	1000	690	ug/L			01/24/24 19:57	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/24/24 19:57	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/24/24 19:57	1000
Methyl acetate	950	U J3	10000	950	ug/L			01/24/24 19:57	1000

Client Sample ID: LC34-DPT0597-043.0-20240119
Lab Sample ID: 670-33457-39

Date Collected: 01/19/24 10:15
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/24/24 19:57	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/24/24 19:57	1000
o-Xylene	530	U	1000	530	ug/L			01/24/24 19:57	1000
Styrene	610	U	1000	610	ug/L			01/24/24 19:57	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/24/24 19:57	1000
Toluene	720	U	1000	720	ug/L			01/24/24 19:57	1000
trans-1,2-Dichloroethene	**1100**		1000	730	ug/L			01/24/24 19:57	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/24/24 19:57	1000
Trichloroethene	**13000**		1000	890	ug/L			01/24/24 19:57	1000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/24/24 19:57	1000
Vinyl chloride	710	U	1000	710	ug/L			01/24/24 19:57	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/24/24 19:57	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*41 - 142*		*01/24/24 19:57*	*1000*
Dibromofluoromethane (Surr)	*112*		*53 - 146*		*01/24/24 19:57*	*1000*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 19:57*	*1000*

Client Sample ID: LC34-DPT0597-063.0-20240119
Lab Sample ID: 670-33457-40

Date Collected: 01/19/24 12:00
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1600	U	2000	1600	ug/L			01/24/24 20:35	2000
1,1,2,2-Tetrachloroethane	1100	U	2000	1100	ug/L			01/24/24 20:35	2000
1,1,2-Trichloro-1,2,2-trifluoroethane	1500	U	4000	1500	ug/L			01/24/24 20:35	2000
1,1,2-Trichloroethane	1500	U	4000	1500	ug/L			01/24/24 20:35	2000
1,1-Dichloroethane	1200	U	2000	1200	ug/L			01/24/24 20:35	2000
1,1-Dichloroethene	1900	U	2000	1900	ug/L			01/24/24 20:35	2000
1,2,4-Trichlorobenzene	1400	U	4000	1400	ug/L			01/24/24 20:35	2000
1,2-Dibromo-3-Chloropropane	1900	U	20000	1900	ug/L			01/24/24 20:35	2000
1,2-Dibromoethane (EDB)	1600	U	24000	1600	ug/L			01/24/24 20:35	2000
1,2-Dichlorobenzene	1500	U	2000	1500	ug/L			01/24/24 20:35	2000
1,2-Dichloroethane	1300	U	2000	1300	ug/L			01/24/24 20:35	2000
1,2-Dichloropropane	1600	U	2000	1600	ug/L			01/24/24 20:35	2000
1,3-Dichlorobenzene	1500	U	2000	1500	ug/L			01/24/24 20:35	2000
1,4-Dichlorobenzene	1500	U	2000	1500	ug/L			01/24/24 20:35	2000
2-Butanone (MEK)	9000	U	20000	9000	ug/L			01/24/24 20:35	2000
2-Hexanone	5000	U	40000	5000	ug/L			01/24/24 20:35	2000
4-Methyl-2-pentanone	10000	U	40000	10000	ug/L			01/24/24 20:35	2000
Acetone	50000	U	100000	50000	ug/L			01/24/24 20:35	2000
Benzene	1400	U	2000	1400	ug/L			01/24/24 20:35	2000
Bromodichloromethane	1000	U	2000	1000	ug/L			01/24/24 20:35	2000
Bromoform	1500	U	2000	1500	ug/L			01/24/24 20:35	2000
Bromomethane	1900	U	4000	1900	ug/L			01/24/24 20:35	2000
Carbon disulfide	5000	U	10000	5000	ug/L			01/24/24 20:35	2000
Carbon tetrachloride	1900	U	2000	1900	ug/L			01/24/24 20:35	2000
Chlorobenzene	1400	U	2000	1400	ug/L			01/24/24 20:35	2000
Chloroethane	2000	U	4000	2000	ug/L			01/24/24 20:35	2000

Client Sample ID: LC34-DPT0597-063.0-20240119
Lab Sample ID: 670-33457-40

Date Collected: 01/19/24 12:00
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	1600	U	10000	1600	ug/L			01/24/24 20:35	2000
Chloromethane	1600	U	4000	1600	ug/L			01/24/24 20:35	2000
cis-1,2-Dichloroethene	**30000**		2000	1100	ug/L			01/24/24 20:35	2000
cis-1,3-Dichloropropene	1200	U	2000	1200	ug/L			01/24/24 20:35	2000
Cyclohexane	1900	U	10000	1900	ug/L			01/24/24 20:35	2000
Dibromochloromethane	1000	U	2000	1000	ug/L			01/24/24 20:35	2000
Dichlorodifluoromethane	1500	U	2000	1500	ug/L			01/24/24 20:35	2000
Ethylbenzene	1400	U	2000	1400	ug/L			01/24/24 20:35	2000
Isopropylbenzene	1300	U	4000	1300	ug/L			01/24/24 20:35	2000
m,p-Xylenes	2600	U	4000	2600	ug/L			01/24/24 20:35	2000
Methyl acetate	1900	U J3	20000	1900	ug/L			01/24/24 20:35	2000
Methyl tert-butyl ether	1200	U	4000	1200	ug/L			01/24/24 20:35	2000
Methylene Chloride	10000	U	20000	10000	ug/L			01/24/24 20:35	2000
o-Xylene	1100	U	2000	1100	ug/L			01/24/24 20:35	2000
Styrene	1200	U	2000	1200	ug/L			01/24/24 20:35	2000
Tetrachloroethene	1500	U	2000	1500	ug/L			01/24/24 20:35	2000
Toluene	1400	U	2000	1400	ug/L			01/24/24 20:35	2000
trans-1,2-Dichloroethene	1500	U	2000	1500	ug/L			01/24/24 20:35	2000
trans-1,3-Dichloropropene	1500	U	2000	1500	ug/L			01/24/24 20:35	2000
Trichloroethene	**300000**		5000	4500	ug/L			01/25/24 17:56	5000
Trichlorofluoromethane	1900	U	2000	1900	ug/L			01/24/24 20:35	2000
Vinyl chloride	**1400**	**I**	2000	1400	ug/L			01/24/24 20:35	2000
Xylenes, Total	2600	U	4000	2600	ug/L			01/24/24 20:35	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*41 - 142*		*01/24/24 20:35*	*2000*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/25/24 17:56*	*5000*
Dibromofluoromethane (Surr)	*110*		*53 - 146*		*01/24/24 20:35*	*2000*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/25/24 17:56*	*5000*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/24/24 20:35*	*2000*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/25/24 17:56*	*5000*

Client Sample ID: LC34-DPT0597-083.0-20240119
Lab Sample ID: 670-33457-41

Date Collected: 01/19/24 12:15
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	800	U	1000	800	ug/L			01/24/24 20:16	1000
1,1,2,2-Tetrachloroethane	540	U	1000	540	ug/L			01/24/24 20:16	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	730	U	2000	730	ug/L			01/24/24 20:16	1000
1,1,2-Trichloroethane	760	U	2000	760	ug/L			01/24/24 20:16	1000
1,1-Dichloroethane	620	U	1000	620	ug/L			01/24/24 20:16	1000
1,1-Dichloroethene	940	U	1000	940	ug/L			01/24/24 20:16	1000
1,2,4-Trichlorobenzene	700	U	2000	700	ug/L			01/24/24 20:16	1000
1,2-Dibromo-3-Chloropropane	960	U	10000	960	ug/L			01/24/24 20:16	1000
1,2-Dibromoethane (EDB)	780	U	12000	780	ug/L			01/24/24 20:16	1000
1,2-Dichlorobenzene	730	U	1000	730	ug/L			01/24/24 20:16	1000
1,2-Dichloroethane	630	U	1000	630	ug/L			01/24/24 20:16	1000
1,2-Dichloropropane	800	U	1000	800	ug/L			01/24/24 20:16	1000

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33457-1

Client Sample ID: LC34-DPT0597-083.0-20240119
Date Collected: 01/19/24 12:15
Date Received: 01/20/24 09:11

Lab Sample ID: 670-33457-41
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	770	U	1000	770	ug/L			01/24/24 20:16	1000
1,4-Dichlorobenzene	760	U	1000	760	ug/L			01/24/24 20:16	1000
2-Butanone (MEK)	4500	U	10000	4500	ug/L			01/24/24 20:16	1000
2-Hexanone	2500	U	20000	2500	ug/L			01/24/24 20:16	1000
4-Methyl-2-pentanone	5000	U	20000	5000	ug/L			01/24/24 20:16	1000
Acetone	25000	U	50000	25000	ug/L			01/24/24 20:16	1000
Benzene	710	U	1000	710	ug/L			01/24/24 20:16	1000
Bromodichloromethane	520	U	1000	520	ug/L			01/24/24 20:16	1000
Bromoform	750	U	1000	750	ug/L			01/24/24 20:16	1000
Bromomethane	950	U	2000	950	ug/L			01/24/24 20:16	1000
Carbon disulfide	2500	U	5000	2500	ug/L			01/24/24 20:16	1000
Carbon tetrachloride	940	U	1000	940	ug/L			01/24/24 20:16	1000
Chlorobenzene	720	U	1000	720	ug/L			01/24/24 20:16	1000
Chloroethane	980	U	2000	980	ug/L			01/24/24 20:16	1000
Chloroform	800	U	5000	800	ug/L			01/24/24 20:16	1000
Chloromethane	820	U	2000	820	ug/L			01/24/24 20:16	1000
cis-1,2-Dichloroethene	**2400**		1000	530	ug/L			01/24/24 20:16	1000
cis-1,3-Dichloropropene	590	U	1000	590	ug/L			01/24/24 20:16	1000
Cyclohexane	930	U	5000	930	ug/L			01/24/24 20:16	1000
Dibromochloromethane	500	U	1000	500	ug/L			01/24/24 20:16	1000
Dichlorodifluoromethane	740	U	1000	740	ug/L			01/24/24 20:16	1000
Ethylbenzene	690	U	1000	690	ug/L			01/24/24 20:16	1000
Isopropylbenzene	670	U	2000	670	ug/L			01/24/24 20:16	1000
m,p-Xylenes	1300	U	2000	1300	ug/L			01/24/24 20:16	1000
Methyl acetate	950	U J3	10000	950	ug/L			01/24/24 20:16	1000
Methyl tert-butyl ether	600	U	2000	600	ug/L			01/24/24 20:16	1000
Methylene Chloride	5000	U	10000	5000	ug/L			01/24/24 20:16	1000
o-Xylene	530	U	1000	530	ug/L			01/24/24 20:16	1000
Styrene	610	U	1000	610	ug/L			01/24/24 20:16	1000
Tetrachloroethene	760	U	1000	760	ug/L			01/24/24 20:16	1000
Toluene	720	U	1000	720	ug/L			01/24/24 20:16	1000
trans-1,2-Dichloroethene	730	U	1000	730	ug/L			01/24/24 20:16	1000
trans-1,3-Dichloropropene	730	U	1000	730	ug/L			01/24/24 20:16	1000
Trichloroethene	**100000**		2000	1800	ug/L			01/25/24 16:44	2000
Trichlorofluoromethane	940	U	1000	940	ug/L			01/24/24 20:16	1000
Vinyl chloride	710	U	1000	710	ug/L			01/24/24 20:16	1000
Xylenes, Total	1300	U	2000	1300	ug/L			01/24/24 20:16	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*41 - 142*		*01/24/24 20:16*	*1000*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*01/25/24 16:44*	*2000*
Dibromofluoromethane (Surr)	*112*		*53 - 146*		*01/24/24 20:16*	*1000*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/25/24 16:44*	*2000*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/24/24 20:16*	*1000*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/25/24 16:44*	*2000*

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0597-068.0-20240119
Lab Sample ID: 670-33457-42
Date Collected: 01/19/24 12:25
Matrix: Water
Date Received: 01/20/24 09:11

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/24/24 17:45	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/24/24 17:45	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/24/24 17:45	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/24/24 17:45	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/24/24 17:45	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/24/24 17:45	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/24/24 17:45	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/24/24 17:45	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/24/24 17:45	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/24/24 17:45	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/24/24 17:45	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/24/24 17:45	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/24/24 17:45	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/24/24 17:45	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/24/24 17:45	100
2-Hexanone	250	U	2000	250	ug/L			01/24/24 17:45	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/24/24 17:45	100
Acetone	2500	U	5000	2500	ug/L			01/24/24 17:45	100
Benzene	71	U	100	71	ug/L			01/24/24 17:45	100
Bromodichloromethane	52	U	100	52	ug/L			01/24/24 17:45	100
Bromoform	75	U	100	75	ug/L			01/24/24 17:45	100
Bromomethane	95	U	200	95	ug/L			01/24/24 17:45	100
Carbon disulfide	250	U	500	250	ug/L			01/24/24 17:45	100
Carbon tetrachloride	94	U	100	94	ug/L			01/24/24 17:45	100
Chlorobenzene	72	U	100	72	ug/L			01/24/24 17:45	100
Chloroethane	98	U	200	98	ug/L			01/24/24 17:45	100
Chloroform	80	U	500	80	ug/L			01/24/24 17:45	100
Chloromethane	82	U	200	82	ug/L			01/24/24 17:45	100
cis-1,2-Dichloroethene	**74**	**I**	100	53	ug/L			01/24/24 17:45	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/24/24 17:45	100
Cyclohexane	93	U	500	93	ug/L			01/24/24 17:45	100
Dibromochloromethane	50	U	100	50	ug/L			01/24/24 17:45	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/24/24 17:45	100
Ethylbenzene	69	U	100	69	ug/L			01/24/24 17:45	100
Isopropylbenzene	67	U	200	67	ug/L			01/24/24 17:45	100
m,p-Xylenes	130	U	200	130	ug/L			01/24/24 17:45	100
Methyl acetate	95	U J3	1000	95	ug/L			01/24/24 17:45	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/24/24 17:45	100
Methylene Chloride	500	U	1000	500	ug/L			01/24/24 17:45	100
o-Xylene	53	U	100	53	ug/L			01/24/24 17:45	100
Styrene	61	U	100	61	ug/L			01/24/24 17:45	100
Tetrachloroethene	76	U	100	76	ug/L			01/24/24 17:45	100
Toluene	72	U	100	72	ug/L			01/24/24 17:45	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			01/24/24 17:45	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/24/24 17:45	100
Trichloroethene	**5300**		100	89	ug/L			01/24/24 17:45	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/24/24 17:45	100
Vinyl chloride	71	U	100	71	ug/L			01/24/24 17:45	100
Xylenes, Total	130	U	200	130	ug/L			01/24/24 17:45	100

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0597-068.0-20240119
Lab Sample ID: 670-33457-42
Date Collected: 01/19/24 12:25
Matrix: Water
Date Received: 01/20/24 09:11

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		41 - 142		01/24/24 17:45	100
Dibromofluoromethane (Surr)	112		53 - 146		01/24/24 17:45	100
Toluene-d8 (Surr)	100		40 - 146		01/24/24 17:45	100

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33457-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-33372-A-20 MS	Matrix Spike	98	101	100
670-33372-A-20 MSD	Matrix Spike Duplicate	98	100	99
670-33457-1 - DL	LC34-DPT0593-053.0-20240118	95	100	102
670-33457-1 - DL	LC34-DPT0593-053.0-20240118	97	103	100
670-33457-2 - DL	LC34-DPT0595-078.0-20240118	100	101	103
670-33457-3 - DL	LC34-DPT0594-063.0-20240118	96	106	104
670-33457-4 - DL	LC34-DPT0593-058.0-20240118	100	102	99
670-33457-5	LC34-DPT0595-083.0-20240118	98	105	100
670-33457-6 - DL	LC34-DPT0594-068.0-20240118	94	109	105
670-33457-6 - DL	LC34-DPT0594-068.0-20240118	96	103	100
670-33457-7 - DL	LC34-DPT0593-063.0-20240118	98	108	101
670-33457-7 - DL	LC34-DPT0593-063.0-20240118	96	102	99
670-33457-8 - DL	LC34-DPT0594-073.0-20240118	99	105	102
670-33457-9	LC34-DPT0595-088.0-20240118	98	104	101
670-33457-9 MS	LC34-DPT0595-088.0-20240118	94	102	98
670-33457-9 MSD	LC34-DPT0595-088.0-20240118	96	100	100
670-33457-10 - DL	LC34-DPT0597-088.0-20240119	99	108	101
670-33457-10 - DL	LC34-DPT0597-088.0-20240119	100	103	99
670-33457-11 - DL	LC34-DPT0593-068.0-20240118	101	108	103
670-33457-11 - DL	LC34-DPT0593-068.0-20240118	98	102	100
670-33457-12 - DL	LC34-DPT0594-078.0-20240118	99	104	100
670-33457-12 - DL	LC34-DPT0594-078.0-20240118	102	101	101
670-33457-13	LC34-DPT0595-093.0-20240118	101	102	102
670-33457-14 - DL	LC34-DPT0593-073.0-20240118	100	101	98
670-33457-14 - DL	LC34-DPT0593-073.0-20240118	88	112	98
670-33457-15 - DL	LC34-DPT0594-083.0-20240118	87	112	99
670-33457-16	LC34-DPT0595-098.0-20240118	100	103	98
670-33457-17 - DL	LC34-DPT0593-078.0-20240118	99	103	100
670-33457-18 - DL	LC34-DPT0594-088.0-20240118	98	102	99

Surrogate Summary

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-33457-19 - DL	LC34-DPT0593-083.0-20240119	98	104	99
670-33457-19 - DL	LC34-DPT0593-083.0-20240119	101	104	100
670-33457-20 - DL	LC34-DPT0594-098.0-20240119	101	103	99
670-33457-21 - DL	LC34-DPT0593-088.0-20240119	102	104	99
670-33457-22 - DL	LC34-DPT0597-008.0-20240119	101	103	100
670-33457-23 - DL	LC34-DPT0597-013.0-20240119	100	103	101
670-33457-24 - DL	LC34-DPT0597-018.0-20240119	98	105	100
670-33457-24 MS - DL	LC34-DPT0597-018.0-20240119	99	102	102
670-33457-24 MSD - DL	LC34-DPT0597-018.0-20240119	98	102	99
670-33457-25 - DL	LC34-DPT0594-098.0-20240119	96	102	98
670-33457-26 - DL	LC34-DPT0593-093.0-20240119	99	103	99
670-33457-27 - DL	LC34-DPT0597-023.0-20240119	94	102	100
670-33457-28 - DL	LC34-DPT0597-028.0-20240119	101	102	99
670-33457-29 - DL	LC34-DPT0597-048.0-20240119	99	104	99
670-33457-30 - DL	LC34-DPT0593-098.0-20240119	98	103	101
670-33457-31 - DL	LC34-DPT0597-073.0-20240119	99	105	100
670-33457-32 - DL	LC34-DPT0597-053.0-20240119	98	104	101
670-33457-32 - DL	LC34-DPT0597-053.0-20240119	99	104	100
670-33457-33 - DL	LC34-DPT0597-098.0-20240119	98	103	100
670-33457-34 - DL	LC34-DPT0597-033.0-20240119	98	101	99
670-33457-35 - DL	LC34-DPT0597-093.0-20240119	86	111	100
670-33457-35 - DL	LC34-DPT0597-093.0-20240119	101	101	101
670-33457-36 - DL	LC34-DPT0597-058.0-20240119	89	111	99
670-33457-36 - DL	LC34-DPT0597-058.0-20240119	104	103	102
670-33457-36 MS - DL	LC34-DPT0597-058.0-20240119	82	107	97
670-33457-36 MSD - DL	LC34-DPT0597-058.0-20240119	85	104	96
670-33457-37 - DL	LC34-DPT0597-038.0-20240119	87	111	100
670-33457-38 - DL	LC34-DPT0597-078.0-20240119	86	112	99
670-33457-38 - DL	LC34-DPT0597-078.0-20240119	100	104	101

Surrogate Summary

Client: Tetra Tech, Inc. Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-33457-39 - DL	LC34-DPT0597-043.0-20240119	87	112	99
670-33457-40 - DL	LC34-DPT0597-063.0-20240119	85	110	100
670-33457-40 - DL	LC34-DPT0597-063.0-20240119	100	101	99
670-33457-41 - DL	LC34-DPT0597-083.0-20240119	86	112	101
670-33457-41 - DL	LC34-DPT0597-083.0-20240119	101	102	99
670-33457-42 - DL	LC34-DPT0597-068.0-20240119	86	112	100
670-33615-D-1 MS	Matrix Spike	96	100	100
670-33615-D-1 MSD	Matrix Spike Duplicate	98	102	101
LB 670-72408/1-A	Method Blank	98	105	105
LCS 670-72669/5	Lab Control Sample	97	97	99
LCS 670-72672/4	Lab Control Sample	97	102	104
LCS 670-72674/4	Lab Control Sample	97	101	99
LCS 670-72862/4	Lab Control Sample	98	103	99
LCS 670-72868/6	Lab Control Sample	86	102	97
LCS 670-72903/5	Lab Control Sample	98	102	99
LCS 670-73081/4	Lab Control Sample	98	104	97
LCSD 670-73081/5	Lab Control Sample Dup	100	100	99
MB 670-72669/8	Method Blank	100	107	101
MB 670-72672/7	Method Blank	100	105	105
MB 670-72674/7	Method Blank	100	101	100
MB 670-72862/7	Method Blank	99	104	99
MB 670-72868/9	Method Blank	87	110	101
MB 670-72903/8	Method Blank	99	102	99
MB 670-73081/8	Method Blank	104	101	100

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-33334-A-1-A MS - DL	Matrix Spike	95	100	100
670-33334-A-1-A MSD - DL	Matrix Spike Duplicate	97	101	99
670-33365-C-1-B MS	Matrix Spike	100	102	102
670-33365-C-1-B MSD	Matrix Spike Duplicate	103	100	101

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-72669/8
Matrix: Water
Analysis Batch: 72669

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/23/24 13:06	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/23/24 13:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/23/24 13:06	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/23/24 13:06	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/23/24 13:06	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/23/24 13:06	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/23/24 13:06	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/23/24 13:06	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/23/24 13:06	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/23/24 13:06	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/23/24 13:06	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/23/24 13:06	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/23/24 13:06	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/23/24 13:06	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/23/24 13:06	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/23/24 13:06	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/23/24 13:06	1
Acetone	25	U	50	25	ug/L			01/23/24 13:06	1
Benzene	0.71	U	1.0	0.71	ug/L			01/23/24 13:06	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/23/24 13:06	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/23/24 13:06	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/23/24 13:06	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/23/24 13:06	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/23/24 13:06	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/23/24 13:06	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/23/24 13:06	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/23/24 13:06	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/23/24 13:06	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/23/24 13:06	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/23/24 13:06	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/23/24 13:06	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/23/24 13:06	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/23/24 13:06	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/23/24 13:06	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/23/24 13:06	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/23/24 13:06	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/23/24 13:06	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/23/24 13:06	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/23/24 13:06	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/23/24 13:06	1
Styrene	0.61	U	1.0	0.61	ug/L			01/23/24 13:06	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/23/24 13:06	1
Toluene	0.72	U	1.0	0.72	ug/L			01/23/24 13:06	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/23/24 13:06	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/23/24 13:06	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/23/24 13:06	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/23/24 13:06	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/23/24 13:06	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72669/8
Matrix: Water
Analysis Batch: 72669

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/23/24 13:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/23/24 13:06*	*1*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*01/23/24 13:06*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/23/24 13:06*	*1*

Lab Sample ID: LCS 670-72669/5
Matrix: Water
Analysis Batch: 72669

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.4		ug/L		102	57 - 148
1,1,2,2-Tetrachloroethane	20.0	19.6		ug/L		98	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	19.2		ug/L		96	47 - 173
1,1,2-Trichloroethane	20.0	19.6		ug/L		98	57 - 141
1,1-Dichloroethane	20.0	24.2		ug/L		121	57 - 142
1,1-Dichloroethene	20.0	22.4		ug/L		112	47 - 139
1,2,4-Trichlorobenzene	20.0	16.3		ug/L		82	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	12.9		ug/L		65	48 - 150
1,2-Dibromoethane (EDB)	20.0	18.2		ug/L		91	57 - 140
1,2-Dichlorobenzene	20.0	19.7		ug/L		99	63 - 131
1,2-Dichloroethane	20.0	20.5		ug/L		102	50 - 156
1,2-Dichloropropane	20.0	24.3		ug/L		121	61 - 133
1,3-Dichlorobenzene	20.0	20.9		ug/L		105	66 - 129
1,4-Dichlorobenzene	20.0	20.8		ug/L		104	65 - 133
2-Butanone (MEK)	200	155		ug/L		77	10 - 180
2-Hexanone	200	187		ug/L		94	12 - 180
4-Methyl-2-pentanone	200	203		ug/L		101	19 - 180
Acetone	200	162		ug/L		81	10 - 180
Benzene	20.0	22.5		ug/L		112	56 - 136
Bromodichloromethane	20.0	21.4		ug/L		107	58 - 135
Bromoform	20.0	17.4		ug/L		87	46 - 148
Bromomethane	20.0	24.7		ug/L		123	10 - 173
Carbon disulfide	20.0	24.2		ug/L		121	43 - 153
Carbon tetrachloride	20.0	19.9		ug/L		99	54 - 156
Chlorobenzene	20.0	21.3		ug/L		107	51 - 139
Chloroethane	20.0	26.7		ug/L		133	27 - 180
Chloroform	20.0	21.8		ug/L		109	58 - 139
Chloromethane	20.0	25.7		ug/L		129	33 - 154
cis-1,2-Dichloroethene	20.0	22.1		ug/L		111	56 - 128
cis-1,3-Dichloropropene	20.0	19.0		ug/L		95	64 - 128
Cyclohexane	20.0	24.0		ug/L		120	14 - 151
Dibromochloromethane	20.0	19.0		ug/L		95	50 - 140
Dichlorodifluoromethane	20.0	18.2		ug/L		91	10 - 180
Ethylbenzene	20.0	19.5		ug/L		97	63 - 133
Isopropylbenzene	20.0	21.4		ug/L		107	60 - 132
m,p-Xylenes	20.0	18.6		ug/L		93	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72669/5
Matrix: Water
Analysis Batch: 72669

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	29.5		ug/L		74	70 - 130
Methyl tert-butyl ether	20.0	16.5		ug/L		83	51 - 145
Methylene Chloride	20.0	26.3		ug/L		131	43 - 142
o-Xylene	20.0	17.4		ug/L		87	61 - 129
Styrene	20.0	18.3		ug/L		91	59 - 136
Tetrachloroethene	20.0	19.6		ug/L		98	60 - 147
Toluene	20.0	20.8		ug/L		104	64 - 131
trans-1,2-Dichloroethene	20.0	19.2		ug/L		96	54 - 134
trans-1,3-Dichloropropene	20.0	20.4		ug/L		102	65 - 149
Trichloroethene	20.0	20.7		ug/L		104	62 - 135
Trichlorofluoromethane	20.0	19.4		ug/L		97	56 - 155
Vinyl chloride	20.0	21.9		ug/L		110	20 - 167
Xylenes, Total	40.0	36.0		ug/L		90	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*
Dibromofluoromethane (Surr)	*97*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: 670-33457-9 MS
Matrix: Water
Analysis Batch: 72669

Client Sample ID: LC34-DPT0595-088.0-20240118
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	16	U	400	349		ug/L		87	57 - 148
1,1,2,2-Tetrachloroethane	11	U	400	412		ug/L		103	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	15	U	400	290		ug/L		73	50 - 150
1,1,2-Trichloroethane	15	U	400	422		ug/L		106	57 - 141
1,1-Dichloroethane	12	U	400	451		ug/L		113	57 - 142
1,1-Dichloroethene	19	U	400	352		ug/L		88	49 - 139
1,2,4-Trichlorobenzene	14	U	400	311		ug/L		78	52 - 159
1,2-Dibromo-3-Chloropropane	19	U	400	308		ug/L		77	48 - 150
1,2-Dibromoethane (EDB)	16	U	400	389		ug/L		97	50 - 150
1,2-Dichlorobenzene	15	U	400	379		ug/L		95	63 - 131
1,2-Dichloroethane	13	U	400	436		ug/L		109	50 - 156
1,2-Dichloropropane	16	U	400	471		ug/L		118	61 - 133
1,3-Dichlorobenzene	15	U	400	375		ug/L		94	66 - 129
1,4-Dichlorobenzene	15	U	400	399		ug/L		100	65 - 133
2-Butanone (MEK)	90	U	4000	3540		ug/L		88	10 - 180
2-Hexanone	50	U	4000	4290		ug/L		107	12 - 180
4-Methyl-2-pentanone	100	U	4000	4570		ug/L		114	19 - 180
Acetone	500	U	4000	3580		ug/L		90	10 - 180
Benzene	14	U	400	409		ug/L		102	56 - 136
Bromodichloromethane	10	U	400	425		ug/L		106	58 - 135
Bromoform	15	U	400	348		ug/L		87	46 - 148
Bromomethane	19	U	400	430		ug/L		108	10 - 173
Carbon disulfide	50	U	400	338		ug/L		84	43 - 153
Carbon tetrachloride	19	U	400	339		ug/L		85	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33457-9 MS
Matrix: Water
Analysis Batch: 72669

Client Sample ID: LC34-DPT0595-088.0-20240118
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	14	U	400	399		ug/L		100	51 - 139
Chloroethane	20	U	400	432		ug/L		108	27 - 180
Chloroform	16	U	400	419		ug/L		105	59 - 139
Chloromethane	16	U	400	430		ug/L		107	33 - 154
cis-1,2-Dichloroethene	11	U	400	429		ug/L		107	56 - 128
cis-1,3-Dichloropropene	12	U	400	383		ug/L		96	64 - 128
Cyclohexane	19	U	400	354		ug/L		89	14 - 141
Dibromochloromethane	10	U	400	389		ug/L		97	50 - 150
Dichlorodifluoromethane	15	U	400	316		ug/L		79	10 - 180
Ethylbenzene	14	U	400	344		ug/L		86	63 - 133
Isopropylbenzene	13	U	400	333		ug/L		83	60 - 132
m,p-Xylenes	26	U	400	318		ug/L		79	64 - 133
Methyl acetate	19	U	800	785		ug/L		98	50 - 150
Methyl tert-butyl ether	12	U	400	361		ug/L		90	50 - 150
Methylene Chloride	100	U	400	494		ug/L		124	43 - 142
o-Xylene	11	U	400	310		ug/L		77	61 - 129
Styrene	12	U	400	342		ug/L		85	59 - 136
Tetrachloroethene	15	U	400	305		ug/L		76	60 - 147
Toluene	14	U	400	363		ug/L		91	64 - 131
trans-1,2-Dichloroethene	15	U	400	331		ug/L		83	54 - 134
trans-1,3-Dichloropropene	15	U	400	423		ug/L		106	65 - 149
Trichloroethene	18	U	400	354		ug/L		89	62 - 135
Trichlorofluoromethane	19	U	400	321		ug/L		80	56 - 155
Vinyl chloride	14	U	400	370		ug/L		93	20 - 167
Xylenes, Total	26	U	800	628		ug/L		79	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: 670-33457-9 MSD
Matrix: Water
Analysis Batch: 72669

Client Sample ID: LC34-DPT0595-088.0-20240118
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	16	U	400	330		ug/L		82	57 - 148	6	25
1,1,2,2-Tetrachloroethane	11	U	400	413		ug/L		103	60 - 139	0	17
1,1,2-Trichloro-1,2,2-trifluoroethane	15	U	400	284		ug/L		71	50 - 150	2	30
1,1,2-Trichloroethane	15	U	400	407		ug/L		102	57 - 141	4	16
1,1-Dichloroethane	12	U	400	431		ug/L		108	57 - 142	4	24
1,1-Dichloroethene	19	U	400	322		ug/L		81	49 - 139	9	16
1,2,4-Trichlorobenzene	14	U	400	312		ug/L		78	52 - 159	0	24
1,2-Dibromo-3-Chloropropane	19	U	400	301		ug/L		75	48 - 150	2	21
1,2-Dibromoethane (EDB)	16	U	400	359		ug/L		90	50 - 150	8	16
1,2-Dichlorobenzene	15	U	400	379		ug/L		95	63 - 131	0	25
1,2-Dichloroethane	13	U	400	419		ug/L		105	50 - 156	4	18
1,2-Dichloropropane	16	U	400	449		ug/L		112	61 - 133	5	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33457-9 MSD
Client Sample ID: LC34-DPT0595-088.0-20240118
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 72669

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	15	U	400	382		ug/L		95	66 - 129	2	23
1,4-Dichlorobenzene	15	U	400	385		ug/L		96	65 - 133	4	23
2-Butanone (MEK)	90	U	4000	3470		ug/L		87	10 - 180	2	29
2-Hexanone	50	U	4000	4190		ug/L		105	12 - 180	2	28
4-Methyl-2-pentanone	100	U	4000	4450		ug/L		111	19 - 180	3	24
Acetone	500	U	4000	3750		ug/L		94	10 - 180	5	19
Benzene	14	U	400	394		ug/L		99	56 - 136	4	14
Bromodichloromethane	10	U	400	408		ug/L		102	58 - 135	4	19
Bromoform	15	U	400	351		ug/L		88	46 - 148	1	18
Bromomethane	19	U	400	406		ug/L		102	10 - 173	6	29
Carbon disulfide	50	U	400	323		ug/L		81	43 - 153	5	26
Carbon tetrachloride	19	U	400	312		ug/L		78	54 - 156	8	27
Chlorobenzene	14	U	400	388		ug/L		97	51 - 139	3	13
Chloroethane	20	U	400	456		ug/L		114	27 - 180	6	22
Chloroform	16	U	400	401		ug/L		100	59 - 139	4	17
Chloromethane	16	U	400	436		ug/L		109	33 - 154	1	31
cis-1,2-Dichloroethene	11	U	400	418		ug/L		105	56 - 128	3	17
cis-1,3-Dichloropropene	12	U	400	365		ug/L		91	64 - 128	5	20
Cyclohexane	19	U	400	341		ug/L		85	14 - 141	4	30
Dibromochloromethane	10	U	400	375		ug/L		94	50 - 150	4	18
Dichlorodifluoromethane	15	U	400	315		ug/L		79	10 - 180	0	26
Ethylbenzene	14	U	400	342		ug/L		86	63 - 133	0	18
Isopropylbenzene	13	U	400	328		ug/L		82	60 - 132	1	23
m,p-Xylenes	26	U	400	318		ug/L		79	64 - 133	0	18
Methyl acetate	19	U	800	746		ug/L		93	50 - 150	5	30
Methyl tert-butyl ether	12	U	400	355		ug/L		89	50 - 150	2	22
Methylene Chloride	100	U	400	503		ug/L		126	43 - 142	2	23
o-Xylene	11	U	400	313		ug/L		78	61 - 129	1	16
Styrene	12	U	400	336		ug/L		84	59 - 136	2	32
Tetrachloroethene	15	U	400	308		ug/L		77	60 - 147	1	21
Toluene	14	U	400	349		ug/L		87	64 - 131	4	16
trans-1,2-Dichloroethene	15	U	400	323		ug/L		81	54 - 134	2	20
trans-1,3-Dichloropropene	15	U	400	405		ug/L		101	65 - 149	4	17
Trichloroethene	18	U	400	346		ug/L		87	62 - 135	2	20
Trichlorofluoromethane	19	U	400	310		ug/L		77	56 - 155	4	22
Vinyl chloride	14	U	400	379		ug/L		95	20 - 167	2	24
Xylenes, Total	26	U	800	631		ug/L		79	50 - 150	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LB 670-72408/1-A
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			01/23/24 12:17	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			01/23/24 12:17	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			01/23/24 12:17	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			01/23/24 12:17	100
1,1-Dichloroethane	62	U	100	62	ug/L			01/23/24 12:17	100
1,1-Dichloroethene	94	U	100	94	ug/L			01/23/24 12:17	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			01/23/24 12:17	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			01/23/24 12:17	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			01/23/24 12:17	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			01/23/24 12:17	100
1,2-Dichloroethane	63	U	100	63	ug/L			01/23/24 12:17	100
1,2-Dichloropropane	80	U	100	80	ug/L			01/23/24 12:17	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			01/23/24 12:17	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			01/23/24 12:17	100
2-Butanone (MEK)	450	U	1000	450	ug/L			01/23/24 12:17	100
2-Hexanone	250	U	2000	250	ug/L			01/23/24 12:17	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			01/23/24 12:17	100
Acetone	2500	U	5000	2500	ug/L			01/23/24 12:17	100
Benzene	71	U	100	71	ug/L			01/23/24 12:17	100
Bromodichloromethane	52	U	100	52	ug/L			01/23/24 12:17	100
Bromoform	75	U	100	75	ug/L			01/23/24 12:17	100
Bromomethane	95	U	200	95	ug/L			01/23/24 12:17	100
Carbon disulfide	250	U	500	250	ug/L			01/23/24 12:17	100
Carbon tetrachloride	94	U	100	94	ug/L			01/23/24 12:17	100
Chlorobenzene	72	U	100	72	ug/L			01/23/24 12:17	100
Chloroethane	98	U	200	98	ug/L			01/23/24 12:17	100
Chloroform	80	U	500	80	ug/L			01/23/24 12:17	100
Chloromethane	82	U	200	82	ug/L			01/23/24 12:17	100
cis-1,2-Dichloroethene	53	U	100	53	ug/L			01/23/24 12:17	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			01/23/24 12:17	100
Cyclohexane	93	U	500	93	ug/L			01/23/24 12:17	100
Dibromochloromethane	50	U	100	50	ug/L			01/23/24 12:17	100
Dichlorodifluoromethane	74	U	100	74	ug/L			01/23/24 12:17	100
Ethylbenzene	69	U	100	69	ug/L			01/23/24 12:17	100
Isopropylbenzene	67	U	200	67	ug/L			01/23/24 12:17	100
m,p-Xylenes	130	U	200	130	ug/L			01/23/24 12:17	100
Methyl acetate	95	U	1000	95	ug/L			01/23/24 12:17	100
Methyl tert-butyl ether	60	U	200	60	ug/L			01/23/24 12:17	100
Methylene Chloride	500	U	1000	500	ug/L			01/23/24 12:17	100
o-Xylene	53	U	100	53	ug/L			01/23/24 12:17	100
Styrene	61	U	100	61	ug/L			01/23/24 12:17	100
Tetrachloroethene	76	U	100	76	ug/L			01/23/24 12:17	100
Toluene	72	U	100	72	ug/L			01/23/24 12:17	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			01/23/24 12:17	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			01/23/24 12:17	100
Trichloroethene	89	U	100	89	ug/L			01/23/24 12:17	100
Trichlorofluoromethane	94	U	100	94	ug/L			01/23/24 12:17	100
Vinyl chloride	71	U	100	71	ug/L			01/23/24 12:17	100

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LB 670-72408/1-A
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	LB Result	LB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	130	U	200	130	ug/L			01/23/24 12:17	100

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*01/23/24 12:17*	*100*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/23/24 12:17*	*100*
Toluene-d8 (Surr)	*105*		*40 - 146*		*01/23/24 12:17*	*100*

Lab Sample ID: MB 670-72672/7
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/23/24 11:56	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/23/24 11:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/23/24 11:56	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/23/24 11:56	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/23/24 11:56	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/23/24 11:56	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/23/24 11:56	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/23/24 11:56	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/23/24 11:56	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/23/24 11:56	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/23/24 11:56	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/23/24 11:56	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/23/24 11:56	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/23/24 11:56	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/23/24 11:56	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/23/24 11:56	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/23/24 11:56	1
Acetone	25	U	50	25	ug/L			01/23/24 11:56	1
Benzene	0.71	U	1.0	0.71	ug/L			01/23/24 11:56	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/23/24 11:56	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/23/24 11:56	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/23/24 11:56	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/23/24 11:56	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/23/24 11:56	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/23/24 11:56	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/23/24 11:56	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/23/24 11:56	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/23/24 11:56	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/23/24 11:56	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/23/24 11:56	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/23/24 11:56	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/23/24 11:56	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/23/24 11:56	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/23/24 11:56	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/23/24 11:56	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/23/24 11:56	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72672/7
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	0.95	U	10	0.95	ug/L			01/23/24 11:56	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/23/24 11:56	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/23/24 11:56	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/23/24 11:56	1
Styrene	0.61	U	1.0	0.61	ug/L			01/23/24 11:56	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/23/24 11:56	1
Toluene	0.72	U	1.0	0.72	ug/L			01/23/24 11:56	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/23/24 11:56	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/23/24 11:56	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/23/24 11:56	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/23/24 11:56	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/23/24 11:56	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/23/24 11:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/23/24 11:56*	*1*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*01/23/24 11:56*	*1*
Toluene-d8 (Surr)	*105*		*40 - 146*		*01/23/24 11:56*	*1*

Lab Sample ID: LCS 670-72672/4
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.8		ug/L		104	57 - 148
1,1,2,2-Tetrachloroethane	20.0	15.7		ug/L		78	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	23.4		ug/L		117	47 - 173
1,1,2-Trichloroethane	20.0	17.4		ug/L		87	57 - 141
1,1-Dichloroethane	20.0	20.0		ug/L		100	57 - 142
1,1-Dichloroethene	20.0	22.5		ug/L		113	47 - 139
1,2,4-Trichlorobenzene	20.0	19.0		ug/L		95	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	13.9		ug/L		70	48 - 150
1,2-Dibromoethane (EDB)	20.0	17.5		ug/L		87	57 - 140
1,2-Dichlorobenzene	20.0	20.4		ug/L		102	63 - 131
1,2-Dichloroethane	20.0	18.2		ug/L		91	50 - 156
1,2-Dichloropropane	20.0	19.2		ug/L		96	61 - 133
1,3-Dichlorobenzene	20.0	20.8		ug/L		104	66 - 129
1,4-Dichlorobenzene	20.0	20.8		ug/L		104	65 - 133
2-Butanone (MEK)	200	150		ug/L		75	10 - 180
2-Hexanone	200	139		ug/L		70	12 - 180
4-Methyl-2-pentanone	200	161		ug/L		80	19 - 180
Acetone	200	127		ug/L		64	10 - 180
Benzene	20.0	20.0		ug/L		100	56 - 136
Bromodichloromethane	20.0	20.2		ug/L		101	58 - 135
Bromoform	20.0	17.4		ug/L		87	46 - 148
Bromomethane	20.0	20.5		ug/L		102	10 - 173
Carbon disulfide	20.0	18.9		ug/L		95	43 - 153
Carbon tetrachloride	20.0	21.5		ug/L		107	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72672/4
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	20.0	20.3		ug/L		101	51 - 139
Chloroethane	20.0	17.8		ug/L		89	27 - 180
Chloroform	20.0	20.9		ug/L		105	58 - 139
Chloromethane	20.0	18.3		ug/L		91	33 - 154
cis-1,2-Dichloroethene	20.0	18.8		ug/L		94	56 - 128
cis-1,3-Dichloropropene	20.0	18.1		ug/L		91	64 - 128
Cyclohexane	20.0	20.7		ug/L		103	14 - 151
Dibromochloromethane	20.0	19.0		ug/L		95	50 - 140
Dichlorodifluoromethane	20.0	22.3		ug/L		112	10 - 180
Ethylbenzene	20.0	20.9		ug/L		104	63 - 133
Isopropylbenzene	20.0	23.0		ug/L		115	60 - 132
m,p-Xylenes	20.0	20.4		ug/L		102	64 - 133
Methyl acetate	40.0	31.9		ug/L		80	70 - 130
Methyl tert-butyl ether	20.0	17.0		ug/L		85	51 - 145
Methylene Chloride	20.0	19.6		ug/L		98	43 - 142
o-Xylene	20.0	19.8		ug/L		99	61 - 129
Styrene	20.0	20.1		ug/L		100	59 - 136
Tetrachloroethene	20.0	22.7		ug/L		114	60 - 147
Toluene	20.0	20.6		ug/L		103	64 - 131
trans-1,2-Dichloroethene	20.0	20.3		ug/L		101	54 - 134
trans-1,3-Dichloropropene	20.0	18.5		ug/L		93	65 - 149
Trichloroethene	20.0	19.6		ug/L		98	62 - 135
Trichlorofluoromethane	20.0	21.6		ug/L		108	56 - 155
Vinyl chloride	20.0	19.4		ug/L		97	20 - 167
Xylenes, Total	40.0	40.2		ug/L		101	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*104*		*40 - 146*

Lab Sample ID: MB 670-72674/7
Matrix: Water
Analysis Batch: 72674

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/23/24 16:01	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/23/24 16:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/23/24 16:01	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/23/24 16:01	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/23/24 16:01	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/23/24 16:01	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/23/24 16:01	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/23/24 16:01	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/23/24 16:01	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/23/24 16:01	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/23/24 16:01	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/23/24 16:01	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72674/7
Matrix: Water
Analysis Batch: 72674

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/23/24 16:01	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/23/24 16:01	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/23/24 16:01	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/23/24 16:01	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/23/24 16:01	1
Acetone	25	U	50	25	ug/L			01/23/24 16:01	1
Benzene	0.71	U	1.0	0.71	ug/L			01/23/24 16:01	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/23/24 16:01	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/23/24 16:01	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/23/24 16:01	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/23/24 16:01	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/23/24 16:01	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/23/24 16:01	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/23/24 16:01	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/23/24 16:01	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/23/24 16:01	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/23/24 16:01	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/23/24 16:01	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/23/24 16:01	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/23/24 16:01	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/23/24 16:01	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/23/24 16:01	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/23/24 16:01	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/23/24 16:01	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/23/24 16:01	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/23/24 16:01	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/23/24 16:01	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/23/24 16:01	1
Styrene	0.61	U	1.0	0.61	ug/L			01/23/24 16:01	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/23/24 16:01	1
Toluene	0.72	U	1.0	0.72	ug/L			01/23/24 16:01	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/23/24 16:01	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/23/24 16:01	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/23/24 16:01	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/23/24 16:01	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/23/24 16:01	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/23/24 16:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*01/23/24 16:01*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/23/24 16:01*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/23/24 16:01*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72674/4
Matrix: Water
Analysis Batch: 72674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	19.1		ug/L		95	57 - 148
1,1,2,2-Tetrachloroethane	20.0	18.6		ug/L		93	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	19.4		ug/L		97	47 - 173
1,1,2-Trichloroethane	20.0	18.9		ug/L		94	57 - 141
1,1-Dichloroethane	20.0	18.3		ug/L		91	57 - 142
1,1-Dichloroethene	20.0	17.8		ug/L		89	47 - 139
1,2,4-Trichlorobenzene	20.0	20.1		ug/L		100	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	16.0		ug/L		80	48 - 150
1,2-Dibromoethane (EDB)	20.0	17.2		ug/L		86	57 - 140
1,2-Dichlorobenzene	20.0	19.7		ug/L		99	63 - 131
1,2-Dichloroethane	20.0	18.1		ug/L		90	50 - 156
1,2-Dichloropropane	20.0	17.7		ug/L		89	61 - 133
1,3-Dichlorobenzene	20.0	19.6		ug/L		98	66 - 129
1,4-Dichlorobenzene	20.0	19.7		ug/L		99	65 - 133
2-Butanone (MEK)	200	173		ug/L		86	10 - 180
2-Hexanone	200	177		ug/L		89	12 - 180
4-Methyl-2-pentanone	200	189		ug/L		94	19 - 180
Acetone	200	174		ug/L		87	10 - 180
Benzene	20.0	18.2		ug/L		91	56 - 136
Bromodichloromethane	20.0	19.1		ug/L		95	58 - 135
Bromoform	20.0	18.0		ug/L		90	46 - 148
Bromomethane	20.0	16.7		ug/L		84	10 - 173
Carbon disulfide	20.0	16.2		ug/L		81	43 - 153
Carbon tetrachloride	20.0	19.9		ug/L		99	54 - 156
Chlorobenzene	20.0	18.2		ug/L		91	51 - 139
Chloroethane	20.0	19.9		ug/L		100	27 - 180
Chloroform	20.0	18.0		ug/L		90	58 - 139
Chloromethane	20.0	13.8		ug/L		69	33 - 154
cis-1,2-Dichloroethene	20.0	17.7		ug/L		88	56 - 128
cis-1,3-Dichloropropene	20.0	17.3		ug/L		86	64 - 128
Cyclohexane	20.0	18.5		ug/L		92	14 - 151
Dibromochloromethane	20.0	19.4		ug/L		97	50 - 140
Dichlorodifluoromethane	20.0	18.9		ug/L		95	10 - 180
Ethylbenzene	20.0	19.1		ug/L		96	63 - 133
Isopropylbenzene	20.0	19.2		ug/L		96	60 - 132
m,p-Xylenes	20.0	18.5		ug/L		93	64 - 133
Methyl acetate	40.0	40.4		ug/L		101	70 - 130
Methyl tert-butyl ether	20.0	18.7		ug/L		93	51 - 145
Methylene Chloride	20.0	17.4		ug/L		87	43 - 142
o-Xylene	20.0	18.2		ug/L		91	61 - 129
Styrene	20.0	18.8		ug/L		94	59 - 136
Tetrachloroethene	20.0	18.1		ug/L		90	60 - 147
Toluene	20.0	18.3		ug/L		92	64 - 131
trans-1,2-Dichloroethene	20.0	18.5		ug/L		92	54 - 134
trans-1,3-Dichloropropene	20.0	18.2		ug/L		91	65 - 149
Trichloroethene	20.0	18.6		ug/L		93	62 - 135
Trichlorofluoromethane	20.0	20.6		ug/L		103	56 - 155
Vinyl chloride	20.0	19.8		ug/L		99	20 - 167

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72674/4
Matrix: Water
Analysis Batch: 72674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Xylenes, Total			40.0	36.7		ug/L		92	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: 670-33372-A-20 MS
Matrix: Water
Analysis Batch: 72674

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1,1-Trichloroethane	0.80	U	20.0	22.4		ug/L		112	57 - 148		
1,1,2,2-Tetrachloroethane	0.54	U J3	20.0	20.1		ug/L		101	60 - 139		
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	23.9		ug/L		120	50 - 150		
1,1,2-Trichloroethane	0.76	U J3	20.0	20.1		ug/L		101	57 - 141		
1,1-Dichloroethane	0.62	U	20.0	20.2		ug/L		101	57 - 142		
1,1-Dichloroethene	0.94	U J3	20.0	21.4		ug/L		107	49 - 139		
1,2,4-Trichlorobenzene	0.70	U	20.0	20.9		ug/L		104	52 - 159		
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	19.4		ug/L		97	48 - 150		
1,2-Dibromoethane (EDB)	0.78	U J3	20.0	19.2		ug/L		96	50 - 150		
1,2-Dichlorobenzene	0.73	U	20.0	20.5		ug/L		102	63 - 131		
1,2-Dichloroethane	0.63	U J3	20.0	18.9		ug/L		94	50 - 156		
1,2-Dichloropropane	0.80	U	20.0	18.9		ug/L		95	61 - 133		
1,3-Dichlorobenzene	0.77	U	20.0	20.5		ug/L		103	66 - 129		
1,4-Dichlorobenzene	0.76	U	20.0	20.0		ug/L		100	65 - 133		
2-Butanone (MEK)	4.5	U	200	196		ug/L		98	10 - 180		
2-Hexanone	2.5	U	200	209		ug/L		104	12 - 180		
4-Methyl-2-pentanone	5.0	U	200	215		ug/L		108	19 - 180		
Acetone	25	U	200	193		ug/L		97	10 - 180		
Benzene	0.71	U J3	20.0	20.1		ug/L		101	56 - 136		
Bromodichloromethane	0.52	U J3	20.0	19.6		ug/L		98	58 - 135		
Bromoform	0.75	U J3	20.0	18.9		ug/L		95	46 - 148		
Bromomethane	0.95	U	20.0	14.3		ug/L		71	10 - 173		
Carbon disulfide	2.5	U	20.0	20.0		ug/L		100	43 - 153		
Carbon tetrachloride	0.94	U	20.0	24.9		ug/L		124	54 - 156		
Chlorobenzene	0.72	U J3	20.0	19.9		ug/L		100	51 - 139		
Chloroethane	0.98	U J3	20.0	28.3		ug/L		142	27 - 180		
Chloroform	0.80	U J3	20.0	19.1		ug/L		95	59 - 139		
Chloromethane	0.82	U	20.0	17.3		ug/L		87	33 - 154		
cis-1,2-Dichloroethene	4.6		20.0	23.8		ug/L		96	56 - 128		
cis-1,3-Dichloropropene	0.59	U	20.0	18.3		ug/L		92	64 - 128		
Cyclohexane	0.93	U	20.0	22.6		ug/L		113	14 - 141		
Dibromochloromethane	0.50	U J3	20.0	20.3		ug/L		101	50 - 150		
Dichlorodifluoromethane	0.74	U	20.0	22.0		ug/L		110	10 - 180		
Ethylbenzene	0.69	U	20.0	21.2		ug/L		106	63 - 133		
Isopropylbenzene	0.67	U	20.0	21.5		ug/L		107	60 - 132		
m,p-Xylenes	1.3	U J3	20.0	20.6		ug/L		103	64 - 133		

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33372-A-20 MS
Matrix: Water
Analysis Batch: 72674

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	0.95	U	40.0	43.1		ug/L		108	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	19.7		ug/L		99	50 - 150
Methylene Chloride	5.0	U J3	20.0	18.3		ug/L		91	43 - 142
o-Xylene	0.53	U J3	20.0	20.0		ug/L		100	61 - 129
Styrene	0.61	U	20.0	20.3		ug/L		101	59 - 136
Tetrachloroethene	12		20.0	33.9		ug/L		111	60 - 147
Toluene	0.72	U J3	20.0	20.0		ug/L		100	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	20.2		ug/L		101	54 - 134
trans-1,3-Dichloropropene	0.73	U J3	20.0	18.9		ug/L		95	65 - 149
Trichloroethene	2.3		20.0	22.8		ug/L		102	62 - 135
Trichlorofluoromethane	0.94	U	20.0	23.4		ug/L		117	56 - 155
Vinyl chloride	0.71	U J3	20.0	20.7		ug/L		104	20 - 167
Xylenes, Total	1.3	U	40.0	40.6		ug/L		102	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-33372-A-20 MSD
Matrix: Water
Analysis Batch: 72674

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	26.2		ug/L		131	57 - 148	16	25
1,1,2,2-Tetrachloroethane	0.54	U J3	20.0	24.8	J3	ug/L		124	60 - 139	21	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	27.7		ug/L		139	50 - 150	15	30
1,1,2-Trichloroethane	0.76	U J3	20.0	24.8	J3	ug/L		124	57 - 141	21	16
1,1-Dichloroethane	0.62	U	20.0	24.3		ug/L		121	57 - 142	18	24
1,1-Dichloroethene	0.94	U J3	20.0	25.4	J3	ug/L		127	49 - 139	17	16
1,2,4-Trichlorobenzene	0.70	U	20.0	26.4		ug/L		132	52 - 159	23	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	22.8		ug/L		114	48 - 150	16	21
1,2-Dibromoethane (EDB)	0.78	U J3	20.0	22.8	J3	ug/L		114	50 - 150	17	16
1,2-Dichlorobenzene	0.73	U	20.0	25.0		ug/L		125	63 - 131	20	25
1,2-Dichloroethane	0.63	U J3	20.0	23.4	J3	ug/L		117	50 - 156	21	18
1,2-Dichloropropane	0.80	U	20.0	22.7		ug/L		113	61 - 133	18	26
1,3-Dichlorobenzene	0.77	U	20.0	25.2		ug/L		126	66 - 129	20	23
1,4-Dichlorobenzene	0.76	U	20.0	24.7		ug/L		123	65 - 133	21	23
2-Butanone (MEK)	4.5	U	200	234		ug/L		117	10 - 180	18	29
2-Hexanone	2.5	U	200	247		ug/L		124	12 - 180	17	28
4-Methyl-2-pentanone	5.0	U	200	256		ug/L		128	19 - 180	17	24
Acetone	25	U	200	232		ug/L		116	10 - 180	18	19
Benzene	0.71	U J3	20.0	24.1	J3	ug/L		121	56 - 136	18	14
Bromodichloromethane	0.52	U J3	20.0	24.5	J3	ug/L		122	58 - 135	22	19
Bromoform	0.75	U J3	20.0	23.3	J3	ug/L		116	46 - 148	21	18
Bromomethane	0.95	U	20.0	17.5		ug/L		87	10 - 173	20	29
Carbon disulfide	2.5	U	20.0	24.1		ug/L		120	43 - 153	19	26
Carbon tetrachloride	0.94	U	20.0	29.9		ug/L		150	54 - 156	18	27

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33372-A-20 MSD
Matrix: Water
Analysis Batch: 72674

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chlorobenzene	0.72	U J3	20.0	24.5	J3	ug/L		122	51 - 139	21	13
Chloroethane	0.98	U J3	20.0	38.6	J3	ug/L		193	27 - 180	31	22
Chloroform	0.80	U J3	20.0	23.4	J3	ug/L		117	59 - 139	20	17
Chloromethane	0.82	U	20.0	22.6		ug/L		113	33 - 154	26	31
cis-1,2-Dichloroethene	4.6		20.0	28.2		ug/L		118	56 - 128	17	17
cis-1,3-Dichloropropene	0.59	U	20.0	22.5		ug/L		112	64 - 128	20	20
Cyclohexane	0.93	U	20.0	26.3		ug/L		132	14 - 141	15	30
Dibromochloromethane	0.50	U J3	20.0	24.7	J3	ug/L		123	50 - 150	20	18
Dichlorodifluoromethane	0.74	U	20.0	26.6		ug/L		133	10 - 180	19	26
Ethylbenzene	0.69	U	20.0	25.5		ug/L		128	63 - 133	18	18
Isopropylbenzene	0.67	U	20.0	26.3		ug/L		131	60 - 132	20	23
m,p-Xylenes	1.3	U J3	20.0	25.0	J3	ug/L		125	64 - 133	19	18
Methyl acetate	0.95	U	40.0	53.2		ug/L		133	50 - 150	21	30
Methyl tert-butyl ether	0.60	U	20.0	24.1		ug/L		120	50 - 150	20	22
Methylene Chloride	5.0	U J3	20.0	23.3	J3	ug/L		116	43 - 142	24	23
o-Xylene	0.53	U J3	20.0	24.3	J3	ug/L		122	61 - 129	20	16
Styrene	0.61	U	20.0	25.2		ug/L		126	59 - 136	22	32
Tetrachloroethene	12		20.0	38.2		ug/L		132	60 - 147	12	21
Toluene	0.72	U J3	20.0	23.9	J3	ug/L		119	64 - 131	18	16
trans-1,2-Dichloroethene	0.73	U	20.0	24.7		ug/L		123	54 - 134	20	20
trans-1,3-Dichloropropene	0.73	U J3	20.0	23.4	J3	ug/L		117	65 - 149	21	17
Trichloroethene	2.3		20.0	27.1		ug/L		124	62 - 135	17	20
Trichlorofluoromethane	0.94	U	20.0	28.0		ug/L		140	56 - 155	18	22
Vinyl chloride	0.71	U J3	20.0	26.9	J3	ug/L		134	20 - 167	26	24
Xylenes, Total	1.3	U	40.0	49.3		ug/L		123	50 - 150	19	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: MB 670-72862/7
Matrix: Water
Analysis Batch: 72862

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/24/24 10:35	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/24/24 10:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/24/24 10:35	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/24/24 10:35	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/24/24 10:35	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/24/24 10:35	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/24/24 10:35	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/24/24 10:35	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/24/24 10:35	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/24/24 10:35	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/24/24 10:35	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/24/24 10:35	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72862/7
Matrix: Water
Analysis Batch: 72862

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/24/24 10:35	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/24/24 10:35	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/24/24 10:35	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/24/24 10:35	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/24/24 10:35	1
Acetone	25	U	50	25	ug/L			01/24/24 10:35	1
Benzene	0.71	U	1.0	0.71	ug/L			01/24/24 10:35	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/24/24 10:35	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/24/24 10:35	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/24/24 10:35	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/24/24 10:35	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/24/24 10:35	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/24/24 10:35	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/24/24 10:35	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/24/24 10:35	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/24/24 10:35	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/24/24 10:35	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/24/24 10:35	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/24/24 10:35	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/24/24 10:35	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/24/24 10:35	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/24/24 10:35	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/24/24 10:35	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/24/24 10:35	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/24/24 10:35	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/24/24 10:35	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/24/24 10:35	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/24/24 10:35	1
Styrene	0.61	U	1.0	0.61	ug/L			01/24/24 10:35	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/24/24 10:35	1
Toluene	0.72	U	1.0	0.72	ug/L			01/24/24 10:35	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/24/24 10:35	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/24/24 10:35	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/24/24 10:35	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/24/24 10:35	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/24/24 10:35	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/24/24 10:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/24/24 10:35*	*1*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*01/24/24 10:35*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 10:35*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72862/4
Matrix: Water
Analysis Batch: 72862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.9		ug/L		105	57 - 148
1,1,2,2-Tetrachloroethane	20.0	18.6		ug/L		93	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	22.8		ug/L		114	47 - 173
1,1,2-Trichloroethane	20.0	19.9		ug/L		99	57 - 141
1,1-Dichloroethane	20.0	20.1		ug/L		100	57 - 142
1,1-Dichloroethene	20.0	20.8		ug/L		104	47 - 139
1,2,4-Trichlorobenzene	20.0	19.4		ug/L		97	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	18.3		ug/L		91	48 - 150
1,2-Dibromoethane (EDB)	20.0	20.1		ug/L		100	57 - 140
1,2-Dichlorobenzene	20.0	20.2		ug/L		101	63 - 131
1,2-Dichloroethane	20.0	18.7		ug/L		93	50 - 156
1,2-Dichloropropane	20.0	19.0		ug/L		95	61 - 133
1,3-Dichlorobenzene	20.0	20.3		ug/L		102	66 - 129
1,4-Dichlorobenzene	20.0	17.8		ug/L		89	65 - 133
2-Butanone (MEK)	200	208		ug/L		104	10 - 180
2-Hexanone	200	169		ug/L		84	12 - 180
4-Methyl-2-pentanone	200	173		ug/L		87	19 - 180
Acetone	200	192		ug/L		96	10 - 180
Benzene	20.0	20.3		ug/L		101	56 - 136
Bromodichloromethane	20.0	20.4		ug/L		102	58 - 135
Bromoform	20.0	20.4		ug/L		102	46 - 148
Bromomethane	20.0	16.6		ug/L		83	10 - 173
Carbon disulfide	20.0	21.6		ug/L		108	43 - 153
Carbon tetrachloride	20.0	21.5		ug/L		107	54 - 156
Chlorobenzene	20.0	21.5		ug/L		108	51 - 139
Chloroethane	20.0	17.6		ug/L		88	27 - 180
Chloroform	20.0	21.4		ug/L		107	58 - 139
Chloromethane	20.0	19.8		ug/L		99	33 - 154
cis-1,2-Dichloroethene	20.0	19.3		ug/L		97	56 - 128
cis-1,3-Dichloropropene	20.0	20.0		ug/L		100	64 - 128
Cyclohexane	20.0	19.1		ug/L		95	14 - 151
Dibromochloromethane	20.0	20.5		ug/L		102	50 - 140
Dichlorodifluoromethane	20.0	23.0		ug/L		115	10 - 180
Ethylbenzene	20.0	21.0		ug/L		105	63 - 133
Isopropylbenzene	20.0	20.0		ug/L		100	60 - 132
m,p-Xylenes	20.0	18.2		ug/L		91	64 - 133
Methyl acetate	40.0	44.3		ug/L		111	70 - 130
Methyl tert-butyl ether	20.0	20.6		ug/L		103	51 - 145
Methylene Chloride	20.0	21.0		ug/L		105	43 - 142
o-Xylene	20.0	20.2		ug/L		101	61 - 129
Styrene	20.0	20.4		ug/L		102	59 - 136
Tetrachloroethene	20.0	21.2		ug/L		106	60 - 147
Toluene	20.0	19.1		ug/L		95	64 - 131
trans-1,2-Dichloroethene	20.0	22.2		ug/L		111	54 - 134
trans-1,3-Dichloropropene	20.0	20.2		ug/L		101	65 - 149
Trichloroethene	20.0	21.7		ug/L		108	62 - 135
Trichlorofluoromethane	20.0	18.7		ug/L		93	56 - 155
Vinyl chloride	20.0	21.0		ug/L		105	20 - 167

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72862/4
Matrix: Water
Analysis Batch: 72862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Xylenes, Total	40.0	38.4		ug/L		96	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*103*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: MB 670-72868/9
Matrix: Water
Analysis Batch: 72868

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/24/24 13:21	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/24/24 13:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/24/24 13:21	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/24/24 13:21	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/24/24 13:21	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/24/24 13:21	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/24/24 13:21	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/24/24 13:21	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/24/24 13:21	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/24/24 13:21	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/24/24 13:21	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/24/24 13:21	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/24/24 13:21	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/24/24 13:21	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/24/24 13:21	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/24/24 13:21	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/24/24 13:21	1
Acetone	25	U	50	25	ug/L			01/24/24 13:21	1
Benzene	0.71	U	1.0	0.71	ug/L			01/24/24 13:21	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/24/24 13:21	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/24/24 13:21	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/24/24 13:21	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/24/24 13:21	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/24/24 13:21	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/24/24 13:21	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/24/24 13:21	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/24/24 13:21	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/24/24 13:21	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/24/24 13:21	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/24/24 13:21	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/24/24 13:21	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/24/24 13:21	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/24/24 13:21	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/24/24 13:21	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/24/24 13:21	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/24/24 13:21	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72868/9
Matrix: Water
Analysis Batch: 72868

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	0.95	U	10	0.95	ug/L			01/24/24 13:21	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/24/24 13:21	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/24/24 13:21	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/24/24 13:21	1
Styrene	0.61	U	1.0	0.61	ug/L			01/24/24 13:21	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/24/24 13:21	1
Toluene	0.72	U	1.0	0.72	ug/L			01/24/24 13:21	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/24/24 13:21	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/24/24 13:21	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/24/24 13:21	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/24/24 13:21	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/24/24 13:21	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/24/24 13:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*41 - 142*		*01/24/24 13:21*	*1*
Dibromofluoromethane (Surr)	*110*		*53 - 146*		*01/24/24 13:21*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*01/24/24 13:21*	*1*

Lab Sample ID: LCS 670-72868/6
Matrix: Water
Analysis Batch: 72868

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	18.0		ug/L		90	57 - 148
1,1,2,2-Tetrachloroethane	20.0	16.3		ug/L		82	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	19.9		ug/L		99	47 - 173
1,1,2-Trichloroethane	20.0	17.7		ug/L		88	57 - 141
1,1-Dichloroethane	20.0	19.1		ug/L		96	57 - 142
1,1-Dichloroethene	20.0	19.5		ug/L		97	47 - 139
1,2,4-Trichlorobenzene	20.0	17.5		ug/L		88	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	13.3		ug/L		66	48 - 150
1,2-Dibromoethane (EDB)	20.0	17.8		ug/L		89	57 - 140
1,2-Dichlorobenzene	20.0	19.4		ug/L		97	63 - 131
1,2-Dichloroethane	20.0	15.9		ug/L		80	50 - 156
1,2-Dichloropropane	20.0	19.6		ug/L		98	61 - 133
1,3-Dichlorobenzene	20.0	20.2		ug/L		101	66 - 129
1,4-Dichlorobenzene	20.0	20.1		ug/L		101	65 - 133
2-Butanone (MEK)	200	133		ug/L		67	10 - 180
2-Hexanone	200	129		ug/L		64	12 - 180
4-Methyl-2-pentanone	200	136		ug/L		68	19 - 180
Acetone	200	148		ug/L		74	10 - 180
Benzene	20.0	18.7		ug/L		93	56 - 136
Bromodichloromethane	20.0	17.9		ug/L		90	58 - 135
Bromoform	20.0	17.5		ug/L		87	46 - 148
Bromomethane	20.0	20.0		ug/L		100	10 - 173
Carbon disulfide	20.0	17.4		ug/L		87	43 - 153
Carbon tetrachloride	20.0	19.2		ug/L		96	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72868/6
Matrix: Water
Analysis Batch: 72868

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	20.0	20.2		ug/L		101	51 - 139
Chloroethane	20.0	17.9		ug/L		90	27 - 180
Chloroform	20.0	18.6		ug/L		93	58 - 139
Chloromethane	20.0	14.6		ug/L		73	33 - 154
cis-1,2-Dichloroethene	20.0	17.8		ug/L		89	56 - 128
cis-1,3-Dichloropropene	20.0	17.6		ug/L		88	64 - 128
Cyclohexane	20.0	16.9		ug/L		85	14 - 151
Dibromochloromethane	20.0	19.7		ug/L		99	50 - 140
Dichlorodifluoromethane	20.0	13.5		ug/L		67	10 - 180
Ethylbenzene	20.0	19.3		ug/L		96	63 - 133
Isopropylbenzene	20.0	17.9		ug/L		90	60 - 132
m,p-Xylenes	20.0	16.4		ug/L		82	64 - 133
Methyl acetate	40.0	27.0	J3	ug/L		67	70 - 130
Methyl tert-butyl ether	20.0	13.8		ug/L		69	51 - 145
Methylene Chloride	20.0	17.8		ug/L		89	43 - 142
o-Xylene	20.0	15.9		ug/L		79	61 - 129
Styrene	20.0	17.5		ug/L		87	59 - 136
Tetrachloroethene	20.0	20.7		ug/L		104	60 - 147
Toluene	20.0	18.7		ug/L		93	64 - 131
trans-1,2-Dichloroethene	20.0	18.8		ug/L		94	54 - 134
trans-1,3-Dichloropropene	20.0	16.9		ug/L		84	65 - 149
Trichloroethene	20.0	21.4		ug/L		107	62 - 135
Trichlorofluoromethane	20.0	17.1		ug/L		85	56 - 155
Vinyl chloride	20.0	15.4		ug/L		77	20 - 167
Xylenes, Total	40.0	32.3		ug/L		81	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*86*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Lab Sample ID: MB 670-72903/8
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/24/24 13:55	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/24/24 13:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/24/24 13:55	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/24/24 13:55	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/24/24 13:55	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/24/24 13:55	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/24/24 13:55	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/24/24 13:55	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/24/24 13:55	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/24/24 13:55	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/24/24 13:55	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/24/24 13:55	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-72903/8
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/24/24 13:55	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/24/24 13:55	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/24/24 13:55	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/24/24 13:55	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/24/24 13:55	1
Acetone	25	U	50	25	ug/L			01/24/24 13:55	1
Benzene	0.71	U	1.0	0.71	ug/L			01/24/24 13:55	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/24/24 13:55	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/24/24 13:55	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/24/24 13:55	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/24/24 13:55	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/24/24 13:55	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/24/24 13:55	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/24/24 13:55	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/24/24 13:55	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/24/24 13:55	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/24/24 13:55	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/24/24 13:55	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/24/24 13:55	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/24/24 13:55	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/24/24 13:55	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/24/24 13:55	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/24/24 13:55	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/24/24 13:55	1
Methyl acetate	0.95	U	10	0.95	ug/L			01/24/24 13:55	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/24/24 13:55	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/24/24 13:55	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/24/24 13:55	1
Styrene	0.61	U	1.0	0.61	ug/L			01/24/24 13:55	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/24/24 13:55	1
Toluene	0.72	U	1.0	0.72	ug/L			01/24/24 13:55	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/24/24 13:55	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/24/24 13:55	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/24/24 13:55	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/24/24 13:55	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/24/24 13:55	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/24/24 13:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*01/24/24 13:55*	*1*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*01/24/24 13:55*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*01/24/24 13:55*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72903/5
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	21.6		ug/L		108	57 - 148
1,1,2,2-Tetrachloroethane	20.0	18.4		ug/L		92	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	21.6		ug/L		108	47 - 173
1,1,2-Trichloroethane	20.0	19.3		ug/L		97	57 - 141
1,1-Dichloroethane	20.0	19.6		ug/L		98	57 - 142
1,1-Dichloroethene	20.0	19.2		ug/L		96	47 - 139
1,2,4-Trichlorobenzene	20.0	20.9		ug/L		105	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	15.8		ug/L		79	48 - 150
1,2-Dibromoethane (EDB)	20.0	18.1		ug/L		91	57 - 140
1,2-Dichlorobenzene	20.0	19.6		ug/L		98	63 - 131
1,2-Dichloroethane	20.0	18.8		ug/L		94	50 - 156
1,2-Dichloropropane	20.0	18.9		ug/L		95	61 - 133
1,3-Dichlorobenzene	20.0	19.9		ug/L		99	66 - 129
1,4-Dichlorobenzene	20.0	20.1		ug/L		100	65 - 133
2-Butanone (MEK)	200	164		ug/L		82	10 - 180
2-Hexanone	200	173		ug/L		87	12 - 180
4-Methyl-2-pentanone	200	183		ug/L		91	19 - 180
Acetone	200	156		ug/L		78	10 - 180
Benzene	20.0	19.1		ug/L		96	56 - 136
Bromodichloromethane	20.0	20.2		ug/L		101	58 - 135
Bromoform	20.0	17.7		ug/L		88	46 - 148
Bromomethane	20.0	12.8		ug/L		64	10 - 173
Carbon disulfide	20.0	16.0		ug/L		80	43 - 153
Carbon tetrachloride	20.0	22.8		ug/L		114	54 - 156
Chlorobenzene	20.0	19.3		ug/L		97	51 - 139
Chloroethane	20.0	18.7		ug/L		94	27 - 180
Chloroform	20.0	19.0		ug/L		95	58 - 139
Chloromethane	20.0	10.5		ug/L		53	33 - 154
cis-1,2-Dichloroethene	20.0	18.7		ug/L		94	56 - 128
cis-1,3-Dichloropropene	20.0	17.7		ug/L		88	64 - 128
Cyclohexane	20.0	21.0		ug/L		105	14 - 151
Dibromochloromethane	20.0	19.7		ug/L		98	50 - 140
Dichlorodifluoromethane	20.0	15.1		ug/L		75	10 - 180
Ethylbenzene	20.0	20.3		ug/L		102	63 - 133
Isopropylbenzene	20.0	20.6		ug/L		103	60 - 132
m,p-Xylenes	20.0	19.7		ug/L		98	64 - 133
Methyl acetate	40.0	33.3		ug/L		83	70 - 130
Methyl tert-butyl ether	20.0	18.5		ug/L		92	51 - 145
Methylene Chloride	20.0	17.6		ug/L		88	43 - 142
o-Xylene	20.0	19.1		ug/L		96	61 - 129
Styrene	20.0	19.7		ug/L		98	59 - 136
Tetrachloroethene	20.0	20.7		ug/L		103	60 - 147
Toluene	20.0	19.5		ug/L		97	64 - 131
trans-1,2-Dichloroethene	20.0	18.8		ug/L		94	54 - 134
trans-1,3-Dichloropropene	20.0	18.5		ug/L		92	65 - 149
Trichloroethene	20.0	19.7		ug/L		98	62 - 135
Trichlorofluoromethane	20.0	20.0		ug/L		100	56 - 155
Vinyl chloride	20.0	16.2		ug/L		81	20 - 167

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-72903/5
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Xylenes, Total			40.0	38.8		ug/L		97	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: MB 670-73081/8
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			01/25/24 11:16	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			01/25/24 11:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			01/25/24 11:16	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			01/25/24 11:16	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			01/25/24 11:16	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			01/25/24 11:16	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			01/25/24 11:16	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			01/25/24 11:16	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			01/25/24 11:16	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			01/25/24 11:16	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			01/25/24 11:16	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			01/25/24 11:16	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			01/25/24 11:16	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			01/25/24 11:16	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			01/25/24 11:16	1
2-Hexanone	2.5	U	20	2.5	ug/L			01/25/24 11:16	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			01/25/24 11:16	1
Acetone	25	U	50	25	ug/L			01/25/24 11:16	1
Benzene	0.71	U	1.0	0.71	ug/L			01/25/24 11:16	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			01/25/24 11:16	1
Bromoform	0.75	U	1.0	0.75	ug/L			01/25/24 11:16	1
Bromomethane	0.95	U	2.0	0.95	ug/L			01/25/24 11:16	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			01/25/24 11:16	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			01/25/24 11:16	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			01/25/24 11:16	1
Chloroethane	0.98	U	2.0	0.98	ug/L			01/25/24 11:16	1
Chloroform	0.80	U	5.0	0.80	ug/L			01/25/24 11:16	1
Chloromethane	0.82	U	2.0	0.82	ug/L			01/25/24 11:16	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			01/25/24 11:16	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			01/25/24 11:16	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			01/25/24 11:16	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			01/25/24 11:16	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			01/25/24 11:16	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			01/25/24 11:16	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			01/25/24 11:16	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			01/25/24 11:16	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-73081/8
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	0.95	U	10	0.95	ug/L			01/25/24 11:16	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			01/25/24 11:16	1
Methylene Chloride	5.0	U	10	5.0	ug/L			01/25/24 11:16	1
o-Xylene	0.53	U	1.0	0.53	ug/L			01/25/24 11:16	1
Styrene	0.61	U	1.0	0.61	ug/L			01/25/24 11:16	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			01/25/24 11:16	1
Toluene	0.72	U	1.0	0.72	ug/L			01/25/24 11:16	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			01/25/24 11:16	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			01/25/24 11:16	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			01/25/24 11:16	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			01/25/24 11:16	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			01/25/24 11:16	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			01/25/24 11:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*01/25/24 11:16*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*01/25/24 11:16*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*01/25/24 11:16*	*1*

Lab Sample ID: LCS 670-73081/4
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	5.00	5.07		ug/L		101	57 - 148
1,1,2,2-Tetrachloroethane	5.00	4.66		ug/L		93	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	5.21		ug/L		104	47 - 173
1,1,2-Trichloroethane	5.00	4.83		ug/L		97	57 - 141
1,1-Dichloroethane	5.00	5.05		ug/L		101	57 - 142
1,1-Dichloroethene	5.00	4.77		ug/L		95	47 - 139
1,2,4-Trichlorobenzene	5.00	4.68		ug/L		94	52 - 159
1,2-Dibromo-3-Chloropropane	5.00	3.30	I	ug/L		66	48 - 150
1,2-Dibromoethane (EDB)	5.00	4.31	I	ug/L		86	57 - 140
1,2-Dichlorobenzene	5.00	5.14		ug/L		103	63 - 131
1,2-Dichloroethane	5.00	4.54		ug/L		91	50 - 156
1,2-Dichloropropane	5.00	4.51		ug/L		90	61 - 133
1,3-Dichlorobenzene	5.00	5.31		ug/L		106	66 - 129
1,4-Dichlorobenzene	5.00	5.30		ug/L		106	65 - 133
2-Butanone (MEK)	50.0	38.5		ug/L		77	10 - 180
2-Hexanone	50.0	38.5		ug/L		77	12 - 180
4-Methyl-2-pentanone	50.0	39.5		ug/L		79	19 - 180
Acetone	50.0	37.2	I	ug/L		74	10 - 180
Benzene	5.00	4.56		ug/L		91	56 - 136
Bromodichloromethane	5.00	5.03		ug/L		101	58 - 135
Bromoform	5.00	4.56		ug/L		91	46 - 148
Bromomethane	5.00	2.95		ug/L		59	10 - 173
Carbon disulfide	5.00	3.47	I	ug/L		69	43 - 153
Carbon tetrachloride	5.00	5.64		ug/L		113	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-73081/4
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorobenzene			5.00	4.97		ug/L		99	51 - 139		
Chloroethane			5.00	3.95		ug/L		79	27 - 180		
Chloroform			5.00	4.81	I	ug/L		96	58 - 139		
Chloromethane			5.00	3.27		ug/L		65	33 - 154		
cis-1,2-Dichloroethene			5.00	4.47		ug/L		89	56 - 128		
cis-1,3-Dichloropropene			5.00	4.44		ug/L		89	64 - 128		
Cyclohexane			5.00	4.36	I	ug/L		87	14 - 151		
Dibromochloromethane			5.00	4.87		ug/L		97	50 - 140		
Dichlorodifluoromethane			5.00	4.71		ug/L		94	10 - 180		
Ethylbenzene			5.00	4.96		ug/L		99	63 - 133		
Isopropylbenzene			5.00	4.95		ug/L		99	60 - 132		
m,p-Xylenes			5.00	4.70		ug/L		94	64 - 133		
Methyl acetate			10.0	7.76	I	ug/L		78	70 - 130		
Methyl tert-butyl ether			5.00	4.25		ug/L		85	51 - 145		
Methylene Chloride			5.00	5.0	U	ug/L		77	43 - 142		
o-Xylene			5.00	4.66		ug/L		93	61 - 129		
Styrene			5.00	4.47		ug/L		89	59 - 136		
Tetrachloroethene			5.00	5.03		ug/L		101	60 - 147		
Toluene			5.00	4.86		ug/L		97	64 - 131		
trans-1,2-Dichloroethene			5.00	4.61		ug/L		92	54 - 134		
trans-1,3-Dichloropropene			5.00	4.25		ug/L		85	65 - 149		
Trichloroethene			5.00	4.92		ug/L		98	62 - 135		
Trichlorofluoromethane			5.00	5.41		ug/L		108	56 - 155		
Vinyl chloride			5.00	4.64		ug/L		93	20 - 167		
Xylenes, Total			10.0	9.36		ug/L		94	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*104*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Lab Sample ID: LCSD 670-73081/5
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			5.00	4.91		ug/L		98	57 - 148	3	25
1,1,2,2-Tetrachloroethane			5.00	4.80		ug/L		96	60 - 139	3	17
1,1,2-Trichloro-1,2,2-trifluoroethane			5.00	4.64		ug/L		93	47 - 173	12	30
1,1,2-Trichloroethane			5.00	4.65		ug/L		93	57 - 141	4	16
1,1-Dichloroethane			5.00	4.72		ug/L		94	57 - 142	7	24
1,1-Dichloroethene			5.00	4.60		ug/L		92	47 - 139	4	16
1,2,4-Trichlorobenzene			5.00	4.51		ug/L		90	52 - 159	4	24
1,2-Dibromo-3-Chloropropane			5.00	3.75	I	ug/L		75	48 - 150	13	21
1,2-Dibromoethane (EDB)			5.00	4.28	I	ug/L		86	57 - 140	1	16
1,2-Dichlorobenzene			5.00	4.95		ug/L		99	63 - 131	4	25
1,2-Dichloroethane			5.00	4.33		ug/L		87	50 - 156	5	18
1,2-Dichloropropane			5.00	4.58		ug/L		92	61 - 133	2	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 670-73081/5
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene			5.00	4.93		ug/L		99	66 - 129	7	23
1,4-Dichlorobenzene			5.00	4.94		ug/L		99	65 - 133	7	23
2-Butanone (MEK)			50.0	40.1		ug/L		80	10 - 180	4	29
2-Hexanone			50.0	42.6		ug/L		85	12 - 180	10	28
4-Methyl-2-pentanone			50.0	44.0		ug/L		88	19 - 180	11	24
Acetone			50.0	36.0	I	ug/L		72	10 - 180	3	19
Benzene			5.00	4.46		ug/L		89	56 - 136	2	14
Bromodichloromethane			5.00	4.73		ug/L		95	58 - 135	6	19
Bromoform			5.00	4.79		ug/L		96	46 - 148	5	18
Bromomethane			5.00	2.21		ug/L		44	10 - 173	28	29
Carbon disulfide			5.00	3.16	I	ug/L		63	43 - 153	9	26
Carbon tetrachloride			5.00	5.24		ug/L		105	54 - 156	7	27
Chlorobenzene			5.00	4.61		ug/L		92	51 - 139	7	13
Chloroethane			5.00	4.37		ug/L		87	27 - 180	10	22
Chloroform			5.00	4.42	I	ug/L		88	58 - 139	8	17
Chloromethane			5.00	3.44		ug/L		69	33 - 154	5	31
cis-1,2-Dichloroethene			5.00	4.49		ug/L		90	56 - 128	1	17
cis-1,3-Dichloropropene			5.00	4.13		ug/L		83	64 - 128	7	20
Cyclohexane			5.00	4.13	I	ug/L		83	14 - 151	5	30
Dibromochloromethane			5.00	4.83		ug/L		97	50 - 140	1	18
Dichlorodifluoromethane			5.00	4.46		ug/L		89	10 - 180	5	26
Ethylbenzene			5.00	4.68		ug/L		94	63 - 133	6	18
Isopropylbenzene			5.00	4.82		ug/L		96	60 - 132	3	23
m,p-Xylenes			5.00	4.46		ug/L		89	64 - 133	5	18
Methyl acetate			10.0	9.29	I	ug/L		93	70 - 130	18	30
Methyl tert-butyl ether			5.00	4.26		ug/L		85	51 - 145	0	22
Methylene Chloride			5.00	5.0	U	ug/L		78	43 - 142	0	23
o-Xylene			5.00	4.38		ug/L		88	61 - 129	6	16
Styrene			5.00	4.33		ug/L		87	59 - 136	3	32
Tetrachloroethene			5.00	4.65		ug/L		93	60 - 147	8	21
Toluene			5.00	4.49		ug/L		90	64 - 131	8	16
trans-1,2-Dichloroethene			5.00	4.14		ug/L		83	54 - 134	11	20
trans-1,3-Dichloropropene			5.00	4.22		ug/L		84	65 - 149	1	17
Trichloroethene			5.00	4.56		ug/L		91	62 - 135	8	20
Trichlorofluoromethane			5.00	4.98		ug/L		100	56 - 155	8	22
Vinyl chloride			5.00	4.38		ug/L		88	20 - 167	6	24
Xylenes, Total			10.0	8.84		ug/L		88	50 - 150	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33615-D-1 MS
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	21.2		ug/L		106	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	19.1		ug/L		96	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	22.3		ug/L		111	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	19.3		ug/L		97	57 - 141
1,1-Dichloroethane	0.62	U	20.0	19.1		ug/L		95	57 - 142
1,1-Dichloroethene	0.94	U	20.0	19.4		ug/L		97	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	19.2		ug/L		96	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	16.4		ug/L		82	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	17.9		ug/L		89	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	20.0		ug/L		100	63 - 131
1,2-Dichloroethane	0.63	U	20.0	18.0		ug/L		90	50 - 156
1,2-Dichloropropane	0.80	U	20.0	18.1		ug/L		91	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	19.7		ug/L		99	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	20.1		ug/L		100	65 - 133
2-Butanone (MEK)	4.5	U	200	166		ug/L		83	10 - 180
2-Hexanone	2.5	U	200	179		ug/L		90	12 - 180
4-Methyl-2-pentanone	5.0	U	200	187		ug/L		94	19 - 180
Acetone	25	U	200	169		ug/L		84	10 - 180
Benzene	0.71	U	20.0	18.7		ug/L		93	56 - 136
Bromodichloromethane	12		20.0	32.6		ug/L		104	58 - 135
Bromoform	0.75	U	20.0	17.5		ug/L		88	46 - 148
Bromomethane	0.95	U	20.0	10.0		ug/L		50	10 - 173
Carbon disulfide	2.5	U	20.0	13.8		ug/L		69	43 - 153
Carbon tetrachloride	0.94	U	20.0	22.9		ug/L		115	54 - 156
Chlorobenzene	0.72	U	20.0	19.1		ug/L		95	51 - 139
Chloroethane	0.98	U	20.0	15.2		ug/L		76	27 - 180
Chloroform	53		20.0	76.9		ug/L		119	59 - 139
Chloromethane	1.1	I	20.0	12.7		ug/L		58	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	17.9		ug/L		90	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	17.3		ug/L		86	64 - 128
Cyclohexane	0.93	U	20.0	19.4		ug/L		97	14 - 141
Dibromochloromethane	1.8		20.0	21.8		ug/L		100	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	17.3		ug/L		86	10 - 180
Ethylbenzene	0.69	U	20.0	20.5		ug/L		103	63 - 133
Isopropylbenzene	0.67	U	20.0	20.6		ug/L		103	60 - 132
m,p-Xylenes	1.3	U	20.0	20.6		ug/L		103	64 - 133
Methyl acetate	0.95	U	40.0	39.0		ug/L		98	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	17.7		ug/L		88	50 - 150
Methylene Chloride	5.0	U	20.0	16.2		ug/L		81	43 - 142
o-Xylene	0.53	U	20.0	19.1		ug/L		96	61 - 129
Styrene	0.61	U	20.0	20.1		ug/L		100	59 - 136
Tetrachloroethene	0.76	U	20.0	20.5		ug/L		103	60 - 147
Toluene	0.72	U	20.0	18.7		ug/L		93	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	18.1		ug/L		90	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	18.3		ug/L		91	65 - 149
Trichloroethene	0.89	U	20.0	19.1		ug/L		95	62 - 135
Trichlorofluoromethane	0.94	U	20.0	18.9		ug/L		95	56 - 155
Vinyl chloride	0.71	U	20.0	16.5		ug/L		82	20 - 167

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33615-D-1 MS
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Xylenes, Total	1.3	U	40.0	39.7		ug/L		99	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-33615-D-1 MSD
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	20.5		ug/L		102	57 - 148	4	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	19.8		ug/L		99	60 - 139	3	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	21.1		ug/L		105	50 - 150	6	30
1,1,2-Trichloroethane	0.76	U	20.0	19.5		ug/L		97	57 - 141	1	16
1,1-Dichloroethane	0.62	U	20.0	19.1		ug/L		95	57 - 142	0	24
1,1-Dichloroethene	0.94	U	20.0	18.7		ug/L		94	49 - 139	4	16
1,2,4-Trichlorobenzene	0.70	U	20.0	19.0		ug/L		95	52 - 159	1	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	17.5		ug/L		87	48 - 150	6	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	18.4		ug/L		92	50 - 150	3	16
1,2-Dichlorobenzene	0.73	U	20.0	20.4		ug/L		102	63 - 131	2	25
1,2-Dichloroethane	0.63	U	20.0	18.7		ug/L		93	50 - 156	4	18
1,2-Dichloropropane	0.80	U	20.0	18.5		ug/L		92	61 - 133	2	26
1,3-Dichlorobenzene	0.77	U	20.0	20.5		ug/L		103	66 - 129	4	23
1,4-Dichlorobenzene	0.76	U	20.0	20.4		ug/L		102	65 - 133	1	23
2-Butanone (MEK)	4.5	U	200	171		ug/L		85	10 - 180	3	29
2-Hexanone	2.5	U	200	188		ug/L		94	12 - 180	5	28
4-Methyl-2-pentanone	5.0	U	200	195		ug/L		98	19 - 180	4	24
Acetone	25	U	200	188		ug/L		94	10 - 180	11	19
Benzene	0.71	U	20.0	18.5		ug/L		92	56 - 136	1	14
Bromodichloromethane	12		20.0	31.9		ug/L		100	58 - 135	2	19
Bromoform	0.75	U	20.0	18.6		ug/L		93	46 - 148	6	18
Bromomethane	0.95	U	20.0	13.4		ug/L		67	10 - 173	29	29
Carbon disulfide	2.5	U	20.0	14.2		ug/L		71	43 - 153	3	26
Carbon tetrachloride	0.94	U	20.0	22.4		ug/L		112	54 - 156	3	27
Chlorobenzene	0.72	U	20.0	19.5		ug/L		98	51 - 139	2	13
Chloroethane	0.98	U	20.0	18.0		ug/L		90	27 - 180	17	22
Chloroform	53		20.0	75.9		ug/L		114	59 - 139	1	17
Chloromethane	1.1	I	20.0	14.9		ug/L		69	33 - 154	16	31
cis-1,2-Dichloroethene	0.53	U	20.0	17.9		ug/L		89	56 - 128	0	17
cis-1,3-Dichloropropene	0.59	U	20.0	17.5		ug/L		87	64 - 128	1	20
Cyclohexane	0.93	U	20.0	18.6		ug/L		93	14 - 141	4	30
Dibromochloromethane	1.8		20.0	21.9		ug/L		101	50 - 150	0	18
Dichlorodifluoromethane	0.74	U	20.0	19.5		ug/L		97	10 - 180	12	26
Ethylbenzene	0.69	U	20.0	20.3		ug/L		102	63 - 133	1	18
Isopropylbenzene	0.67	U	20.0	21.4		ug/L		107	60 - 132	4	23
m,p-Xylenes	1.3	U	20.0	20.2		ug/L		101	64 - 133	2	18

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33615-D-1 MSD
Matrix: Water
Analysis Batch: 73081

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methyl acetate	0.95	U	40.0	44.1		ug/L		110	50 - 150	12	30
Methyl tert-butyl ether	0.60	U	20.0	17.9		ug/L		89	50 - 150	1	22
Methylene Chloride	5.0	U	20.0	17.2		ug/L		86	43 - 142	6	23
o-Xylene	0.53	U	20.0	19.8		ug/L		99	61 - 129	3	16
Styrene	0.61	U	20.0	20.1		ug/L		100	59 - 136	0	32
Tetrachloroethene	0.76	U	20.0	20.0		ug/L		100	60 - 147	2	21
Toluene	0.72	U	20.0	18.7		ug/L		94	64 - 131	0	16
trans-1,2-Dichloroethene	0.73	U	20.0	17.8		ug/L		89	54 - 134	1	20
trans-1,3-Dichloropropene	0.73	U	20.0	18.4		ug/L		92	65 - 149	0	17
Trichloroethene	0.89	U	20.0	18.9		ug/L		95	62 - 135	1	20
Trichlorofluoromethane	0.94	U	20.0	22.2		ug/L		111	56 - 155	16	22
Vinyl chloride	0.71	U	20.0	19.6		ug/L		98	20 - 167	17	24
Xylenes, Total	1.3	U	40.0	40.0		ug/L		100	50 - 150	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Lab Sample ID: 670-33365-C-1-B MS
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	80	U	2000	1900		ug/L		95	57 - 148
1,1,2,2-Tetrachloroethane	54	U	2000	1570		ug/L		78	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	2130		ug/L		106	50 - 150
1,1,2-Trichloroethane	76	U	2000	1680		ug/L		84	57 - 141
1,1-Dichloroethane	62	U	2000	1890		ug/L		95	57 - 142
1,1-Dichloroethene	94	U	2000	2070		ug/L		104	49 - 139
1,2,4-Trichlorobenzene	70	U	2000	1740		ug/L		87	52 - 159
1,2-Dibromo-3-Chloropropane	96	U	2000	1410		ug/L		71	48 - 150
1,2-Dibromoethane (EDB)	78	U	2000	1680		ug/L		84	50 - 150
1,2-Dichlorobenzene	73	U	2000	2010		ug/L		100	63 - 131
1,2-Dichloroethane	63	U	2000	1830		ug/L		92	50 - 156
1,2-Dichloropropane	80	U	2000	1920		ug/L		96	61 - 133
1,3-Dichlorobenzene	77	U	2000	1940		ug/L		97	66 - 129
1,4-Dichlorobenzene	76	U	2000	1970		ug/L		98	65 - 133
2-Butanone (MEK)	450	U	20000	14000		ug/L		70	10 - 180
2-Hexanone	250	U	20000	14500		ug/L		73	12 - 180
4-Methyl-2-pentanone	500	U	20000	16900		ug/L		85	19 - 180
Acetone	2500	U	20000	12500		ug/L		62	10 - 180
Benzene	71	U	2000	1970		ug/L		99	56 - 136
Bromodichloromethane	52	U	2000	1910		ug/L		95	58 - 135
Bromoform	75	U	2000	1750		ug/L		88	46 - 148
Bromomethane	95	U	2000	2060		ug/L		103	10 - 173
Carbon disulfide	250	U	2000	1890		ug/L		94	43 - 153
Carbon tetrachloride	94	U	2000	1950		ug/L		97	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33365-C-1-B MS
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	72	U	2000	1950		ug/L		97	51 - 139
Chloroethane	98	U	2000	1910		ug/L		95	27 - 180
Chloroform	80	U	2000	1990		ug/L		100	59 - 139
Chloromethane	82	U	2000	1780		ug/L		89	33 - 154
cis-1,2-Dichloroethene	53	U	2000	1900		ug/L		95	56 - 128
cis-1,3-Dichloropropene	59	U	2000	1720		ug/L		86	64 - 128
Cyclohexane	93	U	2000	1720		ug/L		86	14 - 141
Dibromochloromethane	50	U	2000	1950		ug/L		98	50 - 150
Dichlorodifluoromethane	74	U	2000	1930		ug/L		97	10 - 180
Ethylbenzene	69	U	2000	1910		ug/L		96	63 - 133
Isopropylbenzene	67	U	2000	2150		ug/L		108	60 - 132
m,p-Xylenes	130	U	2000	1980		ug/L		99	64 - 133
Methyl acetate	95	U	4000	3170		ug/L		79	50 - 150
Methyl tert-butyl ether	60	U	2000	1600		ug/L		80	50 - 150
Methylene Chloride	500	U	2000	1970		ug/L		99	43 - 142
o-Xylene	53	U	2000	1890		ug/L		94	61 - 129
Styrene	61	U	2000	1820		ug/L		91	59 - 136
Tetrachloroethene	76	U	2000	2000		ug/L		100	60 - 147
Toluene	72	U	2000	1880		ug/L		94	64 - 131
trans-1,2-Dichloroethene	73	U	2000	1830		ug/L		92	54 - 134
trans-1,3-Dichloropropene	73	U	2000	1890		ug/L		95	65 - 149
Trichloroethene	89	U	2000	1930		ug/L		96	62 - 135
Trichlorofluoromethane	94	U	2000	1920		ug/L		96	56 - 155
Vinyl chloride	71	U	2000	1870		ug/L		93	20 - 167
Xylenes, Total	130	U	4000	3870		ug/L		97	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Lab Sample ID: 670-33365-C-1-B MSD
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	80	U	2000	1940		ug/L		97	57 - 148	2	25
1,1,2,2-Tetrachloroethane	54	U	2000	1740		ug/L		87	60 - 139	11	17
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	2000	2030		ug/L		101	50 - 150	5	30
1,1,2-Trichloroethane	76	U	2000	1770		ug/L		89	57 - 141	5	16
1,1-Dichloroethane	62	U	2000	1910		ug/L		96	57 - 142	1	24
1,1-Dichloroethene	94	U	2000	1910		ug/L		95	49 - 139	8	16
1,2,4-Trichlorobenzene	70	U	2000	1900		ug/L		95	52 - 159	9	24
1,2-Dibromo-3-Chloropropane	96	U	2000	1610		ug/L		80	48 - 150	13	21
1,2-Dibromoethane (EDB)	78	U	2000	1780		ug/L		89	50 - 150	5	16
1,2-Dichlorobenzene	73	U	2000	2080		ug/L		104	63 - 131	4	25
1,2-Dichloroethane	63	U	2000	1730		ug/L		87	50 - 156	6	18
1,2-Dichloropropane	80	U	2000	1940		ug/L		97	61 - 133	1	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-33365-C-1-B MSD
Matrix: Water
Analysis Batch: 72672

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	77	U	2000	2080		ug/L		104	66 - 129	7	23
1,4-Dichlorobenzene	76	U	2000	2060		ug/L		103	65 - 133	5	23
2-Butanone (MEK)	450	U	20000	15900		ug/L		79	10 - 180	12	29
2-Hexanone	250	U	20000	15600		ug/L		78	12 - 180	7	28
4-Methyl-2-pentanone	500	U	20000	17600		ug/L		88	19 - 180	4	24
Acetone	2500	U	20000	13500		ug/L		67	10 - 180	8	19
Benzene	71	U	2000	1940		ug/L		97	56 - 136	2	14
Bromodichloromethane	52	U	2000	1950		ug/L		98	58 - 135	2	19
Bromoform	75	U	2000	1940		ug/L		97	46 - 148	10	18
Bromomethane	95	U	2000	2110		ug/L		106	10 - 173	2	29
Carbon disulfide	250	U	2000	1820		ug/L		91	43 - 153	4	26
Carbon tetrachloride	94	U	2000	1980		ug/L		99	54 - 156	2	27
Chlorobenzene	72	U	2000	1980		ug/L		99	51 - 139	2	13
Chloroethane	98	U	2000	1840		ug/L		92	27 - 180	3	22
Chloroform	80	U	2000	2080		ug/L		104	59 - 139	4	17
Chloromethane	82	U	2000	1800		ug/L		90	33 - 154	1	31
cis-1,2-Dichloroethene	53	U	2000	1850		ug/L		93	56 - 128	3	17
cis-1,3-Dichloropropene	59	U	2000	1770		ug/L		89	64 - 128	3	20
Cyclohexane	93	U	2000	1860		ug/L		93	14 - 141	8	30
Dibromochloromethane	50	U	2000	1990		ug/L		99	50 - 150	2	18
Dichlorodifluoromethane	74	U	2000	1920		ug/L		96	10 - 180	0	26
Ethylbenzene	69	U	2000	1990		ug/L		100	63 - 133	4	18
Isopropylbenzene	67	U	2000	2310		ug/L		116	60 - 132	7	23
m,p-Xylenes	130	U	2000	2050		ug/L		103	64 - 133	3	18
Methyl acetate	95	U	4000	3550		ug/L		89	50 - 150	12	30
Methyl tert-butyl ether	60	U	2000	1620		ug/L		81	50 - 150	2	22
Methylene Chloride	500	U	2000	1890		ug/L		94	43 - 142	4	23
o-Xylene	53	U	2000	1940		ug/L		97	61 - 129	2	16
Styrene	61	U	2000	1980		ug/L		99	59 - 136	9	32
Tetrachloroethene	76	U	2000	2070		ug/L		103	60 - 147	3	21
Toluene	72	U	2000	1970		ug/L		98	64 - 131	5	16
trans-1,2-Dichloroethene	73	U	2000	1950		ug/L		97	54 - 134	6	20
trans-1,3-Dichloropropene	73	U	2000	1870		ug/L		94	65 - 149	1	17
Trichloroethene	89	U	2000	1880		ug/L		94	62 - 135	2	20
Trichlorofluoromethane	94	U	2000	1960		ug/L		98	56 - 155	2	22
Vinyl chloride	71	U	2000	1940		ug/L		97	20 - 167	4	24
Xylenes, Total	130	U	4000	3990		ug/L		100	50 - 150	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS - DL

Lab Sample ID: 670-33457-24 MS
Matrix: Water
Analysis Batch: 72862

Client Sample ID: LC34-DPT0597-018.0-20240119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane - DL	16	U	400	455		ug/L		114	57 - 148
1,1,2,2-Tetrachloroethane - DL	11	U	400	393		ug/L		98	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	15	U	400	488		ug/L		122	50 - 150
1,1,2-Trichloroethane - DL	15	U	400	408		ug/L		102	57 - 141
1,1-Dichloroethane - DL	12	U	400	423		ug/L		106	57 - 142
1,1-Dichloroethene - DL	19	U	400	463		ug/L		116	49 - 139
1,2,4-Trichlorobenzene - DL	14	U	400	386		ug/L		96	52 - 159
1,2-Dibromo-3-Chloropropane - DL	19	U	400	378		ug/L		95	48 - 150
1,2-Dibromoethane (EDB) - DL	16	U	400	412		ug/L		103	50 - 150
1,2-Dichlorobenzene - DL	15	U	400	408		ug/L		102	63 - 131
1,2-Dichloroethane - DL	13	U	400	378		ug/L		94	50 - 156
1,2-Dichloropropane - DL	16	U	400	400		ug/L		100	61 - 133
1,3-Dichlorobenzene - DL	15	U	400	422		ug/L		106	66 - 129
1,4-Dichlorobenzene - DL	15	U	400	363		ug/L		91	65 - 133
2-Butanone (MEK) - DL	150	I	4000	4500		ug/L		109	10 - 180
2-Hexanone - DL	50	U	4000	3710		ug/L		93	12 - 180
4-Methyl-2-pentanone - DL	100	U	4000	3730		ug/L		93	19 - 180
Acetone - DL	500	U	4000	4160		ug/L		104	10 - 180
Benzene - DL	14	U	400	433		ug/L		108	56 - 136
Bromodichloromethane - DL	10	U	400	418		ug/L		104	58 - 135
Bromoform - DL	15	U	400	410		ug/L		103	46 - 148
Bromomethane - DL	19	U	400	329		ug/L		82	10 - 173
Carbon disulfide - DL	50	U	400	457		ug/L		114	43 - 153
Carbon tetrachloride - DL	19	U	400	479		ug/L		120	54 - 156
Chlorobenzene - DL	14	U	400	444		ug/L		111	51 - 139
Chloroethane - DL	20	U	400	314		ug/L		79	27 - 180
Chloroform - DL	16	U	400	432		ug/L		108	59 - 139
Chloromethane - DL	16	U	400	410		ug/L		102	33 - 154
cis-1,2-Dichloroethene - DL	690		400	1020		ug/L		81	56 - 128
cis-1,3-Dichloropropene - DL	12	U	400	409		ug/L		102	64 - 128
Cyclohexane - DL	19	U	400	436		ug/L		109	14 - 141
Dibromochloromethane - DL	10	U	400	411		ug/L		103	50 - 150
Dichlorodifluoromethane - DL	15	U	400	474		ug/L		118	10 - 180
Ethylbenzene - DL	14	U	400	444		ug/L		111	63 - 133
Isopropylbenzene - DL	13	U	400	426		ug/L		106	60 - 132
m,p-Xylenes - DL	26	U	400	386		ug/L		96	64 - 133
Methyl acetate - DL	19	U	800	955		ug/L		119	50 - 150
Methyl tert-butyl ether - DL	12	U	400	423		ug/L		106	50 - 150
Methylene Chloride - DL	100	U	400	425		ug/L		106	43 - 142
o-Xylene - DL	11	U	400	420		ug/L		105	61 - 129
Styrene - DL	12	U	400	425		ug/L		106	59 - 136
Tetrachloroethene - DL	15	U	400	449		ug/L		112	60 - 147
Toluene - DL	14	U	400	405		ug/L		101	64 - 131
trans-1,2-Dichloroethene - DL	15	U	400	472		ug/L		118	54 - 134
trans-1,3-Dichloropropene - DL	15	U	400	410		ug/L		102	65 - 149
Trichloroethene - DL	150		400	586		ug/L		110	62 - 135
Trichlorofluoromethane - DL	19	U	400	390		ug/L		97	56 - 155

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-33457-24 MS
Client Sample ID: LC34-DPT0597-018.0-20240119
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 72862

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl chloride - DL	27		400	475		ug/L		112	20 - 167
Xylenes, Total - DL	26	U	800	806		ug/L		101	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*99*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*102*		*53 - 146*
Toluene-d8 (Surr) - DL	*102*		*40 - 146*

Lab Sample ID: 670-33457-24 MSD
Client Sample ID: LC34-DPT0597-018.0-20240119
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 72862

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane - DL	16	U	400	487		ug/L		122	57 - 148	7	25
1,1,2,2-Tetrachloroethane - DL	11	U	400	410		ug/L		102	60 - 139	4	17
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	15	U	400	512		ug/L		128	50 - 150	5	30
1,1,2-Trichloroethane - DL	15	U	400	429		ug/L		107	57 - 141	5	16
1,1-Dichloroethane - DL	12	U	400	449		ug/L		112	57 - 142	6	24
1,1-Dichloroethene - DL	19	U	400	482		ug/L		121	49 - 139	4	16
1,2,4-Trichlorobenzene - DL	14	U	400	414		ug/L		103	52 - 159	7	24
1,2-Dibromo-3-Chloropropane - DL	19	U	400	401		ug/L		100	48 - 150	6	21
1,2-Dibromoethane (EDB) - DL	16	U	400	423		ug/L		106	50 - 150	3	16
1,2-Dichlorobenzene - DL	15	U	400	439		ug/L		110	63 - 131	7	25
1,2-Dichloroethane - DL	13	U	400	398		ug/L		99	50 - 156	5	18
1,2-Dichloropropane - DL	16	U	400	417		ug/L		104	61 - 133	4	26
1,3-Dichlorobenzene - DL	15	U	400	445		ug/L		111	66 - 129	5	23
1,4-Dichlorobenzene - DL	15	U	400	385		ug/L		96	65 - 133	6	23
2-Butanone (MEK) - DL	150	I	4000	4520		ug/L		109	10 - 180	0	29
2-Hexanone - DL	50	U	4000	3730		ug/L		93	12 - 180	1	28
4-Methyl-2-pentanone - DL	100	U	4000	3790		ug/L		95	19 - 180	2	24
Acetone - DL	500	U	4000	4090		ug/L		102	10 - 180	2	19
Benzene - DL	14	U	400	455		ug/L		114	56 - 136	5	14
Bromodichloromethane - DL	10	U	400	439		ug/L		110	58 - 135	5	19
Bromoform - DL	15	U	400	435		ug/L		109	46 - 148	6	18
Bromomethane - DL	19	U	400	358		ug/L		89	10 - 173	8	29
Carbon disulfide - DL	50	U	400	477		ug/L		119	43 - 153	4	26
Carbon tetrachloride - DL	19	U	400	508		ug/L		127	54 - 156	6	27
Chlorobenzene - DL	14	U	400	478		ug/L		119	51 - 139	7	13
Chloroethane - DL	20	U	400	338		ug/L		84	27 - 180	7	22
Chloroform - DL	16	U	400	452		ug/L		113	59 - 139	4	17
Chloromethane - DL	16	U	400	427		ug/L		107	33 - 154	4	31
cis-1,2-Dichloroethene - DL	690		400	1090		ug/L		100	56 - 128	7	17
cis-1,3-Dichloropropene - DL	12	U	400	434		ug/L		109	64 - 128	6	20
Cyclohexane - DL	19	U	400	467		ug/L		117	14 - 141	7	30
Dibromochloromethane - DL	10	U	400	439		ug/L		110	50 - 150	7	18

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-33457-24 MSD
Client Sample ID: LC34-DPT0597-018.0-20240119
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 72862

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dichlorodifluoromethane - DL	15	U	400	502		ug/L		126	10 - 180	6	26
Ethylbenzene - DL	14	U	400	472		ug/L		118	63 - 133	6	18
Isopropylbenzene - DL	13	U	400	462		ug/L		115	60 - 132	8	23
m,p-Xylenes - DL	26	U	400	408		ug/L		102	64 - 133	6	18
Methyl acetate - DL	19	U	800	929		ug/L		116	50 - 150	3	30
Methyl tert-butyl ether - DL	12	U	400	441		ug/L		110	50 - 150	4	22
Methylene Chloride - DL	100	U	400	430		ug/L		108	43 - 142	1	23
o-Xylene - DL	11	U	400	447		ug/L		112	61 - 129	6	16
Styrene - DL	12	U	400	451		ug/L		113	59 - 136	6	32
Tetrachloroethene - DL	15	U	400	487		ug/L		122	60 - 147	8	21
Toluene - DL	14	U	400	418		ug/L		105	64 - 131	3	16
trans-1,2-Dichloroethene - DL	15	U	400	486		ug/L		122	54 - 134	3	20
trans-1,3-Dichloropropene - DL	15	U	400	423		ug/L		106	65 - 149	3	17
Trichloroethene - DL	150		400	613		ug/L		116	62 - 135	4	20
Trichlorofluoromethane - DL	19	U	400	415		ug/L		104	56 - 155	6	22
Vinyl chloride - DL	27		400	471		ug/L		111	20 - 167	1	24
Xylenes, Total - DL	26	U	800	855		ug/L		107	50 - 150	6	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*98*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*102*		*53 - 146*
Toluene-d8 (Surr) - DL	*99*		*40 - 146*

Lab Sample ID: 670-33457-36 MS
Client Sample ID: LC34-DPT0597-058.0-20240119
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 72868

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane - DL	2000	U	50000	44900		ug/L		90	57 - 148
1,1,2,2-Tetrachloroethane - DL	1400	U	50000	42100		ug/L		84	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	1800	U	50000	50400		ug/L		101	50 - 150
1,1,2-Trichloroethane - DL	1900	U	50000	46200		ug/L		92	57 - 141
1,1-Dichloroethane - DL	1600	U	50000	48300		ug/L		97	57 - 142
1,1-Dichloroethene - DL	2400	U	50000	46700		ug/L		93	49 - 139
1,2,4-Trichlorobenzene - DL	1800	U	50000	42500		ug/L		85	52 - 159
1,2-Dibromo-3-Chloropropane - DL	2400	U	50000	37500		ug/L		75	48 - 150
1,2-Dibromoethane (EDB) - DL	2000	U	50000	46700		ug/L		93	50 - 150
1,2-Dichlorobenzene - DL	1800	U	50000	47500		ug/L		95	63 - 131
1,2-Dichloroethane - DL	1600	U	50000	41700		ug/L		83	50 - 156
1,2-Dichloropropane - DL	2000	U	50000	49300		ug/L		99	61 - 133
1,3-Dichlorobenzene - DL	1900	U	50000	48900		ug/L		98	66 - 129
1,4-Dichlorobenzene - DL	1900	U	50000	49300		ug/L		99	65 - 133
2-Butanone (MEK) - DL	11000	U	500000	398000		ug/L		80	10 - 180
2-Hexanone - DL	6300	U	500000	362000		ug/L		72	12 - 180
4-Methyl-2-pentanone - DL	13000	U	500000	387000		ug/L		77	19 - 180

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-33457-36 MS
Matrix: Water
Analysis Batch: 72868

Client Sample ID: LC34-DPT0597-058.0-20240119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone - DL	63000	U	500000	426000		ug/L		85	10 - 180
Benzene - DL	1800	U	50000	46400		ug/L		93	56 - 136
Bromodichloromethane - DL	1300	U	50000	46800		ug/L		94	58 - 135
Bromoform - DL	1900	U	50000	44100		ug/L		88	46 - 148
Bromomethane - DL	2400	U	50000	49000		ug/L		98	10 - 173
Carbon disulfide - DL	6300	U	50000	40000		ug/L		80	43 - 153
Carbon tetrachloride - DL	2400	U	50000	48000		ug/L		96	54 - 156
Chlorobenzene - DL	1800	U	50000	50000		ug/L		100	51 - 139
Chloroethane - DL	2500	U	50000	42300		ug/L		85	27 - 180
Chloroform - DL	2000	U	50000	45800		ug/L		92	59 - 139
Chloromethane - DL	2100	U	50000	33000		ug/L		66	33 - 154
cis-1,2-Dichloroethene - DL	42000		50000	90100		ug/L		96	56 - 128
cis-1,3-Dichloropropene - DL	1500	U	50000	44600		ug/L		89	64 - 128
Cyclohexane - DL	2300	U	50000	40400		ug/L		81	14 - 141
Dibromochloromethane - DL	1300	U	50000	50100		ug/L		100	50 - 150
Dichlorodifluoromethane - DL	1900	U	50000	33600		ug/L		67	10 - 180
Ethylbenzene - DL	1700	U	50000	46800		ug/L		94	63 - 133
Isopropylbenzene - DL	1700	U	50000	40800		ug/L		82	60 - 132
m,p-Xylenes - DL	3300	U	50000	39400		ug/L		79	64 - 133
Methyl acetate - DL	2400	U J3	100000	75800		ug/L		76	50 - 150
Methyl tert-butyl ether - DL	1500	U	50000	36700		ug/L		73	50 - 150
Methylene Chloride - DL	13000	U	50000	44200		ug/L		88	43 - 142
o-Xylene - DL	1300	U	50000	38100		ug/L		76	61 - 129
Styrene - DL	1500	U	50000	43400		ug/L		87	59 - 136
Tetrachloroethene - DL	1900	U	50000	49900		ug/L		100	60 - 147
Toluene - DL	1800	U	50000	46000		ug/L		92	64 - 131
trans-1,2-Dichloroethene - DL	1800	U	50000	46200		ug/L		92	54 - 134
trans-1,3-Dichloropropene - DL	1800	U	50000	43800		ug/L		88	65 - 149
Trichloroethene - DL	870000	J3 L	50000	949000	L J3	ug/L		156	62 - 135
Trichlorofluoromethane - DL	2400	U	50000	40300		ug/L		81	56 - 155
Vinyl chloride - DL	2300	I	50000	39100		ug/L		73	20 - 167
Xylenes, Total - DL	3300	U	100000	77500		ug/L		78	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*82*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*107*		*53 - 146*
Toluene-d8 (Surr) - DL	*97*		*40 - 146*

Lab Sample ID: 670-33457-36 MSD
Matrix: Water
Analysis Batch: 72868

Client Sample ID: LC34-DPT0597-058.0-20240119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane - DL	2000	U	50000	43400		ug/L		87	57 - 148	3	25
1,1,2,2-Tetrachloroethane - DL	1400	U	50000	43600		ug/L		87	60 - 139	3	17
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	1800	U	50000	47900		ug/L		96	50 - 150	5	30

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-33457-36 MSD
Matrix: Water
Analysis Batch: 72868

Client Sample ID: LC34-DPT0597-058.0-20240119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,2-Trichloroethane - DL	1900	U	50000	45500		ug/L		91	57 - 141	1	16
1,1-Dichloroethane - DL	1600	U	50000	47100		ug/L		94	57 - 142	3	24
1,1-Dichloroethene - DL	2400	U	50000	46700		ug/L		93	49 - 139	0	16
1,2,4-Trichlorobenzene - DL	1800	U	50000	43500		ug/L		87	52 - 159	2	24
1,2-Dibromo-3-Chloropropane - DL	2400	U	50000	38900		ug/L		78	48 - 150	3	21
1,2-Dibromoethane (EDB) - DL	2000	U	50000	46700		ug/L		93	50 - 150	0	16
1,2-Dichlorobenzene - DL	1800	U	50000	48000		ug/L		96	63 - 131	1	25
1,2-Dichloroethane - DL	1600	U	50000	40900		ug/L		82	50 - 156	2	18
1,2-Dichloropropane - DL	2000	U	50000	47900		ug/L		96	61 - 133	3	26
1,3-Dichlorobenzene - DL	1900	U	50000	48500		ug/L		97	66 - 129	1	23
1,4-Dichlorobenzene - DL	1900	U	50000	48500		ug/L		97	65 - 133	2	23
2-Butanone (MEK) - DL	11000	U	500000	391000		ug/L		78	10 - 180	2	29
2-Hexanone - DL	6300	U	500000	371000		ug/L		74	12 - 180	2	28
4-Methyl-2-pentanone - DL	13000	U	500000	395000		ug/L		79	19 - 180	2	24
Acetone - DL	63000	U	500000	422000		ug/L		84	10 - 180	1	19
Benzene - DL	1800	U	50000	45300		ug/L		91	56 - 136	2	14
Bromodichloromethane - DL	1300	U	50000	45800		ug/L		92	58 - 135	2	19
Bromoform - DL	1900	U	50000	46100		ug/L		92	46 - 148	5	18
Bromomethane - DL	2400	U	50000	47300		ug/L		95	10 - 173	4	29
Carbon disulfide - DL	6300	U	50000	39000		ug/L		78	43 - 153	3	26
Carbon tetrachloride - DL	2400	U	50000	46100		ug/L		92	54 - 156	4	27
Chlorobenzene - DL	1800	U	50000	48600		ug/L		97	51 - 139	3	13
Chloroethane - DL	2500	U	50000	44400		ug/L		89	27 - 180	5	22
Chloroform - DL	2000	U	50000	45300		ug/L		91	59 - 139	1	17
Chloromethane - DL	2100	U	50000	34100		ug/L		68	33 - 154	3	31
cis-1,2-Dichloroethene - DL	42000		50000	88300		ug/L		93	56 - 128	2	17
cis-1,3-Dichloropropene - DL	1500	U	50000	44600		ug/L		89	64 - 128	0	20
Cyclohexane - DL	2300	U	50000	40300		ug/L		81	14 - 141	0	30
Dibromochloromethane - DL	1300	U	50000	49500		ug/L		99	50 - 150	1	18
Dichlorodifluoromethane - DL	1900	U	50000	31100		ug/L		62	10 - 180	8	26
Ethylbenzene - DL	1700	U	50000	44700		ug/L		89	63 - 133	5	18
Isopropylbenzene - DL	1700	U	50000	40900		ug/L		82	60 - 132	0	23
m,p-Xylenes - DL	3300	U	50000	38200		ug/L		76	64 - 133	3	18
Methyl acetate - DL	2400	U J3	100000	76800		ug/L		77	50 - 150	1	30
Methyl tert-butyl ether - DL	1500	U	50000	37000		ug/L		74	50 - 150	1	22
Methylene Chloride - DL	13000	U	50000	43000		ug/L		86	43 - 142	3	23
o-Xylene - DL	1300	U	50000	37100		ug/L		74	61 - 129	2	16
Styrene - DL	1500	U	50000	42000		ug/L		84	59 - 136	3	32
Tetrachloroethene - DL	1900	U	50000	49100		ug/L		98	60 - 147	1	21
Toluene - DL	1800	U	50000	44800		ug/L		90	64 - 131	3	16
trans-1,2-Dichloroethene - DL	1800	U	50000	45200		ug/L		90	54 - 134	2	20
trans-1,3-Dichloropropene - DL	1800	U	50000	43700		ug/L		87	65 - 149	0	17
Trichloroethene - DL	870000	J3 L	50000	923000	L	ug/L		104	62 - 135	3	20
Trichlorofluoromethane - DL	2400	U	50000	39500		ug/L		79	56 - 155	2	22
Vinyl chloride - DL	2300	I	50000	38200		ug/L		72	20 - 167	2	24
Xylenes, Total - DL	3300	U	100000	75300		ug/L		75	50 - 150	3	30

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-33457-36 MSD
Matrix: Water
Analysis Batch: 72868

Client Sample ID: LC34-DPT0597-058.0-20240119
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr) - DL	*85*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*104*		*53 - 146*
Toluene-d8 (Surr) - DL	*96*		*40 - 146*

Lab Sample ID: 670-33334-A-1-A MS
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane - DL	80	U	2000	1960		ug/L		98	57 - 148
1,1,2,2-Tetrachloroethane - DL	54	U	2000	1880		ug/L		94	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	73	U	2000	2020		ug/L		101	50 - 150
1,1,2-Trichloroethane - DL	76	U	2000	2000		ug/L		100	57 - 141
1,1-Dichloroethane - DL	62	U	2000	1930		ug/L		97	57 - 142
1,1-Dichloroethene - DL	94	U	2000	1870		ug/L		93	49 - 139
1,2,4-Trichlorobenzene - DL	70	U	2000	2070		ug/L		104	52 - 159
1,2-Dibromo-3-Chloropropane - DL	96	U	2000	1810		ug/L		91	48 - 150
1,2-Dibromoethane (EDB) - DL	78	U	2000	1800		ug/L		90	50 - 150
1,2-Dichlorobenzene - DL	73	U	2000	2000		ug/L		100	63 - 131
1,2-Dichloroethane - DL	63	U	2000	1820		ug/L		91	50 - 156
1,2-Dichloropropane - DL	80	U	2000	1800		ug/L		90	61 - 133
1,3-Dichlorobenzene - DL	77	U	2000	1870		ug/L		94	66 - 129
1,4-Dichlorobenzene - DL	76	U	2000	1910		ug/L		95	65 - 133
2-Butanone (MEK) - DL	450	U	20000	17300		ug/L		86	10 - 180
2-Hexanone - DL	250	U	20000	19200		ug/L		96	12 - 180
4-Methyl-2-pentanone - DL	500	U	20000	20100		ug/L		101	19 - 180
Acetone - DL	2500	U	20000	16600		ug/L		83	10 - 180
Benzene - DL	71	U	2000	1840		ug/L		92	56 - 136
Bromodichloromethane - DL	52	U	2000	1990		ug/L		99	58 - 135
Bromoform - DL	75	U	2000	1820		ug/L		91	46 - 148
Bromomethane - DL	95	U	2000	1300		ug/L		65	10 - 173
Carbon disulfide - DL	250	U	2000	1540		ug/L		77	43 - 153
Carbon tetrachloride - DL	94	U	2000	2090		ug/L		104	54 - 156
Chlorobenzene - DL	72	U	2000	1910		ug/L		95	51 - 139
Chloroethane - DL	98	U	2000	1740		ug/L		87	27 - 180
Chloroform - DL	80	U	2000	1850		ug/L		93	59 - 139
Chloromethane - DL	82	U	2000	1060		ug/L		53	33 - 154
cis-1,2-Dichloroethene - DL	53	U	2000	1760		ug/L		88	56 - 128
cis-1,3-Dichloropropene - DL	59	U	2000	1770		ug/L		89	64 - 128
Cyclohexane - DL	93	U	2000	1950		ug/L		97	14 - 141
Dibromochloromethane - DL	50	U	2000	2000		ug/L		100	50 - 150
Dichlorodifluoromethane - DL	74	U	2000	1520		ug/L		76	10 - 180
Ethylbenzene - DL	69	U	2000	1950		ug/L		98	63 - 133
Isopropylbenzene - DL	67	U	2000	1920		ug/L		96	60 - 132
m,p-Xylenes - DL	130	U	2000	1950		ug/L		97	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-33334-A-1-A MS
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Matrix Spike
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate - DL	95	U	4000	3880		ug/L		97	50 - 150
Methyl tert-butyl ether - DL	60	U	2000	1850		ug/L		93	50 - 150
Methylene Chloride - DL	500	U	2000	1660		ug/L		83	43 - 142
o-Xylene - DL	53	U	2000	1860		ug/L		93	61 - 129
Styrene - DL	61	U	2000	1950		ug/L		97	59 - 136
Tetrachloroethene - DL	76	U	2000	1950		ug/L		97	60 - 147
Toluene - DL	72	U	2000	1840		ug/L		92	64 - 131
trans-1,2-Dichloroethene - DL	73	U	2000	1770		ug/L		89	54 - 134
trans-1,3-Dichloropropene - DL	73	U	2000	1860		ug/L		93	65 - 149
Trichloroethene - DL	89	U	2000	1900		ug/L		95	62 - 135
Trichlorofluoromethane - DL	94	U	2000	1920		ug/L		96	56 - 155
Vinyl chloride - DL	71	U	2000	1620		ug/L		81	20 - 167
Xylenes, Total - DL	130	U	4000	3810		ug/L		95	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*95*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*100*		*53 - 146*
Toluene-d8 (Surr) - DL	*100*		*40 - 146*

Lab Sample ID: 670-33334-A-1-A MSD
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane - DL	80	U	2000	1970		ug/L		99	57 - 148	1	25
1,1,2,2-Tetrachloroethane - DL	54	U	2000	1950		ug/L		98	60 - 139	4	17
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	73	U	2000	2010		ug/L		101	50 - 150	0	30
1,1,2-Trichloroethane - DL	76	U	2000	1980		ug/L		99	57 - 141	1	16
1,1-Dichloroethane - DL	62	U	2000	1870		ug/L		93	57 - 142	3	24
1,1-Dichloroethene - DL	94	U	2000	1800		ug/L		90	49 - 139	4	16
1,2,4-Trichlorobenzene - DL	70	U	2000	1870		ug/L		93	52 - 159	10	24
1,2-Dibromo-3-Chloropropane - DL	96	U	2000	1720		ug/L		86	48 - 150	5	21
1,2-Dibromoethane (EDB) - DL	78	U	2000	1810		ug/L		91	50 - 150	0	16
1,2-Dichlorobenzene - DL	73	U	2000	1960		ug/L		98	63 - 131	2	25
1,2-Dichloroethane - DL	63	U	2000	1770		ug/L		89	50 - 156	3	18
1,2-Dichloropropane - DL	80	U	2000	1780		ug/L		89	61 - 133	1	26
1,3-Dichlorobenzene - DL	77	U	2000	1880		ug/L		94	66 - 129	0	23
1,4-Dichlorobenzene - DL	76	U	2000	1930		ug/L		96	65 - 133	1	23
2-Butanone (MEK) - DL	450	U	20000	17300		ug/L		86	10 - 180	0	29
2-Hexanone - DL	250	U	20000	18800		ug/L		94	12 - 180	2	28
4-Methyl-2-pentanone - DL	500	U	20000	19700		ug/L		99	19 - 180	2	24
Acetone - DL	2500	U	20000	17100		ug/L		86	10 - 180	3	19
Benzene - DL	71	U	2000	1800		ug/L		90	56 - 136	3	14
Bromodichloromethane - DL	52	U	2000	1950		ug/L		97	58 - 135	2	19
Bromoform - DL	75	U	2000	1770		ug/L		88	46 - 148	3	18

Method: 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Lab Sample ID: 670-33334-A-1-A MSD
Matrix: Water
Analysis Batch: 72903

Client Sample ID: Matrix Spike Duplicate
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Bromomethane - DL	95	U	2000	1320		ug/L		66	10 - 173	2	29
Carbon disulfide - DL	250	U	2000	1470		ug/L		73	43 - 153	5	26
Carbon tetrachloride - DL	94	U	2000	2120		ug/L		106	54 - 156	2	27
Chlorobenzene - DL	72	U	2000	1920		ug/L		96	51 - 139	0	13
Chloroethane - DL	98	U	2000	1740		ug/L		87	27 - 180	0	22
Chloroform - DL	80	U	2000	1820		ug/L		91	59 - 139	2	17
Chloromethane - DL	82	U	2000	1040		ug/L		52	33 - 154	2	31
cis-1,2-Dichloroethene - DL	53	U	2000	1780		ug/L		89	56 - 128	1	17
cis-1,3-Dichloropropene - DL	59	U	2000	1710		ug/L		85	64 - 128	4	20
Cyclohexane - DL	93	U	2000	1870		ug/L		93	14 - 141	4	30
Dibromochloromethane - DL	50	U	2000	1940		ug/L		97	50 - 150	3	18
Dichlorodifluoromethane - DL	74	U	2000	1500		ug/L		75	10 - 180	2	26
Ethylbenzene - DL	69	U	2000	1920		ug/L		96	63 - 133	1	18
Isopropylbenzene - DL	67	U	2000	1970		ug/L		98	60 - 132	2	23
m,p-Xylenes - DL	130	U	2000	1900		ug/L		95	64 - 133	3	18
Methyl acetate - DL	95	U	4000	3780		ug/L		95	50 - 150	2	30
Methyl tert-butyl ether - DL	60	U	2000	1820		ug/L		91	50 - 150	2	22
Methylene Chloride - DL	500	U	2000	1620		ug/L		81	43 - 142	2	23
o-Xylene - DL	53	U	2000	1850		ug/L		93	61 - 129	0	16
Styrene - DL	61	U	2000	1910		ug/L		95	59 - 136	2	32
Tetrachloroethene - DL	76	U	2000	1860		ug/L		93	60 - 147	5	21
Toluene - DL	72	U	2000	1830		ug/L		92	64 - 131	0	16
trans-1,2-Dichloroethene - DL	73	U	2000	1770		ug/L		89	54 - 134	0	20
trans-1,3-Dichloropropene - DL	73	U	2000	1790		ug/L		90	65 - 149	4	17
Trichloroethene - DL	89	U	2000	1880		ug/L		94	62 - 135	1	20
Trichlorofluoromethane - DL	94	U	2000	1850		ug/L		92	56 - 155	4	22
Vinyl chloride - DL	71	U	2000	1570		ug/L		78	20 - 167	3	24
Xylenes, Total - DL	130	U	4000	3750		ug/L		94	50 - 150	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr) - DL	*97*		*41 - 142*
Dibromofluoromethane (Surr) - DL	*101*		*53 - 146*
Toluene-d8 (Surr) - DL	*99*		*40 - 146*

GC/MS VOA

Leach Batch: 72408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 670-72408/1-A	Method Blank	Total/NA	Water	1311	
670-33334-A-1-A MS - DL	Matrix Spike	TCLP	Water	1311	
670-33334-A-1-A MSD - DL	Matrix Spike Duplicate	TCLP	Water	1311	
670-33365-C-1-B MS	Matrix Spike	TCLP	Water	1311	
670-33365-C-1-B MSD	Matrix Spike Duplicate	TCLP	Water	1311	

Analysis Batch: 72669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33457-7 - DL	LC34-DPT0593-063.0-20240118	Total/NA	Water	8260D	
670-33457-8 - DL	LC34-DPT0594-073.0-20240118	Total/NA	Water	8260D	
670-33457-10 - DL	LC34-DPT0597-088.0-20240119	Total/NA	Water	8260D	
670-33457-11 - DL	LC34-DPT0593-068.0-20240118	Total/NA	Water	8260D	
MB 670-72669/8	Method Blank	Total/NA	Water	8260D	
LCS 670-72669/5	Lab Control Sample	Total/NA	Water	8260D	
670-33457-9 MS	LC34-DPT0595-088.0-20240118	Total/NA	Water	8260D	
670-33457-9 MSD	LC34-DPT0595-088.0-20240118	Total/NA	Water	8260D	

Analysis Batch: 72672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33457-1 - DL	LC34-DPT0593-053.0-20240118	Total/NA	Water	8260D	
670-33457-2 - DL	LC34-DPT0595-078.0-20240118	Total/NA	Water	8260D	
670-33457-3 - DL	LC34-DPT0594-063.0-20240118	Total/NA	Water	8260D	
670-33457-6 - DL	LC34-DPT0594-068.0-20240118	Total/NA	Water	8260D	
LB 670-72408/1-A	Method Blank	Total/NA	Water	8260D	72408
MB 670-72672/7	Method Blank	Total/NA	Water	8260D	
LCS 670-72672/4	Lab Control Sample	Total/NA	Water	8260D	
670-33365-C-1-B MS	Matrix Spike	TCLP	Water	8260D	72408
670-33365-C-1-B MSD	Matrix Spike Duplicate	TCLP	Water	8260D	72408

Analysis Batch: 72674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33457-14 - DL	LC34-DPT0593-073.0-20240118	Total/NA	Water	8260D	
670-33457-18 - DL	LC34-DPT0594-088.0-20240118	Total/NA	Water	8260D	
670-33457-19 - DL	LC34-DPT0593-083.0-20240119	Total/NA	Water	8260D	
670-33457-20 - DL	LC34-DPT0594-098.0-20240119	Total/NA	Water	8260D	
670-33457-21 - DL	LC34-DPT0593-088.0-20240119	Total/NA	Water	8260D	
MB 670-72674/7	Method Blank	Total/NA	Water	8260D	
LCS 670-72674/4	Lab Control Sample	Total/NA	Water	8260D	
670-33372-A-20 MS	Matrix Spike	Total/NA	Water	8260D	
670-33372-A-20 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 72862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33457-1 - DL	LC34-DPT0593-053.0-20240118	Total/NA	Water	8260D	
670-33457-4 - DL	LC34-DPT0593-058.0-20240118	Total/NA	Water	8260D	
670-33457-5	LC34-DPT0595-083.0-20240118	Total/NA	Water	8260D	
670-33457-6 - DL	LC34-DPT0594-068.0-20240118	Total/NA	Water	8260D	
670-33457-12 - DL	LC34-DPT0594-078.0-20240118	Total/NA	Water	8260D	
670-33457-22 - DL	LC34-DPT0597-008.0-20240119	Total/NA	Water	8260D	
670-33457-23 - DL	LC34-DPT0597-013.0-20240119	Total/NA	Water	8260D	
670-33457-24 - DL	LC34-DPT0597-018.0-20240119	Total/NA	Water	8260D	

GC/MS VOA (Continued)

Analysis Batch: 72862 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33457-25 - DL	LC34-DPT0594-098.0-20240119	Total/NA	Water	8260D	
670-33457-26 - DL	LC34-DPT0593-093.0-20240119	Total/NA	Water	8260D	
670-33457-27 - DL	LC34-DPT0597-023.0-20240119	Total/NA	Water	8260D	
670-33457-28 - DL	LC34-DPT0597-028.0-20240119	Total/NA	Water	8260D	
670-33457-29 - DL	LC34-DPT0597-048.0-20240119	Total/NA	Water	8260D	
670-33457-30 - DL	LC34-DPT0593-098.0-20240119	Total/NA	Water	8260D	
670-33457-31 - DL	LC34-DPT0597-073.0-20240119	Total/NA	Water	8260D	
670-33457-32 - DL	LC34-DPT0597-053.0-20240119	Total/NA	Water	8260D	
670-33457-33 - DL	LC34-DPT0597-098.0-20240119	Total/NA	Water	8260D	
670-33457-34 - DL	LC34-DPT0597-033.0-20240119	Total/NA	Water	8260D	
MB 670-72862/7	Method Blank	Total/NA	Water	8260D	
LCS 670-72862/4	Lab Control Sample	Total/NA	Water	8260D	
670-33457-24 MS - DL	LC34-DPT0597-018.0-20240119	Total/NA	Water	8260D	
670-33457-24 MSD - DL	LC34-DPT0597-018.0-20240119	Total/NA	Water	8260D	

Analysis Batch: 72868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33457-14 - DL	LC34-DPT0593-073.0-20240118	Total/NA	Water	8260D	
670-33457-15 - DL	LC34-DPT0594-083.0-20240118	Total/NA	Water	8260D	
670-33457-35 - DL	LC34-DPT0597-093.0-20240119	Total/NA	Water	8260D	
670-33457-36 - DL	LC34-DPT0597-058.0-20240119	Total/NA	Water	8260D	
670-33457-37 - DL	LC34-DPT0597-038.0-20240119	Total/NA	Water	8260D	
670-33457-38 - DL	LC34-DPT0597-078.0-20240119	Total/NA	Water	8260D	
670-33457-39 - DL	LC34-DPT0597-043.0-20240119	Total/NA	Water	8260D	
670-33457-40 - DL	LC34-DPT0597-063.0-20240119	Total/NA	Water	8260D	
670-33457-41 - DL	LC34-DPT0597-083.0-20240119	Total/NA	Water	8260D	
670-33457-42 - DL	LC34-DPT0597-068.0-20240119	Total/NA	Water	8260D	
MB 670-72868/9	Method Blank	Total/NA	Water	8260D	
LCS 670-72868/6	Lab Control Sample	Total/NA	Water	8260D	
670-33457-36 MS - DL	LC34-DPT0597-058.0-20240119	Total/NA	Water	8260D	
670-33457-36 MSD - DL	LC34-DPT0597-058.0-20240119	Total/NA	Water	8260D	

Analysis Batch: 72903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33457-7 - DL	LC34-DPT0593-063.0-20240118	Total/NA	Water	8260D	
670-33457-9	LC34-DPT0595-088.0-20240118	Total/NA	Water	8260D	
670-33457-10 - DL	LC34-DPT0597-088.0-20240119	Total/NA	Water	8260D	
670-33457-11 - DL	LC34-DPT0593-068.0-20240118	Total/NA	Water	8260D	
670-33457-16	LC34-DPT0595-098.0-20240118	Total/NA	Water	8260D	
670-33457-17 - DL	LC34-DPT0593-078.0-20240118	Total/NA	Water	8260D	
670-33457-19 - DL	LC34-DPT0593-083.0-20240119	Total/NA	Water	8260D	
MB 670-72903/8	Method Blank	Total/NA	Water	8260D	
LCS 670-72903/5	Lab Control Sample	Total/NA	Water	8260D	
670-33334-A-1-A MS - DL	Matrix Spike	TCLP	Water	8260D	72408
670-33334-A-1-A MSD - DL	Matrix Spike Duplicate	TCLP	Water	8260D	72408

Analysis Batch: 73081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33457-12 - DL	LC34-DPT0594-078.0-20240118	Total/NA	Water	8260D	
670-33457-13	LC34-DPT0595-093.0-20240118	Total/NA	Water	8260D	
670-33457-32 - DL	LC34-DPT0597-053.0-20240119	Total/NA	Water	8260D	

GC/MS VOA (Continued)

Analysis Batch: 73081 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-33457-35 - DL	LC34-DPT0597-093.0-20240119	Total/NA	Water	8260D	
670-33457-36 - DL	LC34-DPT0597-058.0-20240119	Total/NA	Water	8260D	
670-33457-38 - DL	LC34-DPT0597-078.0-20240119	Total/NA	Water	8260D	
670-33457-40 - DL	LC34-DPT0597-063.0-20240119	Total/NA	Water	8260D	
670-33457-41 - DL	LC34-DPT0597-083.0-20240119	Total/NA	Water	8260D	
MB 670-73081/8	Method Blank	Total/NA	Water	8260D	
LCS 670-73081/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 670-73081/5	Lab Control Sample Dup	Total/NA	Water	8260D	
670-33615-D-1 MS	Matrix Spike	Total/NA	Water	8260D	
670-33615-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0593-053.0-20240118
Lab Sample ID: 670-33457-1
Date Collected: 01/18/24 14:20
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10000	72862	KG	EET ORL	01/24/24 17:49
Total/NA	Analysis	8260D	DL	2000	72672	AAM	EET ORL	01/23/24 21:02

Client Sample ID: LC34-DPT0595-078.0-20240118
Lab Sample ID: 670-33457-2
Date Collected: 01/18/24 14:25
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	72672	AAM	EET ORL	01/23/24 19:59

Client Sample ID: LC34-DPT0594-063.0-20240118
Lab Sample ID: 670-33457-3
Date Collected: 01/18/24 14:35
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72672	AAM	EET ORL	01/23/24 20:20

Client Sample ID: LC34-DPT0593-058.0-20240118
Lab Sample ID: 670-33457-4
Date Collected: 01/18/24 14:45
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2000	72862	KG	EET ORL	01/24/24 16:38

Client Sample ID: LC34-DPT0595-083.0-20240118
Lab Sample ID: 670-33457-5
Date Collected: 01/18/24 14:55
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72862	KG	EET ORL	01/24/24 12:46

Client Sample ID: LC34-DPT0594-068.0-20240118
Lab Sample ID: 670-33457-6
Date Collected: 01/18/24 15:00
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2000	72862	KG	EET ORL	01/24/24 16:21
Total/NA	Analysis	8260D	DL	1000	72672	AAM	EET ORL	01/23/24 20:41

Client Sample ID: LC34-DPT0593-063.0-20240118
Lab Sample ID: 670-33457-7
Date Collected: 01/18/24 15:10
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	72669	AAM	EET ORL	01/23/24 17:25
Total/NA	Analysis	8260D	DL	200	72903	AAM	EET ORL	01/24/24 19:07

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0594-073.0-20240118
Lab Sample ID: 670-33457-8
Date Collected: 01/18/24 15:30
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72669	AAM	EET ORL	01/23/24 19:56

Client Sample ID: LC34-DPT0595-088.0-20240118
Lab Sample ID: 670-33457-9
Date Collected: 01/18/24 15:30
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72903	AAM	EET ORL	01/24/24 16:21

Client Sample ID: LC34-DPT0597-088.0-20240119
Lab Sample ID: 670-33457-10
Date Collected: 01/19/24 12:45
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	72669	AAM	EET ORL	01/23/24 18:21
Total/NA	Analysis	8260D	DL	250	72903	AAM	EET ORL	01/24/24 19:43

Client Sample ID: LC34-DPT0593-068.0-20240118
Lab Sample ID: 670-33457-11
Date Collected: 01/18/24 15:45
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	72669	AAM	EET ORL	01/23/24 18:02
Total/NA	Analysis	8260D	DL	500	72903	AAM	EET ORL	01/24/24 20:00

Client Sample ID: LC34-DPT0594-078.0-20240118
Lab Sample ID: 670-33457-12
Date Collected: 01/18/24 15:50
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5000	72862	KG	EET ORL	01/24/24 17:14
Total/NA	Analysis	8260D	DL	20000	73081	AAM	EET ORL	01/25/24 18:32

Client Sample ID: LC34-DPT0595-093.0-20240118
Lab Sample ID: 670-33457-13
Date Collected: 01/18/24 16:00
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	73081	AAM	EET ORL	01/25/24 14:18

Client Sample ID: LC34-DPT0593-073.0-20240118
Lab Sample ID: 670-33457-14
Date Collected: 01/18/24 16:15
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	72868	AAM	EET ORL	01/24/24 16:00

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0593-073.0-20240118
Lab Sample ID: 670-33457-14
Date Collected: 01/18/24 16:15
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72674	AAM	EET ORL	01/23/24 21:28

Client Sample ID: LC34-DPT0594-083.0-20240118
Lab Sample ID: 670-33457-15
Date Collected: 01/18/24 16:20
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	250	72868	AAM	EET ORL	01/24/24 18:41

Client Sample ID: LC34-DPT0595-098.0-20240118
Lab Sample ID: 670-33457-16
Date Collected: 01/18/24 16:35
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	72903	AAM	EET ORL	01/24/24 16:39

Client Sample ID: LC34-DPT0593-078.0-20240118
Lab Sample ID: 670-33457-17
Date Collected: 01/18/24 16:45
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	72903	AAM	EET ORL	01/24/24 17:53

Client Sample ID: LC34-DPT0594-088.0-20240118
Lab Sample ID: 670-33457-18
Date Collected: 01/18/24 16:55
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72674	AAM	EET ORL	01/23/24 22:39

Client Sample ID: LC34-DPT0593-083.0-20240119
Lab Sample ID: 670-33457-19
Date Collected: 01/19/24 07:55
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	200	72674	AAM	EET ORL	01/23/24 21:46
Total/NA	Analysis	8260D	DL	1000	72903	AAM	EET ORL	01/24/24 20:18

Client Sample ID: LC34-DPT0594-098.0-20240119
Lab Sample ID: 670-33457-20
Date Collected: 01/19/24 08:10
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2000	72674	AAM	EET ORL	01/23/24 22:57

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0593-088.0-20240119
Lab Sample ID: 670-33457-21
Date Collected: 01/19/24 08:30
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	72674	AAM	EET ORL	01/23/24 22:22

Client Sample ID: LC34-DPT0597-008.0-20240119
Lab Sample ID: 670-33457-22
Date Collected: 01/19/24 08:35
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	50	72862	KG	EET ORL	01/24/24 14:08

Client Sample ID: LC34-DPT0597-013.0-20240119
Lab Sample ID: 670-33457-23
Date Collected: 01/19/24 08:45
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	50	72862	KG	EET ORL	01/24/24 14:28

Client Sample ID: LC34-DPT0597-018.0-20240119
Lab Sample ID: 670-33457-24
Date Collected: 01/19/24 09:00
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	20	72862	KG	EET ORL	01/24/24 10:59

Client Sample ID: LC34-DPT0594-098.0-20240119
Lab Sample ID: 670-33457-25
Date Collected: 01/19/24 09:00
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	72862	KG	EET ORL	01/24/24 15:27

Client Sample ID: LC34-DPT0593-093.0-20240119
Lab Sample ID: 670-33457-26
Date Collected: 01/19/24 09:05
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	72862	KG	EET ORL	01/24/24 15:45

Client Sample ID: LC34-DPT0597-023.0-20240119
Lab Sample ID: 670-33457-27
Date Collected: 01/19/24 09:15
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	72862	KG	EET ORL	01/24/24 13:06

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0597-028.0-20240119
Lab Sample ID: 670-33457-28
Date Collected: 01/19/24 09:30
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	72862	KG	EET ORL	01/24/24 13:27

Client Sample ID: LC34-DPT0597-048.0-20240119
Lab Sample ID: 670-33457-29
Date Collected: 01/19/24 10:35
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2000	72862	KG	EET ORL	01/24/24 16:56

Client Sample ID: LC34-DPT0593-098.0-20240119
Lab Sample ID: 670-33457-30
Date Collected: 01/19/24 09:40
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72862	KG	EET ORL	01/24/24 15:10

Client Sample ID: LC34-DPT0597-073.0-20240119
Lab Sample ID: 670-33457-31
Date Collected: 01/19/24 12:55
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	72862	KG	EET ORL	01/24/24 13:47

Client Sample ID: LC34-DPT0597-053.0-20240119
Lab Sample ID: 670-33457-32
Date Collected: 01/19/24 11:00
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5000	72862	KG	EET ORL	01/24/24 17:32
Total/NA	Analysis	8260D	DL	10000	73081	AAM	EET ORL	01/25/24 18:32

Client Sample ID: LC34-DPT0597-098.0-20240119
Lab Sample ID: 670-33457-33
Date Collected: 01/19/24 14:50
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72862	KG	EET ORL	01/24/24 16:03

Client Sample ID: LC34-DPT0597-033.0-20240119
Lab Sample ID: 670-33457-34
Date Collected: 01/19/24 09:45
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	50	72862	KG	EET ORL	01/24/24 14:49

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0597-093.0-20240119
Lab Sample ID: 670-33457-35
Date Collected: 01/19/24 13:20
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72868	AAM	EET ORL	01/24/24 19:38
Total/NA	Analysis	8260D	DL	1000	73081	AAM	EET ORL	01/25/24 16:27

Client Sample ID: LC34-DPT0597-058.0-20240119
Lab Sample ID: 670-33457-36
Date Collected: 01/19/24 11:30
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2500	72868	AAM	EET ORL	01/24/24 13:40
Total/NA	Analysis	8260D	DL	10000	73081	AAM	EET ORL	01/25/24 18:14

Client Sample ID: LC34-DPT0597-038.0-20240119
Lab Sample ID: 670-33457-37
Date Collected: 01/19/24 10:00
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72868	AAM	EET ORL	01/24/24 16:48

Client Sample ID: LC34-DPT0597-078.0-20240119
Lab Sample ID: 670-33457-38
Date Collected: 01/19/24 11:45
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	500	72868	AAM	EET ORL	01/24/24 19:38
Total/NA	Analysis	8260D	DL	5000	73081	AAM	EET ORL	01/25/24 17:39

Client Sample ID: LC34-DPT0597-043.0-20240119
Lab Sample ID: 670-33457-39
Date Collected: 01/19/24 10:15
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72868	AAM	EET ORL	01/24/24 19:57

Client Sample ID: LC34-DPT0597-063.0-20240119
Lab Sample ID: 670-33457-40
Date Collected: 01/19/24 12:00
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2000	72868	AAM	EET ORL	01/24/24 20:35
Total/NA	Analysis	8260D	DL	5000	73081	AAM	EET ORL	01/25/24 17:56

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Client Sample ID: LC34-DPT0597-083.0-20240119
Lab Sample ID: 670-33457-41
Date Collected: 01/19/24 12:15
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	1000	72868	AAM	EET ORL	01/24/24 20:16
Total/NA	Analysis	8260D	DL	2000	73081	AAM	EET ORL	01/25/24 16:44

Client Sample ID: LC34-DPT0597-068.0-20240119
Lab Sample ID: 670-33457-42
Date Collected: 01/19/24 12:25
Matrix: Water
Date Received: 01/20/24 09:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	100	72868	AAM	EET ORL	01/24/24 17:45

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-33457-1
Project/Site: NASA KSC LC34 DPT

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 DPT

Job ID: 670-33457-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-33457-1	LC34-DPT0593-053.0-20240118	Water	01/18/24 14:20	01/20/24 09:11
670-33457-2	LC34-DPT0595-078.0-20240118	Water	01/18/24 14:25	01/20/24 09:11
670-33457-3	LC34-DPT0594-063.0-20240118	Water	01/18/24 14:35	01/20/24 09:11
670-33457-4	LC34-DPT0593-058.0-20240118	Water	01/18/24 14:45	01/20/24 09:11
670-33457-5	LC34-DPT0595-083.0-20240118	Water	01/18/24 14:55	01/20/24 09:11
670-33457-6	LC34-DPT0594-068.0-20240118	Water	01/18/24 15:00	01/20/24 09:11
670-33457-7	LC34-DPT0593-063.0-20240118	Water	01/18/24 15:10	01/20/24 09:11
670-33457-8	LC34-DPT0594-073.0-20240118	Water	01/18/24 15:30	01/20/24 09:11
670-33457-9	LC34-DPT0595-088.0-20240118	Water	01/18/24 15:30	01/20/24 09:11
670-33457-10	LC34-DPT0597-088.0-20240119	Water	01/19/24 12:45	01/20/24 09:11
670-33457-11	LC34-DPT0593-068.0-20240118	Water	01/18/24 15:45	01/20/24 09:11
670-33457-12	LC34-DPT0594-078.0-20240118	Water	01/18/24 15:50	01/20/24 09:11
670-33457-13	LC34-DPT0595-093.0-20240118	Water	01/18/24 16:00	01/20/24 09:11
670-33457-14	LC34-DPT0593-073.0-20240118	Water	01/18/24 16:15	01/20/24 09:11
670-33457-15	LC34-DPT0594-083.0-20240118	Water	01/18/24 16:20	01/20/24 09:11
670-33457-16	LC34-DPT0595-098.0-20240118	Water	01/18/24 16:35	01/20/24 09:11
670-33457-17	LC34-DPT0593-078.0-20240118	Water	01/18/24 16:45	01/20/24 09:11
670-33457-18	LC34-DPT0594-088.0-20240118	Water	01/18/24 16:55	01/20/24 09:11
670-33457-19	LC34-DPT0593-083.0-20240119	Water	01/19/24 07:55	01/20/24 09:11
670-33457-20	LC34-DPT0594-098.0-20240119	Water	01/19/24 08:10	01/20/24 09:11
670-33457-21	LC34-DPT0593-088.0-20240119	Water	01/19/24 08:30	01/20/24 09:11
670-33457-22	LC34-DPT0597-008.0-20240119	Water	01/19/24 08:35	01/20/24 09:11
670-33457-23	LC34-DPT0597-013.0-20240119	Water	01/19/24 08:45	01/20/24 09:11
670-33457-24	LC34-DPT0597-018.0-20240119	Water	01/19/24 09:00	01/20/24 09:11
670-33457-25	LC34-DPT0594-098.0-20240119	Water	01/19/24 09:00	01/20/24 09:11
670-33457-26	LC34-DPT0593-093.0-20240119	Water	01/19/24 09:05	01/20/24 09:11
670-33457-27	LC34-DPT0597-023.0-20240119	Water	01/19/24 09:15	01/20/24 09:11
670-33457-28	LC34-DPT0597-028.0-20240119	Water	01/19/24 09:30	01/20/24 09:11
670-33457-29	LC34-DPT0597-048.0-20240119	Water	01/19/24 10:35	01/20/24 09:11
670-33457-30	LC34-DPT0593-098.0-20240119	Water	01/19/24 09:40	01/20/24 09:11
670-33457-31	LC34-DPT0597-073.0-20240119	Water	01/19/24 12:55	01/20/24 09:11
670-33457-32	LC34-DPT0597-053.0-20240119	Water	01/19/24 11:00	01/20/24 09:11
670-33457-33	LC34-DPT0597-098.0-20240119	Water	01/19/24 14:50	01/20/24 09:11
670-33457-34	LC34-DPT0597-033.0-20240119	Water	01/19/24 09:45	01/20/24 09:11
670-33457-35	LC34-DPT0597-093.0-20240119	Water	01/19/24 13:20	01/20/24 09:11
670-33457-36	LC34-DPT0597-058.0-20240119	Water	01/19/24 11:30	01/20/24 09:11
670-33457-37	LC34-DPT0597-038.0-20240119	Water	01/19/24 10:00	01/20/24 09:11
670-33457-38	LC34-DPT0597-078.0-20240119	Water	01/19/24 11:45	01/20/24 09:11
670-33457-39	LC34-DPT0597-043.0-20240119	Water	01/19/24 10:15	01/20/24 09:11
670-33457-40	LC34-DPT0597-063.0-20240119	Water	01/19/24 12:00	01/20/24 09:11
670-33457-41	LC34-DPT0597-083.0-20240119	Water	01/19/24 12:15	01/20/24 09:11
670-33457-42	LC34-DPT0597-068.0-20240119	Water	01/19/24 12:25	01/20/24 09:11

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

Client Contact Info

Name:
Tetra Tech, Inc.

Address :

Address 2:

City, State Zip:
Merritt Island,
Florida 32953

Phone:

Deliverables:

Special Instructions:

Client Contact Info

Company:
Tetra Tech, Inc.

Project Manager
Dylnicki, Kaitlin

Purchase Order:
1179322

Project Reference:

Work Order:
112G08985

Site Name:
NASA KSC LC34

Email:

Sampler:
Chuck Sorden/Natalie Fabbri

Proposed Due Date:

Description:
LC34 Annual DPT

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-DPT0593-053.0-20240118	Grab	Water	1/18/2024 14:20	FL			X	X	2	2	4
2	LC34-DPT0595-078.0-20240118	Grab	Water	1/18/2024 14:25	FL			X	X	2	2	4
3	LC34-DPT0594-063.0-20240118	Grab	Water	1/18/2024 14:35	FL			X	X	2	2	4
4	LC34-DPT0593-058.0-20240118	Grab	Water	1/18/2024 14:45	FL			X	X	2	2	4
5	LC34-DPT0595-083.0-20240118	Grab	Water	1/18/2024 14:55	FL			X	X	2	2	4
6	LC34-DPT0594-068.0-20240118	Grab	Water	1/18/2024 15:00	FL			X	X	2	2	4
7	LC34-DPT0593-063.0-20240118	Grab	Water	1/18/2024 15:10	FL			X	X	2	2	4
8	LC34-DPT0594-073.0-20240118	Grab	Water	1/18/2024 15:30	FL			X	X	2	2	4
9	LC34-DPT0595-088.0-20240118	Grab	Water	1/18/2024 15:30	FL			X	X	2	2	4
10	LC34-DPT0597-088.0-20240119	Grab	Water	1/19/2024 12:45	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ❑ Contains Methods That May Expire Soon: ❑

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Name:
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Florida 32953

Phone:

Deliverables:

Special Instructions:

Client Contact Info

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Tetra Tech, Inc.

Project Manager
Dylnicki, Kaitlin

Purchase Order:
1179322

Project Reference:

Work Order:
112G08985

Site Name:
NASA KSC LC34

Email:

Sampler:
Chuck Sorden/Natalie Fabbri

Proposed Due Date:

Description:
LC34 Annual DPT

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
11	LC34-DPT0593-068.0-20240118	Grab	Water	1/18/2024 15:45	FL			X	X	2	2	4
12	LC34-DPT0594-078.0-20240118	Grab	Water	1/18/2024 15:50	FL			X	X	2	2	4
13	LC34-DPT0595-093.0-20240118	Grab	Water	1/18/2024 16:00	FL			X	X	2	2	4
14	LC34-DPT0593-073.0-20240118	Grab	Water	1/18/2024 16:15	FL			X	X	2	2	4
15	LC34-DPT0594-083.0-20240118	Grab	Water	1/18/2024 16:20	FL			X	X	2	2	4
16	LC34-DPT0595-098.0-20240118	Grab	Water	1/18/2024 16:35	FL			X	X	2	2	4
17	LC34-DPT0593-078.0-20240118	Grab	Water	1/18/2024 16:45	FL			X	X	2	2	4
18	LC34-DPT0594-088.0-20240118	Grab	Water	1/18/2024 16:55	FL			X	X	2	2	4
19	LC34-DPT0593-083.0-20240119	Grab	Water	1/19/2024 07:55	FL			X	X	2	2	4
20	LC34-DPT0594-098.0-20240119	Grab	Water	1/19/2024 08:10	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
21	LC34-DPT0593-088.0-20240119	Grab	Water	1/19/2024 08:30	FL							
22	LC34-DPT0597-008.0-20240119	Grab	Water	1/19/2024 08:35	FL							
23	LC34-DPT0597-013.0-20240119	Grab	Water	1/19/2024 08:45	FL							
24	LC34-DPT0597-018.0-20240119	Grab	Water	1/19/2024 09:00	FL							
25	LC34-DPT0594-098.0-20240119	Grab	Water	1/19/2024 09:00	FL							
26	LC34-DPT0593-093.0-20240119	Grab	Water	1/19/2024 09:05	FL							
27	LC34-DPT0597-023.0-20240119	Grab	Water	1/19/2024 09:15	FL							
28	LC34-DPT0597-028.0-20240119	Grab	Water	1/19/2024 09:30	FL							
29	LC34-DPT0597-048.0-20240119	Grab	Water	1/19/2024 10:35	WA							
30	LC34-DPT0593-098.0-20240119	Grab	Water	1/19/2024 09:40	FL			X	X	2	2	4
31	LC34-DPT0597-073.0-20240119	Grab	Water	1/19/2024 12:55	FL			X	X	2	2	4
33	LC34-DPT0597-053.0-20240119	Grab	Water	1/19/2024 11:00	FL			X		2	2	4
32	LC34-DPT0597-098.0-20240119	Grab	Water	1/19/2024 14:50	FL			X	X	2	2	4
34	LC34-DPT0597-033.0-20240119	Grab	Water	1/19/2024 09:45	FL			X	X	2	2	4
35	LC34-DPT0597-093.0-20240119	Grab	Water	1/19/2024 13:20	FL			X	X	2	2	4
36	LC34-DPT0597-058.0-20240119	Grab	Water	1/19/2024 11:30	FL			X	X	2	2	4
37	LC34-DPT0597-038.0-20240119	Grab	Water	1/19/2024 10:00	FL			X	X	2	2	4
38	LC34-DPT0597-078.0-20240119	Grab	Water	1/19/2024 11:45	FL			X	X	2	2	4
39	LC34-DPT0597-043.0-20240119	Grab	Water	1/19/2024 10:15	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
40	LC34-DPT0597-063.0-20240119	Grab	Water	1/19/2024 12:00	FL			X	X	2	2	4
41	LC34-DPT0597-083.0-20240119	Grab	Water	1/19/2024 12:15	FL			X	X	2	2	4
42	LC34-DPT0597-068.0-20240119	Grab	Water	1/19/2024 12:25	FL			X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4

8260D/5030C (MOD) NASA LC34 Custom [FUL]	8260D/5030B_UP (MOD) NASA LC34 Custom [400]															Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
X	X															2	2	4
X	X															2	2	4

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:
Chuck Sorden	1/19/24 15:06	Chuck Sorden	1/19/24 15:06	Clerisier, Meline	1/20/24 9:11

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ☐ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name:
Tetra Tech, Inc.
Address :
Address 2:
City, State Zip:
Merritt Island,
Florida 32953
Phone:
Deliverables:
Special Instructions:

Client Contact Info

Company:
Tetra Tech, Inc.
Project Manager
Dylnicki, Kaitlin
Purchase Order:
1179322
Project Reference:
Work Order:
112G08985
Site Name:
NASA KSC LC34
Email:
Sampler:
Chuck Sorden/Natalie Fabbri
Proposed Due Date:
Description:
LC34 Annual DPT

Methods and Bottles

670-33457 Chain of Custody

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
1	LC34-DPT0593-053.0-20240118	Grab	Water	1/18/2024 14:20	FL			X	X	2	2	4
2	LC34-DPT0595-078.0-20240118	Grab	Water	1/18/2024 14:25	FL			X	X	2	2	4
3	LC34-DPT0594-063.0-20240118	Grab	Water	1/18/2024 14:35	FL			X	X	2	2	4
4	LC34-DPT0593-058.0-20240118	Grab	Water	1/18/2024 14:45	FL			X	X	2	2	4
5	LC34-DPT0595-083.0-20240118	Grab	Water	1/18/2024 14:55	FL			X	X	2	2	4
6	LC34-DPT0594-068.0-20240118	Grab	Water	1/18/2024 15:00	FL			X	X	2	2	4
7	LC34-DPT0593-063.0-20240118	Grab	Water	1/18/2024 15:10	FL			X	X	2	2	4
8	LC34-DPT0594-073.0-20240118	Grab	Water	1/18/2024 15:30	FL			X	X	2	2	4
9	LC34-DPT0595-088.0-20240118	Grab	Water	1/18/2024 15:30	FL			X	X	2	2	4
10	LC34-DPT0597-088.0-20240119	Grab	Water	1/19/2024 12:45	FL			X	X	2	2	4

Chain of Custody Number: **246832**

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Contains Rush Work: ☐ Contains Methods That May Expire Soon: ☐

Client Contact Info

Name:
Tetra Tech, Inc.
Address :
Address 2:
City, State Zip:
Merritt Island,
Florida 32953
Phone:
Deliverables:
Special Instructions:

Client Contact Info

Company:
Tetra Tech, Inc.
Project Manager
Dylnicki, Kaitlin
Purchase Order:
1179322
Project Reference:
Work Order:
112G08985
Site Name:
NASA KSC LC34
Email:
Sampler:
Chuck Sorden/Natalie Fabbri
Proposed Due Date:
Description:
LC34 Annual DPT

Methods and Bottles

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
11	LC34-DPT0593-068.0-20240118	Grab	Water	1/18/2024 15:45	FL			X	X	2	2	4
12	LC34-DPT0594-078.0-20240118	Grab	Water	1/18/2024 15:50	FL			X	X	2	2	4
13	LC34-DPT0595-093.0-20240118	Grab	Water	1/18/2024 16:00	FL			X	X	2	2	4
14	LC34-DPT0593-073.0-20240118	Grab	Water	1/18/2024 16:15	FL			X	X	2	2	4
15	LC34-DPT0594-083.0-20240118	Grab	Water	1/18/2024 16:20	FL			X	X	2	2	4
16	LC34-DPT0595-098.0-20240118	Grab	Water	1/18/2024 16:35	FL			X	X	2	2	4
17	LC34-DPT0593-078.0-20240118	Grab	Water	1/18/2024 16:45	FL			X	X	2	2	4
18	LC34-DPT0594-088.0-20240118	Grab	Water	1/18/2024 16:55	FL			X	X	2	2	4
19	LC34-DPT0593-083.0-20240119	Grab	Water	1/19/2024 07:55	FL			X	X	2	2	4
20	LC34-DPT0594-098.0-20240119	Grab	Water	1/19/2024 08:10	FL			X	X	2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	8260D/5030B_UP (MOD) NASA LC34 Custom [400]												Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
21	LC34-DPT0593-088.0-20240119	Grab	Water	1/19/2024 08:30	FL																		
22	LC34-DPT0597-008.0-20240119	Grab	Water	1/19/2024 08:35	FL																		
23	LC34-DPT0597-013.0-20240119	Grab	Water	1/19/2024 08:45	FL																		
24	LC34-DPT0597-018.0-20240119	Grab	Water	1/19/2024 09:00	FL																		
25	LC34-DPT0594-098.0-20240119	Grab	Water	1/19/2024 09:00	FL																		
26	LC34-DPT0593-093.0-20240119	Grab	Water	1/19/2024 09:05	FL																		
27	LC34-DPT0597-023.0-20240119	Grab	Water	1/19/2024 09:15	FL																		
28	LC34-DPT0597-028.0-20240119	Grab	Water	1/19/2024 09:30	FL																		
29	LC34-DPT0597-048.0-20240119	Grab	Water	1/19/2024 10:35	WA																		
30	LC34-DPT0593-098.0-20240119	Grab	Water	1/19/2024 09:40	FL			X	X												2	2	4
31	LC34-DPT0597-073.0-20240119	Grab	Water	1/19/2024 12:55	FL			X	X												2	2	4
33	LC34-DPT0597-053.0-20240119	Grab	Water	1/19/2024 11:00	FL			X													2	2	4
32	LC34-DPT0597-098.0-20240119	Grab	Water	1/19/2024 14:50	FL			X	X												2	2	4
34	LC34-DPT0597-033.0-20240119	Grab	Water	1/19/2024 09:45	FL			X	X												2	2	4
35	LC34-DPT0597-093.0-20240119	Grab	Water	1/19/2024 13:20	FL			X	X												2	2	4
36	LC34-DPT0597-058.0-20240119	Grab	Water	1/19/2024 11:30	FL			X	X												2	2	4
37	LC34-DPT0597-038.0-20240119	Grab	Water	1/19/2024 10:00	FL			X	X												2	2	4
38	LC34-DPT0597-078.0-20240119	Grab	Water	1/19/2024 11:45	FL			X	X												2	2	4
39	LC34-DPT0597-043.0-20240119	Grab	Water	1/19/2024 10:15	FL			X	X												2	2	4

Chain of Custody Samples

Return Samples to: **Eurofins Orlando**
481 Newburyport Avenue
Altamonte Springs, FL 32701

Samples

#	Sample Name	Type	Matrix	Datetime (24hr)	State	QC	Instructions/Comments	8260D/5030C (MOD) NASA LC34 Custom [FUL]	8260D/5030B_UP (MOD) NASA LC34 Custom [400]	Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
40	LC34-DPT0597-063.0-20240119	Grab	Water	1/19/2024 12:00	FL			X	X	2	2	4
41	LC34-DPT0597-083.0-20240119	Grab	Water	1/19/2024 12:15	FL			X	X	2	2	4
42	LC34-DPT0597-068.0-20240119	Grab	Water	1/19/2024 12:25	FL			X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4
								X	X	2	2	4

8260D/5030C (MOD) NASA LC34 Custom [FUL]	8260D/5030B_UP (MOD) NASA LC34 Custom [400]													Voa Vial 40ml - unpreserved	Voa Vial 40ml - Hydrochloric Acid	Total Bottles For Sample
X	X													2	2	4
X	X													2	2	4

Possible Hazards : Unknown

Sample Disposal (A fee may be assessed, if samples are retained longer than 1 month) :

Custody History (All dates and times have been converted to the Eastern time zone and are in 24 Hr format.)

eCOC Submitted By:	Date/Time:	Samples Relinquished By:	Date/Time:	Lab Accepted By:	Date/Time:	
Chuck Sorden	1/19/24 15:06	Chuck Sorden	1/19/24 15:06	Clerisier, Meline	1/20/24 9:11	3.5/3.5 5960

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-33457-1

Login Number: 33457

List Number: 1

Creator: Clerisier, Meline

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Tetra Tech NUS

KSC-LC34

112G08985

SGS Job Number: FA98178

Sampling Date: 08/17/22



Report to:

Tetra-Tech,Inc.
1353 N Courtenay Parkway Suite S
Merritt Island, FL 15220
mark.jonnet@tetratech.com; carrie.stock@tetratech.com;
amy.thomson@tetratech.com; alex.murphy@tetratech.com
ATTN: Alex Murphy

Total number of pages in report: 56

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

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Test results relate only to samples analyzed.

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Please share your ideas about how we can serve you better at:
EHS.US.CustomerCare@sgs.com

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Section 3: Summary of Hits **7**
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SGS North America Inc.

Sample Summary

Tetra Tech NUS

Job No: FA98178

KSC-LC34
Project No: 112G08985

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA98178-1	08/17/22	08:35	CS	08/17/22	AQ	Ground Water	LC34-DPT0817-034.0-20220817
FA98178-2	08/17/22	08:50	CS	08/17/22	AQ	Ground Water	LC34-DPT0817-025.0-20220817
FA98178-3	08/17/22	09:05	CS	08/17/22	AQ	Ground Water	LC34-DPT0817-018.0-20220817
FA98178-4	08/17/22	09:20	CS	08/17/22	AQ	Ground Water	LC34-DPT0817-013.0-20220817
FA98178-5	08/17/22	10:10	CS	08/17/22	AQ	Ground Water	LC34-DPT0819-034.0-20220817
FA98178-6	08/17/22	10:25	CS	08/17/22	AQ	Ground Water	LC34-DPT0819-025.0-20220817
FA98178-7	08/17/22	10:40	CS	08/17/22	AQ	Ground Water	LC34-DPT0819-018.0-20220817
FA98178-8	08/17/22	10:55	CS	08/17/22	AQ	Ground Water	LC34-DPT0819-013.0-20220817
FA98178-9	08/17/22	11:35	CS	08/17/22	AQ	Ground Water	LC34-DPT0800-034.0-20220817
FA98178-10	08/17/22	11:50	CS	08/17/22	AQ	Ground Water	LC34-DPT0800-025.0-20220817
FA98178-11	08/17/22	12:10	CS	08/17/22	AQ	Ground Water	LC34-DPT0800-018.0-20220817
FA98178-12	08/17/22	12:50	CS	08/17/22	AQ	Ground Water	LC34-DPT0800-013.0-20220817
FA98178-13	08/17/22	13:45	CS	08/17/22	AQ	Ground Water	LC34-DPT0826-034.0-20220817

Sample Summary
(continued)

Tetra Tech NUS

Job No: FA98178

KSC-LC34
Project No: 112G08985

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA98178-14	08/17/22	14:00	CS	08/17/22	AQ	Ground Water	LC34-DPT0826-025.0-20220817
FA98178-15	08/17/22	14:15	CS	08/17/22	AQ	Ground Water	LC34-DPT0826-018.0-20220817
FA98178-16	08/17/22	14:30	CS	08/17/22	AQ	Ground Water	LC34-DPT0826-013.0-20220817

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Tetra Tech NUS **Job No:** FA98178

Site: KSC-LC34 **Report Date:** 8/26/2022 12:24:07 PM

On 08/17/2022, 16 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 1 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FA98178 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

MS Volatiles By Method SW846 8260D

Matrix: AQ **Batch ID:** V5E1531

Sample(s) FA98128-1MS, FA98128-1MSD were used as the QC samples indicated.

Blank Spike Recovery(s) for Methyl Bromide are outside control limits.

Matrix Spike Duplicate Recovery(s) for Methyl Bromide are outside control limits. Probable cause is due to matrix interference.

FA98178-1 for Carbon Disulfide: Associated CCV outside control limits low.

FA98178-1 for 1,1-Dichloroethylene: Associated CCV outside control limits low. Compound below calibration range in higher dilution.

FA98178-1: Sample was not preserved to a pH < 2.

FA98178-1 for Methyl Bromide: Associated CCV and BS recovery outside control limits high, sample is ND.

FA98178-2 for 1,1-Dichloroethylene: Associated CCV outside control limits low. Compound below calibration range in higher dilution.

FA98178-2 for Carbon Disulfide: Associated CCV outside control limits low.

FA98178-2 for Methyl Bromide: Associated CCV and BS recovery outside control limits high, sample is ND.

FA98178-2: Sample was not preserved to a pH < 2.

FA98178-3 for Methyl Bromide: Associated CCV and BS recovery outside control limits high, sample is ND.

FA98178-3 for Carbon Disulfide: Associated CCV outside control limits low.

FA98178-3 for 1,1-Dichloroethylene: Associated CCV outside control limits low. Compound below calibration range at higher dilution.

FA98178-3: Sample was not preserved to a pH < 2.

FA98178-4: Sample was not preserved to a pH < 2.

FA98178-4 for cis-1,2-Dichloroethylene: Confirmed by re-analysis.

FA98178-4 for Carbon Disulfide: Associated CCV outside control limits low.

FA98178-4 for Methyl Bromide: Associated CCV and BS recovery outside control limits high, sample is ND.

FA98178-5 for Carbon Disulfide: Associated CCV outside control limits low.

FA98178-5 for 1,1-Dichloroethylene: Associated CCV outside control limits low. Compound below calibration range in higher dilution.

FA98178-5: Sample was not preserved to a pH < 2.

FA98178-5 for Methyl Bromide: Associated CCV and BS recovery outside control limits high, sample is ND.

FA98178-6 for Methyl Bromide: Associated CCV and BS recovery outside control limits high, sample is ND.

FA98178-6 for 1,1-Dichloroethylene: Associated CCV outside control limits low.

FA98178-6: Sample was not preserved to a pH < 2.

FA98178-7: Sample was not preserved to a pH < 2.

FA98178-7 for cis-1,2-Dichloroethylene: Confirmed by re-analysis.

FA98178-7 for 1,1-Dichloroethylene: Associated CCV outside control limits low.

FA98178-7 for Methyl Bromide: Associated CCV and BS recovery outside control limits high, sample is ND.

FA98178-8 for cis-1,2-Dichloroethylene: Confirmed by re-analysis.

FA98178-8 for Methyl Bromide: Associated CCV and BS recovery outside control limits high, sample is ND.

FA98178-8 for 1,1-Dichloroethylene: Associated CCV outside control limits low.

FA98178-8: Sample was not preserved to a pH < 2.

FA98178-9 for 1,1-Dichloroethylene: Associated CCV outside control limits low.

FA98178-9 for Methyl Bromide: Associated CCV and BS recovery outside control limits high, sample is ND.

FA98178-9: Sample was not preserved to a pH < 2.

FA98178-10: Sample was not preserved to a pH < 2.

MS Volatiles By Method SW846 8260D

Matrix: AQ **Batch ID:** V5E1531

FA98178-10 for 1,1-Dichloroethylene: Associated CCV outside control limits low. Compound below calibration range in higher dilution.

FA98178-10 for Methyl Bromide: Associated CCV and BS recovery outside control limits high, sample is ND.

FA98178-10 for Carbon Disulfide: Associated CCV outside control limits low.

FA98178-11 for 1,1-Dichloroethylene: Associated CCV outside control limits low.

FA98178-11: Sample was not preserved to a pH < 2.

FA98178-11 for Methyl Bromide: Associated CCV and BS recovery outside control limits high, sample is ND.

FA98178-12 for cis-1,2-Dichloroethylene: Confirmed by re-analysis.

FA98178-12 for Carbon Disulfide: Associated CCV outside control limits low.

FA98178-12 for Methyl Bromide: Associated CCV and BS recovery outside control limits high, sample is ND.

FA98178-12: Sample was not preserved to a pH < 2.

FA98178-13 for 1,1-Dichloroethylene: Associated CCV outside control limits low.

FA98178-13: Sample was not preserved to a pH < 2.

FA98178-13 for Methyl Bromide: Associated CCV and BS recovery outside control limits high, sample is ND.

FA98178-14 for 1,1-Dichloroethylene: Associated CCV outside control limits low.

FA98178-14 for Methyl Bromide: Associated CCV and BS recovery outside control limits high, sample is ND.

FA98178-14: Sample was not preserved to a pH < 2.

FA98178-15 for 1,1-Dichloroethylene: Associated CCV outside control limits low.

FA98178-15 for Methyl Bromide: Associated CCV and BS recovery outside control limits high, sample is ND.

FA98178-15: Sample was not preserved to a pH < 2.

FA98178-16: Sample was not preserved to a pH < 2.

FA98178-16 for Methyl Bromide: Associated CCV and BS recovery outside control limits high, sample is ND.

FA98178-16 for 1,1-Dichloroethylene: Associated CCV outside control limits low. Compound below calibration range in higher dilution.

FA98178-16 for Carbon Disulfide: Associated CCV outside control limits low.

Matrix: AQ **Batch ID:** VY2662

Sample(s) FA98178-14MS, FA98178-14MSD were used as the QC samples indicated.

FA98178-1: Sample was not preserved to a pH < 2.
FA98178-2: Sample was not preserved to a pH < 2.
FA98178-3: Sample was not preserved to a pH < 2.
FA98178-4: Sample was not preserved to a pH < 2.
FA98178-5: Sample was not preserved to a pH < 2.
FA98178-6: Sample was not preserved to a pH < 2.
FA98178-7: Sample was not preserved to a pH < 2.

FA98178-8: Sample was not preserved to a pH < 2. Confirmation run.

FA98178-9: Sample was not preserved to a pH < 2.
FA98178-10: Sample was not preserved to a pH < 2.
FA98178-11: Sample was not preserved to a pH < 2.
FA98178-12: Sample was not preserved to a pH < 2.
FA98178-13: Sample was not preserved to a pH < 2.

FA98178-14: Sample was not preserved to a pH < 2.

FA98178-15: Sample was not preserved to a pH < 2.

FA98178-16: Sample was not preserved to a pH < 2.

Matrix: AQ **Batch ID:** VY2664

FA98178-16: Confirmation run.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

_____

Kim Benham, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA98178
Account: Tetra Tech NUS
Project: KSC-LC34
Collected: 08/17/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
FA98178-1	**LC34-DPT0817-034.0-20220817**					
2-Butanone (MEK) [a]		2.5 I	5.0	2.0	ug/l	SW846 8260D
Carbon Disulfide [b]		0.59 I	2.0	0.53	ug/l	SW846 8260D
1,1-Dichloroethylene [c]		1.8	1.0	0.32	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		2450	50	14	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		2.6	1.0	0.22	ug/l	SW846 8260D
Vinyl Chloride [a]		338	50	20	ug/l	SW846 8260D
FA98178-2	**LC34-DPT0817-025.0-20220817**					
2-Butanone (MEK) [a]		2.5 I	5.0	2.0	ug/l	SW846 8260D
1,1-Dichloroethylene [c]		2.6	1.0	0.32	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		1510	25	6.9	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		13.5	1.0	0.22	ug/l	SW846 8260D
Vinyl Chloride [a]		754	25	10	ug/l	SW846 8260D
FA98178-3	**LC34-DPT0817-018.0-20220817**					
2-Butanone (MEK) [a]		2.5 I	5.0	2.0	ug/l	SW846 8260D
1,1-Dichloroethylene [d]		0.49 I	1.0	0.32	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		281	5.0	1.4	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		3.1	1.0	0.22	ug/l	SW846 8260D
Vinyl Chloride [a]		139	5.0	2.0	ug/l	SW846 8260D
FA98178-4	**LC34-DPT0817-013.0-20220817**					
2-Butanone (MEK) [a]		2.0 I	5.0	2.0	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [e]		84.3	1.0	0.28	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		0.44 I	1.0	0.22	ug/l	SW846 8260D
Vinyl Chloride [e]		52.9	1.0	0.41	ug/l	SW846 8260D
FA98178-5	**LC34-DPT0819-034.0-20220817**					
2-Butanone (MEK) [a]		2.5 I	5.0	2.0	ug/l	SW846 8260D
Carbon Disulfide [b]		0.86 I	2.0	0.53	ug/l	SW846 8260D
1,1-Dichloroethylene [c]		0.95 I	1.0	0.32	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		2470	50	14	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		3.8	1.0	0.22	ug/l	SW846 8260D
Vinyl Chloride [a]		195	50	20	ug/l	SW846 8260D
FA98178-6	**LC34-DPT0819-025.0-20220817**					
2-Butanone (MEK) [a]		2.2 I	5.0	2.0	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		515	25	6.9	ug/l	SW846 8260D

Summary of Hits

Job Number: FA98178
Account: Tetra Tech NUS
Project: KSC-LC34
Collected: 08/17/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
trans-1,2-Dichloroethylene [a]		11.7	1.0	0.22	ug/l	SW846 8260D
Vinyl Chloride [a]		1080	25	10	ug/l	SW846 8260D
FA98178-7	**LC34-DPT0819-018.0-20220817**					
2-Butanone (MEK) [a]		2.1 I	5.0	2.0	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [e]		67.1	1.0	0.28	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		0.73 I	1.0	0.22	ug/l	SW846 8260D
Vinyl Chloride [a]		97.1	2.0	0.82	ug/l	SW846 8260D
FA98178-8	**LC34-DPT0819-013.0-20220817**					
2-Butanone (MEK) [a]		2.2 I	5.0	2.0	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [e]		22.7	1.0	0.28	ug/l	SW846 8260D
Vinyl Chloride [e]		27.8	1.0	0.41	ug/l	SW846 8260D
FA98178-9	**LC34-DPT0800-034.0-20220817**					
2-Butanone (MEK) [a]		2.4 I	5.0	2.0	ug/l	SW846 8260D
Carbon Disulfide [b]		1.2 I	2.0	0.53	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		713	20	5.5	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		0.33 I	1.0	0.22	ug/l	SW846 8260D
Vinyl Chloride [a]		15.1	1.0	0.41	ug/l	SW846 8260D
FA98178-10	**LC34-DPT0800-025.0-20220817**					
2-Butanone (MEK) [a]		2.6 I	5.0	2.0	ug/l	SW846 8260D
1,1-Dichloroethylene [c]		3.7	1.0	0.32	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		3590	50	14	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		35.1	1.0	0.22	ug/l	SW846 8260D
Vinyl Chloride [a]		3450	50	20	ug/l	SW846 8260D
FA98178-11	**LC34-DPT0800-018.0-20220817**					
2-Butanone (MEK) [a]		2.2 I	5.0	2.0	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		194	10	2.8	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		4.2	1.0	0.22	ug/l	SW846 8260D
Vinyl Chloride [a]		579	10	4.1	ug/l	SW846 8260D
FA98178-12	**LC34-DPT0800-013.0-20220817**					
2-Butanone (MEK) [a]		2.4 I	5.0	2.0	ug/l	SW846 8260D
1,1-Dichloroethylene [a]		0.98 I	1.0	0.32	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [e]		39.3	1.0	0.28	ug/l	SW846 8260D
Vinyl Chloride [a]		41.8	1.0	0.41	ug/l	SW846 8260D

Summary of Hits

Job Number: FA98178
Account: Tetra Tech NUS
Project: KSC-LC34
Collected: 08/17/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
FA98178-13	**LC34-DPT0826-034.0-20220817**					
Carbon Disulfide [b]		0.55 I	2.0	0.53	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		87.5	2.0	0.55	ug/l	SW846 8260D
Vinyl Chloride [a]		3.3	1.0	0.41	ug/l	SW846 8260D
FA98178-14	**LC34-DPT0826-025.0-20220817**					
2-Butanone (MEK) [a]		2.4 I	5.0	2.0	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		127	50	14	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		12.5	1.0	0.22	ug/l	SW846 8260D
Vinyl Chloride [a]		2900	50	20	ug/l	SW846 8260D
FA98178-15	**LC34-DPT0826-018.0-20220817**					
cis-1,2-Dichloroethylene [a]		67.5	25	6.9	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		7.4	1.0	0.22	ug/l	SW846 8260D
Vinyl Chloride [a]		959	25	10	ug/l	SW846 8260D
FA98178-16	**LC34-DPT0826-013.0-20220817**					
1,1-Dichloroethylene [c]		0.91 I	1.0	0.32	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		33.0	1.0	0.28	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		0.87 I	1.0	0.22	ug/l	SW846 8260D
Vinyl Chloride [a]		72.5	5.0	2.0	ug/l	SW846 8260D

(a) Sample was not preserved to a pH < 2.
(b) Sample was not preserved to a pH < 2. Associated CCV outside control limits low.
(c) Sample was not preserved to a pH < 2. Associated CCV outside control limits low. Compound below calibration range in higher dilution.
(d) Sample was not preserved to a pH < 2. Associated CCV outside control limits low. Compound below calibration range at higher dilution.
(e) Sample was not preserved to a pH < 2. Confirmed by re-analysis.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	LC34-DPT0817-034.0-20220817		
Lab Sample ID:	FA98178-1	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33477.D	1	08/19/22 15:21	JL	n/a	n/a	V5E1531
Run #2 [a]	Y64211.D	50	08/24/22 15:32	AL	n/a	n/a	VY2662

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.5	5.0	2.0	ug/l	I
75-15-0	Carbon Disulfide [b]	0.59	2.0	0.53	ug/l	I
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene [c]	1.8	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	2450 [d]	50	14	ug/l	
156-60-5	trans-1,2-Dichloroethylene	2.6	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [e]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0817-034.0-20220817		
Lab Sample ID:	FA98178-1	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride [b]	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	338 [d]	50	20	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	97%	100%	79-125%
2037-26-5	Toluene-D8	101%	98%	85-112%
460-00-4	4-Bromofluorobenzene	102%	95%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV outside control limits low.
(c) Associated CCV outside control limits low. Compound below calibration range in higher dilution.
(d) Result is from Run# 2
(e) Associated CCV and BS recovery outside control limits high, sample is ND.

Report of Analysis

Client Sample ID:	LC34-DPT0817-025.0-20220817		
Lab Sample ID:	FA98178-2	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33478.D	1	08/19/22 15:44	JL	n/a	n/a	V5E1531
Run #2 [a]	Y64212.D	25	08/24/22 15:57	AL	n/a	n/a	VY2662

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.5	5.0	2.0	ug/l	I
75-15-0	Carbon Disulfide [b]	0.53 U	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene [c]	2.6	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	1510 [d]	25	6.9	ug/l	
156-60-5	trans-1,2-Dichloroethylene	13.5	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [e]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0817-025.0-20220817		
Lab Sample ID:	FA98178-2	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride [b]	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	754 [d]	25	10	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	93%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	98%	79-125%
2037-26-5	Toluene-D8	101%	97%	85-112%
460-00-4	4-Bromofluorobenzene	101%	93%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV outside control limits low.
(c) Associated CCV outside control limits low. Compound below calibration range in higher dilution.
(d) Result is from Run# 2
(e) Associated CCV and BS recovery outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0817-018.0-20220817		
Lab Sample ID:	FA98178-3	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33479.D	1	08/19/22 16:08	JL	n/a	n/a	V5E1531
Run #2 [a]	Y64213.D	5	08/24/22 16:21	AL	n/a	n/a	VY2662

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.5	5.0	2.0	ug/l	I
75-15-0	Carbon Disulfide [b]	0.53 U	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene [c]	0.49	1.0	0.32	ug/l	I
156-59-2	cis-1,2-Dichloroethylene	281 [d]	5.0	1.4	ug/l	
156-60-5	trans-1,2-Dichloroethylene	3.1	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [e]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0817-018.0-20220817		
Lab Sample ID:	FA98178-3	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride [b]	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	139 [d]	5.0	2.0	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%	94%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	97%	79-125%
2037-26-5	Toluene-D8	99%	99%	85-112%
460-00-4	4-Bromofluorobenzene	101%	96%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV outside control limits low.
(c) Associated CCV outside control limits low. Compound below calibration range at higher dilution.
(d) Result is from Run# 2
(e) Associated CCV and BS recovery outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0817-013.0-20220817		
Lab Sample ID:	FA98178-4	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33480.D	1	08/19/22 16:32	JL	n/a	n/a	V5E1531
Run #2 [a]	Y64206.D	1	08/24/22 13:29	AL	n/a	n/a	VY2662

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.0	5.0	2.0	ug/l	I
75-15-0	Carbon Disulfide [b]	0.53 U	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.32 U [c]	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene [d]	84.3	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.44	1.0	0.22	ug/l	I
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [e]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0817-013.0-20220817		
Lab Sample ID:	FA98178-4	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride [b]	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride [d]	52.9	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	91%	83-118%
17060-07-0	1,2-Dichloroethane-D4	97%	98%	79-125%
2037-26-5	Toluene-D8	100%	98%	85-112%
460-00-4	4-Bromofluorobenzene	100%	96%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV outside control limits low.
(c) Result is from Run# 2
(d) Confirmed by re-analysis.
(e) Associated CCV and BS recovery outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0819-034.0-20220817		
Lab Sample ID:	FA98178-5	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33481.D	1	08/19/22 16:55	JL	n/a	n/a	V5E1531
Run #2 [a]	Y64214.D	50	08/24/22 16:47	AL	n/a	n/a	VY2662

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.5	5.0	2.0	ug/l	I
75-15-0	Carbon Disulfide [b]	0.86	2.0	0.53	ug/l	I
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene [c]	0.95	1.0	0.32	ug/l	I
156-59-2	cis-1,2-Dichloroethylene	2470 [d]	50	14	ug/l	
156-60-5	trans-1,2-Dichloroethylene	3.8	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [e]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0819-034.0-20220817		
Lab Sample ID:	FA98178-5	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride [b]	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	195 [d]	50	20	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	100%	79-125%
2037-26-5	Toluene-D8	100%	97%	85-112%
460-00-4	4-Bromofluorobenzene	99%	93%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV outside control limits low.
(c) Associated CCV outside control limits low. Compound below calibration range in higher dilution.
(d) Result is from Run# 2
(e) Associated CCV and BS recovery outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0819-025.0-20220817		
Lab Sample ID:	FA98178-6	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33482.D	1	08/19/22 17:19	JL	n/a	n/a	V5E1531
Run #2 [a]	Y64215.D	25	08/24/22 17:12	AL	n/a	n/a	VY2662

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.2	5.0	2.0	ug/l	I
75-15-0	Carbon Disulfide [b]	0.53 U	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene [b]	0.32 U	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	515 [c]	25	6.9	ug/l	
156-60-5	trans-1,2-Dichloroethylene	11.7	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [d]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0819-025.0-20220817		
Lab Sample ID:	FA98178-6	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride [b]	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	1080 [c]	25	10	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	94%	83-118%
17060-07-0	1,2-Dichloroethane-D4	95%	98%	79-125%
2037-26-5	Toluene-D8	100%	96%	85-112%
460-00-4	4-Bromofluorobenzene	100%	91%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV outside control limits low.
(c) Result is from Run# 2
(d) Associated CCV and BS recovery outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0819-018.0-20220817		
Lab Sample ID:	FA98178-7	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33483.D	1	08/19/22 17:43	JL	n/a	n/a	V5E1531
Run #2 [a]	Y64216.D	2	08/24/22 17:37	AL	n/a	n/a	VY2662

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.1	5.0	2.0	ug/l	I
75-15-0	Carbon Disulfide [b]	0.53 U	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene [b]	0.32 U	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene [c]	67.1	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.73	1.0	0.22	ug/l	I
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [d]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0819-018.0-20220817		
Lab Sample ID:	FA98178-7	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride [b]	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	97.1 [e]	2.0	0.82	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	102%	99%	79-125%
2037-26-5	Toluene-D8	100%	97%	85-112%
460-00-4	4-Bromofluorobenzene	100%	92%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV outside control limits low.
(c) Confirmed by re-analysis.
(d) Associated CCV and BS recovery outside control limits high, sample is ND.
(e) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0819-013.0-20220817		
Lab Sample ID:	FA98178-8	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33484.D	1	08/19/22 18:07	JL	n/a	n/a	V5E1531
Run #2 [b]	Y64207.D	1	08/24/22 13:53	AL	n/a	n/a	VY2662

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.2	5.0	2.0	ug/l	I
75-15-0	Carbon Disulfide [c]	0.53 U	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene [c]	0.32 U	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene [d]	22.7	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [e]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0819-013.0-20220817		
Lab Sample ID:	FA98178-8	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride [c]	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride [d]	27.8	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	99%	79-125%
2037-26-5	Toluene-D8	99%	96%	85-112%
460-00-4	4-Bromofluorobenzene	102%	92%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Sample was not preserved to a pH < 2. Confirmation run.
(c) Associated CCV outside control limits low.
(d) Confirmed by re-analysis.
(e) Associated CCV and BS recovery outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0800-034.0-20220817		
Lab Sample ID:	FA98178-9	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33485.D	1	08/19/22 18:30	JL	n/a	n/a	V5E1531
Run #2 [a]	Y64217.D	20	08/24/22 18:02	AL	n/a	n/a	VY2662

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.4	5.0	2.0	ug/l	I
75-15-0	Carbon Disulfide [b]	1.2	2.0	0.53	ug/l	I
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene [b]	0.32 U	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	713 [c]	20	5.5	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.33	1.0	0.22	ug/l	I
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [d]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0800-034.0-20220817		
Lab Sample ID:	FA98178-9	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride [b]	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	15.1	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	94%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	97%	79-125%
2037-26-5	Toluene-D8	99%	97%	85-112%
460-00-4	4-Bromofluorobenzene	100%	94%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV outside control limits low.
(c) Result is from Run# 2
(d) Associated CCV and BS recovery outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0800-025.0-20220817		
Lab Sample ID:	FA98178-10	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33486.D	1	08/19/22 18:54	JL	n/a	n/a	V5E1531
Run #2 [a]	Y64218.D	50	08/24/22 18:27	AL	n/a	n/a	VY2662

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.6	5.0	2.0	ug/l	I
75-15-0	Carbon Disulfide [b]	0.53 U	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene [c]	3.7	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	3590 [d]	50	14	ug/l	
156-60-5	trans-1,2-Dichloroethylene	35.1	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [e]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0800-025.0-20220817		
Lab Sample ID:	FA98178-10	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride [b]	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	3450 [d]	50	20	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	97%	97%	79-125%
2037-26-5	Toluene-D8	101%	98%	85-112%
460-00-4	4-Bromofluorobenzene	101%	96%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV outside control limits low.
(c) Associated CCV outside control limits low. Compound below calibration range in higher dilution.
(d) Result is from Run# 2
(e) Associated CCV and BS recovery outside control limits high, sample is ND.

Report of Analysis

Client Sample ID:	LC34-DPT0800-018.0-20220817		
Lab Sample ID:	FA98178-11	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33487.D	1	08/19/22 19:18	JL	n/a	n/a	V5E1531
Run #2 [a]	Y64219.D	10	08/24/22 18:52	AL	n/a	n/a	VY2662

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.2	5.0	2.0	ug/l	I
75-15-0	Carbon Disulfide [b]	0.53 U	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene [b]	0.32 U	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	194 [c]	10	2.8	ug/l	
156-60-5	trans-1,2-Dichloroethylene	4.2	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [d]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0800-018.0-20220817		
Lab Sample ID:	FA98178-11	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride [b]	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	579 [c]	10	4.1	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%	93%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	98%	79-125%
2037-26-5	Toluene-D8	101%	97%	85-112%
460-00-4	4-Bromofluorobenzene	100%	92%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV outside control limits low.
(c) Result is from Run# 2
(d) Associated CCV and BS recovery outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0800-013.0-20220817		
Lab Sample ID:	FA98178-12	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33488.D	1	08/19/22 19:41	JL	n/a	n/a	V5E1531
Run #2 [a]	Y64208.D	1	08/24/22 14:18	AL	n/a	n/a	VY2662

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.4	5.0	2.0	ug/l	I
75-15-0	Carbon Disulfide [b]	0.53 U	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.98 [c]	1.0	0.32	ug/l	I
156-59-2	cis-1,2-Dichloroethylene [d]	39.3	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [e]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0800-013.0-20220817		
Lab Sample ID:	FA98178-12	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride [b]	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	41.8	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	97%	98%	79-125%
2037-26-5	Toluene-D8	99%	96%	85-112%
460-00-4	4-Bromofluorobenzene	98%	95%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV outside control limits low.
(c) Result is from Run# 2
(d) Confirmed by re-analysis.
(e) Associated CCV and BS recovery outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0826-034.0-20220817		
Lab Sample ID:	FA98178-13	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33489.D	1	08/19/22 20:05	JL	n/a	n/a	V5E1531
Run #2 [a]	Y64220.D	2	08/24/22 19:16	AL	n/a	n/a	VY2662

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.0 U	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide [b]	0.55	2.0	0.53	ug/l	I
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene [b]	0.32 U	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	87.5 [c]	2.0	0.55	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [d]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0826-034.0-20220817		
Lab Sample ID:	FA98178-13	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride [b]	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	3.3	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	93%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	98%	79-125%
2037-26-5	Toluene-D8	99%	97%	85-112%
460-00-4	4-Bromofluorobenzene	99%	92%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV outside control limits low.
(c) Result is from Run# 2
(d) Associated CCV and BS recovery outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0826-025.0-20220817		
Lab Sample ID:	FA98178-14	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33490.D	1	08/19/22 20:28	JL	n/a	n/a	V5E1531
Run #2 [a]	Y64221.D	50	08/24/22 19:41	AL	n/a	n/a	VY2662

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.4	5.0	2.0	ug/l	I
75-15-0	Carbon Disulfide [b]	0.53 U	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene [b]	0.32 U	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	127 [c]	50	14	ug/l	
156-60-5	trans-1,2-Dichloroethylene	12.5	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [d]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0826-025.0-20220817		
Lab Sample ID:	FA98178-14	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride [b]	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	2900 [c]	50	20	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%	93%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	98%	79-125%
2037-26-5	Toluene-D8	99%	98%	85-112%
460-00-4	4-Bromofluorobenzene	100%	90%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV outside control limits low.
(c) Result is from Run# 2
(d) Associated CCV and BS recovery outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range
I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0826-018.0-20220817		
Lab Sample ID:	FA98178-15	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33491.D	1	08/19/22 20:53	JL	n/a	n/a	V5E1531
Run #2 [a]	Y64222.D	25	08/24/22 20:06	AL	n/a	n/a	VY2662

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.0 U	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide [b]	0.53 U	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene [b]	0.32 U	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	67.5 [c]	25	6.9	ug/l	
156-60-5	trans-1,2-Dichloroethylene	7.4	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [d]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0826-018.0-20220817		
Lab Sample ID:	FA98178-15	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride [b]	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	959 [c]	25	10	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	97%	99%	79-125%
2037-26-5	Toluene-D8	98%	98%	85-112%
460-00-4	4-Bromofluorobenzene	100%	91%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV outside control limits low.
(c) Result is from Run# 2
(d) Associated CCV and BS recovery outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0826-013.0-20220817		
Lab Sample ID:	FA98178-16	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33492.D	1	08/19/22 21:16	JL	n/a	n/a	V5E1531
Run #2 [a]	Y64223.D	5	08/24/22 20:31	AL	n/a	n/a	VY2662
Run #3 [b]	Y64273.D	5	08/26/22 06:22	JL	n/a	n/a	VY2664

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml
Run #3	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.0 U	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide [c]	0.53 U	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene [d]	0.91	1.0	0.32	ug/l	I
156-59-2	cis-1,2-Dichloroethylene	33.0	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.87	1.0	0.22	ug/l	I
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0826-013.0-20220817		
Lab Sample ID:	FA98178-16	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [e]	2.0 U	5.0	2.0	ug/l	
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride [c]	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	72.5 [f]	5.0	2.0	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
1868-53-7	Dibromofluoromethane	100%	96%	94%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	98%	79-125%
2037-26-5	Toluene-D8	101%	95%	95%	85-112%
460-00-4	4-Bromofluorobenzene	100%	90%	96%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Confirmation run.
(c) Associated CCV outside control limits low.
(d) Associated CCV outside control limits low. Compound below calibration range in higher dilution.
(e) Associated CCV and BS recovery outside control limits high, sample is ND.
(f) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2275 FA98178 | PAGE 1 OF 2

PROJECT NO: 112G0895	FACILITY: KSC-LC34	PROJECT MANAGER Mark Sonnen	PHONE NUMBER (412) 921-8622
SAMPLERS (SIGNATURE) - Chuck Sorden		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580
		CARRIER/WAYBILL NUMBER	

LABORATORY NAME AND CONTACT: SGS - Andrea Colby
ADDRESS 4405 Vineland Rd. Ste. C-15
CITY, STATE Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

	DATE YEAR 2022	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: V8260 TCL 42	TYPE OF ANALYSIS: V8260 OTCL 42 +	COMMENTS
										G	G			
											HCl/4°C	4°C		
1	08/17	0835	LC34-DPT0817-034.0-20220817	DPT817	32	36	GW	G	4	X	X			
2	"	0850	LC34-DPT0817-025.0-20220817	"	23	27	"	"	"	"	"			
3		0905	LC34-DPT0817-018.0-20220817	"	16	20								
4		0920	LC34-DPT0817-013.0-20220817	DPT817	11	15								
5		1010	LC34-DPT0819-034.0-20220817	DPT819	32	36								
6		1025	LC34-DPT0819-025.0-20220817	"	23	27								
7		1040	LC34-DPT0819-018.0-20220817	"	16	20								
8		1055	LC34-DPT0819-013.0-20220817	DPT819	11	15								INITIAL ASSESSMENT SM
9		1135	LC34-DPT0800-034.0-20220817	DPT800	32	36								
10		1150	LC34-DPT0800-025.0-20220817	"	23	27								LABEL VERIFICATION
11		1210	LC34-DPT0800-018.0-20220817	"	16	20								
12		1250	LC34-DPT0800-013.0-20220817	DPT800	11	15								0.4°C
13	08/17	1345	LC34-DPT0826-034.0-20220817	DPT826	32	36	GW	G	4	X	X			

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	08/17/22	1550	1. RECEIVED BY	8/17/22	15:50
2. RELINQUISHED BY	8/17/22	1705	2. RECEIVED BY	8/17/22	1705
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 4/02R
FORM NO. TtNUS-001

FA98178: Chain of Custody
Page 1 of 3

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 2276

PROJECT NO: 112G08985	FACILITY: KSC-LC34	PROJECT MANAGER Mark Sonnier	PHONE NUMBER (412) 921-8622
SAMPLERS (SIGNATURE) Chuck Sorden		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580
		CARRIER/WAYBILL NUMBER	

LABORATORY NAME AND CONTACT: SGS – Andrew Colby
ADDRESS 4405 Vineland Rd. Ste. C-15
CITY, STATE Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

	DATE YEAR	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)		PRESERVATIVE USED		COMMENTS
										TYPE OF ANALYSIS		G	G	
										V8260 TCL 42	V8260 TCL 42+	HCl/4°C	4°C	
14	08/17/22	1400 1335	LC34-DPT0826-025.0-20220817	DPT0826	23	27	GW	G	4	X	X			
15	1	1415	LC34-DPT0826-018.0-20220817	1	16	20	1	1	1	1	1			
16	08/17/22	1430	LC34-DPT0826-013.0-20220817	DPT0826	11	15	GW	G	4	X	X			

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	08/17/22	1550	1. RECEIVED BY	8/17/22	1850
2. RELINQUISHED BY	8/17/22	17.05	2. RECEIVED BY	8/17/22	1705
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TINUS-001

5.1 5

FA98178: Chain of Custody
Page 2 of 3

SGS Sample Receipt Summary

Job Number: FA98178 **Client:** TETRA TECH, INC **Project:** 112G0895

Date / Time Received: 8/17/2022 5:05:00 PM **Delivery Method:** COURIER **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** 0.6; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (0.4);

Cooler Temps (Corrected) °C: Cooler 1: (1.0);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☐	☑
2. Trip Blank listed on COC	☐		☐	☑

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: SAMUELM Date: 8/17/2022 5:05:00 PM Reviewer: _____ Date: _____

FA98178: Chain of Custody
Page 3 of 3

MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA98178
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1531-MB	5E33472.D	1	08/19/22	JL	n/a	n/a	V5E1531

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98178-1, FA98178-2, FA98178-3, FA98178-4, FA98178-5, FA98178-6, FA98178-7, FA98178-8, FA98178-9, FA98178-10, FA98178-11, FA98178-12, FA98178-13, FA98178-14, FA98178-15, FA98178-16

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
110-82-7	Cyclohexane	ND	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
76-13-1	Freon 113	ND	1.0	0.48	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	ND	20	5.0	ug/l	
74-83-9	Methyl Bromide	ND	5.0	2.0	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	ND	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: FA98178
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1531-MB	5E33472.D	1	08/19/22	JL	n/a	n/a	V5E1531

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98178-1, FA98178-2, FA98178-3, FA98178-4, FA98178-5, FA98178-6, FA98178-7, FA98178-8, FA98178-9, FA98178-10, FA98178-11, FA98178-12, FA98178-13, FA98178-14, FA98178-15, FA98178-16

CAS No.	Compound	Result	RL	MDL	Units	Q
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	79-125%
2037-26-5	Toluene-D8	100%	85-112%
460-00-4	4-Bromofluorobenzene	103%	83-118%

Method Blank Summary

Job Number: FA98178
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2662-MB	Y64203.D	1	08/24/22	AL	n/a	n/a	VY2662

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98178-1, FA98178-2, FA98178-3, FA98178-4, FA98178-5, FA98178-6, FA98178-7, FA98178-9, FA98178-10, FA98178-11, FA98178-12, FA98178-13, FA98178-14, FA98178-15, FA98178-16

CAS No.	Compound	Result	RL	MDL	Units	Q
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	97%	85-112%
460-00-4	4-Bromofluorobenzene	96%	83-118%

Blank Spike Summary

Job Number: FA98178
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1531-BS	5E33469.D	1	08/19/22	JL	n/a	n/a	V5E1531

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98178-1, FA98178-2, FA98178-3, FA98178-4, FA98178-5, FA98178-6, FA98178-7, FA98178-8, FA98178-9, FA98178-10, FA98178-11, FA98178-12, FA98178-13, FA98178-14, FA98178-15, FA98178-16

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	119	95	50-147
71-43-2	Benzene	25	24.2	97	81-122
75-27-4	Bromodichloromethane	25	24.5	98	79-123
75-25-2	Bromoform	25	23.5	94	66-123
78-93-3	2-Butanone (MEK)	125	115	92	56-143
75-15-0	Carbon Disulfide	25	21.4	86	66-148
56-23-5	Carbon Tetrachloride	25	26.1	104	76-136
108-90-7	Chlorobenzene	25	24.1	96	82-124
75-00-3	Chloroethane	25	22.8	91	62-144
67-66-3	Chloroform	25	23.8	95	80-124
110-82-7	Cyclohexane	25	27.7	111	73-138
124-48-1	Dibromochloromethane	25	23.4	94	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	22.2	89	64-123
106-93-4	1,2-Dibromoethane	25	23.7	95	75-120
75-71-8	Dichlorodifluoromethane	25	25.4	102	42-167
95-50-1	1,2-Dichlorobenzene	25	24.5	98	82-124
541-73-1	1,3-Dichlorobenzene	25	24.9	100	84-125
106-46-7	1,4-Dichlorobenzene	25	24.8	99	78-120
75-34-3	1,1-Dichloroethane	25	25.9	104	81-122
107-06-2	1,2-Dichloroethane	25	23.3	93	75-125
75-35-4	1,1-Dichloroethylene	25	26.6	106	78-137
156-59-2	cis-1,2-Dichloroethylene	25	24.6	98	78-120
156-60-5	trans-1,2-Dichloroethylene	25	25.3	101	76-127
78-87-5	1,2-Dichloropropane	25	22.8	91	76-124
10061-01-5	cis-1,3-Dichloropropene	25	23.5	94	75-118
10061-02-6	trans-1,3-Dichloropropene	25	24.1	96	80-120
100-41-4	Ethylbenzene	25	24.0	96	81-121
76-13-1	Freon 113	25	27.1	108	72-134
591-78-6	2-Hexanone	125	116	93	61-129
98-82-8	Isopropylbenzene	25	25.3	101	83-132
79-20-9	Methyl Acetate	125	125	100	65-126
74-83-9	Methyl Bromide	25	44.2	177*	59-143
74-87-3	Methyl Chloride	25	28.2	113	50-159
108-87-2	Methylcyclohexane	25	27.3	109	76-129
75-09-2	Methylene Chloride	25	19.3	77	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	125	112	90	66-122

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA98178
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1531-BS	5E33469.D	1	08/19/22	JL	n/a	n/a	V5E1531

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98178-1, FA98178-2, FA98178-3, FA98178-4, FA98178-5, FA98178-6, FA98178-7, FA98178-8, FA98178-9, FA98178-10, FA98178-11, FA98178-12, FA98178-13, FA98178-14, FA98178-15, FA98178-16

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
1634-04-4	Methyl Tert Butyl Ether	25	27.2	109	72-117
100-42-5	Styrene	25	24.0	96	78-119
79-34-5	1,1,2,2-Tetrachloroethane	25	24.0	96	72-120
127-18-4	Tetrachloroethylene	25	26.2	105	76-135
108-88-3	Toluene	25	24.1	96	80-120
120-82-1	1,2,4-Trichlorobenzene	25	24.4	98	73-129
71-55-6	1,1,1-Trichloroethane	25	25.0	100	75-130
79-00-5	1,1,2-Trichloroethane	25	23.9	96	76-119
79-01-6	Trichloroethylene	25	24.5	98	81-126
75-69-4	Trichlorofluoromethane	25	30.4	122	71-156
75-01-4	Vinyl Chloride	25	28.1	112	69-159
1330-20-7	Xylene (total)	75	73.1	97	80-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	97%	79-125%
2037-26-5	Toluene-D8	102%	85-112%
460-00-4	4-Bromofluorobenzene	100%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA98178
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2662-BS	Y64200.D	1	08/24/22	AL	n/a	n/a	VY2662

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98178-1, FA98178-2, FA98178-3, FA98178-4, FA98178-5, FA98178-6, FA98178-7, FA98178-9, FA98178-10, FA98178-11, FA98178-12, FA98178-13, FA98178-14, FA98178-15, FA98178-16

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-35-4	1,1-Dichloroethylene	25	24.8	99	78-137
156-59-2	cis-1,2-Dichloroethylene	25	24.7	99	78-120
75-01-4	Vinyl Chloride	25	21.2	85	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	83-118%
17060-07-0	1,2-Dichloroethane-D4	97%	79-125%
2037-26-5	Toluene-D8	97%	85-112%
460-00-4	4-Bromofluorobenzene	99%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA98178
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98128-1MS	5E33493.D	5	08/19/22	JL	n/a	n/a	V5E1531
FA98128-1MSD	5E33494.D	5	08/19/22	JL	n/a	n/a	V5E1531
FA98128-1	5E33473.D	1	08/19/22	JL	n/a	n/a	V5E1531

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98178-1, FA98178-2, FA98178-3, FA98178-4, FA98178-5, FA98178-6, FA98178-7, FA98178-8, FA98178-9, FA98178-10, FA98178-11, FA98178-12, FA98178-13, FA98178-14, FA98178-15, FA98178-16

CAS No.	Compound	FA98128-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		625	585	94	625	542	87	8	50-147/21
71-43-2	Benzene	ND		125	118	94	125	118	94	0	81-122/14
75-27-4	Bromodichloromethane	ND		125	119	95	125	117	94	2	79-123/19
75-25-2	Bromoform	ND		125	114	91	125	112	90	2	66-123/21
78-93-3	2-Butanone (MEK)	ND		625	569	91	625	535	86	6	56-143/18
75-15-0	Carbon Disulfide	ND		125	101	81	125	99.1	79	2	66-148/23
56-23-5	Carbon Tetrachloride	ND		125	126	101	125	127	102	1	76-136/23
108-90-7	Chlorobenzene	ND		125	114	91	125	117	94	3	82-124/14
75-00-3	Chloroethane	ND		125	121	97	125	124	99	2	62-144/20
67-66-3	Chloroform	ND		125	117	94	125	116	93	1	80-124/15
110-82-7	Cyclohexane	ND		125	136	109	125	137	110	1	73-138/18
124-48-1	Dibromochloromethane	ND		125	111	89	125	113	90	2	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	ND		125	99.8	80	125	100	80	0	64-123/18
106-93-4	1,2-Dibromoethane	ND		125	113	90	125	116	93	3	75-120/13
75-71-8	Dichlorodifluoromethane	ND		125	130	104	125	127	102	2	42-167/19
95-50-1	1,2-Dichlorobenzene	ND		125	117	94	125	118	94	1	82-124/14
541-73-1	1,3-Dichlorobenzene	ND		125	119	95	125	120	96	1	84-125/14
106-46-7	1,4-Dichlorobenzene	ND		125	116	93	125	119	95	3	78-120/15
75-34-3	1,1-Dichloroethane	ND		125	123	98	125	123	98	0	81-122/15
107-06-2	1,2-Dichloroethane	ND		125	112	90	125	113	90	1	75-125/14
75-35-4	1,1-Dichloroethylene	ND		125	128	102	125	126	101	2	78-137/18
156-59-2	cis-1,2-Dichloroethylene	ND		125	122	98	125	125	100	2	78-120/15
156-60-5	trans-1,2-Dichloroethylene	ND		125	123	98	125	123	98	0	76-127/17
78-87-5	1,2-Dichloropropane	ND		125	112	90	125	112	90	0	76-124/14
10061-01-5	cis-1,3-Dichloropropene	ND		125	107	86	125	105	84	2	75-118/23
10061-02-6	trans-1,3-Dichloropropene	ND		125	111	89	125	111	89	0	80-120/22
100-41-4	Ethylbenzene	ND		125	115	92	125	114	91	1	81-121/14
76-13-1	Freon 113	ND		125	133	106	125	125	100	6	72-134/20
591-78-6	2-Hexanone	ND		625	576	92	625	544	87	6	61-129/18
98-82-8	Isopropylbenzene	ND		125	118	94	125	119	95	1	83-132/15
79-20-9	Methyl Acetate	ND		625	587	94	625	569	91	3	65-126/18
74-83-9	Methyl Bromide	ND		125	165	132	125	186	149*	12	59-143/19
74-87-3	Methyl Chloride	ND		125	148	118	125	143	114	3	50-159/19
108-87-2	Methylcyclohexane	ND		125	131	105	125	133	106	2	76-129/17
75-09-2	Methylene Chloride	ND		125	101	81	125	100	80	1	69-135/16
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		625	565	90	625	539	86	5	66-122/16

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA98178
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98128-1MS	5E33493.D	5	08/19/22	JL	n/a	n/a	V5E1531
FA98128-1MSD	5E33494.D	5	08/19/22	JL	n/a	n/a	V5E1531
FA98128-1	5E33473.D	1	08/19/22	JL	n/a	n/a	V5E1531

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98178-1, FA98178-2, FA98178-3, FA98178-4, FA98178-5, FA98178-6, FA98178-7, FA98178-8, FA98178-9, FA98178-10, FA98178-11, FA98178-12, FA98178-13, FA98178-14, FA98178-15, FA98178-16

CAS No.	Compound	FA98128-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
1634-04-4	Methyl Tert Butyl Ether	ND		125	131	105	125	131	105	0	72-117/14
100-42-5	Styrene	ND		125	114	91	125	115	92	1	78-119/23
79-34-5	1,1,2,2-Tetrachloroethane	ND		125	114	91	125	112	90	2	72-120/14
127-18-4	Tetrachloroethylene	ND		125	120	96	125	121	97	1	76-135/16
108-88-3	Toluene	ND		125	115	92	125	115	92	0	80-120/14
120-82-1	1,2,4-Trichlorobenzene	ND		125	112	90	125	116	93	4	73-129/20
71-55-6	1,1,1-Trichloroethane	ND		125	120	96	125	122	98	2	75-130/16
79-00-5	1,1,2-Trichloroethane	ND		125	113	90	125	115	92	2	76-119/14
79-01-6	Trichloroethylene	ND		125	118	94	125	119	95	1	81-126/15
75-69-4	Trichlorofluoromethane	ND		125	157	126	125	158	126	1	71-156/21
75-01-4	Vinyl Chloride	ND		125	152	122	125	150	120	1	69-159/18
1330-20-7	Xylene (total)	ND		375	345	92	375	348	93	1	80-126/15

CAS No.	Surrogate Recoveries	MS	MSD	FA98128-1	Limits
1868-53-7	Dibromofluoromethane	101%	102%	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	99%	99%	79-125%
2037-26-5	Toluene-D8	100%	101%	98%	85-112%
460-00-4	4-Bromofluorobenzene	99%	101%	103%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA98178
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98178-14MS	Y64224.D	100	08/24/22	AL	n/a	n/a	VY2662
FA98178-14MSD	Y64225.D	100	08/24/22	AL	n/a	n/a	VY2662
FA98178-14 [a]	Y64221.D	50	08/24/22	AL	n/a	n/a	VY2662

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98178-1, FA98178-2, FA98178-3, FA98178-4, FA98178-5, FA98178-6, FA98178-7, FA98178-9, FA98178-10, FA98178-11, FA98178-12, FA98178-13, FA98178-14, FA98178-15, FA98178-16

CAS No.	Compound	FA98178-14 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-35-4	1,1-Dichloroethylene	50	U	2500	2470	99	2500	2380	95	4	78-137/18
156-59-2	cis-1,2-Dichloroethylene	127		2500	2600	99	2500	2570	98	1	78-120/15
75-01-4	Vinyl Chloride	2900		2500	4890	80	2500	5320	97	8	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA98178-14	Limits
1868-53-7	Dibromofluoromethane	101%	101%	93%	83-118%
17060-07-0	1,2-Dichloroethane-D4	94%	97%	98%	79-125%
2037-26-5	Toluene-D8	97%	96%	98%	85-112%
460-00-4	4-Bromofluorobenzene	91%	94%	90%	83-118%

(a) Sample was not preserved to a pH < 2.

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Tetra Tech NUS

KSC-LC34

112G08985

SGS Job Number: FA98259

Sampling Date: 08/18/22



Report to:

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Total number of pages in report: **84**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

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Sample Summary

Tetra Tech NUS

Job No: FA98259

KSC-LC34
Project No: 112G08985

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA98259-1	08/18/22	07:20	CS	08/18/22	AQ	Ground Water	LC34-DPT0801-034.0-20220818
FA98259-2	08/18/22	07:35	CS	08/18/22	AQ	Ground Water	LC34-DPT0801-025.0-20220818
FA98259-3	08/18/22	07:50	CS	08/18/22	AQ	Ground Water	LC34-DPT0801-018.0-20220818
FA98259-4	08/18/22	08:05	CS	08/18/22	AQ	Ground Water	LC34-DPT0801-013.0-20220818
FA98259-5	08/18/22	08:55	CS	08/18/22	AQ	Ground Water	LC34-DPT0464-034.0-20220818
FA98259-6	08/18/22	09:10	CS	08/18/22	AQ	Ground Water	LC34-DPT0464-025.0-20220818
FA98259-7	08/18/22	09:15	CS	08/18/22	AQ	Ground Water	LC34-IW0162-110.0-20220818
FA98259-8	08/18/22	09:25	CS	08/18/22	AQ	Ground Water	LC34-DPT0464-018.0-20220818
FA98259-9	08/18/22	09:40	CS	08/18/22	AQ	Ground Water	LC34-DPT0464-013.0-20220818
FA98259-10	08/18/22	10:25	CS	08/18/22	AQ	Ground Water	LC34-DPT0795-034.0-20220818
FA98259-11	08/18/22	10:40	CS	08/18/22	AQ	Ground Water	LC34-DPT0795-025.0-20220818
FA98259-12	08/18/22	11:00	CS	08/18/22	AQ	Ground Water	LC34-DPT0795-018.0-20220818
FA98259-13	08/18/22	11:15	CS	08/18/22	AQ	Ground Water	LC34-DPT0795-013.0-20220818

Sample Summary
(continued)

Tetra Tech NUS

Job No: FA98259

KSC-LC34
Project No: 112G08985

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA98259-14	08/18/22	12:05	CS	08/18/22	AQ	Ground Water	LC34-DPT0787-034.0-20220818
FA98259-15	08/18/22	12:45	CS	08/18/22	AQ	Ground Water	LC34-DPT0787-025.0-20220818
FA98259-16	08/18/22	13:00	CS	08/18/22	AQ	Ground Water	LC34-DPT0787-018.0-20220818
FA98259-17	08/18/22	13:15	CS	08/18/22	AQ	Ground Water	LC34-DPT0787-013.0-20220818
FA98259-18	08/18/22	13:55	CS	08/18/22	AQ	Ground Water	LC34-DPT0784-034.0-20220818
FA98259-19	08/18/22	14:10	CS	08/18/22	AQ	Ground Water	LC34-DPT0784-025.0-20220818
FA98259-20	08/18/22	14:25	CS	08/18/22	AQ	Ground Water	LC34-DPT0784-018.0-20220818
FA98259-21	08/18/22	14:40	CS	08/18/22	AQ	Ground Water	LC34-DPT0784-013.0-20220818

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Tetra Tech NUS **Job No:** FA98259

Site: KSC-LC34 **Report Date:** 8/31/2022 5:31:48 PM

On 08/18/2022, 21 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 4.4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FA98259 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

MS Volatiles By Method SW846 8260D

Matrix: AQ **Batch ID:** V5E1535

Sample(s) FA98258-1MS, FA98258-1MSD were used as the QC samples indicated.

Blank Spike Recovery(s) for Methyl Bromide are outside control limits.

FA98259-1 for Methyl Bromide: Associated CCV and BS outside control limits high, sample is ND.

FA98259-1: Sample was not preserved to a pH < 2.

FA98259-3 for Methyl Bromide: Associated CCV and BS outside control limits high, sample is ND.

FA98259-3: Sample was not preserved to a pH < 2.

FA98259-4 for Methyl Bromide: Associated CCV and BS outside control limits high, sample is ND.

FA98259-4: Sample was not preserved to a pH < 2.

FA98259-6 for Methyl Bromide: Associated CCV and BS outside control limits high, sample is ND.

FA98259-6: Sample was not preserved to a pH < 2.

FA98259-7 for Methyl Bromide: Associated CCV and BS outside control limits high, sample is ND.

FA98259-7: Sample was not preserved to a pH < 2.

FA98259-8 for Methyl Bromide: Associated CCV and BS outside control limits high, sample is ND.

FA98259-8: Sample was not preserved to a pH < 2.

FA98259-9 for Methyl Bromide: Associated CCV and BS outside control limits high, sample is ND.

FA98259-9: Sample was not preserved to a pH < 2.

FA98259-10 for Methyl Bromide: Associated CCV and BS outside control limits high, sample is ND.

FA98259-10: Sample was not preserved to a pH < 2.

Matrix: AQ **Batch ID:** V5E1543

Sample(s) FA98298-1MS, FA98298-1MSD were used as the QC samples indicated.

RPD(s) for MSD for Methyl Bromide are outside control limits for sample FA98298-1MSD. Probable cause is due to sample non-homogeneity.

FA98259-5: Sample was not preserved to a pH < 2.

FA98259-5 for Methyl Bromide: Associated CCV outside control limits high, sample is ND.

Matrix: AQ **Batch ID:** VO2797

Sample(s) FA98287-3MS, FA98287-3MSD were used as the QC samples indicated.

Matrix Spike Recovery(s) for Methyl Bromide are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for Methyl Bromide are outside control limits. Probable cause is due to matrix interference.

FA98259-11: Sample was not preserved to a pH < 2.

FA98259-12: Sample was not preserved to a pH < 2.

FA98259-13: Sample was not preserved to a pH < 2.

FA98259-14: Sample was not preserved to a pH < 2.

FA98259-15: Sample was not preserved to a pH < 2.

FA98259-16: Sample was not preserved to a pH < 2.

FA98259-17: Sample was not preserved to a pH < 2.

FA98259-18: Sample was not preserved to a pH < 2.

FA98259-19: Sample was not preserved to a pH < 2.

FA98259-20: Sample was not preserved to a pH < 2.

FA98259-21: Sample was not preserved to a pH < 2.

VO2797-MB: Sample was treated with an anti-foaming agent.

MS Volatiles By Method SW846 8260D

Matrix: AQ **Batch ID:** VO2800

Sample(s) FA98258-11MS, FA98258-11MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** VY2663

Sample(s) FA98283-3MS, FA98283-3MSD were used as the QC samples indicated.

Blank Spike Recovery(s) for Methyl Bromide, Methyl Tert Butyl Ether are outside control limits.

Matrix Spike Recovery(s) for Methyl Bromide, Methyl Tert Butyl Ether are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for Methyl Tert Butyl Ether are outside control limits. Probable cause is due to matrix interference.

RPD(s) for MSD for Methyl Bromide are outside control limits for sample FA98283-3MSD. Probable cause is due to sample non-homogeneity.

FA98259-2: Sample was not preserved to a pH < 2.

FA98259-2 for Methyl Tert Butyl Ether: Associated BS recovery outside control limits high, sample is ND.

FA98259-2 for Methyl Bromide: Associated BS recovery outside control limits low.

FA98259-2 for Chloroethane: Associated CCV outside control limits high, sample is ND.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Summary of Hits

Job Number: FA98259
Account: Tetra Tech NUS
Project: KSC-LC34
Collected: 08/18/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
FA98259-1	**LC34-DPT0801-034.0-20220818**					
2-Butanone (MEK) [a]		5.4 I	13	5.0	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		137	2.5	0.69	ug/l	SW846 8260D
Vinyl Chloride [a]		16.6	2.5	1.0	ug/l	SW846 8260D
FA98259-2	**LC34-DPT0801-025.0-20220818**					
Carbon Disulfide [a]		0.83 I	2.0	0.53	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		760	100	28	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		4.0	1.0	0.22	ug/l	SW846 8260D
Vinyl Chloride [a]		5250	100	41	ug/l	SW846 8260D
FA98259-3	**LC34-DPT0801-018.0-20220818**					
cis-1,2-Dichloroethylene [a]		1360	25	6.9	ug/l	SW846 8260D
Vinyl Chloride		856	25	10	ug/l	SW846 8260D
FA98259-4	**LC34-DPT0801-013.0-20220818**					
2-Butanone (MEK) [a]		2.3 I	5.0	2.0	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		50.8	1.0	0.28	ug/l	SW846 8260D
Vinyl Chloride		48.5	2.0	0.82	ug/l	SW846 8260D
FA98259-5	**LC34-DPT0464-034.0-20220818**					
Carbon Disulfide [a]		0.77 I	2.0	0.53	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		3.1	1.0	0.28	ug/l	SW846 8260D
FA98259-6	**LC34-DPT0464-025.0-20220818**					
cis-1,2-Dichloroethylene [a]		1160	25	6.9	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		6.9 I	25	5.5	ug/l	SW846 8260D
Vinyl Chloride [a]		370	25	10	ug/l	SW846 8260D
FA98259-7	**LC34-IW0162-110.0-20220818**					
cis-1,2-Dichloroethylene [a]		0.81 I	2.0	0.55	ug/l	SW846 8260D
Trichloroethylene [a]		115	2.0	0.69	ug/l	SW846 8260D
FA98259-8	**LC34-DPT0464-018.0-20220818**					
cis-1,2-Dichloroethylene [a]		636	10	2.8	ug/l	SW846 8260D
Vinyl Chloride [a]		325	10	4.1	ug/l	SW846 8260D

Summary of Hits

Job Number: FA98259
Account: Tetra Tech NUS
Project: KSC-LC34
Collected: 08/18/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
FA98259-9	**LC34-DPT0464-013.0-20220818**					
2-Butanone (MEK) [a]		2.3 I	5.0	2.0	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		73.4	1.0	0.28	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		0.57 I	1.0	0.22	ug/l	SW846 8260D
Vinyl Chloride [a]		30.1	1.0	0.41	ug/l	SW846 8260D
FA98259-10	**LC34-DPT0795-034.0-20220818**					
2-Butanone (MEK) [a]		2.1 I	5.0	2.0	ug/l	SW846 8260D
Carbon Disulfide [a]		0.54 I	2.0	0.53	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		19.8	1.0	0.28	ug/l	SW846 8260D
Vinyl Chloride [a]		2.9	1.0	0.41	ug/l	SW846 8260D
FA98259-11	**LC34-DPT0795-025.0-20220818**					
cis-1,2-Dichloroethylene [a]		2390	50	14	ug/l	SW846 8260D
Vinyl Chloride [a]		1040	50	20	ug/l	SW846 8260D
FA98259-12	**LC34-DPT0795-018.0-20220818**					
cis-1,2-Dichloroethylene [a]		631	10	2.8	ug/l	SW846 8260D
Vinyl Chloride [a]		497	10	4.1	ug/l	SW846 8260D
FA98259-13	**LC34-DPT0795-013.0-20220818**					
cis-1,2-Dichloroethylene [a]		26.9	1.0	0.28	ug/l	SW846 8260D
Vinyl Chloride [a]		25.7	1.0	0.41	ug/l	SW846 8260D
FA98259-14	**LC34-DPT0787-034.0-20220818**					
Carbon Disulfide [a]		1.1 I	2.0	0.53	ug/l	SW846 8260D
cis-1,2-Dichloroethylene [a]		7.7	1.0	0.28	ug/l	SW846 8260D
Vinyl Chloride [a]		21.1	1.0	0.41	ug/l	SW846 8260D
FA98259-15	**LC34-DPT0787-025.0-20220818**					
cis-1,2-Dichloroethylene [a]		1230	20	5.5	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		39.3	20	4.4	ug/l	SW846 8260D
Vinyl Chloride		3920	50	20	ug/l	SW846 8260D
FA98259-16	**LC34-DPT0787-018.0-20220818**					
cis-1,2-Dichloroethylene [a]		973	20	5.5	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		6.4 I	20	4.4	ug/l	SW846 8260D

Summary of Hits

Job Number: FA98259
Account: Tetra Tech NUS
Project: KSC-LC34
Collected: 08/18/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
Vinyl Chloride		1960	25	10	ug/l	SW846 8260D
FA98259-17	**LC34-DPT0787-013.0-20220818**					
cis-1,2-Dichloroethylene [a]		85.1	1.0	0.28	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		0.73 I	1.0	0.22	ug/l	SW846 8260D
Vinyl Chloride		217	5.0	2.0	ug/l	SW846 8260D
FA98259-18	**LC34-DPT0784-034.0-20220818**					
cis-1,2-Dichloroethylene [a]		447	10	2.8	ug/l	SW846 8260D
FA98259-19	**LC34-DPT0784-025.0-20220818**					
cis-1,2-Dichloroethylene [a]		5010	100	28	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		58.0 I	100	22	ug/l	SW846 8260D
Vinyl Chloride [a]		2970	100	41	ug/l	SW846 8260D
FA98259-20	**LC34-DPT0784-018.0-20220818**					
cis-1,2-Dichloroethylene [a]		348	5.0	1.4	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		2.0 I	5.0	1.1	ug/l	SW846 8260D
Vinyl Chloride [a]		221	5.0	2.0	ug/l	SW846 8260D
FA98259-21	**LC34-DPT0784-013.0-20220818**					
cis-1,2-Dichloroethylene [a]		280	5.0	1.4	ug/l	SW846 8260D
trans-1,2-Dichloroethylene [a]		2.0 I	5.0	1.1	ug/l	SW846 8260D
Vinyl Chloride [a]		126	5.0	2.0	ug/l	SW846 8260D

(a) Sample was not preserved to a pH < 2.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	LC34-DPT0801-034.0-20220818		
Lab Sample ID:	FA98259-1	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33597.D	2.5	08/23/22 18:15	JL	n/a	n/a	V5E1535
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	25 U	63	25	ug/l	
71-43-2	Benzene	0.78 U	2.5	0.78	ug/l	
75-27-4	Bromodichloromethane	0.61 U	2.5	0.61	ug/l	
75-25-2	Bromoform	1.0 U	2.5	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.4	13	5.0	ug/l	I
75-15-0	Carbon Disulfide	1.3 U	5.0	1.3	ug/l	
56-23-5	Carbon Tetrachloride	0.89 U	2.5	0.89	ug/l	
108-90-7	Chlorobenzene	0.50 U	2.5	0.50	ug/l	
75-00-3	Chloroethane	1.7 U	5.0	1.7	ug/l	
67-66-3	Chloroform	0.75 U	2.5	0.75	ug/l	
110-82-7	Cyclohexane	0.98 U	2.5	0.98	ug/l	
124-48-1	Dibromochloromethane	0.69 U	2.5	0.69	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.6 U	13	2.6	ug/l	
106-93-4	1,2-Dibromoethane	0.69 U	5.0	0.69	ug/l	
75-71-8	Dichlorodifluoromethane	1.3 U	5.0	1.3	ug/l	
95-50-1	1,2-Dichlorobenzene	0.81 U	2.5	0.81	ug/l	
541-73-1	1,3-Dichlorobenzene	0.54 U	2.5	0.54	ug/l	
106-46-7	1,4-Dichlorobenzene	0.64 U	2.5	0.64	ug/l	
75-34-3	1,1-Dichloroethane	0.85 U	2.5	0.85	ug/l	
107-06-2	1,2-Dichloroethane	0.78 U	2.5	0.78	ug/l	
75-35-4	1,1-Dichloroethylene	0.81 U	2.5	0.81	ug/l	
156-59-2	cis-1,2-Dichloroethylene	137	2.5	0.69	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.55 U	2.5	0.55	ug/l	
78-87-5	1,2-Dichloropropane	1.1 U	2.5	1.1	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.73 U	2.5	0.73	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.54 U	2.5	0.54	ug/l	
100-41-4	Ethylbenzene	0.89 U	2.5	0.89	ug/l	
76-13-1	Freon 113	1.2 U	2.5	1.2	ug/l	
591-78-6	2-Hexanone	5.0 U	25	5.0	ug/l	
98-82-8	Isopropylbenzene	0.55 U	2.5	0.55	ug/l	
79-20-9	Methyl Acetate	13 U	50	13	ug/l	
74-83-9	Methyl Bromide [b]	5.0 U	13	5.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0801-034.0-20220818		
Lab Sample ID:	FA98259-1	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	1.3 U	5.0	1.3	ug/l	
108-87-2	Methylcyclohexane	1.1 U	2.5	1.1	ug/l	
75-09-2	Methylene Chloride	5.0 U	13	5.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.5 U	13	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.57 U	2.5	0.57	ug/l	
100-42-5	Styrene	0.56 U	2.5	0.56	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.75 U	2.5	0.75	ug/l	
127-18-4	Tetrachloroethylene	0.54 U	2.5	0.54	ug/l	
108-88-3	Toluene	0.75 U	2.5	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.3 U	5.0	1.3	ug/l	
71-55-6	1,1,1-Trichloroethane	0.62 U	2.5	0.62	ug/l	
79-00-5	1,1,2-Trichloroethane	1.2 U	2.5	1.2	ug/l	
79-01-6	Trichloroethylene	0.86 U	2.5	0.86	ug/l	
75-69-4	Trichlorofluoromethane	1.3 U	5.0	1.3	ug/l	
75-01-4	Vinyl Chloride	16.6	2.5	1.0	ug/l	
1330-20-7	Xylene (total)	1.8 U	7.5	1.8	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	100%		79-125%
2037-26-5	Toluene-D8	99%		85-112%
460-00-4	4-Bromofluorobenzene	104%		83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV and BS outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0801-025.0-20220818		
Lab Sample ID:	FA98259-2	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	Y64239.D	1	08/25/22 16:25	JL	n/a	n/a	VY2663
Run #2 [a]	Y64248.D	100	08/25/22 20:09	JL	n/a	n/a	VY2663

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.0 U	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	0.83	2.0	0.53	ug/l	I
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane [b]	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.32 U	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	760 [c]	100	28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	4.0	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [d]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0801-025.0-20220818		
Lab Sample ID:	FA98259-2	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether [e]	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	5250 [c]	100	41	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	98%	79-125%
2037-26-5	Toluene-D8	96%	97%	85-112%
460-00-4	4-Bromofluorobenzene	93%	95%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV outside control limits high, sample is ND.
(c) Result is from Run# 2
(d) Associated BS recovery outside control limits low.
(e) Associated BS recovery outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0801-018.0-20220818		
Lab Sample ID:	FA98259-3	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33599.D	25	08/23/22 19:02	JL	n/a	n/a	V5E1535
Run #2	Y64249.D	25	08/25/22 20:34	JL	n/a	n/a	VY2663

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	250 U	630	250	ug/l	
71-43-2	Benzene	7.8 U	25	7.8	ug/l	
75-27-4	Bromodichloromethane	6.1 U	25	6.1	ug/l	
75-25-2	Bromoform	10 U	25	10	ug/l	
78-93-3	2-Butanone (MEK)	50 U	130	50	ug/l	
75-15-0	Carbon Disulfide	13 U	50	13	ug/l	
56-23-5	Carbon Tetrachloride	8.9 U	25	8.9	ug/l	
108-90-7	Chlorobenzene	5.0 U	25	5.0	ug/l	
75-00-3	Chloroethane	17 U	50	17	ug/l	
67-66-3	Chloroform	7.5 U	25	7.5	ug/l	
110-82-7	Cyclohexane	9.8 U	25	9.8	ug/l	
124-48-1	Dibromochloromethane	6.9 U	25	6.9	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	26 U	130	26	ug/l	
106-93-4	1,2-Dibromoethane	6.9 U	50	6.9	ug/l	
75-71-8	Dichlorodifluoromethane	13 U	50	13	ug/l	
95-50-1	1,2-Dichlorobenzene	8.1 U	25	8.1	ug/l	
541-73-1	1,3-Dichlorobenzene	5.4 U	25	5.4	ug/l	
106-46-7	1,4-Dichlorobenzene	6.4 U	25	6.4	ug/l	
75-34-3	1,1-Dichloroethane	8.5 U	25	8.5	ug/l	
107-06-2	1,2-Dichloroethane	7.8 U	25	7.8	ug/l	
75-35-4	1,1-Dichloroethylene	8.1 U	25	8.1	ug/l	
156-59-2	cis-1,2-Dichloroethylene	1360	25	6.9	ug/l	
156-60-5	trans-1,2-Dichloroethylene	5.5 U	25	5.5	ug/l	
78-87-5	1,2-Dichloropropane	11 U	25	11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	7.3 U	25	7.3	ug/l	
10061-02-6	trans-1,3-Dichloropropene	5.4 U	25	5.4	ug/l	
100-41-4	Ethylbenzene	8.9 U	25	8.9	ug/l	
76-13-1	Freon 113	12 U	25	12	ug/l	
591-78-6	2-Hexanone	50 U	250	50	ug/l	
98-82-8	Isopropylbenzene	5.5 U	25	5.5	ug/l	
79-20-9	Methyl Acetate	130 U	500	130	ug/l	
74-83-9	Methyl Bromide [b]	50 U	130	50	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0801-018.0-20220818		
Lab Sample ID:	FA98259-3	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	13 U	50	13	ug/l	
108-87-2	Methylcyclohexane	11 U	25	11	ug/l	
75-09-2	Methylene Chloride	50 U	130	50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	25 U	130	25	ug/l	
1634-04-4	Methyl Tert Butyl Ether	5.7 U	25	5.7	ug/l	
100-42-5	Styrene	5.6 U	25	5.6	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	7.5 U	25	7.5	ug/l	
127-18-4	Tetrachloroethylene	5.4 U	25	5.4	ug/l	
108-88-3	Toluene	7.5 U	25	7.5	ug/l	
120-82-1	1,2,4-Trichlorobenzene	13 U	50	13	ug/l	
71-55-6	1,1,1-Trichloroethane	6.2 U	25	6.2	ug/l	
79-00-5	1,1,2-Trichloroethane	12 U	25	12	ug/l	
79-01-6	Trichloroethylene	8.6 U	25	8.6	ug/l	
75-69-4	Trichlorofluoromethane	13 U	50	13	ug/l	
75-01-4	Vinyl Chloride	856 [c]	25	10	ug/l	
1330-20-7	Xylene (total)	18 U	75	18	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	98%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	99%	79-125%
2037-26-5	Toluene-D8	100%	98%	85-112%
460-00-4	4-Bromofluorobenzene	104%	96%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV and BS outside control limits high, sample is ND.
(c) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0801-013.0-20220818		
Lab Sample ID:	FA98259-4	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33591.D	1	08/23/22 15:55	JL	n/a	n/a	V5E1535
Run #2	Y64250.D	2	08/25/22 20:59	JL	n/a	n/a	VY2663

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.3	5.0	2.0	ug/l	I
75-15-0	Carbon Disulfide	0.53 U	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.32 U	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	50.8	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [b]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0801-013.0-20220818		
Lab Sample ID:	FA98259-4	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.60 U [c]	2.0	0.60	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	48.5 [c]	2.0	0.82	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	93%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	100%	79-125%
2037-26-5	Toluene-D8	101%	95%	85-112%
460-00-4	4-Bromofluorobenzene	103%	96%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV and BS outside control limits high, sample is ND.
(c) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0464-034.0-20220818		
Lab Sample ID:	FA98259-5	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33791.D	1	08/27/22 03:05	AL	n/a	n/a	V5E1543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.0 U	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	0.77	2.0	0.53	ug/l	I
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.32 U	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	3.1	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [b]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0464-034.0-20220818		
Lab Sample ID:	FA98259-5	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	99%		85-112%
460-00-4	4-Bromofluorobenzene	103%		83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0464-025.0-20220818		
Lab Sample ID:	FA98259-6	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33600.D	25	08/23/22 19:25	JL	n/a	n/a	V5E1535
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	250 U	630	250	ug/l	
71-43-2	Benzene	7.8 U	25	7.8	ug/l	
75-27-4	Bromodichloromethane	6.1 U	25	6.1	ug/l	
75-25-2	Bromoform	10 U	25	10	ug/l	
78-93-3	2-Butanone (MEK)	50 U	130	50	ug/l	
75-15-0	Carbon Disulfide	13 U	50	13	ug/l	
56-23-5	Carbon Tetrachloride	8.9 U	25	8.9	ug/l	
108-90-7	Chlorobenzene	5.0 U	25	5.0	ug/l	
75-00-3	Chloroethane	17 U	50	17	ug/l	
67-66-3	Chloroform	7.5 U	25	7.5	ug/l	
110-82-7	Cyclohexane	9.8 U	25	9.8	ug/l	
124-48-1	Dibromochloromethane	6.9 U	25	6.9	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	26 U	130	26	ug/l	
106-93-4	1,2-Dibromoethane	6.9 U	50	6.9	ug/l	
75-71-8	Dichlorodifluoromethane	13 U	50	13	ug/l	
95-50-1	1,2-Dichlorobenzene	8.1 U	25	8.1	ug/l	
541-73-1	1,3-Dichlorobenzene	5.4 U	25	5.4	ug/l	
106-46-7	1,4-Dichlorobenzene	6.4 U	25	6.4	ug/l	
75-34-3	1,1-Dichloroethane	8.5 U	25	8.5	ug/l	
107-06-2	1,2-Dichloroethane	7.8 U	25	7.8	ug/l	
75-35-4	1,1-Dichloroethylene	8.1 U	25	8.1	ug/l	
156-59-2	cis-1,2-Dichloroethylene	1160	25	6.9	ug/l	
156-60-5	trans-1,2-Dichloroethylene	6.9	25	5.5	ug/l	I
78-87-5	1,2-Dichloropropane	11 U	25	11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	7.3 U	25	7.3	ug/l	
10061-02-6	trans-1,3-Dichloropropene	5.4 U	25	5.4	ug/l	
100-41-4	Ethylbenzene	8.9 U	25	8.9	ug/l	
76-13-1	Freon 113	12 U	25	12	ug/l	
591-78-6	2-Hexanone	50 U	250	50	ug/l	
98-82-8	Isopropylbenzene	5.5 U	25	5.5	ug/l	
79-20-9	Methyl Acetate	130 U	500	130	ug/l	
74-83-9	Methyl Bromide [b]	50 U	130	50	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0464-025.0-20220818		
Lab Sample ID:	FA98259-6	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	13 U	50	13	ug/l	
108-87-2	Methylcyclohexane	11 U	25	11	ug/l	
75-09-2	Methylene Chloride	50 U	130	50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	25 U	130	25	ug/l	
1634-04-4	Methyl Tert Butyl Ether	5.7 U	25	5.7	ug/l	
100-42-5	Styrene	5.6 U	25	5.6	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	7.5 U	25	7.5	ug/l	
127-18-4	Tetrachloroethylene	5.4 U	25	5.4	ug/l	
108-88-3	Toluene	7.5 U	25	7.5	ug/l	
120-82-1	1,2,4-Trichlorobenzene	13 U	50	13	ug/l	
71-55-6	1,1,1-Trichloroethane	6.2 U	25	6.2	ug/l	
79-00-5	1,1,2-Trichloroethane	12 U	25	12	ug/l	
79-01-6	Trichloroethylene	8.6 U	25	8.6	ug/l	
75-69-4	Trichlorofluoromethane	13 U	50	13	ug/l	
75-01-4	Vinyl Chloride	370	25	10	ug/l	
1330-20-7	Xylene (total)	18 U	75	18	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	96%		79-125%
2037-26-5	Toluene-D8	102%		85-112%
460-00-4	4-Bromofluorobenzene	103%		83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV and BS outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-IW0162-110.0-20220818		
Lab Sample ID:	FA98259-7	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33601.D	2	08/23/22 19:49	JL	n/a	n/a	V5E1535
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	20 U	50	20	ug/l	
71-43-2	Benzene	0.62 U	2.0	0.62	ug/l	
75-27-4	Bromodichloromethane	0.48 U	2.0	0.48	ug/l	
75-25-2	Bromoform	0.81 U	2.0	0.81	ug/l	
78-93-3	2-Butanone (MEK)	4.0 U	10	4.0	ug/l	
75-15-0	Carbon Disulfide	1.1 U	4.0	1.1	ug/l	
56-23-5	Carbon Tetrachloride	0.71 U	2.0	0.71	ug/l	
108-90-7	Chlorobenzene	0.40 U	2.0	0.40	ug/l	
75-00-3	Chloroethane	1.3 U	4.0	1.3	ug/l	
67-66-3	Chloroform	0.60 U	2.0	0.60	ug/l	
110-82-7	Cyclohexane	0.78 U	2.0	0.78	ug/l	
124-48-1	Dibromochloromethane	0.55 U	2.0	0.55	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.1 U	10	2.1	ug/l	
106-93-4	1,2-Dibromoethane	0.55 U	4.0	0.55	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	4.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.65 U	2.0	0.65	ug/l	
541-73-1	1,3-Dichlorobenzene	0.43 U	2.0	0.43	ug/l	
106-46-7	1,4-Dichlorobenzene	0.51 U	2.0	0.51	ug/l	
75-34-3	1,1-Dichloroethane	0.68 U	2.0	0.68	ug/l	
107-06-2	1,2-Dichloroethane	0.62 U	2.0	0.62	ug/l	
75-35-4	1,1-Dichloroethylene	0.64 U	2.0	0.64	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.81	2.0	0.55	ug/l	I
156-60-5	trans-1,2-Dichloroethylene	0.44 U	2.0	0.44	ug/l	
78-87-5	1,2-Dichloropropane	0.85 U	2.0	0.85	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.58 U	2.0	0.58	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.43 U	2.0	0.43	ug/l	
100-41-4	Ethylbenzene	0.71 U	2.0	0.71	ug/l	
76-13-1	Freon 113	0.96 U	2.0	0.96	ug/l	
591-78-6	2-Hexanone	4.0 U	20	4.0	ug/l	
98-82-8	Isopropylbenzene	0.44 U	2.0	0.44	ug/l	
79-20-9	Methyl Acetate	10 U	40	10	ug/l	
74-83-9	Methyl Bromide [b]	4.0 U	10	4.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-IW0162-110.0-20220818		
Lab Sample ID:	FA98259-7	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	1.0 U	4.0	1.0	ug/l	
108-87-2	Methylcyclohexane	0.87 U	2.0	0.87	ug/l	
75-09-2	Methylene Chloride	4.0 U	10	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	10	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.46 U	2.0	0.46	ug/l	
100-42-5	Styrene	0.44 U	2.0	0.44	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.60 U	2.0	0.60	ug/l	
127-18-4	Tetrachloroethylene	0.43 U	2.0	0.43	ug/l	
108-88-3	Toluene	0.60 U	2.0	0.60	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	4.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	2.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.93 U	2.0	0.93	ug/l	
79-01-6	Trichloroethylene	115	2.0	0.69	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	4.0	1.0	ug/l	
75-01-4	Vinyl Chloride	0.82 U	2.0	0.82	ug/l	
1330-20-7	Xylene (total)	1.4 U	6.0	1.4	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		83-118%
17060-07-0	1,2-Dichloroethane-D4	99%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	104%		83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV and BS outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range
I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0464-018.0-20220818		
Lab Sample ID:	FA98259-8	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33602.D	10	08/23/22 20:12	JL	n/a	n/a	V5E1535
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	100 U	250	100	ug/l	
71-43-2	Benzene	3.1 U	10	3.1	ug/l	
75-27-4	Bromodichloromethane	2.4 U	10	2.4	ug/l	
75-25-2	Bromoform	4.1 U	10	4.1	ug/l	
78-93-3	2-Butanone (MEK)	20 U	50	20	ug/l	
75-15-0	Carbon Disulfide	5.3 U	20	5.3	ug/l	
56-23-5	Carbon Tetrachloride	3.6 U	10	3.6	ug/l	
108-90-7	Chlorobenzene	2.0 U	10	2.0	ug/l	
75-00-3	Chloroethane	6.7 U	20	6.7	ug/l	
67-66-3	Chloroform	3.0 U	10	3.0	ug/l	
110-82-7	Cyclohexane	3.9 U	10	3.9	ug/l	
124-48-1	Dibromochloromethane	2.8 U	10	2.8	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	10 U	50	10	ug/l	
106-93-4	1,2-Dibromoethane	2.8 U	20	2.8	ug/l	
75-71-8	Dichlorodifluoromethane	5.0 U	20	5.0	ug/l	
95-50-1	1,2-Dichlorobenzene	3.2 U	10	3.2	ug/l	
541-73-1	1,3-Dichlorobenzene	2.2 U	10	2.2	ug/l	
106-46-7	1,4-Dichlorobenzene	2.6 U	10	2.6	ug/l	
75-34-3	1,1-Dichloroethane	3.4 U	10	3.4	ug/l	
107-06-2	1,2-Dichloroethane	3.1 U	10	3.1	ug/l	
75-35-4	1,1-Dichloroethylene	3.2 U	10	3.2	ug/l	
156-59-2	cis-1,2-Dichloroethylene	636	10	2.8	ug/l	
156-60-5	trans-1,2-Dichloroethylene	2.2 U	10	2.2	ug/l	
78-87-5	1,2-Dichloropropane	4.3 U	10	4.3	ug/l	
10061-01-5	cis-1,3-Dichloropropene	2.9 U	10	2.9	ug/l	
10061-02-6	trans-1,3-Dichloropropene	2.1 U	10	2.1	ug/l	
100-41-4	Ethylbenzene	3.6 U	10	3.6	ug/l	
76-13-1	Freon 113	4.8 U	10	4.8	ug/l	
591-78-6	2-Hexanone	20 U	100	20	ug/l	
98-82-8	Isopropylbenzene	2.2 U	10	2.2	ug/l	
79-20-9	Methyl Acetate	50 U	200	50	ug/l	
74-83-9	Methyl Bromide [b]	20 U	50	20	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0464-018.0-20220818		
Lab Sample ID:	FA98259-8	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	5.0 U	20	5.0	ug/l	
108-87-2	Methylcyclohexane	4.4 U	10	4.4	ug/l	
75-09-2	Methylene Chloride	20 U	50	20	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	50	10	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.3 U	10	2.3	ug/l	
100-42-5	Styrene	2.2 U	10	2.2	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	3.0 U	10	3.0	ug/l	
127-18-4	Tetrachloroethylene	2.2 U	10	2.2	ug/l	
108-88-3	Toluene	3.0 U	10	3.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	5.0 U	20	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	2.5 U	10	2.5	ug/l	
79-00-5	1,1,2-Trichloroethane	4.7 U	10	4.7	ug/l	
79-01-6	Trichloroethylene	3.5 U	10	3.5	ug/l	
75-69-4	Trichlorofluoromethane	5.0 U	20	5.0	ug/l	
75-01-4	Vinyl Chloride	325	10	4.1	ug/l	
1330-20-7	Xylene (total)	7.2 U	30	7.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	98%		85-112%
460-00-4	4-Bromofluorobenzene	102%		83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV and BS outside control limits high, sample is ND.

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range
I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0464-013.0-20220818		
Lab Sample ID:	FA98259-9	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33593.D	1	08/23/22 16:41	JL	n/a	n/a	V5E1535
Run #2	Y64240.D	1	08/25/22 16:50	JL	n/a	n/a	VY2663

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.3	5.0	2.0	ug/l	I
75-15-0	Carbon Disulfide	0.53 U	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.32 U	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	73.4	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.57	1.0	0.22	ug/l	I
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [b]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0464-013.0-20220818		
Lab Sample ID:	FA98259-9	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U [c]	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	30.1	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	98%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	98%	79-125%
2037-26-5	Toluene-D8	101%	94%	85-112%
460-00-4	4-Bromofluorobenzene	106%	94%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV and BS outside control limits high, sample is ND.
(c) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0795-034.0-20220818		
Lab Sample ID:	FA98259-10	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E33594.D	1	08/23/22 17:05	JL	n/a	n/a	V5E1535
Run #2	Y64241.D	1	08/25/22 17:15	JL	n/a	n/a	VY2663

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.1	5.0	2.0	ug/l	I
75-15-0	Carbon Disulfide	0.54	2.0	0.53	ug/l	I
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.32 U	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	19.8	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide [b]	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0795-034.0-20220818		
Lab Sample ID:	FA98259-10	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U [c]	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	2.9	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	98%	79-125%
2037-26-5	Toluene-D8	100%	97%	85-112%
460-00-4	4-Bromofluorobenzene	104%	95%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Associated CCV and BS outside control limits high, sample is ND.
(c) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0795-025.0-20220818		
Lab Sample ID:	FA98259-11	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	O70569.D	50	08/24/22 16:27	JL	n/a	n/a	VO2797
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	500 U	1300	500	ug/l	
71-43-2	Benzene	16 U	50	16	ug/l	
75-27-4	Bromodichloromethane	12 U	50	12	ug/l	
75-25-2	Bromoform	20 U	50	20	ug/l	
78-93-3	2-Butanone (MEK)	100 U	250	100	ug/l	
75-15-0	Carbon Disulfide	27 U	100	27	ug/l	
56-23-5	Carbon Tetrachloride	18 U	50	18	ug/l	
108-90-7	Chlorobenzene	10 U	50	10	ug/l	
75-00-3	Chloroethane	33 U	100	33	ug/l	
67-66-3	Chloroform	15 U	50	15	ug/l	
110-82-7	Cyclohexane	20 U	50	20	ug/l	
124-48-1	Dibromochloromethane	14 U	50	14	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	52 U	250	52	ug/l	
106-93-4	1,2-Dibromoethane	14 U	100	14	ug/l	
75-71-8	Dichlorodifluoromethane	25 U	100	25	ug/l	
95-50-1	1,2-Dichlorobenzene	16 U	50	16	ug/l	
541-73-1	1,3-Dichlorobenzene	11 U	50	11	ug/l	
106-46-7	1,4-Dichlorobenzene	13 U	50	13	ug/l	
75-34-3	1,1-Dichloroethane	17 U	50	17	ug/l	
107-06-2	1,2-Dichloroethane	16 U	50	16	ug/l	
75-35-4	1,1-Dichloroethylene	16 U	50	16	ug/l	
156-59-2	cis-1,2-Dichloroethylene	2390	50	14	ug/l	
156-60-5	trans-1,2-Dichloroethylene	11 U	50	11	ug/l	
78-87-5	1,2-Dichloropropane	21 U	50	21	ug/l	
10061-01-5	cis-1,3-Dichloropropene	15 U	50	15	ug/l	
10061-02-6	trans-1,3-Dichloropropene	11 U	50	11	ug/l	
100-41-4	Ethylbenzene	18 U	50	18	ug/l	
76-13-1	Freon 113	24 U	50	24	ug/l	
591-78-6	2-Hexanone	100 U	500	100	ug/l	
98-82-8	Isopropylbenzene	11 U	50	11	ug/l	
79-20-9	Methyl Acetate	250 U	1000	250	ug/l	
74-83-9	Methyl Bromide	100 U	250	100	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0795-025.0-20220818		
Lab Sample ID:	FA98259-11	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	25 U	100	25	ug/l	
108-87-2	Methylcyclohexane	22 U	50	22	ug/l	
75-09-2	Methylene Chloride	100 U	250	100	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	50 U	250	50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	11 U	50	11	ug/l	
100-42-5	Styrene	11 U	50	11	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	15 U	50	15	ug/l	
127-18-4	Tetrachloroethylene	11 U	50	11	ug/l	
108-88-3	Toluene	15 U	50	15	ug/l	
120-82-1	1,2,4-Trichlorobenzene	25 U	100	25	ug/l	
71-55-6	1,1,1-Trichloroethane	12 U	50	12	ug/l	
79-00-5	1,1,2-Trichloroethane	23 U	50	23	ug/l	
79-01-6	Trichloroethylene	17 U	50	17	ug/l	
75-69-4	Trichlorofluoromethane	25 U	100	25	ug/l	
75-01-4	Vinyl Chloride	1040	50	20	ug/l	
1330-20-7	Xylene (total)	36 U	150	36	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		83-118%
17060-07-0	1,2-Dichloroethane-D4	105%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

(a) Sample was not preserved to a pH < 2.

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range
I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0795-018.0-20220818		
Lab Sample ID:	FA98259-12	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	O70570.D	10	08/24/22 16:52	JL	n/a	n/a	VO2797
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	100 U	250	100	ug/l	
71-43-2	Benzene	3.1 U	10	3.1	ug/l	
75-27-4	Bromodichloromethane	2.4 U	10	2.4	ug/l	
75-25-2	Bromoform	4.1 U	10	4.1	ug/l	
78-93-3	2-Butanone (MEK)	20 U	50	20	ug/l	
75-15-0	Carbon Disulfide	5.3 U	20	5.3	ug/l	
56-23-5	Carbon Tetrachloride	3.6 U	10	3.6	ug/l	
108-90-7	Chlorobenzene	2.0 U	10	2.0	ug/l	
75-00-3	Chloroethane	6.7 U	20	6.7	ug/l	
67-66-3	Chloroform	3.0 U	10	3.0	ug/l	
110-82-7	Cyclohexane	3.9 U	10	3.9	ug/l	
124-48-1	Dibromochloromethane	2.8 U	10	2.8	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	10 U	50	10	ug/l	
106-93-4	1,2-Dibromoethane	2.8 U	20	2.8	ug/l	
75-71-8	Dichlorodifluoromethane	5.0 U	20	5.0	ug/l	
95-50-1	1,2-Dichlorobenzene	3.2 U	10	3.2	ug/l	
541-73-1	1,3-Dichlorobenzene	2.2 U	10	2.2	ug/l	
106-46-7	1,4-Dichlorobenzene	2.6 U	10	2.6	ug/l	
75-34-3	1,1-Dichloroethane	3.4 U	10	3.4	ug/l	
107-06-2	1,2-Dichloroethane	3.1 U	10	3.1	ug/l	
75-35-4	1,1-Dichloroethylene	3.2 U	10	3.2	ug/l	
156-59-2	cis-1,2-Dichloroethylene	631	10	2.8	ug/l	
156-60-5	trans-1,2-Dichloroethylene	2.2 U	10	2.2	ug/l	
78-87-5	1,2-Dichloropropane	4.3 U	10	4.3	ug/l	
10061-01-5	cis-1,3-Dichloropropene	2.9 U	10	2.9	ug/l	
10061-02-6	trans-1,3-Dichloropropene	2.1 U	10	2.1	ug/l	
100-41-4	Ethylbenzene	3.6 U	10	3.6	ug/l	
76-13-1	Freon 113	4.8 U	10	4.8	ug/l	
591-78-6	2-Hexanone	20 U	100	20	ug/l	
98-82-8	Isopropylbenzene	2.2 U	10	2.2	ug/l	
79-20-9	Methyl Acetate	50 U	200	50	ug/l	
74-83-9	Methyl Bromide	20 U	50	20	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0795-018.0-20220818		
Lab Sample ID:	FA98259-12	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	5.0 U	20	5.0	ug/l	
108-87-2	Methylcyclohexane	4.4 U	10	4.4	ug/l	
75-09-2	Methylene Chloride	20 U	50	20	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	50	10	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.3 U	10	2.3	ug/l	
100-42-5	Styrene	2.2 U	10	2.2	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	3.0 U	10	3.0	ug/l	
127-18-4	Tetrachloroethylene	2.2 U	10	2.2	ug/l	
108-88-3	Toluene	3.0 U	10	3.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	5.0 U	20	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	2.5 U	10	2.5	ug/l	
79-00-5	1,1,2-Trichloroethane	4.7 U	10	4.7	ug/l	
79-01-6	Trichloroethylene	3.5 U	10	3.5	ug/l	
75-69-4	Trichlorofluoromethane	5.0 U	20	5.0	ug/l	
75-01-4	Vinyl Chloride	497	10	4.1	ug/l	
1330-20-7	Xylene (total)	7.2 U	30	7.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

(a) Sample was not preserved to a pH < 2.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0795-013.0-20220818		
Lab Sample ID:	FA98259-13	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	O70566.D	1	08/24/22 15:12	JL	n/a	n/a	VO2797
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.0 U	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	0.53 U	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.32 U	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	26.9	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0795-013.0-20220818		
Lab Sample ID:	FA98259-13	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	25.7	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

(a) Sample was not preserved to a pH < 2.

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range
I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0787-034.0-20220818		
Lab Sample ID:	FA98259-14	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	O70567.D	1	08/24/22 15:37	JL	n/a	n/a	VO2797
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.0 U	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	1.1	2.0	0.53	ug/l	I
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.32 U	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	7.7	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0787-034.0-20220818		
Lab Sample ID:	FA98259-14	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	21.1	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		83-118%
17060-07-0	1,2-Dichloroethane-D4	100%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

(a) Sample was not preserved to a pH < 2.

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range
I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0787-025.0-20220818		
Lab Sample ID:	FA98259-15	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	O70571.D	20	08/24/22 17:18	JL	n/a	n/a	VO2797
Run #2	O70653.D	50	08/27/22 04:56	JL	n/a	n/a	VO2800

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	200 U	500	200	ug/l	
71-43-2	Benzene	6.2 U	20	6.2	ug/l	
75-27-4	Bromodichloromethane	4.8 U	20	4.8	ug/l	
75-25-2	Bromoform	8.1 U	20	8.1	ug/l	
78-93-3	2-Butanone (MEK)	40 U	100	40	ug/l	
75-15-0	Carbon Disulfide	11 U	40	11	ug/l	
56-23-5	Carbon Tetrachloride	7.1 U	20	7.1	ug/l	
108-90-7	Chlorobenzene	4.0 U	20	4.0	ug/l	
75-00-3	Chloroethane	13 U	40	13	ug/l	
67-66-3	Chloroform	6.0 U	20	6.0	ug/l	
110-82-7	Cyclohexane	7.8 U	20	7.8	ug/l	
124-48-1	Dibromochloromethane	5.5 U	20	5.5	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	21 U	100	21	ug/l	
106-93-4	1,2-Dibromoethane	5.5 U	40	5.5	ug/l	
75-71-8	Dichlorodifluoromethane	10 U	40	10	ug/l	
95-50-1	1,2-Dichlorobenzene	6.5 U	20	6.5	ug/l	
541-73-1	1,3-Dichlorobenzene	4.3 U	20	4.3	ug/l	
106-46-7	1,4-Dichlorobenzene	5.1 U	20	5.1	ug/l	
75-34-3	1,1-Dichloroethane	6.8 U	20	6.8	ug/l	
107-06-2	1,2-Dichloroethane	6.2 U	20	6.2	ug/l	
75-35-4	1,1-Dichloroethylene	6.4 U	20	6.4	ug/l	
156-59-2	cis-1,2-Dichloroethylene	1230	20	5.5	ug/l	
156-60-5	trans-1,2-Dichloroethylene	39.3	20	4.4	ug/l	
78-87-5	1,2-Dichloropropane	8.5 U	20	8.5	ug/l	
10061-01-5	cis-1,3-Dichloropropene	5.8 U	20	5.8	ug/l	
10061-02-6	trans-1,3-Dichloropropene	4.3 U	20	4.3	ug/l	
100-41-4	Ethylbenzene	7.1 U	20	7.1	ug/l	
76-13-1	Freon 113	9.6 U	20	9.6	ug/l	
591-78-6	2-Hexanone	40 U	200	40	ug/l	
98-82-8	Isopropylbenzene	4.4 U	20	4.4	ug/l	
79-20-9	Methyl Acetate	100 U	400	100	ug/l	
74-83-9	Methyl Bromide	40 U	100	40	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0787-025.0-20220818		
Lab Sample ID:	FA98259-15	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	10 U	40	10	ug/l	
108-87-2	Methylcyclohexane	8.7 U	20	8.7	ug/l	
75-09-2	Methylene Chloride	40 U	100	40	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	20 U	100	20	ug/l	
1634-04-4	Methyl Tert Butyl Ether	4.6 U	20	4.6	ug/l	
100-42-5	Styrene	4.4 U	20	4.4	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	6.0 U	20	6.0	ug/l	
127-18-4	Tetrachloroethylene	4.3 U	20	4.3	ug/l	
108-88-3	Toluene	6.0 U	20	6.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	10 U	40	10	ug/l	
71-55-6	1,1,1-Trichloroethane	5.0 U	20	5.0	ug/l	
79-00-5	1,1,2-Trichloroethane	9.3 U	20	9.3	ug/l	
79-01-6	Trichloroethylene	6.9 U	20	6.9	ug/l	
75-69-4	Trichlorofluoromethane	10 U	40	10	ug/l	
75-01-4	Vinyl Chloride	3920 [b]	50	20	ug/l	
1330-20-7	Xylene (total)	14 U	60	14	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%	93%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	99%	79-125%
2037-26-5	Toluene-D8	102%	101%	85-112%
460-00-4	4-Bromofluorobenzene	100%	99%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0787-018.0-20220818		
Lab Sample ID:	FA98259-16	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	O70572.D	20	08/24/22 17:42	JL	n/a	n/a	VO2797
Run #2	O70654.D	25	08/27/22 05:21	JL	n/a	n/a	VO2800

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	200 U	500	200	ug/l	
71-43-2	Benzene	6.2 U	20	6.2	ug/l	
75-27-4	Bromodichloromethane	4.8 U	20	4.8	ug/l	
75-25-2	Bromoform	8.1 U	20	8.1	ug/l	
78-93-3	2-Butanone (MEK)	40 U	100	40	ug/l	
75-15-0	Carbon Disulfide	11 U	40	11	ug/l	
56-23-5	Carbon Tetrachloride	7.1 U	20	7.1	ug/l	
108-90-7	Chlorobenzene	4.0 U	20	4.0	ug/l	
75-00-3	Chloroethane	13 U	40	13	ug/l	
67-66-3	Chloroform	6.0 U	20	6.0	ug/l	
110-82-7	Cyclohexane	7.8 U	20	7.8	ug/l	
124-48-1	Dibromochloromethane	5.5 U	20	5.5	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	21 U	100	21	ug/l	
106-93-4	1,2-Dibromoethane	5.5 U	40	5.5	ug/l	
75-71-8	Dichlorodifluoromethane	10 U	40	10	ug/l	
95-50-1	1,2-Dichlorobenzene	6.5 U	20	6.5	ug/l	
541-73-1	1,3-Dichlorobenzene	4.3 U	20	4.3	ug/l	
106-46-7	1,4-Dichlorobenzene	5.1 U	20	5.1	ug/l	
75-34-3	1,1-Dichloroethane	6.8 U	20	6.8	ug/l	
107-06-2	1,2-Dichloroethane	6.2 U	20	6.2	ug/l	
75-35-4	1,1-Dichloroethylene	6.4 U	20	6.4	ug/l	
156-59-2	cis-1,2-Dichloroethylene	973	20	5.5	ug/l	
156-60-5	trans-1,2-Dichloroethylene	6.4	20	4.4	ug/l	I
78-87-5	1,2-Dichloropropane	8.5 U	20	8.5	ug/l	
10061-01-5	cis-1,3-Dichloropropene	5.8 U	20	5.8	ug/l	
10061-02-6	trans-1,3-Dichloropropene	4.3 U	20	4.3	ug/l	
100-41-4	Ethylbenzene	7.1 U	20	7.1	ug/l	
76-13-1	Freon 113	9.6 U	20	9.6	ug/l	
591-78-6	2-Hexanone	40 U	200	40	ug/l	
98-82-8	Isopropylbenzene	4.4 U	20	4.4	ug/l	
79-20-9	Methyl Acetate	100 U	400	100	ug/l	
74-83-9	Methyl Bromide	40 U	100	40	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0787-018.0-20220818		
Lab Sample ID:	FA98259-16	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	10 U	40	10	ug/l	
108-87-2	Methylcyclohexane	8.7 U	20	8.7	ug/l	
75-09-2	Methylene Chloride	40 U	100	40	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	20 U	100	20	ug/l	
1634-04-4	Methyl Tert Butyl Ether	4.6 U	20	4.6	ug/l	
100-42-5	Styrene	4.4 U	20	4.4	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	6.0 U	20	6.0	ug/l	
127-18-4	Tetrachloroethylene	4.3 U	20	4.3	ug/l	
108-88-3	Toluene	6.0 U	20	6.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	10 U	40	10	ug/l	
71-55-6	1,1,1-Trichloroethane	5.0 U	20	5.0	ug/l	
79-00-5	1,1,2-Trichloroethane	9.3 U	20	9.3	ug/l	
79-01-6	Trichloroethylene	6.9 U	20	6.9	ug/l	
75-69-4	Trichlorofluoromethane	10 U	40	10	ug/l	
75-01-4	Vinyl Chloride	1960 [b]	25	10	ug/l	
1330-20-7	Xylene (total)	14 U	60	14	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	101%	79-125%
2037-26-5	Toluene-D8	101%	100%	85-112%
460-00-4	4-Bromofluorobenzene	100%	99%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0787-013.0-20220818		
Lab Sample ID:	FA98259-17	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	O70568.D	1	08/24/22 16:02	JL	n/a	n/a	VO2797
Run #2	O70655.D	5	08/27/22 05:46	JL	n/a	n/a	VO2800

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	10 U	25	10	ug/l	
71-43-2	Benzene	0.31 U	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	0.24 U	1.0	0.24	ug/l	
75-25-2	Bromoform	0.41 U	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	2.0 U	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	0.53 U	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.36 U	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	0.20 U	1.0	0.20	ug/l	
75-00-3	Chloroethane	0.67 U	2.0	0.67	ug/l	
67-66-3	Chloroform	0.30 U	1.0	0.30	ug/l	
110-82-7	Cyclohexane	0.39 U	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	0.28 U	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	0.28 U	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	0.50 U	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.32 U	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22 U	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.26 U	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.34 U	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.31 U	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.32 U	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	85.1	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.73	1.0	0.22	ug/l	I
78-87-5	1,2-Dichloropropane	0.43 U	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.29 U	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.21 U	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	0.36 U	1.0	0.36	ug/l	
76-13-1	Freon 113	0.48 U	1.0	0.48	ug/l	
591-78-6	2-Hexanone	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	0.22 U	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	5.0 U	20	5.0	ug/l	
74-83-9	Methyl Bromide	2.0 U	5.0	2.0	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0787-013.0-20220818		
Lab Sample ID:	FA98259-17	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	0.50 U	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.44 U	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	2.0 U	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.23 U	1.0	0.23	ug/l	
100-42-5	Styrene	0.22 U	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.30 U	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.22 U	1.0	0.22	ug/l	
108-88-3	Toluene	0.30 U	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.50 U	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.25 U	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.47 U	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	0.50 U	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	217 [b]	5.0	2.0	ug/l	
1330-20-7	Xylene (total)	0.72 U	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%	92%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	97%	79-125%
2037-26-5	Toluene-D8	101%	101%	85-112%
460-00-4	4-Bromofluorobenzene	101%	100%	83-118%

(a) Sample was not preserved to a pH < 2.
(b) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0784-034.0-20220818		
Lab Sample ID:	FA98259-18	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	O70573.D	10	08/24/22 18:07	JL	n/a	n/a	VO2797
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	100 U	250	100	ug/l	
71-43-2	Benzene	3.1 U	10	3.1	ug/l	
75-27-4	Bromodichloromethane	2.4 U	10	2.4	ug/l	
75-25-2	Bromoform	4.1 U	10	4.1	ug/l	
78-93-3	2-Butanone (MEK)	20 U	50	20	ug/l	
75-15-0	Carbon Disulfide	5.3 U	20	5.3	ug/l	
56-23-5	Carbon Tetrachloride	3.6 U	10	3.6	ug/l	
108-90-7	Chlorobenzene	2.0 U	10	2.0	ug/l	
75-00-3	Chloroethane	6.7 U	20	6.7	ug/l	
67-66-3	Chloroform	3.0 U	10	3.0	ug/l	
110-82-7	Cyclohexane	3.9 U	10	3.9	ug/l	
124-48-1	Dibromochloromethane	2.8 U	10	2.8	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	10 U	50	10	ug/l	
106-93-4	1,2-Dibromoethane	2.8 U	20	2.8	ug/l	
75-71-8	Dichlorodifluoromethane	5.0 U	20	5.0	ug/l	
95-50-1	1,2-Dichlorobenzene	3.2 U	10	3.2	ug/l	
541-73-1	1,3-Dichlorobenzene	2.2 U	10	2.2	ug/l	
106-46-7	1,4-Dichlorobenzene	2.6 U	10	2.6	ug/l	
75-34-3	1,1-Dichloroethane	3.4 U	10	3.4	ug/l	
107-06-2	1,2-Dichloroethane	3.1 U	10	3.1	ug/l	
75-35-4	1,1-Dichloroethylene	3.2 U	10	3.2	ug/l	
156-59-2	cis-1,2-Dichloroethylene	447	10	2.8	ug/l	
156-60-5	trans-1,2-Dichloroethylene	2.2 U	10	2.2	ug/l	
78-87-5	1,2-Dichloropropane	4.3 U	10	4.3	ug/l	
10061-01-5	cis-1,3-Dichloropropene	2.9 U	10	2.9	ug/l	
10061-02-6	trans-1,3-Dichloropropene	2.1 U	10	2.1	ug/l	
100-41-4	Ethylbenzene	3.6 U	10	3.6	ug/l	
76-13-1	Freon 113	4.8 U	10	4.8	ug/l	
591-78-6	2-Hexanone	20 U	100	20	ug/l	
98-82-8	Isopropylbenzene	2.2 U	10	2.2	ug/l	
79-20-9	Methyl Acetate	50 U	200	50	ug/l	
74-83-9	Methyl Bromide	20 U	50	20	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0784-034.0-20220818		
Lab Sample ID:	FA98259-18	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	5.0 U	20	5.0	ug/l	
108-87-2	Methylcyclohexane	4.4 U	10	4.4	ug/l	
75-09-2	Methylene Chloride	20 U	50	20	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	50	10	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.3 U	10	2.3	ug/l	
100-42-5	Styrene	2.2 U	10	2.2	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	3.0 U	10	3.0	ug/l	
127-18-4	Tetrachloroethylene	2.2 U	10	2.2	ug/l	
108-88-3	Toluene	3.0 U	10	3.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	5.0 U	20	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	2.5 U	10	2.5	ug/l	
79-00-5	1,1,2-Trichloroethane	4.7 U	10	4.7	ug/l	
79-01-6	Trichloroethylene	3.5 U	10	3.5	ug/l	
75-69-4	Trichlorofluoromethane	5.0 U	20	5.0	ug/l	
75-01-4	Vinyl Chloride	4.1 U	10	4.1	ug/l	
1330-20-7	Xylene (total)	7.2 U	30	7.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

(a) Sample was not preserved to a pH < 2.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0784-025.0-20220818		
Lab Sample ID:	FA98259-19	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	O70574.D	100	08/24/22 18:32	JL	n/a	n/a	VO2797
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	1000 U	2500	1000	ug/l	
71-43-2	Benzene	31 U	100	31	ug/l	
75-27-4	Bromodichloromethane	24 U	100	24	ug/l	
75-25-2	Bromoform	41 U	100	41	ug/l	
78-93-3	2-Butanone (MEK)	200 U	500	200	ug/l	
75-15-0	Carbon Disulfide	53 U	200	53	ug/l	
56-23-5	Carbon Tetrachloride	36 U	100	36	ug/l	
108-90-7	Chlorobenzene	20 U	100	20	ug/l	
75-00-3	Chloroethane	67 U	200	67	ug/l	
67-66-3	Chloroform	30 U	100	30	ug/l	
110-82-7	Cyclohexane	39 U	100	39	ug/l	
124-48-1	Dibromochloromethane	28 U	100	28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	100 U	500	100	ug/l	
106-93-4	1,2-Dibromoethane	28 U	200	28	ug/l	
75-71-8	Dichlorodifluoromethane	50 U	200	50	ug/l	
95-50-1	1,2-Dichlorobenzene	32 U	100	32	ug/l	
541-73-1	1,3-Dichlorobenzene	22 U	100	22	ug/l	
106-46-7	1,4-Dichlorobenzene	26 U	100	26	ug/l	
75-34-3	1,1-Dichloroethane	34 U	100	34	ug/l	
107-06-2	1,2-Dichloroethane	31 U	100	31	ug/l	
75-35-4	1,1-Dichloroethylene	32 U	100	32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	5010	100	28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	58.0	100	22	ug/l	I
78-87-5	1,2-Dichloropropane	43 U	100	43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	29 U	100	29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	21 U	100	21	ug/l	
100-41-4	Ethylbenzene	36 U	100	36	ug/l	
76-13-1	Freon 113	48 U	100	48	ug/l	
591-78-6	2-Hexanone	200 U	1000	200	ug/l	
98-82-8	Isopropylbenzene	22 U	100	22	ug/l	
79-20-9	Methyl Acetate	500 U	2000	500	ug/l	
74-83-9	Methyl Bromide	200 U	500	200	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0784-025.0-20220818		
Lab Sample ID:	FA98259-19	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	50 U	200	50	ug/l	
108-87-2	Methylcyclohexane	44 U	100	44	ug/l	
75-09-2	Methylene Chloride	200 U	500	200	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	100 U	500	100	ug/l	
1634-04-4	Methyl Tert Butyl Ether	23 U	100	23	ug/l	
100-42-5	Styrene	22 U	100	22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	30 U	100	30	ug/l	
127-18-4	Tetrachloroethylene	22 U	100	22	ug/l	
108-88-3	Toluene	30 U	100	30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	50 U	200	50	ug/l	
71-55-6	1,1,1-Trichloroethane	25 U	100	25	ug/l	
79-00-5	1,1,2-Trichloroethane	47 U	100	47	ug/l	
79-01-6	Trichloroethylene	35 U	100	35	ug/l	
75-69-4	Trichlorofluoromethane	50 U	200	50	ug/l	
75-01-4	Vinyl Chloride	2970	100	41	ug/l	
1330-20-7	Xylene (total)	72 U	300	72	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

(a) Sample was not preserved to a pH < 2.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0784-018.0-20220818		
Lab Sample ID:	FA98259-20	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	O70575.D	5	08/24/22 18:57	JL	n/a	n/a	VO2797
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	50 U	130	50	ug/l	
71-43-2	Benzene	1.6 U	5.0	1.6	ug/l	
75-27-4	Bromodichloromethane	1.2 U	5.0	1.2	ug/l	
75-25-2	Bromoform	2.0 U	5.0	2.0	ug/l	
78-93-3	2-Butanone (MEK)	10 U	25	10	ug/l	
75-15-0	Carbon Disulfide	2.7 U	10	2.7	ug/l	
56-23-5	Carbon Tetrachloride	1.8 U	5.0	1.8	ug/l	
108-90-7	Chlorobenzene	1.0 U	5.0	1.0	ug/l	
75-00-3	Chloroethane	3.3 U	10	3.3	ug/l	
67-66-3	Chloroform	1.5 U	5.0	1.5	ug/l	
110-82-7	Cyclohexane	2.0 U	5.0	2.0	ug/l	
124-48-1	Dibromochloromethane	1.4 U	5.0	1.4	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.2 U	25	5.2	ug/l	
106-93-4	1,2-Dibromoethane	1.4 U	10	1.4	ug/l	
75-71-8	Dichlorodifluoromethane	2.5 U	10	2.5	ug/l	
95-50-1	1,2-Dichlorobenzene	1.6 U	5.0	1.6	ug/l	
541-73-1	1,3-Dichlorobenzene	1.1 U	5.0	1.1	ug/l	
106-46-7	1,4-Dichlorobenzene	1.3 U	5.0	1.3	ug/l	
75-34-3	1,1-Dichloroethane	1.7 U	5.0	1.7	ug/l	
107-06-2	1,2-Dichloroethane	1.6 U	5.0	1.6	ug/l	
75-35-4	1,1-Dichloroethylene	1.6 U	5.0	1.6	ug/l	
156-59-2	cis-1,2-Dichloroethylene	348	5.0	1.4	ug/l	
156-60-5	trans-1,2-Dichloroethylene	2.0	5.0	1.1	ug/l	I
78-87-5	1,2-Dichloropropane	2.1 U	5.0	2.1	ug/l	
10061-01-5	cis-1,3-Dichloropropene	1.5 U	5.0	1.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	1.1 U	5.0	1.1	ug/l	
100-41-4	Ethylbenzene	1.8 U	5.0	1.8	ug/l	
76-13-1	Freon 113	2.4 U	5.0	2.4	ug/l	
591-78-6	2-Hexanone	10 U	50	10	ug/l	
98-82-8	Isopropylbenzene	1.1 U	5.0	1.1	ug/l	
79-20-9	Methyl Acetate	25 U	100	25	ug/l	
74-83-9	Methyl Bromide	10 U	25	10	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0784-018.0-20220818		
Lab Sample ID:	FA98259-20	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	2.5 U	10	2.5	ug/l	
108-87-2	Methylcyclohexane	2.2 U	5.0	2.2	ug/l	
75-09-2	Methylene Chloride	10 U	25	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	25	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.1 U	5.0	1.1	ug/l	
100-42-5	Styrene	1.1 U	5.0	1.1	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	1.5 U	5.0	1.5	ug/l	
127-18-4	Tetrachloroethylene	1.1 U	5.0	1.1	ug/l	
108-88-3	Toluene	1.5 U	5.0	1.5	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.5 U	10	2.5	ug/l	
71-55-6	1,1,1-Trichloroethane	1.2 U	5.0	1.2	ug/l	
79-00-5	1,1,2-Trichloroethane	2.3 U	5.0	2.3	ug/l	
79-01-6	Trichloroethylene	1.7 U	5.0	1.7	ug/l	
75-69-4	Trichlorofluoromethane	2.5 U	10	2.5	ug/l	
75-01-4	Vinyl Chloride	221	5.0	2.0	ug/l	
1330-20-7	Xylene (total)	3.6 U	15	3.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	100%		83-118%

(a) Sample was not preserved to a pH < 2.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0784-013.0-20220818		
Lab Sample ID:	FA98259-21	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	O70576.D	5	08/24/22 19:22	JL	n/a	n/a	VO2797
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
67-64-1	Acetone	50 U	130	50	ug/l	
71-43-2	Benzene	1.6 U	5.0	1.6	ug/l	
75-27-4	Bromodichloromethane	1.2 U	5.0	1.2	ug/l	
75-25-2	Bromoform	2.0 U	5.0	2.0	ug/l	
78-93-3	2-Butanone (MEK)	10 U	25	10	ug/l	
75-15-0	Carbon Disulfide	2.7 U	10	2.7	ug/l	
56-23-5	Carbon Tetrachloride	1.8 U	5.0	1.8	ug/l	
108-90-7	Chlorobenzene	1.0 U	5.0	1.0	ug/l	
75-00-3	Chloroethane	3.3 U	10	3.3	ug/l	
67-66-3	Chloroform	1.5 U	5.0	1.5	ug/l	
110-82-7	Cyclohexane	2.0 U	5.0	2.0	ug/l	
124-48-1	Dibromochloromethane	1.4 U	5.0	1.4	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.2 U	25	5.2	ug/l	
106-93-4	1,2-Dibromoethane	1.4 U	10	1.4	ug/l	
75-71-8	Dichlorodifluoromethane	2.5 U	10	2.5	ug/l	
95-50-1	1,2-Dichlorobenzene	1.6 U	5.0	1.6	ug/l	
541-73-1	1,3-Dichlorobenzene	1.1 U	5.0	1.1	ug/l	
106-46-7	1,4-Dichlorobenzene	1.3 U	5.0	1.3	ug/l	
75-34-3	1,1-Dichloroethane	1.7 U	5.0	1.7	ug/l	
107-06-2	1,2-Dichloroethane	1.6 U	5.0	1.6	ug/l	
75-35-4	1,1-Dichloroethylene	1.6 U	5.0	1.6	ug/l	
156-59-2	cis-1,2-Dichloroethylene	280	5.0	1.4	ug/l	
156-60-5	trans-1,2-Dichloroethylene	2.0	5.0	1.1	ug/l	I
78-87-5	1,2-Dichloropropane	2.1 U	5.0	2.1	ug/l	
10061-01-5	cis-1,3-Dichloropropene	1.5 U	5.0	1.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	1.1 U	5.0	1.1	ug/l	
100-41-4	Ethylbenzene	1.8 U	5.0	1.8	ug/l	
76-13-1	Freon 113	2.4 U	5.0	2.4	ug/l	
591-78-6	2-Hexanone	10 U	50	10	ug/l	
98-82-8	Isopropylbenzene	1.1 U	5.0	1.1	ug/l	
79-20-9	Methyl Acetate	25 U	100	25	ug/l	
74-83-9	Methyl Bromide	10 U	25	10	ug/l	

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LC34-DPT0784-013.0-20220818		
Lab Sample ID:	FA98259-21	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260D	**Percent Solids:**	n/a
Project:	KSC-LC34		

VOA TCL 4.2 List

CAS No.	Compound	Result	PQL	MDL	Units	Q
74-87-3	Methyl Chloride	2.5 U	10	2.5	ug/l	
108-87-2	Methylcyclohexane	2.2 U	5.0	2.2	ug/l	
75-09-2	Methylene Chloride	10 U	25	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	25	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.1 U	5.0	1.1	ug/l	
100-42-5	Styrene	1.1 U	5.0	1.1	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	1.5 U	5.0	1.5	ug/l	
127-18-4	Tetrachloroethylene	1.1 U	5.0	1.1	ug/l	
108-88-3	Toluene	1.5 U	5.0	1.5	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.5 U	10	2.5	ug/l	
71-55-6	1,1,1-Trichloroethane	1.2 U	5.0	1.2	ug/l	
79-00-5	1,1,2-Trichloroethane	2.3 U	5.0	2.3	ug/l	
79-01-6	Trichloroethylene	1.7 U	5.0	1.7	ug/l	
75-69-4	Trichlorofluoromethane	2.5 U	10	2.5	ug/l	
75-01-4	Vinyl Chloride	126	5.0	2.0	ug/l	
1330-20-7	Xylene (total)	3.6 U	15	3.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	100%		83-118%

(a) Sample was not preserved to a pH < 2.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 2277 FA98259 PAGE 1 OF 2

PROJECT NO: 112G08985	FACILITY: KSC-LC34	PROJECT MANAGER Mark Sonner	PHONE NUMBER (412) 921-8622	LABORATORY NAME AND CONTACT: SGS – Andrea Colby
SAMPLERS (SIGNATURE) – Chuck Sorden		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 4405 Vineland Rd. Ste. C-15
		CARRIER/WAYBILL NUMBER		CITY, STATE Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

	DATE (YEAR 2022)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: V624D TCL 42	TYPE OF ANALYSIS: V624D TCL 42 T	COMMENTS
										G	G			
											HCl/4°C	4°C		
1	08/18	0720	LC34-DPT0801-034.0-20220818	DPT801	32	36	GW	G	4	X	X			
2	1	0735	LC34-DPT0804-025.0-20220818	1	23	27	1	1	1	1	1			
3		0750	LC34-DPT0801-018.0-20220818	↓	16	20								
4		0805	LC34-DPT0801-013.0-20220818	DPT801	11	15								
5		0855	LC34-DPT0464-034.0-20220818	DPT464	32	36								
6		0910	LC34-DPT0464-025.0-20220818	DPT464	23	27								
7		0915	LC34-IW0162-~~0~~ 10.0 -20220818	GW162	105	115								
8		0925	LC34-DPT0464-018.0-20220818	DPT464	16	20								
9		0940	LC34-DPT0464-013.0-20220818	DPT464	11	15								
10		1025 ~~0955~~	LC34-DPT0795 -034.0-20220818	DPT795	32	36								
11		1040	LC34-DPT0795-025.0-20220818	1	23	27								
12		1100 ~~1035~~	LC34-DPT0795-018.0-20220818	↓	16	20								
13	08/18	1115	LC34-DPT0795-013.0-20220818	DPT795	11	15	GW	G	4	X	X			

FINAL ASSESSMENT SM

VERIFICATION ZB 3.8 CAM

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	08/18/22	1615	1. RECEIVED BY	8/18/22	16:15
2. RELINQUISHED BY	8/18/22	17:30	2. RECEIVED BY Delgado	8/19/22	940
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

FA98259: Chain of Custody
Page 1 of 3

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2278 FA98259 PAGE 2 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08985	KSC-LC34	Mark Jonnet	(412) 921-8622	SGS – Andrea Colby
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
[signature] – Chuck Sorden		Chuck Sorden	(321) 591-7580	4405 Vineland Rd. Ste. C-15
		CARRIER/WAYBILL NUMBER		CITY, STATE
				Orlando, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G G
PRESERVATIVE USED: HCl/4°C 4°C

	DATE YEAR 2022	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS V8260TCL 42	V8260TCL 42 +	COMMENTS
14	08/18	1205	LC34-DPT0787-034.0-20220818	DPT787	32	36	GW	G	4	X	X	
15	↑	1245	LC34-DPT0787-025.0-20220818	↑	23	27	↑	↑	↑	↑	↑	
16		1300	LC34-DPT0787-018.0-20220818	↓	16	20						
17		1315	LC34-DPT0787-013.0-20220818	DPT787	11	15						
18		1355	LC34-DPT0784-034.0-20220818	DPT784	32	36						
19		1410	LC34-DPT0784-025.0-20220818	↑	23	27						
20	↓	1425	LC34-DPT0784-018.0-20220818	↓	16	20	↓	↓	↓	↓	↓	
21	08/18	1440	LC34-DPT0784-013.0-20220818	DPT784	11	15	GW	G	4	X	X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY [signature]	08/18/22	1615	1. RECEIVED BY [signature]	8/18/22	16:15
2. RELINQUISHED BY [signature]	8/18/22	17:30	2. RECEIVED BY [signature]	8/19/22	910
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 4/02R
FORM NO. TtNUS-001

5.1
5

FA98259: Chain of Custody
Page 2 of 3

SGS Sample Receipt Summary

Job Number: FA98259 **Client:** TETRA TECH, INC. **Project:** 112G8985

Date / Time Received: 8/18/2022 5:30:00 PM **Delivery Method:** COURIER **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** 0.6; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.8);

Cooler Temps (Corrected) °C: Cooler 1: (4.4);

Cooler Information	Y	N
1. Custody Seals Present	☑	☐
2. Custody Seals Intact	☑	☐
3. Temp criteria achieved	☑	☐
4. Cooler temp verification	IR Gun	
5. Cooler media	Ice (Bag)	

Trip Blank Information	Y	N	N/A
1. Trip Blank present / cooler	☐	☐	☑
2. Trip Blank listed on COC	☐	☐	☑

	W	S	N/A
3. Type Of TB Received	☐	☐	☑

Sample Information	Y	N	N/A
1. Sample labels present on bottles	☑	☐	
2. Samples preserved properly	☑	☐	
3. Sufficient volume/containers recvd for analysis:	☑	☐	
4. Condition of sample	Intact		
5. Sample recvd within HT	☑	☐	
6. Dates/Times/IDs on COC match Sample Label	☑	☐	
7. VOCs have headspace	☐	☑	☐
8. Bottles received for unspecified tests	☐	☑	
9. Compositing instructions clear	☐	☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐	☐	☑
11. % Solids Jar received?	☐	☐	☑
12. Residual Chlorine Present?	☐	☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: CARLOSD Date: 8/18/2022 5:30:00 PM Reviewer: _____ Date: _____

FA98259: Chain of Custody
Page 3 of 3

MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1535-MB	5E33582.D	1	08/23/22	JL	n/a	n/a	V5E1535

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-1, FA98259-3, FA98259-4, FA98259-6, FA98259-7, FA98259-8, FA98259-9, FA98259-10

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
110-82-7	Cyclohexane	ND	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
76-13-1	Freon 113	ND	1.0	0.48	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	ND	20	5.0	ug/l	
74-83-9	Methyl Bromide	ND	5.0	2.0	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	ND	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1535-MB	5E33582.D	1	08/23/22	JL	n/a	n/a	V5E1535

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-1, FA98259-3, FA98259-4, FA98259-6, FA98259-7, FA98259-8, FA98259-9, FA98259-10

CAS No.	Compound	Result	RL	MDL	Units	Q
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	0.80	1.0	0.30	ug/l	J
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	79-125%
2037-26-5	Toluene-D8	100%	85-112%
460-00-4	4-Bromofluorobenzene	102%	83-118%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
124-38-9	Carbon dioxide	2.57	67	ug/l	JN
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO2797-MB [a]	O70556.D	1	08/24/22	JL	n/a	n/a	VO2797

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-11, FA98259-12, FA98259-13, FA98259-14, FA98259-15, FA98259-16, FA98259-17, FA98259-18, FA98259-19, FA98259-20, FA98259-21

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
110-82-7	Cyclohexane	ND	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
76-13-1	Freon 113	ND	1.0	0.48	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	ND	20	5.0	ug/l	
74-83-9	Methyl Bromide	ND	5.0	2.0	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	ND	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO2797-MB [a]	O70556.D	1	08/24/22	JL	n/a	n/a	VO2797

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-11, FA98259-12, FA98259-13, FA98259-14, FA98259-15, FA98259-16, FA98259-17, FA98259-18, FA98259-19, FA98259-20, FA98259-21

CAS No.	Compound	Result	RL	MDL	Units	Q
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	79-125%
2037-26-5	Toluene-D8	102%	85-112%
460-00-4	4-Bromofluorobenzene	102%	83-118%

(a) Sample was treated with an anti-foaming agent.

Method Blank Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2663-MB	Y64232.D	1	08/25/22	JL	n/a	n/a	VY2663

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-2, FA98259-3, FA98259-4, FA98259-9, FA98259-10

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
110-82-7	Cyclohexane	ND	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
76-13-1	Freon 113	ND	1.0	0.48	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	ND	20	5.0	ug/l	
74-83-9	Methyl Bromide	ND	5.0	2.0	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	ND	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2663-MB	Y64232.D	1	08/25/22	JL	n/a	n/a	VY2663

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-2, FA98259-3, FA98259-4, FA98259-9, FA98259-10

CAS No.	Compound	Result	RL	MDL	Units	Q
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	79-125%
2037-26-5	Toluene-D8	97%	85-112%
460-00-4	4-Bromofluorobenzene	96%	83-118%

Method Blank Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO2800-MB	O70640.D	1	08/26/22	JL	n/a	n/a	VO2800

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-15, FA98259-16, FA98259-17

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	79-125%
2037-26-5	Toluene-D8	101%	85-112%
460-00-4	4-Bromofluorobenzene	101%	83-118%

Method Blank Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1543-MB	5E33788.D	1	08/27/22	AL	n/a	n/a	V5E1543

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-5

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
110-82-7	Cyclohexane	ND	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
76-13-1	Freon 113	ND	1.0	0.48	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	ND	20	5.0	ug/l	
74-83-9	Methyl Bromide	ND	5.0	2.0	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	ND	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1543-MB	5E33788.D	1	08/27/22	AL	n/a	n/a	V5E1543

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-5

CAS No.	Compound	Result	RL	MDL	Units	Q
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.72	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	103%	79-125%
2037-26-5	Toluene-D8	97%	85-112%
460-00-4	4-Bromofluorobenzene	104%	83-118%

Blank Spike Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1535-BS	5E33579.D	1	08/23/22	JL	n/a	n/a	V5E1535

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-1, FA98259-3, FA98259-4, FA98259-6, FA98259-7, FA98259-8, FA98259-9, FA98259-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	133	106	50-147
71-43-2	Benzene	25	24.0	96	81-122
75-27-4	Bromodichloromethane	25	24.0	96	79-123
75-25-2	Bromoform	25	22.7	91	66-123
78-93-3	2-Butanone (MEK)	125	125	100	56-143
75-15-0	Carbon Disulfide	25	22.1	88	66-148
56-23-5	Carbon Tetrachloride	25	25.7	103	76-136
108-90-7	Chlorobenzene	25	23.3	93	82-124
75-00-3	Chloroethane	25	21.6	86	62-144
67-66-3	Chloroform	25	23.2	93	80-124
110-82-7	Cyclohexane	25	28.6	114	73-138
124-48-1	Dibromochloromethane	25	22.4	90	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	21.5	86	64-123
106-93-4	1,2-Dibromoethane	25	23.2	93	75-120
75-71-8	Dichlorodifluoromethane	25	22.8	91	42-167
95-50-1	1,2-Dichlorobenzene	25	23.7	95	82-124
541-73-1	1,3-Dichlorobenzene	25	23.9	96	84-125
106-46-7	1,4-Dichlorobenzene	25	23.9	96	78-120
75-34-3	1,1-Dichloroethane	25	25.2	101	81-122
107-06-2	1,2-Dichloroethane	25	22.6	90	75-125
75-35-4	1,1-Dichloroethylene	25	26.8	107	78-137
156-59-2	cis-1,2-Dichloroethylene	25	24.4	98	78-120
156-60-5	trans-1,2-Dichloroethylene	25	25.4	102	76-127
78-87-5	1,2-Dichloropropane	25	22.5	90	76-124
10061-01-5	cis-1,3-Dichloropropene	25	23.2	93	75-118
10061-02-6	trans-1,3-Dichloropropene	25	23.6	94	80-120
100-41-4	Ethylbenzene	25	23.5	94	81-121
76-13-1	Freon 113	25	28.8	115	72-134
591-78-6	2-Hexanone	125	127	102	61-129
98-82-8	Isopropylbenzene	25	24.8	99	83-132
79-20-9	Methyl Acetate	125	118	94	65-126
74-83-9	Methyl Bromide	25	40.4	162*	59-143
74-87-3	Methyl Chloride	25	24.5	98	50-159
108-87-2	Methylcyclohexane	25	28.0	112	76-129
75-09-2	Methylene Chloride	25	18.7	75	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	125	122	98	66-122

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1535-BS	5E33579.D	1	08/23/22	JL	n/a	n/a	V5E1535

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-1, FA98259-3, FA98259-4, FA98259-6, FA98259-7, FA98259-8, FA98259-9, FA98259-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
1634-04-4	Methyl Tert Butyl Ether	25	27.1	108	72-117
100-42-5	Styrene	25	23.6	94	78-119
79-34-5	1,1,2,2-Tetrachloroethane	25	22.8	91	72-120
127-18-4	Tetrachloroethylene	25	24.7	99	76-135
108-88-3	Toluene	25	24.9	100	80-120
120-82-1	1,2,4-Trichlorobenzene	25	23.8	95	73-129
71-55-6	1,1,1-Trichloroethane	25	24.6	98	75-130
79-00-5	1,1,2-Trichloroethane	25	22.1	88	76-119
79-01-6	Trichloroethylene	25	24.8	99	81-126
75-69-4	Trichlorofluoromethane	25	27.9	112	71-156
75-01-4	Vinyl Chloride	25	25.3	101	69-159
1330-20-7	Xylene (total)	75	73.2	98	80-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	97%	79-125%
2037-26-5	Toluene-D8	102%	85-112%
460-00-4	4-Bromofluorobenzene	103%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO2797-BS	O70554.D	1	08/24/22	JL	n/a	n/a	VO2797

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-11, FA98259-12, FA98259-13, FA98259-14, FA98259-15, FA98259-16, FA98259-17, FA98259-18, FA98259-19, FA98259-20, FA98259-21

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	126	101	50-147
71-43-2	Benzene	25	24.9	100	81-122
75-27-4	Bromodichloromethane	25	25.3	101	79-123
75-25-2	Bromoform	25	25.9	104	66-123
78-93-3	2-Butanone (MEK)	125	119	95	56-143
75-15-0	Carbon Disulfide	25	25.0	100	66-148
56-23-5	Carbon Tetrachloride	25	27.7	111	76-136
108-90-7	Chlorobenzene	25	24.7	99	82-124
75-00-3	Chloroethane	25	21.1	84	62-144
67-66-3	Chloroform	25	24.8	99	80-124
110-82-7	Cyclohexane	25	29.0	116	73-138
124-48-1	Dibromochloromethane	25	24.1	96	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	22.7	91	64-123
106-93-4	1,2-Dibromoethane	25	24.3	97	75-120
75-71-8	Dichlorodifluoromethane	25	19.5	78	42-167
95-50-1	1,2-Dichlorobenzene	25	24.7	99	82-124
541-73-1	1,3-Dichlorobenzene	25	25.1	100	84-125
106-46-7	1,4-Dichlorobenzene	25	25.5	102	78-120
75-34-3	1,1-Dichloroethane	25	26.9	108	81-122
107-06-2	1,2-Dichloroethane	25	24.1	96	75-125
75-35-4	1,1-Dichloroethylene	25	28.2	113	78-137
156-59-2	cis-1,2-Dichloroethylene	25	26.8	107	78-120
156-60-5	trans-1,2-Dichloroethylene	25	26.2	105	76-127
78-87-5	1,2-Dichloropropane	25	24.1	96	76-124
10061-01-5	cis-1,3-Dichloropropene	25	25.1	100	75-118
10061-02-6	trans-1,3-Dichloropropene	25	27.5	110	80-120
100-41-4	Ethylbenzene	25	24.9	100	81-121
76-13-1	Freon 113	25	30.2	121	72-134
591-78-6	2-Hexanone	125	119	95	61-129
98-82-8	Isopropylbenzene	25	26.9	108	83-132
79-20-9	Methyl Acetate	125	121	97	65-126
74-83-9	Methyl Bromide	25	23.5	94	59-143
74-87-3	Methyl Chloride	25	21.1	84	50-159
108-87-2	Methylcyclohexane	25	32.1	128	76-129
75-09-2	Methylene Chloride	25	25.0	100	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	125	115	92	66-122

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO2797-BS	O70554.D	1	08/24/22	JL	n/a	n/a	VO2797

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-11, FA98259-12, FA98259-13, FA98259-14, FA98259-15, FA98259-16, FA98259-17, FA98259-18, FA98259-19, FA98259-20, FA98259-21

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
1634-04-4	Methyl Tert Butyl Ether	25	28.8	115	72-117
100-42-5	Styrene	25	26.2	105	78-119
79-34-5	1,1,2,2-Tetrachloroethane	25	23.5	94	72-120
127-18-4	Tetrachloroethylene	25	26.5	106	76-135
108-88-3	Toluene	25	25.3	101	80-120
120-82-1	1,2,4-Trichlorobenzene	25	24.5	98	73-129
71-55-6	1,1,1-Trichloroethane	25	26.9	108	75-130
79-00-5	1,1,2-Trichloroethane	25	24.5	98	76-119
79-01-6	Trichloroethylene	25	26.7	107	81-126
75-69-4	Trichlorofluoromethane	25	23.2	93	71-156
75-01-4	Vinyl Chloride	25	21.9	88	69-159
1330-20-7	Xylene (total)	75	76.9	103	80-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	101%	85-112%
460-00-4	4-Bromofluorobenzene	101%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2663-BS	Y64252.D	1	08/25/22	JL	n/a	n/a	VY2663

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-2, FA98259-3, FA98259-4, FA98259-9, FA98259-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	119	95	50-147
71-43-2	Benzene	25	27.4	110	81-122
75-27-4	Bromodichloromethane	25	25.2	101	79-123
75-25-2	Bromoform	25	19.8	79	66-123
78-93-3	2-Butanone (MEK)	125	124	99	56-143
75-15-0	Carbon Disulfide	25	22.4	90	66-148
56-23-5	Carbon Tetrachloride	25	27.3	109	76-136
108-90-7	Chlorobenzene	25	26.1	104	82-124
75-00-3	Chloroethane	25	32.8	131	62-144
67-66-3	Chloroform	25	27.5	110	80-124
110-82-7	Cyclohexane	25	29.1	116	73-138
124-48-1	Dibromochloromethane	25	22.1	88	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	18.6	74	64-123
106-93-4	1,2-Dibromoethane	25	24.3	97	75-120
75-71-8	Dichlorodifluoromethane	25	15.7	63	42-167
95-50-1	1,2-Dichlorobenzene	25	25.8	103	82-124
541-73-1	1,3-Dichlorobenzene	25	26.3	105	84-125
106-46-7	1,4-Dichlorobenzene	25	25.9	104	78-120
75-34-3	1,1-Dichloroethane	25	28.1	112	81-122
107-06-2	1,2-Dichloroethane	25	26.4	106	75-125
75-35-4	1,1-Dichloroethylene	25	29.1	116	78-137
156-59-2	cis-1,2-Dichloroethylene	25	26.7	107	78-120
156-60-5	trans-1,2-Dichloroethylene	25	26.5	106	76-127
78-87-5	1,2-Dichloropropane	25	24.9	100	76-124
10061-01-5	cis-1,3-Dichloropropene	25	24.2	97	75-118
10061-02-6	trans-1,3-Dichloropropene	25	24.3	97	80-120
100-41-4	Ethylbenzene	25	25.6	102	81-121
76-13-1	Freon 113	25	29.5	118	72-134
591-78-6	2-Hexanone	125	112	90	61-129
98-82-8	Isopropylbenzene	25	26.8	107	83-132
79-20-9	Methyl Acetate	125	127	102	65-126
74-83-9	Methyl Bromide	25	8.1	32*	59-143
74-87-3	Methyl Chloride	25	17.4	70	50-159
108-87-2	Methylcyclohexane	25	29.0	116	76-129
75-09-2	Methylene Chloride	25	25.2	101	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	125	118	94	66-122

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2663-BS	Y64252.D	1	08/25/22	JL	n/a	n/a	VY2663

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-2, FA98259-3, FA98259-4, FA98259-9, FA98259-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
1634-04-4	Methyl Tert Butyl Ether	25	32.0	128*	72-117
100-42-5	Styrene	25	23.9	96	78-119
79-34-5	1,1,2,2-Tetrachloroethane	25	24.3	97	72-120
127-18-4	Tetrachloroethylene	25	28.3	113	76-135
108-88-3	Toluene	25	26.4	106	80-120
120-82-1	1,2,4-Trichlorobenzene	25	23.1	92	73-129
71-55-6	1,1,1-Trichloroethane	25	28.5	114	75-130
79-00-5	1,1,2-Trichloroethane	25	26.5	106	76-119
79-01-6	Trichloroethylene	25	27.9	112	81-126
75-69-4	Trichlorofluoromethane	25	23.4	94	71-156
75-01-4	Vinyl Chloride	25	19.5	78	69-159
1330-20-7	Xylene (total)	75	76.8	102	80-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	96%	85-112%
460-00-4	4-Bromofluorobenzene	95%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO2800-BS	O70638.D	1	08/26/22	JL	n/a	n/a	VO2800

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-15, FA98259-16, FA98259-17

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-01-4	Vinyl Chloride	25	24.0	96	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	79-125%
2037-26-5	Toluene-D8	98%	85-112%
460-00-4	4-Bromofluorobenzene	99%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1543-BS	5E33785.D	1	08/27/22	AL	n/a	n/a	V5E1543

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	129	103	50-147
71-43-2	Benzene	25	22.5	90	81-122
75-27-4	Bromodichloromethane	25	22.6	90	79-123
75-25-2	Bromoform	25	20.6	82	66-123
78-93-3	2-Butanone (MEK)	125	122	98	56-143
75-15-0	Carbon Disulfide	25	18.4	74	66-148
56-23-5	Carbon Tetrachloride	25	23.7	95	76-136
108-90-7	Chlorobenzene	25	21.3	85	82-124
75-00-3	Chloroethane	25	20.9	84	62-144
67-66-3	Chloroform	25	22.3	89	80-124
110-82-7	Cyclohexane	25	24.3	97	73-138
124-48-1	Dibromochloromethane	25	21.0	84	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	19.6	78	64-123
106-93-4	1,2-Dibromoethane	25	21.8	87	75-120
75-71-8	Dichlorodifluoromethane	25	14.8	59	42-167
95-50-1	1,2-Dichlorobenzene	25	21.4	86	82-124
541-73-1	1,3-Dichlorobenzene	25	21.6	86	84-125
106-46-7	1,4-Dichlorobenzene	25	21.3	85	78-120
75-34-3	1,1-Dichloroethane	25	23.5	94	81-122
107-06-2	1,2-Dichloroethane	25	22.4	90	75-125
75-35-4	1,1-Dichloroethylene	25	23.1	92	78-137
156-59-2	cis-1,2-Dichloroethylene	25	23.1	92	78-120
156-60-5	trans-1,2-Dichloroethylene	25	23.4	94	76-127
78-87-5	1,2-Dichloropropane	25	21.9	88	76-124
10061-01-5	cis-1,3-Dichloropropene	25	21.1	84	75-118
10061-02-6	trans-1,3-Dichloropropene	25	21.3	85	80-120
100-41-4	Ethylbenzene	25	21.5	86	81-121
76-13-1	Freon 113	25	23.2	93	72-134
591-78-6	2-Hexanone	125	123	98	61-129
98-82-8	Isopropylbenzene	25	21.8	87	83-132
79-20-9	Methyl Acetate	125	120	96	65-126
74-83-9	Methyl Bromide	25	29.6	118	59-143
74-87-3	Methyl Chloride	25	21.0	84	50-159
108-87-2	Methylcyclohexane	25	23.5	94	76-129
75-09-2	Methylene Chloride	25	20.8	83	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	125	119	95	66-122

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1543-BS	5E33785.D	1	08/27/22	AL	n/a	n/a	V5E1543

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
1634-04-4	Methyl Tert Butyl Ether	25	25.9	104	72-117
100-42-5	Styrene	25	21.4	86	78-119
79-34-5	1,1,2,2-Tetrachloroethane	25	21.7	87	72-120
127-18-4	Tetrachloroethylene	25	25.2	101	76-135
108-88-3	Toluene	25	21.7	87	80-120
120-82-1	1,2,4-Trichlorobenzene	25	19.9	80	73-129
71-55-6	1,1,1-Trichloroethane	25	22.9	92	75-130
79-00-5	1,1,2-Trichloroethane	25	21.1	84	76-119
79-01-6	Trichloroethylene	25	23.2	93	81-126
75-69-4	Trichlorofluoromethane	25	27.6	110	71-156
75-01-4	Vinyl Chloride	25	22.6	90	69-159
1330-20-7	Xylene (total)	75	65.0	87	80-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	99%	85-112%
460-00-4	4-Bromofluorobenzene	101%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98258-1MS	5E33603.D	10	08/23/22	JL	n/a	n/a	V5E1535
FA98258-1MSD	5E33604.D	10	08/23/22	JL	n/a	n/a	V5E1535
FA98258-1	5E33595.D	10	08/23/22	JL	n/a	n/a	V5E1535

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-1, FA98259-3, FA98259-4, FA98259-6, FA98259-7, FA98259-8, FA98259-9, FA98259-10

CAS No.	Compound	FA98258-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		1250	1250	100	1250	1260	101	1	50-147/21
71-43-2	Benzene	416		250	679	105	250	656	96	3	81-122/14
75-27-4	Bromodichloromethane	ND		250	258	103	250	246	98	5	79-123/19
75-25-2	Bromoform	ND		250	250	100	250	234	94	7	66-123/21
78-93-3	2-Butanone (MEK)	24.3	J	1250	1230	96	1250	1220	96	1	56-143/18
75-15-0	Carbon Disulfide	ND		250	225	90	250	223	89	1	66-148/23
56-23-5	Carbon Tetrachloride	ND		250	272	109	250	262	105	4	76-136/23
108-90-7	Chlorobenzene	ND		250	250	100	250	242	97	3	82-124/14
75-00-3	Chloroethane	ND		250	251	100	250	229	92	9	62-144/20
67-66-3	Chloroform	ND		250	250	100	250	242	97	3	80-124/15
110-82-7	Cyclohexane	10.5		250	302	117	250	297	115	2	73-138/18
124-48-1	Dibromochloromethane	ND		250	234	94	250	225	90	4	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	ND		250	260	104	250	257	103	1	64-123/18
106-93-4	1,2-Dibromoethane	ND		250	247	99	250	237	95	4	75-120/13
75-71-8	Dichlorodifluoromethane	ND		250	240	96	250	221	88	8	42-167/19
95-50-1	1,2-Dichlorobenzene	ND		250	252	101	250	247	99	2	82-124/14
541-73-1	1,3-Dichlorobenzene	ND		250	258	103	250	250	100	3	84-125/14
106-46-7	1,4-Dichlorobenzene	ND		250	250	100	250	245	98	2	78-120/15
75-34-3	1,1-Dichloroethane	ND		250	264	106	250	258	103	2	81-122/15
107-06-2	1,2-Dichloroethane	7.1	J	250	253	98	250	241	94	5	75-125/14
75-35-4	1,1-Dichloroethylene	ND		250	277	111	250	275	110	1	78-137/18
156-59-2	cis-1,2-Dichloroethylene	ND		250	259	104	250	253	101	2	78-120/15
156-60-5	trans-1,2-Dichloroethylene	ND		250	258	103	250	258	103	0	76-127/17
78-87-5	1,2-Dichloropropane	ND		250	248	99	250	233	93	6	76-124/14
10061-01-5	cis-1,3-Dichloropropene	ND		250	240	96	250	233	93	3	75-118/23
10061-02-6	trans-1,3-Dichloropropene	ND		250	247	99	250	237	95	4	80-120/22
100-41-4	Ethylbenzene	227		250	487	104	250	467	96	4	81-121/14
76-13-1	Freon 113	ND		250	287	115	250	287	115	0	72-134/20
591-78-6	2-Hexanone	ND		1250	1270	102	1250	1250	100	2	61-129/18
98-82-8	Isopropylbenzene	26.1		250	295	108	250	283	103	4	83-132/15
79-20-9	Methyl Acetate	ND		1250	1210	97	1250	1200	96	1	65-126/18
74-83-9	Methyl Bromide	ND		250	324	130	250	355	142	9	59-143/19
74-87-3	Methyl Chloride	ND		250	261	104	250	241	96	8	50-159/19
108-87-2	Methylcyclohexane	19.1		250	311	117	250	297	111	5	76-129/17
75-09-2	Methylene Chloride	ND		250	183	73	250	179	72	2	69-135/16
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		1250	1220	98	1250	1220	98	0	66-122/16

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98258-1MS	5E33603.D	10	08/23/22	JL	n/a	n/a	V5E1535
FA98258-1MSD	5E33604.D	10	08/23/22	JL	n/a	n/a	V5E1535
FA98258-1	5E33595.D	10	08/23/22	JL	n/a	n/a	V5E1535

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-1, FA98259-3, FA98259-4, FA98259-6, FA98259-7, FA98259-8, FA98259-9, FA98259-10

CAS No.	Compound	FA98258-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
1634-04-4	Methyl Tert Butyl Ether	67.5		250	357	116	250	354	115	1	72-117/14
100-42-5	Styrene	ND		250	258	103	250	248	99	4	78-119/23
79-34-5	1,1,2,2-Tetrachloroethane	31.7		250	276	98	250	275	97	0	72-120/14
127-18-4	Tetrachloroethylene	ND		250	258	103	250	252	101	2	76-135/16
108-88-3	Toluene	801	B	250	1060	104	250	1030	92	3	80-120/14
120-82-1	1,2,4-Trichlorobenzene	ND		250	255	102	250	245	98	4	73-129/20
71-55-6	1,1,1-Trichloroethane	ND		250	263	105	250	255	102	3	75-130/16
79-00-5	1,1,2-Trichloroethane	ND		250	247	99	250	237	95	4	76-119/14
79-01-6	Trichloroethylene	ND		250	268	107	250	252	101	6	81-126/15
75-69-4	Trichlorofluoromethane	ND		250	303	121	250	275	110	10	71-156/21
75-01-4	Vinyl Chloride	ND		250	279	112	250	256	102	9	69-159/18
1330-20-7	Xylene (total)	3940	E	750	4840	120	750	4670	97	4	80-126/15

CAS No.	Surrogate Recoveries	MS	MSD	FA98258-1	Limits
1868-53-7	Dibromofluoromethane	98%	100%	99%	83-118%
17060-07-0	1,2-Dichloroethane-D4	97%	95%	100%	79-125%
2037-26-5	Toluene-D8	100%	100%	100%	85-112%
460-00-4	4-Bromofluorobenzene	103%	103%	102%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98287-3MS	O70577.D	1	08/24/22	JL	n/a	n/a	VO2797
FA98287-3MSD	O70578.D	1	08/24/22	JL	n/a	n/a	VO2797
FA98287-3 [a]	O70562.D	1	08/24/22	JL	n/a	n/a	VO2797

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-11, FA98259-12, FA98259-13, FA98259-14, FA98259-15, FA98259-16, FA98259-17, FA98259-18, FA98259-19, FA98259-20, FA98259-21

CAS No.	Compound	FA98287-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	25	U	125	128	102	125	130	104	2	50-147/21
71-43-2	Benzene	1.0	U	25	23.9	96	25	23.3	93	3	81-122/14
75-27-4	Bromodichloromethane	1.0	U	25	23.7	95	25	23.3	93	2	79-123/19
75-25-2	Bromoform	1.0	U	25	22.1	88	25	22.7	91	3	66-123/21
78-93-3	2-Butanone (MEK)	5.0	U	125	119	95	125	124	99	4	56-143/18
75-15-0	Carbon Disulfide	2.0	U	25	23.1	92	25	22.7	91	2	66-148/23
56-23-5	Carbon Tetrachloride	1.0	U	25	25.0	100	25	24.2	97	3	76-136/23
108-90-7	Chlorobenzene	1.0	U	25	23.4	94	25	23.0	92	2	82-124/14
75-00-3	Chloroethane	2.0	U	25	23.2	93	25	23.4	94	1	62-144/20
67-66-3	Chloroform	1.0	U	25	23.5	94	25	23.1	92	2	80-124/15
110-82-7	Cyclohexane	1.0	U	25	27.3	109	25	26.8	107	2	73-138/18
124-48-1	Dibromochloromethane	1.0	U	25	21.5	86	25	21.8	87	1	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	5.0	U	25	19.7	79	25	20.6	82	4	64-123/18
106-93-4	1,2-Dibromoethane	2.0	U	25	22.1	88	25	22.9	92	4	75-120/13
75-71-8	Dichlorodifluoromethane	2.0	U	25	19.2	77	25	19.5	78	2	42-167/19
95-50-1	1,2-Dichlorobenzene	1.0	U	25	22.8	91	25	22.5	90	1	82-124/14
541-73-1	1,3-Dichlorobenzene	1.0	U	25	23.1	92	25	22.7	91	2	84-125/14
106-46-7	1,4-Dichlorobenzene	1.0	U	25	24.0	96	25	23.6	94	2	78-120/15
75-34-3	1,1-Dichloroethane	1.0	U	25	25.8	103	25	25.5	102	1	81-122/15
107-06-2	1,2-Dichloroethane	1.0	U	25	23.0	92	25	23.0	92	0	75-125/14
75-35-4	1,1-Dichloroethylene	1.0	U	25	26.4	106	25	26.1	104	1	78-137/18
156-59-2	cis-1,2-Dichloroethylene	2.4		25	28.0	102	25	27.3	100	3	78-120/15
156-60-5	trans-1,2-Dichloroethylene	1.0	U	25	24.9	100	25	24.5	98	2	76-127/17
78-87-5	1,2-Dichloropropane	1.0	U	25	22.8	91	25	22.7	91	0	76-124/14
10061-01-5	cis-1,3-Dichloropropene	1.0	U	25	22.6	90	25	22.5	90	0	75-118/23
10061-02-6	trans-1,3-Dichloropropene	1.0	U	25	24.3	97	25	24.7	99	2	80-120/22
100-41-4	Ethylbenzene	1.0	U	25	23.4	94	25	23.2	93	1	81-121/14
76-13-1	Freon 113	1.0	U	25	28.5	114	25	28.2	113	1	72-134/20
591-78-6	2-Hexanone	10	U	125	123	98	125	127	102	3	61-129/18
98-82-8	Isopropylbenzene	1.0	U	25	24.5	98	25	24.2	97	1	83-132/15
79-20-9	Methyl Acetate	20	U	125	120	96	125	123	98	2	65-126/18
74-83-9	Methyl Bromide	5.0	U	25	11.3	45*	25	12.6	50*	11	59-143/19
74-87-3	Methyl Chloride	2.0	U	25	21.5	86	25	22.4	90	4	50-159/19
108-87-2	Methylcyclohexane	1.0	U	25	29.9	120	25	28.8	115	4	76-129/17
75-09-2	Methylene Chloride	5.0	U	25	23.8	95	25	23.5	94	1	69-135/16
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0	U	125	119	95	125	124	99	4	66-122/16

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98287-3MS	O70577.D	1	08/24/22	JL	n/a	n/a	VO2797
FA98287-3MSD	O70578.D	1	08/24/22	JL	n/a	n/a	VO2797
FA98287-3 [a]	O70562.D	1	08/24/22	JL	n/a	n/a	VO2797

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-11, FA98259-12, FA98259-13, FA98259-14, FA98259-15, FA98259-16, FA98259-17, FA98259-18, FA98259-19, FA98259-20, FA98259-21

CAS No.	Compound	FA98287-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
1634-04-4	Methyl Tert Butyl Ether	1.0 U		25	26.6	106	25	27.3	109	3	72-117/14
100-42-5	Styrene	1.0 U		25	24.4	98	25	24.2	97	1	78-119/23
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U		25	22.6	90	25	22.5	90	0	72-120/14
127-18-4	Tetrachloroethylene	1.0 U		25	24.3	97	25	23.9	96	2	76-135/16
108-88-3	Toluene	1.0 U		25	23.5	94	25	23.2	93	1	80-120/14
120-82-1	1,2,4-Trichlorobenzene	2.0 U		25	21.4	86	25	21.9	88	2	73-129/20
71-55-6	1,1,1-Trichloroethane	1.0 U		25	25.2	101	25	24.3	97	4	75-130/16
79-00-5	1,1,2-Trichloroethane	1.0 U		25	23.2	93	25	23.3	93	0	76-119/14
79-01-6	Trichloroethylene	1.0 U		25	25.9	104	25	24.9	100	4	81-126/15
75-69-4	Trichlorofluoromethane	2.0 U		25	23.6	94	25	23.7	95	0	71-156/21
75-01-4	Vinyl Chloride	15.8		25	38.5	91	25	39.8	96	3	69-159/18
1330-20-7	Xylene (total)	3.0 U		75	70.9	95	75	70.4	94	1	80-126/15

CAS No.	Surrogate Recoveries	MS	MSD	FA98287-3	Limits
1868-53-7	Dibromofluoromethane	99%	100%	98%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	101%	103%	79-125%
2037-26-5	Toluene-D8	98%	99%	101%	85-112%
460-00-4	4-Bromofluorobenzene	99%	99%	101%	83-118%

(a) Sample was not preserved to a pH < 2.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98283-3MS	Y64253.D	100	08/25/22	JL	n/a	n/a	VY2663
FA98283-3MSD	Y64254.D	100	08/25/22	JL	n/a	n/a	VY2663
FA98283-3	Y64251.D	100	08/25/22	JL	n/a	n/a	VY2663

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-2, FA98259-3, FA98259-4, FA98259-9, FA98259-10

CAS No.	Compound	FA98283-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		12500	11500	92	12500	12300	98	7	50-147/21
71-43-2	Benzene	4480		2500	7150	107	2500	7330	114	2	81-122/14
75-27-4	Bromodichloromethane	ND		2500	2470	99	2500	2530	101	2	79-123/19
75-25-2	Bromoform	ND		2500	1960	78	2500	2000	80	2	66-123/21
78-93-3	2-Butanone (MEK)	ND		12500	12200	98	12500	12800	102	5	56-143/18
75-15-0	Carbon Disulfide	ND		2500	2260	90	2500	2270	91	0	66-148/23
56-23-5	Carbon Tetrachloride	ND		2500	2650	106	2500	2740	110	3	76-136/23
108-90-7	Chlorobenzene	ND		2500	2530	101	2500	2570	103	2	82-124/14
75-00-3	Chloroethane	ND		2500	3420	137	2500	3280	131	4	62-144/20
67-66-3	Chloroform	ND		2500	2730	109	2500	2770	111	1	80-124/15
110-82-7	Cyclohexane	ND		2500	2800	112	2500	2910	116	4	73-138/18
124-48-1	Dibromochloromethane	ND		2500	2200	88	2500	2250	90	2	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	ND		2500	1850	74	2500	2070	83	11	64-123/18
106-93-4	1,2-Dibromoethane	ND		2500	2410	96	2500	2430	97	1	75-120/13
75-71-8	Dichlorodifluoromethane	ND		2500	1740	70	2500	1700	68	2	42-167/19
95-50-1	1,2-Dichlorobenzene	ND		2500	2490	100	2500	2550	102	2	82-124/14
541-73-1	1,3-Dichlorobenzene	ND		2500	2530	101	2500	2630	105	4	84-125/14
106-46-7	1,4-Dichlorobenzene	ND		2500	2530	101	2500	2540	102	0	78-120/15
75-34-3	1,1-Dichloroethane	ND		2500	2800	112	2500	2770	111	1	81-122/15
107-06-2	1,2-Dichloroethane	ND		2500	2500	100	2500	2580	103	3	75-125/14
75-35-4	1,1-Dichloroethylene	ND		2500	2920	117	2500	2980	119	2	78-137/18
156-59-2	cis-1,2-Dichloroethylene	ND		2500	2660	106	2500	2850	114	7	78-120/15
156-60-5	trans-1,2-Dichloroethylene	ND		2500	2670	107	2500	2700	108	1	76-127/17
78-87-5	1,2-Dichloropropane	ND		2500	2450	98	2500	2490	100	2	76-124/14
10061-01-5	cis-1,3-Dichloropropene	ND		2500	2370	95	2500	2410	96	2	75-118/23
10061-02-6	trans-1,3-Dichloropropene	ND		2500	2390	96	2500	2400	96	0	80-120/22
100-41-4	Ethylbenzene	447		2500	2960	101	2500	3030	103	2	81-121/14
76-13-1	Freon 113	ND		2500	2950	118	2500	2990	120	1	72-134/20
591-78-6	2-Hexanone	ND		12500	11100	89	12500	11200	90	1	61-129/18
98-82-8	Isopropylbenzene	ND		2500	2640	106	2500	2640	106	0	83-132/15
79-20-9	Methyl Acetate	ND		12500	12400	99	12500	13200	106	6	65-126/18
74-83-9	Methyl Bromide	ND		2500	1340	54*	2500	1830	73	31*	59-143/19
74-87-3	Methyl Chloride	ND		2500	1930	77	2500	1960	78	2	50-159/19
108-87-2	Methylcyclohexane	ND		2500	2930	117	2500	2930	117	0	76-129/17
75-09-2	Methylene Chloride	255	J	2500	2640	95	2500	2620	95	1	69-135/16
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		12500	11600	93	12500	11800	94	2	66-122/16

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98283-3MS	Y64253.D	100	08/25/22	JL	n/a	n/a	VY2663
FA98283-3MSD	Y64254.D	100	08/25/22	JL	n/a	n/a	VY2663
FA98283-3	Y64251.D	100	08/25/22	JL	n/a	n/a	VY2663

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-2, FA98259-3, FA98259-4, FA98259-9, FA98259-10

CAS No.	Compound	FA98283-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
1634-04-4	Methyl Tert Butyl Ether	365		2500	3650	131*	2500	3710	134*	2	72-117/14
100-42-5	Styrene	ND		2500	2350	94	2500	2380	95	1	78-119/23
79-34-5	1,1,2,2-Tetrachloroethane	ND		2500	2350	94	2500	2390	96	2	72-120/14
127-18-4	Tetrachloroethylene	ND		2500	2690	108	2500	2750	110	2	76-135/16
108-88-3	Toluene	903		2500	3560	106	2500	3530	105	1	80-120/14
120-82-1	1,2,4-Trichlorobenzene	ND		2500	2290	92	2500	2300	92	0	73-129/20
71-55-6	1,1,1-Trichloroethane	ND		2500	2850	114	2500	2910	116	2	75-130/16
79-00-5	1,1,2-Trichloroethane	ND		2500	2530	101	2500	2600	104	3	76-119/14
79-01-6	Trichloroethylene	ND		2500	2740	110	2500	2710	108	1	81-126/15
75-69-4	Trichlorofluoromethane	ND		2500	2560	102	2500	2590	104	1	71-156/21
75-01-4	Vinyl Chloride	ND		2500	2120	85	2500	2160	86	2	69-159/18
1330-20-7	Xylene (total)	1980		7500	9770	104	7500	9830	105	1	80-126/15

CAS No.	Surrogate Recoveries	MS	MSD	FA98283-3	Limits
1868-53-7	Dibromofluoromethane	101%	102%	92%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	99%	99%	79-125%
2037-26-5	Toluene-D8	97%	96%	96%	85-112%
460-00-4	4-Bromofluorobenzene	94%	98%	95%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98298-1MS	5E33803.D	20	08/27/22	AL	n/a	n/a	V5E1543
FA98298-1MSD	5E33804.D	20	08/27/22	AL	n/a	n/a	V5E1543
FA98298-1	5E33797.D	10	08/27/22	AL	n/a	n/a	V5E1543

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-5

CAS No.	Compound	FA98298-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		2500	2510	100	2500	2460	98	2	50-147/21
71-43-2	Benzene	ND		500	485	97	500	479	96	1	81-122/14
75-27-4	Bromodichloromethane	ND		500	490	98	500	493	99	1	79-123/19
75-25-2	Bromoform	ND		500	439	88	500	455	91	4	66-123/21
78-93-3	2-Butanone (MEK)	ND		2500	2420	97	2500	2380	95	2	56-143/18
75-15-0	Carbon Disulfide	ND		500	375	75	500	387	77	3	66-148/23
56-23-5	Carbon Tetrachloride	ND		500	509	102	500	517	103	2	76-136/23
108-90-7	Chlorobenzene	ND		500	452	90	500	461	92	2	82-124/14
75-00-3	Chloroethane	ND		500	464	93	500	495	99	6	62-144/20
67-66-3	Chloroform	ND		500	479	96	500	490	98	2	80-124/15
110-82-7	Cyclohexane	ND		500	510	102	500	514	103	1	73-138/18
124-48-1	Dibromochloromethane	ND		500	443	89	500	446	89	1	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	ND		500	394	79	500	423	85	7	64-123/18
106-93-4	1,2-Dibromoethane	ND		500	453	91	500	474	95	5	75-120/13
75-71-8	Dichlorodifluoromethane	ND		500	306	61	500	309	62	1	42-167/19
95-50-1	1,2-Dichlorobenzene	ND		500	444	89	500	460	92	4	82-124/14
541-73-1	1,3-Dichlorobenzene	ND		500	451	90	500	464	93	3	84-125/14
106-46-7	1,4-Dichlorobenzene	ND		500	447	89	500	467	93	4	78-120/15
75-34-3	1,1-Dichloroethane	ND		500	502	100	500	512	102	2	81-122/15
107-06-2	1,2-Dichloroethane	ND		500	491	98	500	486	97	1	75-125/14
75-35-4	1,1-Dichloroethylene	ND		500	489	98	500	502	100	3	78-137/18
156-59-2	cis-1,2-Dichloroethylene	227		500	736	102	500	755	106	3	78-120/15
156-60-5	trans-1,2-Dichloroethylene	13.7		500	489	95	500	498	97	2	76-127/17
78-87-5	1,2-Dichloropropane	ND		500	474	95	500	469	94	1	76-124/14
10061-01-5	cis-1,3-Dichloropropene	ND		500	429	86	500	443	89	3	75-118/23
10061-02-6	trans-1,3-Dichloropropene	ND		500	438	88	500	445	89	2	80-120/22
100-41-4	Ethylbenzene	ND		500	448	90	500	457	91	2	81-121/14
76-13-1	Freon 113	ND		500	496	99	500	510	102	3	72-134/20
591-78-6	2-Hexanone	ND		2500	2440	98	2500	2450	98	0	61-129/18
98-82-8	Isopropylbenzene	ND		500	461	92	500	469	94	2	83-132/15
79-20-9	Methyl Acetate	ND		2500	2540	102	2500	2530	101	0	65-126/18
74-83-9	Methyl Bromide	ND		500	476	95	500	604	121	24*	59-143/19
74-87-3	Methyl Chloride	ND		500	441	88	500	454	91	3	50-159/19
108-87-2	Methylcyclohexane	ND		500	497	99	500	498	100	0	76-129/17
75-09-2	Methylene Chloride	26.4	J	500	466	88	500	487	92	4	69-135/16
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		2500	2360	94	2500	2390	96	1	66-122/16

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98298-1MS	5E33803.D	20	08/27/22	AL	n/a	n/a	V5E1543
FA98298-1MSD	5E33804.D	20	08/27/22	AL	n/a	n/a	V5E1543
FA98298-1	5E33797.D	10	08/27/22	AL	n/a	n/a	V5E1543

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-5

CAS No.	Compound	FA98298-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
1634-04-4	Methyl Tert Butyl Ether	ND		500	539	108	500	549	110	2	72-117/14
100-42-5	Styrene	ND		500	439	88	500	452	90	3	78-119/23
79-34-5	1,1,2,2-Tetrachloroethane	ND		500	466	93	500	478	96	3	72-120/14
127-18-4	Tetrachloroethylene	284		500	761	95	500	786	100	3	76-135/16
108-88-3	Toluene	ND		500	455	91	500	459	92	1	80-120/14
120-82-1	1,2,4-Trichlorobenzene	ND		500	407	81	500	431	86	6	73-129/20
71-55-6	1,1,1-Trichloroethane	ND		500	494	99	500	501	100	1	75-130/16
79-00-5	1,1,2-Trichloroethane	ND		500	474	95	500	470	94	1	76-119/14
79-01-6	Trichloroethylene	341		500	837	99	500	834	99	0	81-126/15
75-69-4	Trichlorofluoromethane	ND		500	602	120	500	610	122	1	71-156/21
75-01-4	Vinyl Chloride	ND		500	478	96	500	492	98	3	69-159/18
1330-20-7	Xylene (total)	ND		1500	1350	90	1500	1370	91	1	80-126/15

CAS No.	Surrogate Recoveries	MS	MSD	FA98298-1	Limits
1868-53-7	Dibromofluoromethane	104%	103%	103%	83-118%
17060-07-0	1,2-Dichloroethane-D4	102%	100%	104%	79-125%
2037-26-5	Toluene-D8	98%	100%	98%	85-112%
460-00-4	4-Bromofluorobenzene	101%	100%	103%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA98259
Account: TTNASA Tetra Tech NUS
Project: KSC-LC34

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98258-11MS	O70661.D	20	08/27/22	JL	n/a	n/a	VO2800
FA98258-11MSD	O70662.D	20	08/27/22	JL	n/a	n/a	VO2800
FA98258-11	O70660.D	20	08/27/22	JL	n/a	n/a	VO2800

The QC reported here applies to the following samples: **Method:** SW846 8260D

FA98259-15, FA98259-16, FA98259-17

CAS No.	Compound	FA98258-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-01-4	Vinyl Chloride	ND		500	457	91	500	438	88	4	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA98258-11	Limits
1868-53-7	Dibromofluoromethane	97%	98%	92%	83-118%
17060-07-0	1,2-Dichloroethane-D4	97%	101%	97%	79-125%
2037-26-5	Toluene-D8	98%	98%	100%	85-112%
460-00-4	4-Bromofluorobenzene	98%	99%	98%	83-118%

* = Outside of Control Limits.

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

NASA KSC LC34 HS6

JOB NUMBER

670-18277-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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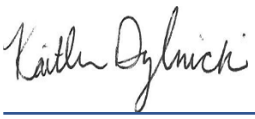

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-18277-1
Project/Site: NASA KSC LC34 HS6

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-18277-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-18277-1

Receipt
The samples were received on 4/19/2023 3:20 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 400-622816 recovered outside acceptance criteria, low biased, for Bromomethane. A reporting limit (RL) standard was analyzed, and the target analyte is detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-622816 recovered above the upper control limit for Chloromethane and Methyl acetate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0134-024.0-020230418 (670-18277-7). Elevated reporting limits (RLs) are provided.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0134-024.0-020230418 (670-18277-7). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HS6

Job ID: 670-18277-1

Client Sample ID: LC34-IW0133-018.0-020230418 — Lab Sample ID: 670-18277-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.4		1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride	0.51	I	1.0	0.50	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0125-018.0-020230418 — Lab Sample ID: 670-18277-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.31	I	1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride	0.50	I	1.0	0.50	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0131-018.0-020230418 — Lab Sample ID: 670-18277-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.48	I	1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride	0.84	I	1.0	0.50	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0132-018.0-020230418 — Lab Sample ID: 670-18277-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.75	I	1.0	0.20	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0129-018.0-020230418 — Lab Sample ID: 670-18277-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.52	I	1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride	3.3		1.0	0.50	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0130-024.0-020230418 — Lab Sample ID: 670-18277-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	21	I	25	10	ug/L	1		8260D	Total/NA
Benzene	0.25	I	1.0	0.13	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	0.66	I	1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride	14		1.0	0.50	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0134-024.0-020230418 — Lab Sample ID: 670-18277-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	26		20	10	ug/L	20		8260D	Total/NA
Vinyl chloride	5600		20	10	ug/L	20		8260D	Total/NA
cis-1,2-Dichloroethene - DL	7300		50	10	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-IW0139-018.0-020230418 — Lab Sample ID: 670-18277-8

No Detections.

Client Sample ID: LC34-IW0140-024.0-020230418 — Lab Sample ID: 670-18277-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.36	I	1.0	0.13	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0057i-025.5-020230418 — Lab Sample ID: 670-18277-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.33	I	1.0	0.13	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	1.8		1.0	0.20	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Orlando

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HS6

Job ID: 670-18277-1

Client Sample ID: LC34-IW0057s-008.0-020230419 — Lab Sample ID: 670-18277-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.32	I	1.0	0.13	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	0.27	I	1.0	0.20	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0141-024.0-020230419 — Lab Sample ID: 670-18277-12

No Detections.

Client Sample ID: LC34-IW0146-018.0-020230419 — Lab Sample ID: 670-18277-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	12	I	25	10	ug/L	1		8260D	Total/NA
Benzene	0.33	I	1.0	0.13	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HS6

Job ID: 670-18277-1

Client Sample ID: LC34-IW0133-018.0-020230418
Date Collected: 04/18/23 09:00
Date Received: 04/19/23 15:20

Lab Sample ID: 670-18277-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/29/23 16:51	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 16:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/29/23 16:51	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/29/23 16:51	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 16:51	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 16:51	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/29/23 16:51	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/29/23 16:51	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/29/23 16:51	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/29/23 16:51	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/29/23 16:51	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/29/23 16:51	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/29/23 16:51	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/29/23 16:51	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/29/23 16:51	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/29/23 16:51	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/29/23 16:51	1
Acetone	10	U	25	10	ug/L			04/29/23 16:51	1
Benzene	0.13	U	1.0	0.13	ug/L			04/29/23 16:51	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/29/23 16:51	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/29/23 16:51	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/29/23 16:51	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/29/23 16:51	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/29/23 16:51	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/29/23 16:51	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/29/23 16:51	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/29/23 16:51	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/29/23 16:51	1
cis-1,2-Dichloroethene	**2.4**		1.0	0.20	ug/L			04/29/23 16:51	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/29/23 16:51	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/29/23 16:51	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/29/23 16:51	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/29/23 16:51	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/29/23 16:51	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/29/23 16:51	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/29/23 16:51	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/29/23 16:51	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/29/23 16:51	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/29/23 16:51	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/29/23 16:51	1
Styrene	1.0	U	1.0	1.0	ug/L			04/29/23 16:51	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/29/23 16:51	1
Toluene	0.41	U	1.0	0.41	ug/L			04/29/23 16:51	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 16:51	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/29/23 16:51	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/29/23 16:51	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/29/23 16:51	1
Vinyl chloride	**0.51**	**I**	1.0	0.50	ug/L			04/29/23 16:51	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/29/23 16:51	1

Client Sample ID: LC34-IW0133-018.0-020230418
Lab Sample ID: 670-18277-1

Date Collected: 04/18/23 09:00
Matrix: Water
Date Received: 04/19/23 15:20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		64 - 132		04/29/23 16:51	1
Dibromofluoromethane	104		75 - 126		04/29/23 16:51	1
4-Bromofluorobenzene	103		72 - 119		04/29/23 16:51	1

Client Sample ID: LC34-IW0125-018.0-020230418
Lab Sample ID: 670-18277-2

Date Collected: 04/18/23 10:00
Matrix: Water
Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/29/23 17:12	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 17:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/29/23 17:12	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/29/23 17:12	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 17:12	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 17:12	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/29/23 17:12	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/29/23 17:12	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/29/23 17:12	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/29/23 17:12	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/29/23 17:12	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/29/23 17:12	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/29/23 17:12	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/29/23 17:12	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/29/23 17:12	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/29/23 17:12	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/29/23 17:12	1
Acetone	10	U	25	10	ug/L			04/29/23 17:12	1
Benzene	0.13	U	1.0	0.13	ug/L			04/29/23 17:12	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/29/23 17:12	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/29/23 17:12	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/29/23 17:12	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/29/23 17:12	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/29/23 17:12	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/29/23 17:12	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/29/23 17:12	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/29/23 17:12	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/29/23 17:12	1
cis-1,2-Dichloroethene	**0.31**	**I**	1.0	0.20	ug/L			04/29/23 17:12	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/29/23 17:12	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/29/23 17:12	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/29/23 17:12	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/29/23 17:12	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/29/23 17:12	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/29/23 17:12	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/29/23 17:12	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/29/23 17:12	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/29/23 17:12	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/29/23 17:12	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/29/23 17:12	1

Client Sample ID: LC34-IW0125-018.0-020230418
Lab Sample ID: 670-18277-2

Date Collected: 04/18/23 10:00
Matrix: Water
Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	1.0	U	1.0	1.0	ug/L			04/29/23 17:12	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/29/23 17:12	1
Toluene	0.41	U	1.0	0.41	ug/L			04/29/23 17:12	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 17:12	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/29/23 17:12	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/29/23 17:12	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/29/23 17:12	1
Vinyl chloride	**0.50**	**I**	1.0	0.50	ug/L			04/29/23 17:12	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/29/23 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*64 - 132*		*04/29/23 17:12*	*1*
Dibromofluoromethane	*102*		*75 - 126*		*04/29/23 17:12*	*1*
4-Bromofluorobenzene	*99*		*72 - 119*		*04/29/23 17:12*	*1*

Client Sample ID: LC34-IW0131-018.0-020230418
Lab Sample ID: 670-18277-3

Date Collected: 04/18/23 11:05
Matrix: Water
Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/29/23 17:33	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 17:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/29/23 17:33	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/29/23 17:33	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 17:33	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 17:33	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/29/23 17:33	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/29/23 17:33	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/29/23 17:33	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/29/23 17:33	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/29/23 17:33	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/29/23 17:33	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/29/23 17:33	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/29/23 17:33	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/29/23 17:33	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/29/23 17:33	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/29/23 17:33	1
Acetone	10	U	25	10	ug/L			04/29/23 17:33	1
Benzene	0.13	U	1.0	0.13	ug/L			04/29/23 17:33	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/29/23 17:33	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/29/23 17:33	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/29/23 17:33	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/29/23 17:33	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/29/23 17:33	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/29/23 17:33	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/29/23 17:33	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/29/23 17:33	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/29/23 17:33	1
cis-1,2-Dichloroethene	**0.48**	**I**	1.0	0.20	ug/L			04/29/23 17:33	1

Client Sample ID: LC34-IW0131-018.0-020230418
Lab Sample ID: 670-18277-3

Date Collected: 04/18/23 11:05
Matrix: Water
Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/29/23 17:33	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/29/23 17:33	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/29/23 17:33	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/29/23 17:33	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/29/23 17:33	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/29/23 17:33	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/29/23 17:33	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/29/23 17:33	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/29/23 17:33	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/29/23 17:33	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/29/23 17:33	1
Styrene	1.0	U	1.0	1.0	ug/L			04/29/23 17:33	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/29/23 17:33	1
Toluene	0.41	U	1.0	0.41	ug/L			04/29/23 17:33	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 17:33	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/29/23 17:33	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/29/23 17:33	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/29/23 17:33	1
Vinyl chloride	**0.84**	**I**	1.0	0.50	ug/L			04/29/23 17:33	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/29/23 17:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*64 - 132*		*04/29/23 17:33*	*1*
Dibromofluoromethane	*103*		*75 - 126*		*04/29/23 17:33*	*1*
4-Bromofluorobenzene	*102*		*72 - 119*		*04/29/23 17:33*	*1*

Client Sample ID: LC34-IW0132-018.0-020230418
Lab Sample ID: 670-18277-4

Date Collected: 04/18/23 11:50
Matrix: Water
Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/29/23 17:54	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 17:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/29/23 17:54	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/29/23 17:54	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 17:54	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 17:54	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/29/23 17:54	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/29/23 17:54	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/29/23 17:54	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/29/23 17:54	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/29/23 17:54	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/29/23 17:54	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/29/23 17:54	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/29/23 17:54	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/29/23 17:54	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/29/23 17:54	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/29/23 17:54	1
Acetone	10	U	25	10	ug/L			04/29/23 17:54	1

Client Sample ID: LC34-IW0132-018.0-020230418

Lab Sample ID: 670-18277-4

Date Collected: 04/18/23 11:50

Matrix: Water

Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.13	U	1.0	0.13	ug/L			04/29/23 17:54	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/29/23 17:54	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/29/23 17:54	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/29/23 17:54	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/29/23 17:54	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/29/23 17:54	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/29/23 17:54	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/29/23 17:54	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/29/23 17:54	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/29/23 17:54	1
cis-1,2-Dichloroethene	**0.75**	**I**	1.0	0.20	ug/L			04/29/23 17:54	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/29/23 17:54	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/29/23 17:54	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/29/23 17:54	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/29/23 17:54	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/29/23 17:54	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/29/23 17:54	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/29/23 17:54	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/29/23 17:54	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/29/23 17:54	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/29/23 17:54	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/29/23 17:54	1
Styrene	1.0	U	1.0	1.0	ug/L			04/29/23 17:54	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/29/23 17:54	1
Toluene	0.41	U	1.0	0.41	ug/L			04/29/23 17:54	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 17:54	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/29/23 17:54	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/29/23 17:54	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/29/23 17:54	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			04/29/23 17:54	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/29/23 17:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*64 - 132*		*04/29/23 17:54*	*1*
Dibromofluoromethane	*102*		*75 - 126*		*04/29/23 17:54*	*1*
4-Bromofluorobenzene	*100*		*72 - 119*		*04/29/23 17:54*	*1*

Client Sample ID: LC34-IW0129-018.0-020230418

Lab Sample ID: 670-18277-5

Date Collected: 04/18/23 12:45

Matrix: Water

Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/29/23 18:15	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 18:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/29/23 18:15	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/29/23 18:15	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 18:15	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 18:15	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/29/23 18:15	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HS6

Job ID: 670-18277-1

Client Sample ID: LC34-IW0129-018.0-020230418
Date Collected: 04/18/23 12:45
Date Received: 04/19/23 15:20

Lab Sample ID: 670-18277-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/29/23 18:15	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/29/23 18:15	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/29/23 18:15	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/29/23 18:15	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/29/23 18:15	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/29/23 18:15	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/29/23 18:15	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/29/23 18:15	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/29/23 18:15	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/29/23 18:15	1
Acetone	10	U	25	10	ug/L			04/29/23 18:15	1
Benzene	0.13	U	1.0	0.13	ug/L			04/29/23 18:15	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/29/23 18:15	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/29/23 18:15	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/29/23 18:15	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/29/23 18:15	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/29/23 18:15	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/29/23 18:15	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/29/23 18:15	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/29/23 18:15	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/29/23 18:15	1
cis-1,2-Dichloroethene	**0.52**	**I**	1.0	0.20	ug/L			04/29/23 18:15	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/29/23 18:15	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/29/23 18:15	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/29/23 18:15	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/29/23 18:15	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/29/23 18:15	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/29/23 18:15	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/29/23 18:15	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/29/23 18:15	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/29/23 18:15	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/29/23 18:15	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/29/23 18:15	1
Styrene	1.0	U	1.0	1.0	ug/L			04/29/23 18:15	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/29/23 18:15	1
Toluene	0.41	U	1.0	0.41	ug/L			04/29/23 18:15	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 18:15	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/29/23 18:15	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/29/23 18:15	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/29/23 18:15	1
Vinyl chloride	**3.3**		1.0	0.50	ug/L			04/29/23 18:15	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/29/23 18:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*95*		*64 - 132*		*04/29/23 18:15*	*1*
Dibromofluoromethane	*104*		*75 - 126*		*04/29/23 18:15*	*1*
4-Bromofluorobenzene	*100*		*72 - 119*		*04/29/23 18:15*	*1*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HS6

Job ID: 670-18277-1

Client Sample ID: LC34-IW0130-024.0-020230418
Date Collected: 04/18/23 13:20
Date Received: 04/19/23 15:20

Lab Sample ID: 670-18277-6
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/29/23 18:36	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 18:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/29/23 18:36	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/29/23 18:36	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 18:36	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 18:36	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/29/23 18:36	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/29/23 18:36	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/29/23 18:36	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/29/23 18:36	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/29/23 18:36	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/29/23 18:36	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/29/23 18:36	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/29/23 18:36	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/29/23 18:36	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/29/23 18:36	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/29/23 18:36	1
Acetone	**21**	**I**	25	10	ug/L			04/29/23 18:36	1
Benzene	**0.25**	**I**	1.0	0.13	ug/L			04/29/23 18:36	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/29/23 18:36	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/29/23 18:36	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/29/23 18:36	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/29/23 18:36	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/29/23 18:36	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/29/23 18:36	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/29/23 18:36	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/29/23 18:36	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/29/23 18:36	1
cis-1,2-Dichloroethene	**0.66**	**I**	1.0	0.20	ug/L			04/29/23 18:36	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/29/23 18:36	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/29/23 18:36	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/29/23 18:36	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/29/23 18:36	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/29/23 18:36	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/29/23 18:36	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/29/23 18:36	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/29/23 18:36	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/29/23 18:36	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/29/23 18:36	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/29/23 18:36	1
Styrene	1.0	U	1.0	1.0	ug/L			04/29/23 18:36	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/29/23 18:36	1
Toluene	0.41	U	1.0	0.41	ug/L			04/29/23 18:36	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 18:36	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/29/23 18:36	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/29/23 18:36	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/29/23 18:36	1
Vinyl chloride	**14**		1.0	0.50	ug/L			04/29/23 18:36	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/29/23 18:36	1

Client Sample ID: LC34-IW0130-024.0-020230418
Lab Sample ID: 670-18277-6

Date Collected: 04/18/23 13:20
Matrix: Water
Date Received: 04/19/23 15:20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		64 - 132		04/29/23 18:36	1
Dibromofluoromethane	102		75 - 126		04/29/23 18:36	1
4-Bromofluorobenzene	101		72 - 119		04/29/23 18:36	1

Client Sample ID: LC34-IW0134-024.0-020230418
Lab Sample ID: 670-18277-7

Date Collected: 04/18/23 17:00
Matrix: Water
Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	3.6	U	20	3.6	ug/L			04/29/23 21:02	20
1,1,2,2-Tetrachloroethane	10	U	20	10	ug/L			04/29/23 21:02	20
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	20	10	ug/L			04/29/23 21:02	20
1,1,2-Trichloroethane	4.2	U	100	4.2	ug/L			04/29/23 21:02	20
1,1-Dichloroethane	10	U	20	10	ug/L			04/29/23 21:02	20
1,1-Dichloroethene	10	U	20	10	ug/L			04/29/23 21:02	20
1,2,4-Trichlorobenzene	16	U	20	16	ug/L			04/29/23 21:02	20
1,2-Dibromo-3-Chloropropane	30	U	100	30	ug/L			04/29/23 21:02	20
1,2-Dibromoethane (EDB)	4.6	U	20	4.6	ug/L			04/29/23 21:02	20
1,2-Dichlorobenzene	10	U	20	10	ug/L			04/29/23 21:02	20
1,2-Dichloroethane	3.8	U	20	3.8	ug/L			04/29/23 21:02	20
1,2-Dichloropropane	10	U	20	10	ug/L			04/29/23 21:02	20
1,3-Dichlorobenzene	11	U	20	11	ug/L			04/29/23 21:02	20
1,4-Dichlorobenzene	13	U	20	13	ug/L			04/29/23 21:02	20
2-Butanone (MEK)	52	U	500	52	ug/L			04/29/23 21:02	20
2-Hexanone	28	U	500	28	ug/L			04/29/23 21:02	20
4-Methyl-2-pentanone	36	U	500	36	ug/L			04/29/23 21:02	20
Acetone	200	U	500	200	ug/L			04/29/23 21:02	20
Benzene	2.6	U	20	2.6	ug/L			04/29/23 21:02	20
Bromodichloromethane	10	U	20	10	ug/L			04/29/23 21:02	20
Bromoform	5.0	U	100	5.0	ug/L			04/29/23 21:02	20
Bromomethane	20	U	20	20	ug/L			04/29/23 21:02	20
Carbon disulfide	10	U	20	10	ug/L			04/29/23 21:02	20
Carbon tetrachloride	3.8	U	20	3.8	ug/L			04/29/23 21:02	20
Chlorobenzene	3.0	U	20	3.0	ug/L			04/29/23 21:02	20
Chloroethane	15	U	20	15	ug/L			04/29/23 21:02	20
Chloroform	20	U	20	20	ug/L			04/29/23 21:02	20
Chloromethane	6.4	U	20	6.4	ug/L			04/29/23 21:02	20
cis-1,3-Dichloropropene	10	U	100	10	ug/L			04/29/23 21:02	20
Cyclohexane	10	U	20	10	ug/L			04/29/23 21:02	20
Dibromochloromethane	4.8	U	20	4.8	ug/L			04/29/23 21:02	20
Dichlorodifluoromethane	17	U	20	17	ug/L			04/29/23 21:02	20
Ethylbenzene	10	U	20	10	ug/L			04/29/23 21:02	20
Isopropylbenzene	11	U	20	11	ug/L			04/29/23 21:02	20
m,p-Xylenes	13	U	100	13	ug/L			04/29/23 21:02	20
Methyl acetate	12	U	100	12	ug/L			04/29/23 21:02	20
Methyl tert-butyl ether	4.4	U	20	4.4	ug/L			04/29/23 21:02	20
Methylene Chloride	60	U	100	60	ug/L			04/29/23 21:02	20
o-Xylene	12	U	100	12	ug/L			04/29/23 21:02	20
Styrene	20	U	20	20	ug/L			04/29/23 21:02	20

Client Sample ID: LC34-IW0134-024.0-020230418 — **Lab Sample ID: 670-18277-7**
Date Collected: 04/18/23 17:00 — **Matrix: Water**
Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	18	U	20	18	ug/L			04/29/23 21:02	20
Toluene	8.2	U	20	8.2	ug/L			04/29/23 21:02	20
trans-1,2-Dichloroethene	**26**		20	10	ug/L			04/29/23 21:02	20
trans-1,3-Dichloropropene	4.0	U	100	4.0	ug/L			04/29/23 21:02	20
Trichloroethene	3.0	U	20	3.0	ug/L			04/29/23 21:02	20
Trichlorofluoromethane	10	U	20	10	ug/L			04/29/23 21:02	20
Vinyl chloride	**5600**		20	10	ug/L			04/29/23 21:02	20
Xylenes, Total	32	U	200	32	ug/L			04/29/23 21:02	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*64 - 132*		*04/29/23 21:02*	*20*
Dibromofluoromethane	*103*		*75 - 126*		*04/29/23 21:02*	*20*
4-Bromofluorobenzene	*94*		*72 - 119*		*04/29/23 21:02*	*20*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**7300**		50	10	ug/L			04/30/23 19:19	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*64 - 132*		*04/30/23 19:19*	*50*
Dibromofluoromethane	*104*		*75 - 126*		*04/30/23 19:19*	*50*
4-Bromofluorobenzene	*94*		*72 - 119*		*04/30/23 19:19*	*50*

Client Sample ID: LC34-IW0139-018.0-020230418 — **Lab Sample ID: 670-18277-8**
Date Collected: 04/18/23 17:55 — **Matrix: Water**
Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/29/23 18:57	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 18:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/29/23 18:57	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/29/23 18:57	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 18:57	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 18:57	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/29/23 18:57	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/29/23 18:57	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/29/23 18:57	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/29/23 18:57	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/29/23 18:57	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/29/23 18:57	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/29/23 18:57	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/29/23 18:57	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/29/23 18:57	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/29/23 18:57	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/29/23 18:57	1
Acetone	10	U	25	10	ug/L			04/29/23 18:57	1
Benzene	0.13	U	1.0	0.13	ug/L			04/29/23 18:57	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/29/23 18:57	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/29/23 18:57	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/29/23 18:57	1

Client Sample ID: LC34-IW0139-018.0-020230418
Lab Sample ID: 670-18277-8

Date Collected: 04/18/23 17:55
Matrix: Water
Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/29/23 18:57	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/29/23 18:57	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/29/23 18:57	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/29/23 18:57	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/29/23 18:57	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/29/23 18:57	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			04/29/23 18:57	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/29/23 18:57	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/29/23 18:57	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/29/23 18:57	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/29/23 18:57	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/29/23 18:57	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/29/23 18:57	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/29/23 18:57	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/29/23 18:57	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/29/23 18:57	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/29/23 18:57	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/29/23 18:57	1
Styrene	1.0	U	1.0	1.0	ug/L			04/29/23 18:57	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/29/23 18:57	1
Toluene	0.41	U	1.0	0.41	ug/L			04/29/23 18:57	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 18:57	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/29/23 18:57	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/29/23 18:57	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/29/23 18:57	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			04/29/23 18:57	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/29/23 18:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*64 - 132*		*04/29/23 18:57*	*1*
Dibromofluoromethane	*103*		*75 - 126*		*04/29/23 18:57*	*1*
4-Bromofluorobenzene	*101*		*72 - 119*		*04/29/23 18:57*	*1*

Client Sample ID: LC34-IW0140-024.0-020230418
Lab Sample ID: 670-18277-9

Date Collected: 04/18/23 18:45
Matrix: Water
Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/29/23 19:18	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 19:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/29/23 19:18	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/29/23 19:18	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 19:18	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 19:18	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/29/23 19:18	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/29/23 19:18	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/29/23 19:18	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/29/23 19:18	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/29/23 19:18	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HS6

Job ID: 670-18277-1

Client Sample ID: LC34-IW0140-024.0-020230418
Date Collected: 04/18/23 18:45
Date Received: 04/19/23 15:20

Lab Sample ID: 670-18277-9
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/29/23 19:18	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/29/23 19:18	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/29/23 19:18	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/29/23 19:18	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/29/23 19:18	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/29/23 19:18	1
Acetone	10	U	25	10	ug/L			04/29/23 19:18	1
Benzene	**0.36**	**I**	1.0	0.13	ug/L			04/29/23 19:18	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/29/23 19:18	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/29/23 19:18	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/29/23 19:18	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/29/23 19:18	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/29/23 19:18	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/29/23 19:18	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/29/23 19:18	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/29/23 19:18	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/29/23 19:18	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			04/29/23 19:18	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/29/23 19:18	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/29/23 19:18	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/29/23 19:18	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/29/23 19:18	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/29/23 19:18	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/29/23 19:18	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/29/23 19:18	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/29/23 19:18	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/29/23 19:18	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/29/23 19:18	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/29/23 19:18	1
Styrene	1.0	U	1.0	1.0	ug/L			04/29/23 19:18	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/29/23 19:18	1
Toluene	0.41	U	1.0	0.41	ug/L			04/29/23 19:18	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 19:18	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/29/23 19:18	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/29/23 19:18	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/29/23 19:18	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			04/29/23 19:18	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/29/23 19:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*64 - 132*		*04/29/23 19:18*	*1*
Dibromofluoromethane	*103*		*75 - 126*		*04/29/23 19:18*	*1*
4-Bromofluorobenzene	*101*		*72 - 119*		*04/29/23 19:18*	*1*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HS6

Job ID: 670-18277-1

Client Sample ID: LC34-IW0057i-025.5-020230418
Date Collected: 04/19/23 09:55
Date Received: 04/19/23 15:20

Lab Sample ID: 670-18277-10
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/29/23 19:38	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 19:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/29/23 19:38	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/29/23 19:38	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 19:38	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 19:38	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/29/23 19:38	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/29/23 19:38	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/29/23 19:38	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/29/23 19:38	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/29/23 19:38	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/29/23 19:38	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/29/23 19:38	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/29/23 19:38	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/29/23 19:38	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/29/23 19:38	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/29/23 19:38	1
Acetone	10	U	25	10	ug/L			04/29/23 19:38	1
Benzene	**0.33**	**I**	1.0	0.13	ug/L			04/29/23 19:38	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/29/23 19:38	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/29/23 19:38	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/29/23 19:38	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/29/23 19:38	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/29/23 19:38	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/29/23 19:38	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/29/23 19:38	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/29/23 19:38	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/29/23 19:38	1
cis-1,2-Dichloroethene	**1.8**		1.0	0.20	ug/L			04/29/23 19:38	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/29/23 19:38	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/29/23 19:38	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/29/23 19:38	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/29/23 19:38	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/29/23 19:38	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/29/23 19:38	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/29/23 19:38	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/29/23 19:38	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/29/23 19:38	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/29/23 19:38	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/29/23 19:38	1
Styrene	1.0	U	1.0	1.0	ug/L			04/29/23 19:38	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/29/23 19:38	1
Toluene	0.41	U	1.0	0.41	ug/L			04/29/23 19:38	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 19:38	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/29/23 19:38	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/29/23 19:38	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/29/23 19:38	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			04/29/23 19:38	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/29/23 19:38	1

Client Sample ID: LC34-IW0057i-025.5-020230418

Lab Sample ID: 670-18277-10

Date Collected: 04/19/23 09:55

Matrix: Water

Date Received: 04/19/23 15:20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*64 - 132*		*04/29/23 19:38*	*1*
Dibromofluoromethane	*102*		*75 - 126*		*04/29/23 19:38*	*1*
4-Bromofluorobenzene	*100*		*72 - 119*		*04/29/23 19:38*	*1*

Client Sample ID: LC34-IW0057s-008.0-020230419

Lab Sample ID: 670-18277-11

Date Collected: 04/19/23 10:35

Matrix: Water

Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/29/23 19:59	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 19:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/29/23 19:59	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/29/23 19:59	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 19:59	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 19:59	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/29/23 19:59	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/29/23 19:59	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/29/23 19:59	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/29/23 19:59	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/29/23 19:59	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/29/23 19:59	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/29/23 19:59	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/29/23 19:59	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/29/23 19:59	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/29/23 19:59	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/29/23 19:59	1
Acetone	10	U	25	10	ug/L			04/29/23 19:59	1
Benzene	**0.32**	**I**	1.0	0.13	ug/L			04/29/23 19:59	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/29/23 19:59	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/29/23 19:59	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/29/23 19:59	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/29/23 19:59	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/29/23 19:59	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/29/23 19:59	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/29/23 19:59	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/29/23 19:59	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/29/23 19:59	1
cis-1,2-Dichloroethene	**0.27**	**I**	1.0	0.20	ug/L			04/29/23 19:59	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/29/23 19:59	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/29/23 19:59	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/29/23 19:59	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/29/23 19:59	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/29/23 19:59	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/29/23 19:59	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/29/23 19:59	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/29/23 19:59	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/29/23 19:59	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/29/23 19:59	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/29/23 19:59	1

Client Sample ID: LC34-IW0057s-008.0-020230419
Lab Sample ID: 670-18277-11

Date Collected: 04/19/23 10:35
Matrix: Water
Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	1.0	U	1.0	1.0	ug/L			04/29/23 19:59	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/29/23 19:59	1
Toluene	0.41	U	1.0	0.41	ug/L			04/29/23 19:59	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 19:59	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/29/23 19:59	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/29/23 19:59	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/29/23 19:59	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			04/29/23 19:59	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/29/23 19:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*64 - 132*		*04/29/23 19:59*	*1*
Dibromofluoromethane	*103*		*75 - 126*		*04/29/23 19:59*	*1*
4-Bromofluorobenzene	*100*		*72 - 119*		*04/29/23 19:59*	*1*

Client Sample ID: LC34-IW0141-024.0-020230419
Lab Sample ID: 670-18277-12

Date Collected: 04/19/23 11:30
Matrix: Water
Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/29/23 20:20	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 20:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/29/23 20:20	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/29/23 20:20	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 20:20	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 20:20	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/29/23 20:20	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/29/23 20:20	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/29/23 20:20	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/29/23 20:20	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/29/23 20:20	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/29/23 20:20	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/29/23 20:20	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/29/23 20:20	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/29/23 20:20	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/29/23 20:20	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/29/23 20:20	1
Acetone	10	U	25	10	ug/L			04/29/23 20:20	1
Benzene	0.13	U	1.0	0.13	ug/L			04/29/23 20:20	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/29/23 20:20	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/29/23 20:20	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/29/23 20:20	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/29/23 20:20	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/29/23 20:20	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/29/23 20:20	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/29/23 20:20	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/29/23 20:20	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/29/23 20:20	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			04/29/23 20:20	1

Client Sample ID: LC34-IW0141-024.0-020230419
Lab Sample ID: 670-18277-12

Date Collected: 04/19/23 11:30
Matrix: Water
Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/29/23 20:20	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/29/23 20:20	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/29/23 20:20	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/29/23 20:20	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/29/23 20:20	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/29/23 20:20	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/29/23 20:20	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/29/23 20:20	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/29/23 20:20	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/29/23 20:20	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/29/23 20:20	1
Styrene	1.0	U	1.0	1.0	ug/L			04/29/23 20:20	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/29/23 20:20	1
Toluene	0.41	U	1.0	0.41	ug/L			04/29/23 20:20	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 20:20	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/29/23 20:20	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/29/23 20:20	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/29/23 20:20	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			04/29/23 20:20	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/29/23 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*64 - 132*		*04/29/23 20:20*	*1*
Dibromofluoromethane	*105*		*75 - 126*		*04/29/23 20:20*	*1*
4-Bromofluorobenzene	*101*		*72 - 119*		*04/29/23 20:20*	*1*

Client Sample ID: LC34-IW0146-018.0-020230419
Lab Sample ID: 670-18277-13

Date Collected: 04/19/23 12:25
Matrix: Water
Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/29/23 20:41	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 20:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/29/23 20:41	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/29/23 20:41	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 20:41	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 20:41	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/29/23 20:41	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/29/23 20:41	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/29/23 20:41	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/29/23 20:41	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/29/23 20:41	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/29/23 20:41	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/29/23 20:41	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/29/23 20:41	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/29/23 20:41	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/29/23 20:41	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/29/23 20:41	1
Acetone	**12**	**I**	25	10	ug/L			04/29/23 20:41	1

Client Sample ID: LC34-IW0146-018.0-020230419
Lab Sample ID: 670-18277-13
Date Collected: 04/19/23 12:25
Matrix: Water
Date Received: 04/19/23 15:20

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.33**	**I**	1.0	0.13	ug/L			04/29/23 20:41	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/29/23 20:41	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/29/23 20:41	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/29/23 20:41	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/29/23 20:41	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/29/23 20:41	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/29/23 20:41	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/29/23 20:41	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/29/23 20:41	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/29/23 20:41	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			04/29/23 20:41	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/29/23 20:41	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/29/23 20:41	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/29/23 20:41	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/29/23 20:41	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/29/23 20:41	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/29/23 20:41	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/29/23 20:41	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/29/23 20:41	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/29/23 20:41	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/29/23 20:41	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/29/23 20:41	1
Styrene	1.0	U	1.0	1.0	ug/L			04/29/23 20:41	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/29/23 20:41	1
Toluene	0.41	U	1.0	0.41	ug/L			04/29/23 20:41	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 20:41	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/29/23 20:41	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/29/23 20:41	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/29/23 20:41	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			04/29/23 20:41	1
Xylenes, Total	1.6	U	10	1.6	ug/L			04/29/23 20:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*64 - 132*		*04/29/23 20:41*	*1*
Dibromofluoromethane	*101*		*75 - 126*		*04/29/23 20:41*	*1*
4-Bromofluorobenzene	*102*		*72 - 119*		*04/29/23 20:41*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34 HS6

Job ID: 670-18277-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		TOL	DBFM	BFB
Lab Sample ID	Client Sample ID	(64-132)	(75-126)	(72-119)
400-236516-A-2 MS	Matrix Spike	96	104	105
400-236516-A-2 MSD	Matrix Spike Duplicate	98	102	107
400-236801-A-11 MS	Matrix Spike	89	102	95
400-236801-A-11 MSD	Matrix Spike Duplicate	92	104	97
670-18277-1	LC34-IW0133-018.0-020230418	97	104	103
670-18277-2	LC34-IW0125-018.0-020230418	95	102	99
670-18277-3	LC34-IW0131-018.0-020230418	99	103	102
670-18277-4	LC34-IW0132-018.0-020230418	97	102	100
670-18277-5	LC34-IW0129-018.0-020230418	95	104	100
670-18277-6	LC34-IW0130-024.0-020230418	96	102	101
670-18277-7	LC34-IW0134-024.0-020230418	102	103	94
670-18277-7 - DL	LC34-IW0134-024.0-020230418	100	104	94
670-18277-8	LC34-IW0139-018.0-020230418	96	103	101
670-18277-9	LC34-IW0140-024.0-020230418	93	103	101
670-18277-10	LC34-IW0057i-025.5-020230418	99	102	100
670-18277-11	LC34-IW0057s-008.0-020230419	98	103	100
670-18277-12	LC34-IW0141-024.0-020230419	100	105	101
670-18277-13	LC34-IW0146-018.0-020230419	100	101	102
LCS 400-622816/1002	Lab Control Sample	91	101	98
LCS 400-622865/1002	Lab Control Sample	89	104	94
MB 400-622816/4	Method Blank	97	104	101
MB 400-622865/4	Method Blank	96	105	98

Surrogate Legend

TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane
BFB = 4-Bromofluorobenzene

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 400-622816/4
Matrix: Water
Analysis Batch: 622816

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			04/29/23 12:41	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 12:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			04/29/23 12:41	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			04/29/23 12:41	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			04/29/23 12:41	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 12:41	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			04/29/23 12:41	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			04/29/23 12:41	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			04/29/23 12:41	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			04/29/23 12:41	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			04/29/23 12:41	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			04/29/23 12:41	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			04/29/23 12:41	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			04/29/23 12:41	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			04/29/23 12:41	1
2-Hexanone	1.4	U	25	1.4	ug/L			04/29/23 12:41	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			04/29/23 12:41	1
Acetone	10	U	25	10	ug/L			04/29/23 12:41	1
Benzene	0.13	U	1.0	0.13	ug/L			04/29/23 12:41	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			04/29/23 12:41	1
Bromoform	0.25	U	5.0	0.25	ug/L			04/29/23 12:41	1
Bromomethane	0.98	U	1.0	0.98	ug/L			04/29/23 12:41	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			04/29/23 12:41	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			04/29/23 12:41	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			04/29/23 12:41	1
Chloroethane	0.76	U	1.0	0.76	ug/L			04/29/23 12:41	1
Chloroform	1.0	U	1.0	1.0	ug/L			04/29/23 12:41	1
Chloromethane	0.32	U	1.0	0.32	ug/L			04/29/23 12:41	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			04/29/23 12:41	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			04/29/23 12:41	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			04/29/23 12:41	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			04/29/23 12:41	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			04/29/23 12:41	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			04/29/23 12:41	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			04/29/23 12:41	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			04/29/23 12:41	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			04/29/23 12:41	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			04/29/23 12:41	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			04/29/23 12:41	1
o-Xylene	0.60	U	5.0	0.60	ug/L			04/29/23 12:41	1
Styrene	1.0	U	1.0	1.0	ug/L			04/29/23 12:41	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			04/29/23 12:41	1
Toluene	0.41	U	1.0	0.41	ug/L			04/29/23 12:41	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			04/29/23 12:41	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			04/29/23 12:41	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			04/29/23 12:41	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			04/29/23 12:41	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			04/29/23 12:41	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-622816/4
Matrix: Water
Analysis Batch: 622816

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.6	U	10	1.6	ug/L			04/29/23 12:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*64 - 132*		*04/29/23 12:41*	*1*
Dibromofluoromethane	*104*		*75 - 126*		*04/29/23 12:41*	*1*
4-Bromofluorobenzene	*101*		*72 - 119*		*04/29/23 12:41*	*1*

Lab Sample ID: LCS 400-622816/1002
Matrix: Water
Analysis Batch: 622816

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	50.9		ug/L		102	68 - 130
1,1,2,2-Tetrachloroethane	50.0	49.0		ug/L		98	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroetha ne	50.0	52.6		ug/L		105	60 - 139
1,1,2-Trichloroethane	50.0	48.1		ug/L		96	70 - 130
1,1-Dichloroethane	50.0	56.1		ug/L		112	70 - 130
1,1-Dichloroethene	50.0	51.9		ug/L		104	63 - 134
1,2,4-Trichlorobenzene	50.0	54.6		ug/L		109	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	50.7		ug/L		101	54 - 135
1,2-Dibromoethane (EDB)	50.0	51.4		ug/L		103	70 - 130
1,2-Dichlorobenzene	50.0	51.1		ug/L		102	67 - 130
1,2-Dichloroethane	50.0	52.9		ug/L		106	69 - 130
1,2-Dichloropropane	50.0	56.5		ug/L		113	70 - 130
1,3-Dichlorobenzene	50.0	52.2		ug/L		104	70 - 130
1,4-Dichlorobenzene	50.0	52.6		ug/L		105	70 - 130
2-Butanone (MEK)	200	204		ug/L		102	61 - 145
2-Hexanone	200	234		ug/L		117	65 - 137
4-Methyl-2-pentanone	200	246		ug/L		123	69 - 138
Acetone	200	270		ug/L		135	43 - 160
Benzene	50.0	49.3		ug/L		99	70 - 130
Bromodichloromethane	50.0	49.6		ug/L		99	67 - 133
Bromoform	50.0	49.5		ug/L		99	57 - 140
Bromomethane	25.0	18.6		ug/L		74	10 - 160
Carbon disulfide	50.0	51.9		ug/L		104	61 - 137
Carbon tetrachloride	50.0	53.4		ug/L		107	61 - 137
Chlorobenzene	50.0	52.9		ug/L		106	70 - 130
Chloroethane	25.0	25.1		ug/L		100	55 - 141
Chloroform	50.0	50.2		ug/L		100	69 - 130
Chloromethane	25.0	34.1		ug/L		136	58 - 137
cis-1,2-Dichloroethene	50.0	56.1		ug/L		112	68 - 130
cis-1,3-Dichloropropene	50.0	50.6		ug/L		101	69 - 132
Cyclohexane	50.0	52.3		ug/L		105	70 - 130
Dibromochloromethane	50.0	52.4		ug/L		105	67 - 135
Dichlorodifluoromethane	25.0	25.8		ug/L		103	41 - 146
Ethylbenzene	50.0	50.2		ug/L		100	70 - 130
Isopropylbenzene	50.0	49.8		ug/L		100	70 - 130
m,p-Xylenes	50.0	49.9		ug/L		100	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-622816/1002
Matrix: Water
Analysis Batch: 622816

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	100	125		ug/L		125	45 - 159
Methyl tert-butyl ether	50.0	45.3		ug/L		91	66 - 130
Methylene Chloride	50.0	50.5		ug/L		101	66 - 135
o-Xylene	50.0	48.6		ug/L		97	70 - 130
Styrene	50.0	48.8		ug/L		98	70 - 130
Tetrachloroethene	50.0	57.9		ug/L		116	65 - 130
Toluene	50.0	45.8		ug/L		92	70 - 130
trans-1,2-Dichloroethene	50.0	51.8		ug/L		104	70 - 130
trans-1,3-Dichloropropene	50.0	44.3		ug/L		89	63 - 130
Trichloroethene	50.0	54.9		ug/L		110	70 - 130
Trichlorofluoromethane	25.0	22.8		ug/L		91	65 - 138
Vinyl chloride	25.0	28.9		ug/L		115	59 - 136
Xylenes, Total	100	98.5		ug/L		98	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*91*		*64 - 132*
Dibromofluoromethane	*101*		*75 - 126*
4-Bromofluorobenzene	*98*		*72 - 119*

Lab Sample ID: 400-236516-A-2 MS
Matrix: Water
Analysis Batch: 622816

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	49.8		ug/L		100	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	53.9		ug/L		108	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	51.1		ug/L		102	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	48.1		ug/L		96	66 - 131
1,1-Dichloroethane	0.50	U	50.0	57.1		ug/L		114	61 - 144
1,1-Dichloroethene	0.50	U	50.0	52.1		ug/L		104	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	40.9		ug/L		82	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	56.7		ug/L		113	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	50.2		ug/L		100	64 - 132
1,2-Dichlorobenzene	0.50	U	50.0	47.9		ug/L		96	52 - 137
1,2-Dichloroethane	0.19	U	50.0	53.0		ug/L		106	60 - 141
1,2-Dichloropropane	0.50	U	50.0	54.2		ug/L		108	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	48.8		ug/L		98	54 - 135
1,4-Dichlorobenzene	0.64	U	50.0	49.9		ug/L		100	53 - 135
2-Butanone (MEK)	3.6	I	200	221		ug/L		109	55 - 150
2-Hexanone	1.4	U	200	234		ug/L		117	65 - 140
4-Methyl-2-pentanone	1.8	U	200	249		ug/L		125	63 - 146
Acetone	150		200	453		ug/L		149	43 - 150
Benzene	0.13	U	50.0	48.4		ug/L		97	56 - 142
Bromodichloromethane	0.69	I	50.0	47.7		ug/L		94	59 - 143
Bromoform	0.25	U	50.0	52.3		ug/L		105	50 - 140
Bromomethane	0.98	U	25.0	17.5		ug/L		70	10 - 150
Carbon disulfide	2.5		50.0	53.8		ug/L		103	48 - 150
Carbon tetrachloride	0.19	U	50.0	51.2		ug/L		102	55 - 145

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-236516-A-2 MS
Matrix: Water
Analysis Batch: 622816

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.15	U	50.0	50.0		ug/L		100	64 - 130
Chloroethane	0.76	U	25.0	25.9		ug/L		104	50 - 150
Chloroform	3.2		50.0	53.7		ug/L		101	60 - 141
Chloromethane	0.32	U	25.0	30.3		ug/L		121	49 - 148
cis-1,2-Dichloroethene	0.20	U	50.0	56.8		ug/L		114	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	49.0		ug/L		98	57 - 140
Cyclohexane	0.50	U	50.0	49.8		ug/L		100	58 - 141
Dibromochloromethane	0.24	U	50.0	48.5		ug/L		97	56 - 143
Dichlorodifluoromethane	0.85	U	25.0	25.1		ug/L		100	16 - 150
Ethylbenzene	0.50	U	50.0	47.0		ug/L		94	58 - 131
Isopropylbenzene	0.53	U	50.0	45.5		ug/L		91	56 - 133
m,p-Xylenes	0.63	U	50.0	46.3		ug/L		93	57 - 130
Methyl acetate	3.2	I	100	146		ug/L		143	21 - 150
Methyl tert-butyl ether	0.22	U	50.0	50.2		ug/L		100	59 - 137
Methylene Chloride	3.0	U	50.0	53.8		ug/L		108	60 - 146
o-Xylene	0.60	U	50.0	47.3		ug/L		95	61 - 130
Styrene	1.0	U	50.0	45.8		ug/L		92	58 - 131
Tetrachloroethene	0.90	U	50.0	47.7		ug/L		95	52 - 133
Toluene	0.41	U	50.0	45.4		ug/L		91	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	53.0		ug/L		106	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	44.5		ug/L		89	53 - 133
Trichloroethene	0.15	U	50.0	52.5		ug/L		105	64 - 136
Trichlorofluoromethane	0.52	U	25.0	24.7		ug/L		99	54 - 150
Vinyl chloride	0.50	U	25.0	30.2		ug/L		121	46 - 150
Xylenes, Total	1.6	U	100	93.6		ug/L		94	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*64 - 132*
Dibromofluoromethane	*104*		*75 - 126*
4-Bromofluorobenzene	*105*		*72 - 119*

Lab Sample ID: 400-236516-A-2 MSD
Matrix: Water
Analysis Batch: 622816

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	53.1		ug/L		106	57 - 142	6	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	55.9		ug/L		112	66 - 135	4	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	53.0		ug/L		106	55 - 150	4	30
1,1,2-Trichloroethane	0.21	U	50.0	48.2		ug/L		96	66 - 131	0	30
1,1-Dichloroethane	0.50	U	50.0	58.5		ug/L		117	61 - 144	3	30
1,1-Dichloroethene	0.50	U	50.0	54.7		ug/L		109	54 - 147	5	30
1,2,4-Trichlorobenzene	0.82	U	50.0	52.9		ug/L		106	39 - 148	26	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	61.2		ug/L		122	45 - 135	8	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	52.7		ug/L		105	64 - 132	5	30
1,2-Dichlorobenzene	0.50	U	50.0	50.2		ug/L		100	52 - 137	5	30
1,2-Dichloroethane	0.19	U	50.0	52.7		ug/L		105	60 - 141	1	30
1,2-Dichloropropane	0.50	U	50.0	52.6		ug/L		105	66 - 137	3	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-236516-A-2 MSD
Matrix: Water
Analysis Batch: 622816

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	0.54	U	50.0	51.9		ug/L		104	54 - 135	6	30
1,4-Dichlorobenzene	0.64	U	50.0	52.2		ug/L		104	53 - 135	5	30
2-Butanone (MEK)	3.6	I	200	230		ug/L		113	55 - 150	4	30
2-Hexanone	1.4	U	200	245		ug/L		123	65 - 140	5	30
4-Methyl-2-pentanone	1.8	U	200	244		ug/L		122	63 - 146	2	30
Acetone	150		200	451		ug/L		148	43 - 150	0	30
Benzene	0.13	U	50.0	49.3		ug/L		99	56 - 142	2	30
Bromodichloromethane	0.69	I	50.0	47.2		ug/L		93	59 - 143	1	30
Bromoform	0.25	U	50.0	55.6		ug/L		111	50 - 140	6	30
Bromomethane	0.98	U	25.0	18.6		ug/L		74	10 - 150	6	50
Carbon disulfide	2.5		50.0	55.8		ug/L		107	48 - 150	4	30
Carbon tetrachloride	0.19	U	50.0	54.0		ug/L		108	55 - 145	5	30
Chlorobenzene	0.15	U	50.0	52.4		ug/L		105	64 - 130	5	30
Chloroethane	0.76	U	25.0	26.0		ug/L		104	50 - 150	0	30
Chloroform	3.2		50.0	54.4		ug/L		102	60 - 141	1	30
Chloromethane	0.32	U	25.0	30.4		ug/L		121	49 - 148	0	31
cis-1,2-Dichloroethene	0.20	U	50.0	58.3		ug/L		117	59 - 143	3	30
cis-1,3-Dichloropropene	0.50	U	50.0	48.4		ug/L		97	57 - 140	1	30
Cyclohexane	0.50	U	50.0	52.4		ug/L		105	58 - 141	5	30
Dibromochloromethane	0.24	U	50.0	49.6		ug/L		99	56 - 143	2	30
Dichlorodifluoromethane	0.85	U	25.0	26.6		ug/L		106	16 - 150	6	31
Ethylbenzene	0.50	U	50.0	50.5		ug/L		101	58 - 131	7	30
Isopropylbenzene	0.53	U	50.0	49.4		ug/L		99	56 - 133	8	30
m,p-Xylenes	0.63	U	50.0	50.5		ug/L		101	57 - 130	9	30
Methyl acetate	3.2	I	100	148		ug/L		145	21 - 150	1	30
Methyl tert-butyl ether	0.22	U	50.0	49.9		ug/L		100	59 - 137	1	30
Methylene Chloride	3.0	U	50.0	53.0		ug/L		106	60 - 146	1	32
o-Xylene	0.60	U	50.0	50.9		ug/L		102	61 - 130	7	30
Styrene	1.0	U	50.0	49.1		ug/L		98	58 - 131	7	30
Tetrachloroethene	0.90	U	50.0	52.0		ug/L		104	52 - 133	9	30
Toluene	0.41	U	50.0	48.4		ug/L		97	65 - 130	6	30
trans-1,2-Dichloroethene	0.50	U	50.0	54.7		ug/L		109	61 - 143	3	30
trans-1,3-Dichloropropene	0.20	U	50.0	46.5		ug/L		93	53 - 133	4	30
Trichloroethene	0.15	U	50.0	54.2		ug/L		108	64 - 136	3	30
Trichlorofluoromethane	0.52	U	25.0	25.3		ug/L		101	54 - 150	3	30
Vinyl chloride	0.50	U	25.0	31.5		ug/L		126	46 - 150	4	30
Xylenes, Total	1.6	U	100	101		ug/L		101	59 - 130	8	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*64 - 132*
Dibromofluoromethane	*102*		*75 - 126*
4-Bromofluorobenzene	*107*		*72 - 119*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-622865/4
Matrix: Water
Analysis Batch: 622865

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			04/30/23 10:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*64 - 132*		*04/30/23 10:58*	*1*
Dibromofluoromethane	*105*		*75 - 126*		*04/30/23 10:58*	*1*
4-Bromofluorobenzene	*98*		*72 - 119*		*04/30/23 10:58*	*1*

Lab Sample ID: LCS 400-622865/1002
Matrix: Water
Analysis Batch: 622865

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
cis-1,2-Dichloroethene			50.0	55.3		ug/L		111	68 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*89*		*64 - 132*
Dibromofluoromethane	*104*		*75 - 126*
4-Bromofluorobenzene	*94*		*72 - 119*

Lab Sample ID: 400-236801-A-11 MS
Matrix: Water
Analysis Batch: 622865

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
cis-1,2-Dichloroethene	0.20	U	50.0	58.1		ug/L		116	59 - 143		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*89*		*64 - 132*
Dibromofluoromethane	*102*		*75 - 126*
4-Bromofluorobenzene	*95*		*72 - 119*

Lab Sample ID: 400-236801-A-11 MSD
Matrix: Water
Analysis Batch: 622865

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	0.20	U	50.0	53.7		ug/L		107	59 - 143	8	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*92*		*64 - 132*
Dibromofluoromethane	*104*		*75 - 126*
4-Bromofluorobenzene	*97*		*72 - 119*

GC/MS VOA

Analysis Batch: 622816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-18277-1	LC34-IW0133-018.0-020230418	Total/NA	Water	8260D	
670-18277-2	LC34-IW0125-018.0-020230418	Total/NA	Water	8260D	
670-18277-3	LC34-IW0131-018.0-020230418	Total/NA	Water	8260D	
670-18277-4	LC34-IW0132-018.0-020230418	Total/NA	Water	8260D	
670-18277-5	LC34-IW0129-018.0-020230418	Total/NA	Water	8260D	
670-18277-6	LC34-IW0130-024.0-020230418	Total/NA	Water	8260D	
670-18277-7	LC34-IW0134-024.0-020230418	Total/NA	Water	8260D	
670-18277-8	LC34-IW0139-018.0-020230418	Total/NA	Water	8260D	
670-18277-9	LC34-IW0140-024.0-020230418	Total/NA	Water	8260D	
670-18277-10	LC34-IW0057i-025.5-020230418	Total/NA	Water	8260D	
670-18277-11	LC34-IW0057s-008.0-020230419	Total/NA	Water	8260D	
670-18277-12	LC34-IW0141-024.0-020230419	Total/NA	Water	8260D	
670-18277-13	LC34-IW0146-018.0-020230419	Total/NA	Water	8260D	
MB 400-622816/4	Method Blank	Total/NA	Water	8260D	
LCS 400-622816/1002	Lab Control Sample	Total/NA	Water	8260D	
400-236516-A-2 MS	Matrix Spike	Total/NA	Water	8260D	
400-236516-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 622865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-18277-7 - DL	LC34-IW0134-024.0-020230418	Total/NA	Water	8260D	
MB 400-622865/4	Method Blank	Total/NA	Water	8260D	
LCS 400-622865/1002	Lab Control Sample	Total/NA	Water	8260D	
400-236801-A-11 MS	Matrix Spike	Total/NA	Water	8260D	
400-236801-A-11 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-18277-1
Project/Site: NASA KSC LC34 HS6

Client Sample ID: LC34-IW0133-018.0-020230418
Lab Sample ID: 670-18277-1
Date Collected: 04/18/23 09:00
Matrix: Water
Date Received: 04/19/23 15:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622816	AGW	EET PEN	04/29/23 16:51

Client Sample ID: LC34-IW0125-018.0-020230418
Lab Sample ID: 670-18277-2
Date Collected: 04/18/23 10:00
Matrix: Water
Date Received: 04/19/23 15:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622816	AGW	EET PEN	04/29/23 17:12

Client Sample ID: LC34-IW0131-018.0-020230418
Lab Sample ID: 670-18277-3
Date Collected: 04/18/23 11:05
Matrix: Water
Date Received: 04/19/23 15:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622816	AGW	EET PEN	04/29/23 17:33

Client Sample ID: LC34-IW0132-018.0-020230418
Lab Sample ID: 670-18277-4
Date Collected: 04/18/23 11:50
Matrix: Water
Date Received: 04/19/23 15:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622816	AGW	EET PEN	04/29/23 17:54

Client Sample ID: LC34-IW0129-018.0-020230418
Lab Sample ID: 670-18277-5
Date Collected: 04/18/23 12:45
Matrix: Water
Date Received: 04/19/23 15:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622816	AGW	EET PEN	04/29/23 18:15

Client Sample ID: LC34-IW0130-024.0-020230418
Lab Sample ID: 670-18277-6
Date Collected: 04/18/23 13:20
Matrix: Water
Date Received: 04/19/23 15:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622816	AGW	EET PEN	04/29/23 18:36

Client Sample ID: LC34-IW0134-024.0-020230418
Lab Sample ID: 670-18277-7
Date Collected: 04/18/23 17:00
Matrix: Water
Date Received: 04/19/23 15:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		20	622816	AGW	EET PEN	04/29/23 21:02
Total/NA	Analysis	8260D	DL	50	622865	AGW	EET PEN	04/30/23 19:19

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-18277-1
Project/Site: NASA KSC LC34 HS6

Client Sample ID: LC34-IW0139-018.0-020230418
Lab Sample ID: 670-18277-8
Date Collected: 04/18/23 17:55
Matrix: Water
Date Received: 04/19/23 15:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622816	AGW	EET PEN	04/29/23 18:57

Client Sample ID: LC34-IW0140-024.0-020230418
Lab Sample ID: 670-18277-9
Date Collected: 04/18/23 18:45
Matrix: Water
Date Received: 04/19/23 15:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622816	AGW	EET PEN	04/29/23 19:18

Client Sample ID: LC34-IW0057i-025.5-020230418
Lab Sample ID: 670-18277-10
Date Collected: 04/19/23 09:55
Matrix: Water
Date Received: 04/19/23 15:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622816	AGW	EET PEN	04/29/23 19:38

Client Sample ID: LC34-IW0057s-008.0-020230419
Lab Sample ID: 670-18277-11
Date Collected: 04/19/23 10:35
Matrix: Water
Date Received: 04/19/23 15:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622816	AGW	EET PEN	04/29/23 19:59

Client Sample ID: LC34-IW0141-024.0-020230419
Lab Sample ID: 670-18277-12
Date Collected: 04/19/23 11:30
Matrix: Water
Date Received: 04/19/23 15:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622816	AGW	EET PEN	04/29/23 20:20

Client Sample ID: LC34-IW0146-018.0-020230419
Lab Sample ID: 670-18277-13
Date Collected: 04/19/23 12:25
Matrix: Water
Date Received: 04/19/23 15:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622816	AGW	EET PEN	04/29/23 20:41

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-18277-1
Project/Site: NASA KSC LC34 HS6

Laboratory: Eurofins Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E81010	06-30-23

Method Summary

Client: Tetra Tech, Inc.
Job ID: 670-18277-1
Project/Site: NASA KSC LC34 HS6

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 670-18277-1
Project/Site: NASA KSC LC34 HS6

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-18277-1	LC34-IW0133-018.0-020230418	Water	04/18/23 09:00	04/19/23 15:20
670-18277-2	LC34-IW0125-018.0-020230418	Water	04/18/23 10:00	04/19/23 15:20
670-18277-3	LC34-IW0131-018.0-020230418	Water	04/18/23 11:05	04/19/23 15:20
670-18277-4	LC34-IW0132-018.0-020230418	Water	04/18/23 11:50	04/19/23 15:20
670-18277-5	LC34-IW0129-018.0-020230418	Water	04/18/23 12:45	04/19/23 15:20
670-18277-6	LC34-IW0130-024.0-020230418	Water	04/18/23 13:20	04/19/23 15:20
670-18277-7	LC34-IW0134-024.0-020230418	Water	04/18/23 17:00	04/19/23 15:20
670-18277-8	LC34-IW0139-018.0-020230418	Water	04/18/23 17:55	04/19/23 15:20
670-18277-9	LC34-IW0140-024.0-020230418	Water	04/18/23 18:45	04/19/23 15:20
670-18277-10	LC34-IW0057i-025.5-020230418	Water	04/19/23 09:55	04/19/23 15:20
670-18277-11	LC34-IW0057s-008.0-020230419	Water	04/19/23 10:35	04/19/23 15:20
670-18277-12	LC34-IW0141-024.0-020230419	Water	04/19/23 11:30	04/19/23 15:20
670-18277-13	LC34-IW0146-018.0-020230419	Water	04/19/23 12:25	04/19/23 15:20

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 2294 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112608985	KSC - NASA HSE - LC 34	Mark Jonnet	412-921-8622	Eurofin Kaitlin Dylnicki
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
Robert Siegel		Chuck Sorden	321-591-7580	481 Newburyport Ave
		CARRIER/WAYBILL NUMBER		CITY, STATE
		Lab # 67001156		Orlando Fl

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G, G

PRESERVATIVE USED: HCl, Ice, Ice

TYPE OF ANALYSIS: 8260d-(MOD) NASA LC34 Custom; 8260d-(MOD) NASA LC34 Custom

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	8260d-(MOD) NASA LC34 Custom	8260d-(MOD) NASA LC34 Custom	COMMENTS
4/18	0900	LC34-iW0133-018.0-2023 04 18	133	13.0	23.0	GW	G	4	2	2	
4/18	1000	LC34-iW0125-018.0-2023 04 18	125	13.0	23.0	GW	G	4	2	2	
4/18	1105	LC34-iW0131-018.0-2023 04 18	131	13.0	23.0	GW	G	4	2	2	
4/18	1150	LC34-iW0132-018.0-2023 04 18	132	13.0	23.0	GW	G	4	2	2	
4/18	1245	LC34-iW0129-018.0-2023 04 18	129	13.0	23.0	GW	G	4	2	2	
4/18	1320	LC34-iW0130-024.0-2023 04 18	130	20.0	28.0	GW	G	4	2	2	
4/18	1700	LC34-iW0134-024.0-2023 04 18	134	20.0	28.0	GW	G	4	2	2	
4/18	1755	LC34-iW0139-018.0-2023 04 18	139	13.0	23.0	GW	G	4	2	2	
4/18	1845	LC34-iW0140-024.0-2023 04 18	140	20.0	28.0	GW	G	4	2	2	
4/19	0955	LC34-iW0057i-025.5-2023 04 19	57i	23.0	28.0	GW	G	4	2	2	
4/19	1035	LC34-iW0057s-008.0-2023 04 19	57s	5.0	11.0	GW	G	4	2	2	
4/19	1130	LC34-iW0141-024.0-2023 04 19	141	20.0	28.0	GW	G	4	2	2	
4/19	1225	LC34-iW0146-018.0-2023 04 19	146	13.0	23.0	GW	G	4	2	2	

670-18277 Chain of Custody

1.71
h2

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY: R Siegel TT	4-19-23	1445	1. RECEIVED BY:	04/19/23	1445
2. RELINQUISHED BY:	04/19/23	1520	2. RECEIVED BY: James W Gregg	4/19/23	1520
3. RELINQUISHED BY:			3. RECEIVED BY:		

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

5/3/2023

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-8023.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 2
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-18277-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 4/28/2023			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34 HS6	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA LC34 Custom	8260D/5030B_UP (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
LC34-IW0133-018.0-020230418 (670-18277-1)	4/18/23	09:00 Eastern		Water			X	X	4	
LC34-IW0125-018.0-020230418 (670-18277-2)	4/18/23	10:00 Eastern		Water			X	X	4	
LC34-IW0131-018.0-020230418 (670-18277-3)	4/18/23	11:05 Eastern		Water			X	X	4	
LC34-IW0132-018.0-020230418 (670-18277-4)	4/18/23	11:50 Eastern		Water			X	X	4	
LC34-IW0129-018.0-020230418 (670-18277-5)	4/18/23	12:45 Eastern		Water			X	X	4	
LC34-IW0130-024.0-020230418 (670-18277-6)	4/18/23	13:20 Eastern		Water			X	X	4	
LC34-IW0134-024.0-020230418 (670-18277-7)	4/18/23	17:00 Eastern		Water			X	X	4	
LC34-IW0139-018.0-020230418 (670-18277-8)	4/18/23	17:55 Eastern		Water			X	X	4	
LC34-IW0140-024.0-020230418 (670-18277-9)	4/18/23	18:45 Eastern		Water			X	X	4	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	4/20 1300			4-21-23 851	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.5 c IR10

Ver: 06/08/2021

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-8023.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 2 of 2
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-18277-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 4/28/2023			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34 HS6	Project #: 67001156			
Site:	SSOW#:			

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA LC34 Custom	8260D/5030B_UP (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
LC34-IW0057i-025.5-020230418 (670-18277-10)	4/19/23	09:55 Eastern		Water			X	X	4	
LC34-IW0057s-008.0-020230419 (670-18277-11)	4/19/23	10:35 Eastern		Water			X	X	4	
LC34-IW0141-024.0-020230419 (670-18277-12)	4/19/23	11:30 Eastern		Water			X	X	4	
LC34-IW0146-018.0-020230419 (670-18277-13)	4/19/23	12:25 Eastern		Water			X	X	4	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	4/20 1300		M	4-21-23 851	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.5 C JR 10

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-18277-1

Login Number: 18277

List Number: 1

Creator: Wehr, Alex C

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-18277-1

Login Number: 18277
List Number: 2
Creator: Peckinpaugh, Marshall

List Source: Eurofins Pensacola
List Creation: 04/21/23 01:26 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.5°C IR10
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 5/9/2023 8:29:25 AM

JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-18428-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

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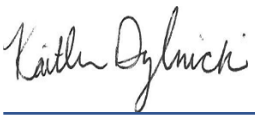

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-18428-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18428-1

Job ID: 670-18428-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-18428-1

Receipt
The samples were received on 4/21/2023 2:30 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.8°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 400-622919 recovered above the upper control limit for Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-623114 recovered above the upper control limit for Bromomethane and Vinyl chloride. The samples associated with this CCV were below the reporting limits (RL) for the affected analytes; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-623114 recovered outside acceptance criteria, low biased, for Methyl acetate. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The matrix spike duplicate (MSD) recovery for analytical batch 400-623361 was outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-iw0135-024.0-20230420 (670-18428-10). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18428-1

Client Sample ID: LC34-iw0147-024.0-20230419 — Lab Sample ID: 670-18428-1

No Detections.

Client Sample ID: LC34-iw0136-024.0-20230419 — Lab Sample ID: 670-18428-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.5		1.0	0.20	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-iw0127-024.0-20230419 — Lab Sample ID: 670-18428-3

No Detections.

Client Sample ID: LC34-iw0128-018.0-20230419 — Lab Sample ID: 670-18428-4

No Detections.

Client Sample ID: LC34-iw0142-024.0-20230419 — Lab Sample ID: 670-18428-5

No Detections.

Client Sample ID: LC34-iw0124-018.0-20230420 — Lab Sample ID: 670-18428-6

No Detections.

Client Sample ID: LC34-iw0108-024.0-20230420 — Lab Sample ID: 670-18428-7

No Detections.

Client Sample ID: LC34-iw0144-024.0-20230420 — Lab Sample ID: 670-18428-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.1		1.0	0.20	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-iw0145-031.5-20230420 — Lab Sample ID: 670-18428-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.53	I	1.0	0.20	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-iw0135-024.0-20230420 — Lab Sample ID: 670-18428-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.85	I	1.0	0.50	ug/L	1		8260D	Total/NA
Chloroethane	6.1		1.0	0.76	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	2.1		1.0	0.50	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene - DL	770		10	2.0	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	1100		10	5.0	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-iw0143-024.0-20230420 — Lab Sample ID: 670-18428-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	8.0		1.0	0.20	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-iw0123-024.0-20230420 — Lab Sample ID: 670-18428-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	22		1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride	5.3		1.0	0.50	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18428-1

Client Sample ID: LC34-iw0138-031.5-20230420 — Lab Sample ID: 670-18428-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.7		1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride	0.59	I	1.0	0.50	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-iw0137-024.0-20230420 — Lab Sample ID: 670-18428-14

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	5.4		1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride	0.68	I	1.0	0.50	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-iw0126-024.0-20230420 — Lab Sample ID: 670-18428-15

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.36	I	1.0	0.20	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-sw01004-000.5-20230421 — Lab Sample ID: 670-18428-16

No Detections.

Client Sample ID: LC34-sw01001-000.5-20230421 — Lab Sample ID: 670-18428-17

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.26	I	1.0	0.20	ug/L	1		8260D	Total/NA
Toluene	0.59	I	1.0	0.41	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-sw01002-000.5-20230421 — Lab Sample ID: 670-18428-18

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.70	I	1.0	0.20	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18428-1

Client Sample ID: LC34-iw0147-024.0-20230419
Date Collected: 04/19/23 13:10
Date Received: 04/21/23 14:30

Lab Sample ID: 670-18428-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/01/23 18:03	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/01/23 18:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/01/23 18:03	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/01/23 18:03	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/01/23 18:03	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/01/23 18:03	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/01/23 18:03	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/01/23 18:03	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/01/23 18:03	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/01/23 18:03	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/01/23 18:03	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/01/23 18:03	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/01/23 18:03	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/01/23 18:03	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/01/23 18:03	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/01/23 18:03	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/01/23 18:03	1
Acetone	10	U	25	10	ug/L			05/01/23 18:03	1
Benzene	0.13	U	1.0	0.13	ug/L			05/01/23 18:03	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/01/23 18:03	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/01/23 18:03	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/01/23 18:03	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/01/23 18:03	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/01/23 18:03	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/01/23 18:03	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/01/23 18:03	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/01/23 18:03	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/01/23 18:03	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			05/01/23 18:03	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/01/23 18:03	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/01/23 18:03	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/01/23 18:03	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/01/23 18:03	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/01/23 18:03	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/01/23 18:03	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/01/23 18:03	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/01/23 18:03	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/01/23 18:03	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/01/23 18:03	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/01/23 18:03	1
Styrene	1.0	U	1.0	1.0	ug/L			05/01/23 18:03	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/01/23 18:03	1
Toluene	0.41	U	1.0	0.41	ug/L			05/01/23 18:03	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/01/23 18:03	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/01/23 18:03	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/01/23 18:03	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/01/23 18:03	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/01/23 18:03	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/01/23 18:03	1

Client Sample ID: LC34-iw0147-024.0-20230419
Lab Sample ID: 670-18428-1

Date Collected: 04/19/23 13:10
Matrix: Water
Date Received: 04/21/23 14:30

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*98*		*67 - 134*		*05/01/23 18:03*	*1*
Toluene-d8 (Surr)	*94*		*64 - 132*		*05/01/23 18:03*	*1*
Dibromofluoromethane	*104*		*75 - 126*		*05/01/23 18:03*	*1*
4-Bromofluorobenzene	*88*		*72 - 119*		*05/01/23 18:03*	*1*

Client Sample ID: LC34-iw0136-024.0-20230419
Lab Sample ID: 670-18428-2

Date Collected: 04/19/23 14:35
Matrix: Water
Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/01/23 18:30	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/01/23 18:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/01/23 18:30	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/01/23 18:30	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/01/23 18:30	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/01/23 18:30	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/01/23 18:30	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/01/23 18:30	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/01/23 18:30	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/01/23 18:30	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/01/23 18:30	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/01/23 18:30	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/01/23 18:30	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/01/23 18:30	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/01/23 18:30	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/01/23 18:30	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/01/23 18:30	1
Acetone	10	U	25	10	ug/L			05/01/23 18:30	1
Benzene	0.13	U	1.0	0.13	ug/L			05/01/23 18:30	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/01/23 18:30	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/01/23 18:30	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/01/23 18:30	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/01/23 18:30	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/01/23 18:30	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/01/23 18:30	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/01/23 18:30	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/01/23 18:30	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/01/23 18:30	1
cis-1,2-Dichloroethene	**1.5**		1.0	0.20	ug/L			05/01/23 18:30	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/01/23 18:30	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/01/23 18:30	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/01/23 18:30	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/01/23 18:30	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/01/23 18:30	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/01/23 18:30	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/01/23 18:30	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/01/23 18:30	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/01/23 18:30	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/01/23 18:30	1

Client Sample ID: LC34-iw0136-024.0-20230419
Lab Sample ID: 670-18428-2

Date Collected: 04/19/23 14:35
Matrix: Water
Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.60	U	5.0	0.60	ug/L			05/01/23 18:30	1
Styrene	1.0	U	1.0	1.0	ug/L			05/01/23 18:30	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/01/23 18:30	1
Toluene	0.41	U	1.0	0.41	ug/L			05/01/23 18:30	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/01/23 18:30	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/01/23 18:30	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/01/23 18:30	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/01/23 18:30	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/01/23 18:30	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/01/23 18:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*67 - 134*		*05/01/23 18:30*	*1*
Toluene-d8 (Surr)	*94*		*64 - 132*		*05/01/23 18:30*	*1*
Dibromofluoromethane	*107*		*75 - 126*		*05/01/23 18:30*	*1*
4-Bromofluorobenzene	*89*		*72 - 119*		*05/01/23 18:30*	*1*

Client Sample ID: LC34-iw0127-024.0-20230419
Lab Sample ID: 670-18428-3

Date Collected: 04/19/23 15:25
Matrix: Water
Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/01/23 18:56	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/01/23 18:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/01/23 18:56	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/01/23 18:56	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/01/23 18:56	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/01/23 18:56	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/01/23 18:56	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/01/23 18:56	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/01/23 18:56	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/01/23 18:56	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/01/23 18:56	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/01/23 18:56	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/01/23 18:56	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/01/23 18:56	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/01/23 18:56	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/01/23 18:56	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/01/23 18:56	1
Acetone	10	U	25	10	ug/L			05/01/23 18:56	1
Benzene	0.13	U	1.0	0.13	ug/L			05/01/23 18:56	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/01/23 18:56	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/01/23 18:56	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/01/23 18:56	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/01/23 18:56	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/01/23 18:56	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/01/23 18:56	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/01/23 18:56	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/01/23 18:56	1

Client Sample ID: LC34-iw0127-024.0-20230419

Lab Sample ID: 670-18428-3

Date Collected: 04/19/23 15:25

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	0.32	U	1.0	0.32	ug/L			05/01/23 18:56	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			05/01/23 18:56	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/01/23 18:56	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/01/23 18:56	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/01/23 18:56	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/01/23 18:56	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/01/23 18:56	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/01/23 18:56	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/01/23 18:56	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/01/23 18:56	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/01/23 18:56	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/01/23 18:56	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/01/23 18:56	1
Styrene	1.0	U	1.0	1.0	ug/L			05/01/23 18:56	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/01/23 18:56	1
Toluene	0.41	U	1.0	0.41	ug/L			05/01/23 18:56	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/01/23 18:56	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/01/23 18:56	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/01/23 18:56	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/01/23 18:56	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/01/23 18:56	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/01/23 18:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*05/01/23 18:56*	*1*
Toluene-d8 (Surr)	*95*		*64 - 132*		*05/01/23 18:56*	*1*
Dibromofluoromethane	*110*		*75 - 126*		*05/01/23 18:56*	*1*
4-Bromofluorobenzene	*88*		*72 - 119*		*05/01/23 18:56*	*1*

Client Sample ID: LC34-iw0128-018.0-20230419

Lab Sample ID: 670-18428-4

Date Collected: 04/19/23 17:00

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/01/23 19:23	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/01/23 19:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/01/23 19:23	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/01/23 19:23	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/01/23 19:23	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/01/23 19:23	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/01/23 19:23	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/01/23 19:23	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/01/23 19:23	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/01/23 19:23	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/01/23 19:23	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/01/23 19:23	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/01/23 19:23	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/01/23 19:23	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/01/23 19:23	1

Client Sample ID: LC34-iw0128-018.0-20230419
Lab Sample ID: 670-18428-4

Date Collected: 04/19/23 17:00
Matrix: Water
Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	1.4	U	25	1.4	ug/L			05/01/23 19:23	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/01/23 19:23	1
Acetone	10	U	25	10	ug/L			05/01/23 19:23	1
Benzene	0.13	U	1.0	0.13	ug/L			05/01/23 19:23	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/01/23 19:23	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/01/23 19:23	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/01/23 19:23	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/01/23 19:23	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/01/23 19:23	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/01/23 19:23	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/01/23 19:23	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/01/23 19:23	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/01/23 19:23	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			05/01/23 19:23	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/01/23 19:23	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/01/23 19:23	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/01/23 19:23	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/01/23 19:23	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/01/23 19:23	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/01/23 19:23	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/01/23 19:23	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/01/23 19:23	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/01/23 19:23	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/01/23 19:23	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/01/23 19:23	1
Styrene	1.0	U	1.0	1.0	ug/L			05/01/23 19:23	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/01/23 19:23	1
Toluene	0.41	U	1.0	0.41	ug/L			05/01/23 19:23	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/01/23 19:23	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/01/23 19:23	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/01/23 19:23	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/01/23 19:23	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/01/23 19:23	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/01/23 19:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*05/01/23 19:23*	*1*
Toluene-d8 (Surr)	*93*		*64 - 132*		*05/01/23 19:23*	*1*
Dibromofluoromethane	*107*		*75 - 126*		*05/01/23 19:23*	*1*
4-Bromofluorobenzene	*88*		*72 - 119*		*05/01/23 19:23*	*1*

Client Sample ID: LC34-iw0142-024.0-20230419
Lab Sample ID: 670-18428-5

Date Collected: 04/19/23 17:55
Matrix: Water
Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/01/23 19:50	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/01/23 19:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/01/23 19:50	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18428-1

Client Sample ID: LC34-iw0142-024.0-20230419
Date Collected: 04/19/23 17:55
Date Received: 04/21/23 14:30

Lab Sample ID: 670-18428-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/01/23 19:50	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/01/23 19:50	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/01/23 19:50	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/01/23 19:50	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/01/23 19:50	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/01/23 19:50	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/01/23 19:50	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/01/23 19:50	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/01/23 19:50	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/01/23 19:50	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/01/23 19:50	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/01/23 19:50	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/01/23 19:50	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/01/23 19:50	1
Acetone	10	U	25	10	ug/L			05/01/23 19:50	1
Benzene	0.13	U	1.0	0.13	ug/L			05/01/23 19:50	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/01/23 19:50	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/01/23 19:50	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/01/23 19:50	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/01/23 19:50	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/01/23 19:50	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/01/23 19:50	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/01/23 19:50	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/01/23 19:50	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/01/23 19:50	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			05/01/23 19:50	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/01/23 19:50	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/01/23 19:50	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/01/23 19:50	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/01/23 19:50	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/01/23 19:50	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/01/23 19:50	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/01/23 19:50	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/01/23 19:50	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/01/23 19:50	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/01/23 19:50	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/01/23 19:50	1
Styrene	1.0	U	1.0	1.0	ug/L			05/01/23 19:50	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/01/23 19:50	1
Toluene	0.41	U	1.0	0.41	ug/L			05/01/23 19:50	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/01/23 19:50	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/01/23 19:50	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/01/23 19:50	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/01/23 19:50	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/01/23 19:50	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/01/23 19:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*67 - 134*		*05/01/23 19:50*	*1*
Toluene-d8 (Surr)	*91*		*64 - 132*		*05/01/23 19:50*	*1*

Client Sample ID: LC34-iw0142-024.0-20230419

Lab Sample ID: 670-18428-5

Date Collected: 04/19/23 17:55

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*108*		*75 - 126*		*05/01/23 19:50*	*1*
4-Bromofluorobenzene	*89*		*72 - 119*		*05/01/23 19:50*	*1*

Client Sample ID: LC34-iw0124-018.0-20230420

Lab Sample ID: 670-18428-6

Date Collected: 04/20/23 08:05

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/02/23 17:02	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 17:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/02/23 17:02	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/02/23 17:02	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 17:02	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 17:02	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/02/23 17:02	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/02/23 17:02	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/02/23 17:02	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/02/23 17:02	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/02/23 17:02	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/02/23 17:02	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/02/23 17:02	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/02/23 17:02	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/02/23 17:02	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/02/23 17:02	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/02/23 17:02	1
Acetone	10	U	25	10	ug/L			05/02/23 17:02	1
Benzene	0.13	U	1.0	0.13	ug/L			05/02/23 17:02	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/02/23 17:02	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/02/23 17:02	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/02/23 17:02	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/02/23 17:02	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/02/23 17:02	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/02/23 17:02	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/02/23 17:02	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/02/23 17:02	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/02/23 17:02	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			05/02/23 17:02	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/02/23 17:02	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/02/23 17:02	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/02/23 17:02	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/02/23 17:02	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/02/23 17:02	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/02/23 17:02	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/02/23 17:02	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/02/23 17:02	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/02/23 17:02	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/02/23 17:02	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/02/23 17:02	1

Client Sample ID: LC34-iw0124-018.0-20230420

Lab Sample ID: 670-18428-6

Date Collected: 04/20/23 08:05

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	1.0	U	1.0	1.0	ug/L			05/02/23 17:02	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/02/23 17:02	1
Toluene	0.41	U	1.0	0.41	ug/L			05/02/23 17:02	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 17:02	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/02/23 17:02	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/02/23 17:02	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/02/23 17:02	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/02/23 17:02	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/02/23 17:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*		*05/02/23 17:02*	*1*
Toluene-d8 (Surr)	*94*		*64 - 132*		*05/02/23 17:02*	*1*
Dibromofluoromethane	*109*		*75 - 126*		*05/02/23 17:02*	*1*
4-Bromofluorobenzene	*89*		*72 - 119*		*05/02/23 17:02*	*1*

Client Sample ID: LC34-iw0108-024.0-20230420

Lab Sample ID: 670-18428-7

Date Collected: 04/20/23 09:10

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/02/23 17:29	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 17:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/02/23 17:29	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/02/23 17:29	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 17:29	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 17:29	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/02/23 17:29	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/02/23 17:29	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/02/23 17:29	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/02/23 17:29	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/02/23 17:29	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/02/23 17:29	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/02/23 17:29	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/02/23 17:29	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/02/23 17:29	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/02/23 17:29	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/02/23 17:29	1
Acetone	10	U	25	10	ug/L			05/02/23 17:29	1
Benzene	0.13	U	1.0	0.13	ug/L			05/02/23 17:29	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/02/23 17:29	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/02/23 17:29	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/02/23 17:29	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/02/23 17:29	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/02/23 17:29	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/02/23 17:29	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/02/23 17:29	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/02/23 17:29	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/02/23 17:29	1

Client Sample ID: LC34-iw0108-024.0-20230420

Lab Sample ID: 670-18428-7

Date Collected: 04/20/23 09:10

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			05/02/23 17:29	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/02/23 17:29	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/02/23 17:29	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/02/23 17:29	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/02/23 17:29	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/02/23 17:29	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/02/23 17:29	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/02/23 17:29	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/02/23 17:29	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/02/23 17:29	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/02/23 17:29	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/02/23 17:29	1
Styrene	1.0	U	1.0	1.0	ug/L			05/02/23 17:29	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/02/23 17:29	1
Toluene	0.41	U	1.0	0.41	ug/L			05/02/23 17:29	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 17:29	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/02/23 17:29	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/02/23 17:29	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/02/23 17:29	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/02/23 17:29	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/02/23 17:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*05/02/23 17:29*	*1*
Toluene-d8 (Surr)	*94*		*64 - 132*		*05/02/23 17:29*	*1*
Dibromofluoromethane	*108*		*75 - 126*		*05/02/23 17:29*	*1*
4-Bromofluorobenzene	*89*		*72 - 119*		*05/02/23 17:29*	*1*

Client Sample ID: LC34-iw0144-024.0-20230420

Lab Sample ID: 670-18428-8

Date Collected: 04/20/23 10:20

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/04/23 00:56	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/04/23 00:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/04/23 00:56	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/04/23 00:56	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/04/23 00:56	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/04/23 00:56	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/04/23 00:56	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/04/23 00:56	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/04/23 00:56	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/04/23 00:56	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/04/23 00:56	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/04/23 00:56	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/04/23 00:56	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/04/23 00:56	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/04/23 00:56	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/04/23 00:56	1

Client Sample ID: LC34-iw0144-024.0-20230420

Lab Sample ID: 670-18428-8

Date Collected: 04/20/23 10:20

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/04/23 00:56	1
Acetone	10	U	25	10	ug/L			05/04/23 00:56	1
Benzene	0.13	U	1.0	0.13	ug/L			05/04/23 00:56	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/04/23 00:56	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/04/23 00:56	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/04/23 00:56	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/04/23 00:56	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/04/23 00:56	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/04/23 00:56	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/04/23 00:56	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/04/23 00:56	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/04/23 00:56	1
cis-1,2-Dichloroethene	**1.1**		1.0	0.20	ug/L			05/04/23 00:56	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/04/23 00:56	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/04/23 00:56	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/04/23 00:56	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/04/23 00:56	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/04/23 00:56	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/04/23 00:56	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/04/23 00:56	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/04/23 00:56	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/04/23 00:56	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/04/23 00:56	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/04/23 00:56	1
Styrene	1.0	U	1.0	1.0	ug/L			05/04/23 00:56	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/04/23 00:56	1
Toluene	0.41	U	1.0	0.41	ug/L			05/04/23 00:56	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/04/23 00:56	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/04/23 00:56	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/04/23 00:56	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/04/23 00:56	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/04/23 00:56	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/04/23 00:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*67 - 134*		*05/04/23 00:56*	*1*
Toluene-d8 (Surr)	*93*		*64 - 132*		*05/04/23 00:56*	*1*
Dibromofluoromethane	*108*		*75 - 126*		*05/04/23 00:56*	*1*
4-Bromofluorobenzene	*92*		*72 - 119*		*05/04/23 00:56*	*1*

Client Sample ID: LC34-iw0145-031.5-20230420

Lab Sample ID: 670-18428-9

Date Collected: 04/20/23 11:05

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/02/23 17:55	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 17:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/02/23 17:55	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/02/23 17:55	1

Client Sample ID: LC34-iw0145-031.5-20230420
Date Collected: 04/20/23 11:05
Date Received: 04/21/23 14:30

Lab Sample ID: 670-18428-9
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 17:55	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 17:55	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/02/23 17:55	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/02/23 17:55	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/02/23 17:55	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/02/23 17:55	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/02/23 17:55	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/02/23 17:55	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/02/23 17:55	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/02/23 17:55	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/02/23 17:55	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/02/23 17:55	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/02/23 17:55	1
Acetone	10	U	25	10	ug/L			05/02/23 17:55	1
Benzene	0.13	U	1.0	0.13	ug/L			05/02/23 17:55	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/02/23 17:55	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/02/23 17:55	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/02/23 17:55	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/02/23 17:55	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/02/23 17:55	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/02/23 17:55	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/02/23 17:55	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/02/23 17:55	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/02/23 17:55	1
cis-1,2-Dichloroethene	**0.53**	**I**	1.0	0.20	ug/L			05/02/23 17:55	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/02/23 17:55	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/02/23 17:55	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/02/23 17:55	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/02/23 17:55	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/02/23 17:55	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/02/23 17:55	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/02/23 17:55	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/02/23 17:55	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/02/23 17:55	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/02/23 17:55	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/02/23 17:55	1
Styrene	1.0	U	1.0	1.0	ug/L			05/02/23 17:55	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/02/23 17:55	1
Toluene	0.41	U	1.0	0.41	ug/L			05/02/23 17:55	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 17:55	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/02/23 17:55	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/02/23 17:55	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/02/23 17:55	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/02/23 17:55	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/02/23 17:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*		*05/02/23 17:55*	*1*
Toluene-d8 (Surr)	*94*		*64 - 132*		*05/02/23 17:55*	*1*
Dibromofluoromethane	*110*		*75 - 126*		*05/02/23 17:55*	*1*

Client Sample ID: LC34-iw0145-031.5-20230420

Lab Sample ID: 670-18428-9

Date Collected: 04/20/23 11:05

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	*88*		*72 - 119*		*05/02/23 17:55*	*1*

Client Sample ID: LC34-iw0135-024.0-20230420

Lab Sample ID: 670-18428-10

Date Collected: 04/20/23 12:00

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/02/23 18:22	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 18:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/02/23 18:22	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/02/23 18:22	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 18:22	1
1,1-Dichloroethene	**0.85**	**I**	1.0	0.50	ug/L			05/02/23 18:22	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/02/23 18:22	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/02/23 18:22	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/02/23 18:22	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/02/23 18:22	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/02/23 18:22	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/02/23 18:22	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/02/23 18:22	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/02/23 18:22	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/02/23 18:22	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/02/23 18:22	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/02/23 18:22	1
Acetone	10	U	25	10	ug/L			05/02/23 18:22	1
Benzene	0.13	U	1.0	0.13	ug/L			05/02/23 18:22	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/02/23 18:22	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/02/23 18:22	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/02/23 18:22	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/02/23 18:22	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/02/23 18:22	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/02/23 18:22	1
Chloroethane	**6.1**		1.0	0.76	ug/L			05/02/23 18:22	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/02/23 18:22	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/02/23 18:22	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/02/23 18:22	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/02/23 18:22	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/02/23 18:22	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/02/23 18:22	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/02/23 18:22	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/02/23 18:22	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/02/23 18:22	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/02/23 18:22	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/02/23 18:22	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/02/23 18:22	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/02/23 18:22	1
Styrene	1.0	U	1.0	1.0	ug/L			05/02/23 18:22	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/02/23 18:22	1

Client Sample ID: LC34-iw0135-024.0-20230420

Lab Sample ID: 670-18428-10

Date Collected: 04/20/23 12:00

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	0.41	U	1.0	0.41	ug/L			05/02/23 18:22	1
trans-1,2-Dichloroethene	**2.1**		1.0	0.50	ug/L			05/02/23 18:22	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/02/23 18:22	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/02/23 18:22	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/02/23 18:22	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/02/23 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*67 - 134*		*05/02/23 18:22*	*1*
Toluene-d8 (Surr)	*92*		*64 - 132*		*05/02/23 18:22*	*1*
Dibromofluoromethane	*109*		*75 - 126*		*05/02/23 18:22*	*1*
4-Bromofluorobenzene	*89*		*72 - 119*		*05/02/23 18:22*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**770**		10	2.0	ug/L			05/04/23 03:10	10
Vinyl chloride	**1100**		10	5.0	ug/L			05/04/23 03:10	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*67 - 134*		*05/04/23 03:10*	*10*
Toluene-d8 (Surr)	*94*		*64 - 132*		*05/04/23 03:10*	*10*
Dibromofluoromethane	*111*		*75 - 126*		*05/04/23 03:10*	*10*
4-Bromofluorobenzene	*87*		*72 - 119*		*05/04/23 03:10*	*10*

Client Sample ID: LC34-iw0143-024.0-20230420

Lab Sample ID: 670-18428-11

Date Collected: 04/20/23 14:00

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/02/23 18:49	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 18:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/02/23 18:49	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/02/23 18:49	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 18:49	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 18:49	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/02/23 18:49	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/02/23 18:49	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/02/23 18:49	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/02/23 18:49	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/02/23 18:49	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/02/23 18:49	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/02/23 18:49	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/02/23 18:49	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/02/23 18:49	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/02/23 18:49	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/02/23 18:49	1
Acetone	10	U	25	10	ug/L			05/02/23 18:49	1
Benzene	0.13	U	1.0	0.13	ug/L			05/02/23 18:49	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/02/23 18:49	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/02/23 18:49	1

Client Sample ID: LC34-iw0143-024.0-20230420

Lab Sample ID: 670-18428-11

Date Collected: 04/20/23 14:00

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	0.98	U	1.0	0.98	ug/L			05/02/23 18:49	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/02/23 18:49	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/02/23 18:49	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/02/23 18:49	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/02/23 18:49	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/02/23 18:49	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/02/23 18:49	1
cis-1,2-Dichloroethene	**8.0**		1.0	0.20	ug/L			05/02/23 18:49	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/02/23 18:49	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/02/23 18:49	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/02/23 18:49	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/02/23 18:49	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/02/23 18:49	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/02/23 18:49	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/02/23 18:49	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/02/23 18:49	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/02/23 18:49	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/02/23 18:49	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/02/23 18:49	1
Styrene	1.0	U	1.0	1.0	ug/L			05/02/23 18:49	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/02/23 18:49	1
Toluene	0.41	U	1.0	0.41	ug/L			05/02/23 18:49	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 18:49	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/02/23 18:49	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/02/23 18:49	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/02/23 18:49	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/02/23 18:49	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/02/23 18:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*67 - 134*		*05/02/23 18:49*	*1*
Toluene-d8 (Surr)	*94*		*64 - 132*		*05/02/23 18:49*	*1*
Dibromofluoromethane	*107*		*75 - 126*		*05/02/23 18:49*	*1*
4-Bromofluorobenzene	*87*		*72 - 119*		*05/02/23 18:49*	*1*

Client Sample ID: LC34-iw0123-024.0-20230420

Lab Sample ID: 670-18428-12

Date Collected: 04/20/23 14:50

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/04/23 01:50	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/04/23 01:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/04/23 01:50	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/04/23 01:50	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/04/23 01:50	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/04/23 01:50	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/04/23 01:50	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/04/23 01:50	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/04/23 01:50	1

Client Sample ID: LC34-iw0123-024.0-20230420
Date Collected: 04/20/23 14:50
Date Received: 04/21/23 14:30

Lab Sample ID: 670-18428-12
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/04/23 01:50	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/04/23 01:50	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/04/23 01:50	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/04/23 01:50	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/04/23 01:50	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/04/23 01:50	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/04/23 01:50	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/04/23 01:50	1
Acetone	10	U	25	10	ug/L			05/04/23 01:50	1
Benzene	0.13	U	1.0	0.13	ug/L			05/04/23 01:50	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/04/23 01:50	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/04/23 01:50	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/04/23 01:50	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/04/23 01:50	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/04/23 01:50	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/04/23 01:50	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/04/23 01:50	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/04/23 01:50	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/04/23 01:50	1
cis-1,2-Dichloroethene	**22**		1.0	0.20	ug/L			05/04/23 01:50	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/04/23 01:50	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/04/23 01:50	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/04/23 01:50	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/04/23 01:50	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/04/23 01:50	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/04/23 01:50	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/04/23 01:50	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/04/23 01:50	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/04/23 01:50	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/04/23 01:50	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/04/23 01:50	1
Styrene	1.0	U	1.0	1.0	ug/L			05/04/23 01:50	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/04/23 01:50	1
Toluene	0.41	U	1.0	0.41	ug/L			05/04/23 01:50	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/04/23 01:50	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/04/23 01:50	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/04/23 01:50	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/04/23 01:50	1
Vinyl chloride	**5.3**		1.0	0.50	ug/L			05/04/23 01:50	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/04/23 01:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 134*		*05/04/23 01:50*	*1*
Toluene-d8 (Surr)	*93*		*64 - 132*		*05/04/23 01:50*	*1*
Dibromofluoromethane	*110*		*75 - 126*		*05/04/23 01:50*	*1*
4-Bromofluorobenzene	*87*		*72 - 119*		*05/04/23 01:50*	*1*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18428-1

Client Sample ID: LC34-iw0138-031.5-20230420
Date Collected: 04/20/23 16:20
Date Received: 04/21/23 14:30

Lab Sample ID: 670-18428-13
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/02/23 19:42	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 19:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/02/23 19:42	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/02/23 19:42	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 19:42	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 19:42	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/02/23 19:42	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/02/23 19:42	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/02/23 19:42	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/02/23 19:42	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/02/23 19:42	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/02/23 19:42	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/02/23 19:42	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/02/23 19:42	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/02/23 19:42	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/02/23 19:42	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/02/23 19:42	1
Acetone	10	U	25	10	ug/L			05/02/23 19:42	1
Benzene	0.13	U	1.0	0.13	ug/L			05/02/23 19:42	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/02/23 19:42	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/02/23 19:42	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/02/23 19:42	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/02/23 19:42	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/02/23 19:42	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/02/23 19:42	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/02/23 19:42	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/02/23 19:42	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/02/23 19:42	1
cis-1,2-Dichloroethene	**2.7**		1.0	0.20	ug/L			05/02/23 19:42	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/02/23 19:42	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/02/23 19:42	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/02/23 19:42	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/02/23 19:42	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/02/23 19:42	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/02/23 19:42	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/02/23 19:42	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/02/23 19:42	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/02/23 19:42	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/02/23 19:42	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/02/23 19:42	1
Styrene	1.0	U	1.0	1.0	ug/L			05/02/23 19:42	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/02/23 19:42	1
Toluene	0.41	U	1.0	0.41	ug/L			05/02/23 19:42	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 19:42	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/02/23 19:42	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/02/23 19:42	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/02/23 19:42	1
Vinyl chloride	**0.59**	**I**	1.0	0.50	ug/L			05/02/23 19:42	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/02/23 19:42	1

Client Sample ID: LC34-iw0138-031.5-20230420

Lab Sample ID: 670-18428-13

Date Collected: 04/20/23 16:20

Matrix: Water

Date Received: 04/21/23 14:30

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*		*05/02/23 19:42*	*1*
Toluene-d8 (Surr)	*93*		*64 - 132*		*05/02/23 19:42*	*1*
Dibromofluoromethane	*106*		*75 - 126*		*05/02/23 19:42*	*1*
4-Bromofluorobenzene	*88*		*72 - 119*		*05/02/23 19:42*	*1*

Client Sample ID: LC34-iw0137-024.0-20230420

Lab Sample ID: 670-18428-14

Date Collected: 04/20/23 17:10

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/02/23 20:09	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 20:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/02/23 20:09	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/02/23 20:09	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 20:09	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 20:09	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/02/23 20:09	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/02/23 20:09	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/02/23 20:09	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/02/23 20:09	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/02/23 20:09	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/02/23 20:09	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/02/23 20:09	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/02/23 20:09	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/02/23 20:09	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/02/23 20:09	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/02/23 20:09	1
Acetone	10	U	25	10	ug/L			05/02/23 20:09	1
Benzene	0.13	U	1.0	0.13	ug/L			05/02/23 20:09	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/02/23 20:09	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/02/23 20:09	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/02/23 20:09	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/02/23 20:09	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/02/23 20:09	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/02/23 20:09	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/02/23 20:09	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/02/23 20:09	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/02/23 20:09	1
cis-1,2-Dichloroethene	**5.4**		1.0	0.20	ug/L			05/02/23 20:09	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/02/23 20:09	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/02/23 20:09	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/02/23 20:09	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/02/23 20:09	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/02/23 20:09	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/02/23 20:09	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/02/23 20:09	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/02/23 20:09	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/02/23 20:09	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/02/23 20:09	1

Client Sample ID: LC34-iw0137-024.0-20230420

Lab Sample ID: 670-18428-14

Date Collected: 04/20/23 17:10

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.60	U	5.0	0.60	ug/L			05/02/23 20:09	1
Styrene	1.0	U	1.0	1.0	ug/L			05/02/23 20:09	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/02/23 20:09	1
Toluene	0.41	U	1.0	0.41	ug/L			05/02/23 20:09	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 20:09	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/02/23 20:09	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/02/23 20:09	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/02/23 20:09	1
Vinyl chloride	**0.68**	**I**	1.0	0.50	ug/L			05/02/23 20:09	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/02/23 20:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*05/02/23 20:09*	*1*
Toluene-d8 (Surr)	*93*		*64 - 132*		*05/02/23 20:09*	*1*
Dibromofluoromethane	*108*		*75 - 126*		*05/02/23 20:09*	*1*
4-Bromofluorobenzene	*87*		*72 - 119*		*05/02/23 20:09*	*1*

Client Sample ID: LC34-iw0126-024.0-20230420

Lab Sample ID: 670-18428-15

Date Collected: 04/20/23 18:10

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/02/23 20:35	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 20:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/02/23 20:35	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/02/23 20:35	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 20:35	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 20:35	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/02/23 20:35	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/02/23 20:35	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/02/23 20:35	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/02/23 20:35	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/02/23 20:35	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/02/23 20:35	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/02/23 20:35	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/02/23 20:35	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/02/23 20:35	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/02/23 20:35	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/02/23 20:35	1
Acetone	10	U	25	10	ug/L			05/02/23 20:35	1
Benzene	0.13	U	1.0	0.13	ug/L			05/02/23 20:35	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/02/23 20:35	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/02/23 20:35	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/02/23 20:35	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/02/23 20:35	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/02/23 20:35	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/02/23 20:35	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/02/23 20:35	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/02/23 20:35	1

Client Sample ID: LC34-iw0126-024.0-20230420

Lab Sample ID: 670-18428-15

Date Collected: 04/20/23 18:10

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	0.32	U	1.0	0.32	ug/L			05/02/23 20:35	1
cis-1,2-Dichloroethene	**0.36**	**I**	1.0	0.20	ug/L			05/02/23 20:35	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/02/23 20:35	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/02/23 20:35	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/02/23 20:35	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/02/23 20:35	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/02/23 20:35	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/02/23 20:35	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/02/23 20:35	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/02/23 20:35	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/02/23 20:35	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/02/23 20:35	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/02/23 20:35	1
Styrene	1.0	U	1.0	1.0	ug/L			05/02/23 20:35	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/02/23 20:35	1
Toluene	0.41	U	1.0	0.41	ug/L			05/02/23 20:35	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 20:35	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/02/23 20:35	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/02/23 20:35	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/02/23 20:35	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/02/23 20:35	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/02/23 20:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*		*05/02/23 20:35*	*1*
Toluene-d8 (Surr)	*93*		*64 - 132*		*05/02/23 20:35*	*1*
Dibromofluoromethane	*108*		*75 - 126*		*05/02/23 20:35*	*1*
4-Bromofluorobenzene	*88*		*72 - 119*		*05/02/23 20:35*	*1*

Client Sample ID: LC34-sw01004-000.5-20230421

Lab Sample ID: 670-18428-16

Date Collected: 04/21/23 09:00

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/02/23 21:02	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 21:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/02/23 21:02	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/02/23 21:02	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 21:02	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 21:02	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/02/23 21:02	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/02/23 21:02	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/02/23 21:02	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/02/23 21:02	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/02/23 21:02	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/02/23 21:02	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/02/23 21:02	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/02/23 21:02	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/02/23 21:02	1

Client Sample ID: LC34-sw01004-000.5-20230421

Lab Sample ID: 670-18428-16

Date Collected: 04/21/23 09:00

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	1.4	U	25	1.4	ug/L			05/02/23 21:02	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/02/23 21:02	1
Acetone	10	U	25	10	ug/L			05/02/23 21:02	1
Benzene	0.13	U	1.0	0.13	ug/L			05/02/23 21:02	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/02/23 21:02	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/02/23 21:02	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/02/23 21:02	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/02/23 21:02	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/02/23 21:02	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/02/23 21:02	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/02/23 21:02	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/02/23 21:02	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/02/23 21:02	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			05/02/23 21:02	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/02/23 21:02	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/02/23 21:02	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/02/23 21:02	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/02/23 21:02	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/02/23 21:02	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/02/23 21:02	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/02/23 21:02	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/02/23 21:02	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/02/23 21:02	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/02/23 21:02	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/02/23 21:02	1
Styrene	1.0	U	1.0	1.0	ug/L			05/02/23 21:02	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/02/23 21:02	1
Toluene	0.41	U	1.0	0.41	ug/L			05/02/23 21:02	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 21:02	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/02/23 21:02	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/02/23 21:02	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/02/23 21:02	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/02/23 21:02	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/02/23 21:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*67 - 134*		*05/02/23 21:02*	*1*
Toluene-d8 (Surr)	*93*		*64 - 132*		*05/02/23 21:02*	*1*
Dibromofluoromethane	*111*		*75 - 126*		*05/02/23 21:02*	*1*
4-Bromofluorobenzene	*87*		*72 - 119*		*05/02/23 21:02*	*1*

Client Sample ID: LC34-sw01001-000.5-20230421

Lab Sample ID: 670-18428-17

Date Collected: 04/21/23 09:30

Matrix: Water

Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/04/23 02:17	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/04/23 02:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/04/23 02:17	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18428-1

Client Sample ID: LC34-sw01001-000.5-20230421
Date Collected: 04/21/23 09:30
Date Received: 04/21/23 14:30

Lab Sample ID: 670-18428-17
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/04/23 02:17	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/04/23 02:17	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/04/23 02:17	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/04/23 02:17	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/04/23 02:17	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/04/23 02:17	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/04/23 02:17	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/04/23 02:17	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/04/23 02:17	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/04/23 02:17	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/04/23 02:17	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/04/23 02:17	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/04/23 02:17	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/04/23 02:17	1
Acetone	10	U	25	10	ug/L			05/04/23 02:17	1
Benzene	0.13	U	1.0	0.13	ug/L			05/04/23 02:17	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/04/23 02:17	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/04/23 02:17	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/04/23 02:17	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/04/23 02:17	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/04/23 02:17	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/04/23 02:17	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/04/23 02:17	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/04/23 02:17	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/04/23 02:17	1
cis-1,2-Dichloroethene	**0.26**	**I**	1.0	0.20	ug/L			05/04/23 02:17	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/04/23 02:17	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/04/23 02:17	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/04/23 02:17	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/04/23 02:17	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/04/23 02:17	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/04/23 02:17	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/04/23 02:17	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/04/23 02:17	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/04/23 02:17	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/04/23 02:17	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/04/23 02:17	1
Styrene	1.0	U	1.0	1.0	ug/L			05/04/23 02:17	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/04/23 02:17	1
Toluene	**0.59**	**I**	1.0	0.41	ug/L			05/04/23 02:17	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/04/23 02:17	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/04/23 02:17	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/04/23 02:17	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/04/23 02:17	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/04/23 02:17	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/04/23 02:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 134*		*05/04/23 02:17*	*1*
Toluene-d8 (Surr)	*93*		*64 - 132*		*05/04/23 02:17*	*1*

Client Sample ID: LC34-sw01001-000.5-20230421 — **Lab Sample ID: 670-18428-17**
Date Collected: 04/21/23 09:30 — **Matrix: Water**
Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*110*		*75 - 126*		*05/04/23 02:17*	*1*
4-Bromofluorobenzene	*91*		*72 - 119*		*05/04/23 02:17*	*1*

Client Sample ID: LC34-sw01002-000.5-20230421 — **Lab Sample ID: 670-18428-18**
Date Collected: 04/21/23 10:00 — **Matrix: Water**
Date Received: 04/21/23 14:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/04/23 02:43	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/04/23 02:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/04/23 02:43	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/04/23 02:43	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/04/23 02:43	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/04/23 02:43	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/04/23 02:43	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/04/23 02:43	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/04/23 02:43	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/04/23 02:43	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/04/23 02:43	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/04/23 02:43	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/04/23 02:43	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/04/23 02:43	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/04/23 02:43	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/04/23 02:43	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/04/23 02:43	1
Acetone	10	U	25	10	ug/L			05/04/23 02:43	1
Benzene	0.13	U	1.0	0.13	ug/L			05/04/23 02:43	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/04/23 02:43	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/04/23 02:43	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/04/23 02:43	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/04/23 02:43	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/04/23 02:43	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/04/23 02:43	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/04/23 02:43	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/04/23 02:43	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/04/23 02:43	1
cis-1,2-Dichloroethene	**0.70**	**I**	1.0	0.20	ug/L			05/04/23 02:43	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/04/23 02:43	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/04/23 02:43	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/04/23 02:43	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/04/23 02:43	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/04/23 02:43	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/04/23 02:43	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/04/23 02:43	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/04/23 02:43	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/04/23 02:43	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/04/23 02:43	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/04/23 02:43	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18428-1

Client Sample ID: LC34-sw01002-000.5-20230421
Date Collected: 04/21/23 10:00
Date Received: 04/21/23 14:30

Lab Sample ID: 670-18428-18
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	1.0	U	1.0	1.0	ug/L			05/04/23 02:43	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/04/23 02:43	1
Toluene	0.41	U	1.0	0.41	ug/L			05/04/23 02:43	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/04/23 02:43	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/04/23 02:43	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/04/23 02:43	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/04/23 02:43	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/04/23 02:43	1
Xylenes, Total	1.6	U	10	1.6	ug/L			05/04/23 02:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 134*		*05/04/23 02:43*	*1*
Toluene-d8 (Surr)	*93*		*64 - 132*		*05/04/23 02:43*	*1*
Dibromofluoromethane	*111*		*75 - 126*		*05/04/23 02:43*	*1*
4-Bromofluorobenzene	*85*		*72 - 119*		*05/04/23 02:43*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18428-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	DBFM	BFB
Lab Sample ID	Client Sample ID	(67-134)	(64-132)	(75-126)	(72-119)
400-236584-A-1 MS	Matrix Spike	97	96	100	89
400-236584-A-1 MSD	Matrix Spike Duplicate	94	97	100	90
400-236605-A-1 MS	Matrix Spike	94	95	99	85
400-236605-A-1 MSD	Matrix Spike Duplicate	95	94	100	90
400-236801-B-11 MS	Matrix Spike	91	98	98	90
400-236801-B-11 MSD	Matrix Spike Duplicate	91	95	98	90
670-18428-1	LC34-iw0147-024.0-20230419	98	94	104	88
670-18428-2	LC34-iw0136-024.0-20230419	99	94	107	89
670-18428-3	LC34-iw0127-024.0-20230419	103	95	110	88
670-18428-4	LC34-iw0128-018.0-20230419	103	93	107	88
670-18428-5	LC34-iw0142-024.0-20230419	104	91	108	89
670-18428-6	LC34-iw0124-018.0-20230420	101	94	109	89
670-18428-7	LC34-iw0108-024.0-20230420	103	94	108	89
670-18428-8	LC34-iw0144-024.0-20230420	105	93	108	92
670-18428-9	LC34-iw0145-031.5-20230420	101	94	110	88
670-18428-10	LC34-iw0135-024.0-20230420	102	92	109	89
670-18428-10 - DL	LC34-iw0135-024.0-20230420	105	94	111	87
670-18428-11	LC34-iw0143-024.0-20230420	104	94	107	87
670-18428-12	LC34-iw0123-024.0-20230420	107	93	110	87
670-18428-13	LC34-iw0138-031.5-20230420	101	93	106	88
670-18428-14	LC34-iw0137-024.0-20230420	103	93	108	87
670-18428-15	LC34-iw0126-024.0-20230420	101	93	108	88
670-18428-16	LC34-sw01004-000.5-20230421	104	93	111	87
670-18428-17	LC34-sw01001-000.5-20230421	107	93	110	91
670-18428-18	LC34-sw01002-000.5-20230421	107	93	111	85
LCS 400-622919/1002	Lab Control Sample	93	98	98	89
LCS 400-623114/1002	Lab Control Sample	95	98	95	93
LCS 400-623361/1002	Lab Control Sample	97	96	101	89
MB 400-622919/4	Method Blank	96	95	104	87
MB 400-623114/4	Method Blank	104	95	106	91
MB 400-623361/4	Method Blank	103	94	107	88

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane
BFB = 4-Bromofluorobenzene

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 400-622919/4
Matrix: Water
Analysis Batch: 622919

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/01/23 09:40	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/01/23 09:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/01/23 09:40	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/01/23 09:40	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/01/23 09:40	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/01/23 09:40	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/01/23 09:40	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/01/23 09:40	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/01/23 09:40	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/01/23 09:40	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/01/23 09:40	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/01/23 09:40	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/01/23 09:40	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/01/23 09:40	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/01/23 09:40	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/01/23 09:40	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/01/23 09:40	1
Acetone	10	U	25	10	ug/L			05/01/23 09:40	1
Benzene	0.13	U	1.0	0.13	ug/L			05/01/23 09:40	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/01/23 09:40	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/01/23 09:40	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/01/23 09:40	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/01/23 09:40	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/01/23 09:40	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/01/23 09:40	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/01/23 09:40	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/01/23 09:40	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/01/23 09:40	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			05/01/23 09:40	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/01/23 09:40	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/01/23 09:40	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/01/23 09:40	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/01/23 09:40	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/01/23 09:40	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/01/23 09:40	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/01/23 09:40	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/01/23 09:40	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/01/23 09:40	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/01/23 09:40	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/01/23 09:40	1
Styrene	1.0	U	1.0	1.0	ug/L			05/01/23 09:40	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/01/23 09:40	1
Toluene	0.41	U	1.0	0.41	ug/L			05/01/23 09:40	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/01/23 09:40	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/01/23 09:40	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/01/23 09:40	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/01/23 09:40	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/01/23 09:40	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-622919/4
Matrix: Water
Analysis Batch: 622919

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.6	U	10	1.6	ug/L			05/01/23 09:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*67 - 134*		*05/01/23 09:40*	*1*
Toluene-d8 (Surr)	*95*		*64 - 132*		*05/01/23 09:40*	*1*
Dibromofluoromethane	*104*		*75 - 126*		*05/01/23 09:40*	*1*
4-Bromofluorobenzene	*87*		*72 - 119*		*05/01/23 09:40*	*1*

Lab Sample ID: LCS 400-622919/1002
Matrix: Water
Analysis Batch: 622919

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	46.5		ug/L		93	68 - 130
1,1,2,2-Tetrachloroethane	50.0	42.5		ug/L		85	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	54.4		ug/L		109	60 - 139
1,1,2-Trichloroethane	50.0	46.6		ug/L		93	70 - 130
1,1-Dichloroethane	50.0	46.6		ug/L		93	70 - 130
1,1-Dichloroethene	50.0	53.4		ug/L		107	63 - 134
1,2,4-Trichlorobenzene	50.0	51.6		ug/L		103	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	44.5		ug/L		89	54 - 135
1,2-Dibromoethane (EDB)	50.0	47.9		ug/L		96	70 - 130
1,2-Dichlorobenzene	50.0	49.3		ug/L		99	67 - 130
1,2-Dichloroethane	50.0	43.6		ug/L		87	69 - 130
1,2-Dichloropropane	50.0	47.2		ug/L		94	70 - 130
1,3-Dichlorobenzene	50.0	49.2		ug/L		98	70 - 130
1,4-Dichlorobenzene	50.0	48.9		ug/L		98	70 - 130
2-Butanone (MEK)	200	174		ug/L		87	61 - 145
2-Hexanone	200	152		ug/L		76	65 - 137
4-Methyl-2-pentanone	200	155		ug/L		78	69 - 138
Acetone	200	177		ug/L		88	43 - 160
Benzene	50.0	48.3		ug/L		97	70 - 130
Bromodichloromethane	50.0	45.8		ug/L		92	67 - 133
Bromoform	50.0	44.4		ug/L		89	57 - 140
Bromomethane	50.0	45.1		ug/L		90	10 - 160
Carbon disulfide	50.0	51.9		ug/L		104	61 - 137
Carbon tetrachloride	50.0	49.5		ug/L		99	61 - 137
Chlorobenzene	50.0	49.3		ug/L		99	70 - 130
Chloroethane	50.0	48.3		ug/L		97	55 - 141
Chloroform	50.0	46.0		ug/L		92	69 - 130
Chloromethane	50.0	55.6		ug/L		111	58 - 137
cis-1,2-Dichloroethene	50.0	45.6		ug/L		91	68 - 130
cis-1,3-Dichloropropene	50.0	46.6		ug/L		93	69 - 132
Cyclohexane	50.0	46.2		ug/L		92	70 - 130
Dibromochloromethane	50.0	47.9		ug/L		96	67 - 135
Dichlorodifluoromethane	50.0	53.2		ug/L		106	41 - 146
Ethylbenzene	50.0	49.3		ug/L		99	70 - 130
Isopropylbenzene	50.0	50.5		ug/L		101	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-622919/1002
Matrix: Water
Analysis Batch: 622919

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	48.3		ug/L		97	70 - 130
Methyl acetate	100	87.2		ug/L		87	45 - 159
Methyl tert-butyl ether	50.0	44.5		ug/L		89	66 - 130
Methylene Chloride	50.0	50.1		ug/L		100	66 - 135
o-Xylene	50.0	48.5		ug/L		97	70 - 130
Styrene	50.0	49.8		ug/L		100	70 - 130
Tetrachloroethene	50.0	50.7		ug/L		101	65 - 130
Toluene	50.0	47.1		ug/L		94	70 - 130
trans-1,2-Dichloroethene	50.0	49.5		ug/L		99	70 - 130
trans-1,3-Dichloropropene	50.0	44.2		ug/L		88	63 - 130
Trichloroethene	50.0	49.6		ug/L		99	70 - 130
Trichlorofluoromethane	50.0	56.8		ug/L		114	65 - 138
Vinyl chloride	50.0	61.2		ug/L		122	59 - 136
Xylenes, Total	100	96.8		ug/L		97	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*67 - 134*
Toluene-d8 (Surr)	*98*		*64 - 132*
Dibromofluoromethane	*98*		*75 - 126*
4-Bromofluorobenzene	*89*		*72 - 119*

Lab Sample ID: 400-236801-B-11 MS
Matrix: Water
Analysis Batch: 622919

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	43.4		ug/L		87	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	41.9		ug/L		84	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	48.6		ug/L		97	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	45.6		ug/L		91	66 - 131
1,1-Dichloroethane	0.50	U	50.0	44.7		ug/L		89	61 - 144
1,1-Dichloroethene	0.50	U	50.0	46.7		ug/L		93	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	38.0		ug/L		76	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	44.0		ug/L		88	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	45.8		ug/L		92	64 - 132
1,2-Dichlorobenzene	0.50	U	50.0	39.3		ug/L		79	52 - 137
1,2-Dichloroethane	0.19	U	50.0	42.4		ug/L		85	60 - 141
1,2-Dichloropropane	0.50	U	50.0	45.7		ug/L		91	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	38.2		ug/L		76	54 - 135
1,4-Dichlorobenzene	0.64	U	50.0	37.8		ug/L		76	53 - 135
2-Butanone (MEK)	2.6	U	200	185		ug/L		93	55 - 150
2-Hexanone	1.4	U	200	156		ug/L		78	65 - 140
4-Methyl-2-pentanone	1.8	U	200	162		ug/L		81	63 - 146
Acetone	10	U	200	183		ug/L		92	43 - 150
Benzene	0.13	U	50.0	45.2		ug/L		90	56 - 142
Bromodichloromethane	0.50	U	50.0	44.3		ug/L		89	59 - 143
Bromoform	0.25	U	50.0	43.0		ug/L		86	50 - 140
Bromomethane	0.98	U	50.0	39.3		ug/L		79	10 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-236801-B-11 MS
Matrix: Water
Analysis Batch: 622919

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	0.50	U	50.0	47.2		ug/L		94	48 - 150
Carbon tetrachloride	0.19	U	50.0	44.4		ug/L		89	55 - 145
Chlorobenzene	0.15	U	50.0	41.1		ug/L		82	64 - 130
Chloroethane	0.76	U	50.0	39.8		ug/L		80	50 - 150
Chloroform	1.0	U	50.0	44.1		ug/L		88	60 - 141
Chloromethane	0.32	U	50.0	44.9		ug/L		90	49 - 148
cis-1,2-Dichloroethene	0.20	U	50.0	43.1		ug/L		86	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	43.8		ug/L		88	57 - 140
Cyclohexane	0.50	U	50.0	44.1		ug/L		88	58 - 141
Dibromochloromethane	0.24	U	50.0	45.0		ug/L		90	56 - 143
Dichlorodifluoromethane	0.85	U	50.0	44.9		ug/L		90	16 - 150
Ethylbenzene	0.50	U	50.0	38.4		ug/L		77	58 - 131
Isopropylbenzene	0.53	U	50.0	36.8		ug/L		74	56 - 133
m,p-Xylenes	0.63	U	50.0	36.9		ug/L		74	57 - 130
Methyl acetate	0.61	U	100	80.4		ug/L		80	21 - 150
Methyl tert-butyl ether	0.22	U	50.0	44.9		ug/L		90	59 - 137
Methylene Chloride	3.0	U	50.0	48.7		ug/L		97	60 - 146
o-Xylene	0.60	U	50.0	39.0		ug/L		78	61 - 130
Styrene	1.0	U	50.0	40.6		ug/L		81	58 - 131
Tetrachloroethene	0.90	U	50.0	41.4		ug/L		83	52 - 133
Toluene	0.41	U	50.0	40.2		ug/L		80	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	45.4		ug/L		91	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	41.9		ug/L		84	53 - 133
Trichloroethene	0.15	U	50.0	44.4		ug/L		89	64 - 136
Trichlorofluoromethane	0.52	U	50.0	45.5		ug/L		91	54 - 150
Vinyl chloride	0.50	U	50.0	51.1		ug/L		102	46 - 150
Xylenes, Total	1.6	U	100	75.9		ug/L		76	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*67 - 134*
Toluene-d8 (Surr)	*98*		*64 - 132*
Dibromofluoromethane	*98*		*75 - 126*
4-Bromofluorobenzene	*90*		*72 - 119*

Lab Sample ID: 400-236801-B-11 MSD
Matrix: Water
Analysis Batch: 622919

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	44.6		ug/L		89	57 - 142	3	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	41.2		ug/L		82	66 - 135	2	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	48.3		ug/L		97	55 - 150	1	30
1,1,2-Trichloroethane	0.21	U	50.0	44.5		ug/L		89	66 - 131	2	30
1,1-Dichloroethane	0.50	U	50.0	44.5		ug/L		89	61 - 144	1	30
1,1-Dichloroethene	0.50	U	50.0	47.8		ug/L		96	54 - 147	2	30
1,2,4-Trichlorobenzene	0.82	U	50.0	44.5		ug/L		89	39 - 148	16	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	41.8		ug/L		84	45 - 135	5	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	45.8		ug/L		92	64 - 132	0	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-236801-B-11 MSD
Matrix: Water
Analysis Batch: 622919

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichlorobenzene	0.50	U	50.0	44.1		ug/L		88	52 - 137	11	30
1,2-Dichloroethane	0.19	U	50.0	41.6		ug/L		83	60 - 141	2	30
1,2-Dichloropropane	0.50	U	50.0	45.4		ug/L		91	66 - 137	1	30
1,3-Dichlorobenzene	0.54	U	50.0	43.9		ug/L		88	54 - 135	14	30
1,4-Dichlorobenzene	0.64	U	50.0	43.4		ug/L		87	53 - 135	14	30
2-Butanone (MEK)	2.6	U	200	180		ug/L		90	55 - 150	3	30
2-Hexanone	1.4	U	200	148		ug/L		74	65 - 140	5	30
4-Methyl-2-pentanone	1.8	U	200	153		ug/L		76	63 - 146	6	30
Acetone	10	U	200	165		ug/L		82	43 - 150	11	30
Benzene	0.13	U	50.0	46.1		ug/L		92	56 - 142	2	30
Bromodichloromethane	0.50	U	50.0	44.7		ug/L		89	59 - 143	1	30
Bromoform	0.25	U	50.0	43.3		ug/L		87	50 - 140	1	30
Bromomethane	0.98	U	50.0	45.5		ug/L		91	10 - 150	15	50
Carbon disulfide	0.50	U	50.0	49.0		ug/L		98	48 - 150	4	30
Carbon tetrachloride	0.19	U	50.0	46.6		ug/L		93	55 - 145	5	30
Chlorobenzene	0.15	U	50.0	45.7		ug/L		91	64 - 130	11	30
Chloroethane	0.76	U	50.0	48.1		ug/L		96	50 - 150	19	30
Chloroform	1.0	U	50.0	44.5		ug/L		89	60 - 141	1	30
Chloromethane	0.32	U	50.0	52.7		ug/L		105	49 - 148	16	31
cis-1,2-Dichloroethene	0.20	U	50.0	43.2		ug/L		86	59 - 143	0	30
cis-1,3-Dichloropropene	0.50	U	50.0	45.1		ug/L		90	57 - 140	3	30
Cyclohexane	0.50	U	50.0	43.8		ug/L		88	58 - 141	1	30
Dibromochloromethane	0.24	U	50.0	45.9		ug/L		92	56 - 143	2	30
Dichlorodifluoromethane	0.85	U	50.0	52.4		ug/L		105	16 - 150	15	31
Ethylbenzene	0.50	U	50.0	44.8		ug/L		90	58 - 131	15	30
Isopropylbenzene	0.53	U	50.0	45.4		ug/L		91	56 - 133	21	30
m,p-Xylenes	0.63	U	50.0	44.2		ug/L		88	57 - 130	18	30
Methyl acetate	0.61	U	100	77.3		ug/L		77	21 - 150	4	30
Methyl tert-butyl ether	0.22	U	50.0	43.6		ug/L		87	59 - 137	3	30
Methylene Chloride	3.0	U	50.0	48.8		ug/L		98	60 - 146	0	32
o-Xylene	0.60	U	50.0	44.8		ug/L		90	61 - 130	14	30
Styrene	1.0	U	50.0	45.9		ug/L		92	58 - 131	12	30
Tetrachloroethene	0.90	U	50.0	47.4		ug/L		95	52 - 133	13	30
Toluene	0.41	U	50.0	43.1		ug/L		86	65 - 130	7	30
trans-1,2-Dichloroethene	0.50	U	50.0	46.8		ug/L		94	61 - 143	3	30
trans-1,3-Dichloropropene	0.20	U	50.0	42.3		ug/L		85	53 - 133	1	30
Trichloroethene	0.15	U	50.0	47.3		ug/L		95	64 - 136	6	30
Trichlorofluoromethane	0.52	U	50.0	54.9		ug/L		110	54 - 150	19	30
Vinyl chloride	0.50	U	50.0	59.5		ug/L		119	46 - 150	15	30
Xylenes, Total	1.6	U	100	89.0		ug/L		89	59 - 130	16	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*67 - 134*
Toluene-d8 (Surr)	*95*		*64 - 132*
Dibromofluoromethane	*98*		*75 - 126*
4-Bromofluorobenzene	*90*		*72 - 119*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-623114/4
Matrix: Water
Analysis Batch: 623114

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/02/23 13:03	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 13:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/02/23 13:03	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/02/23 13:03	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/02/23 13:03	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 13:03	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/02/23 13:03	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/02/23 13:03	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/02/23 13:03	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/02/23 13:03	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/02/23 13:03	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/02/23 13:03	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/02/23 13:03	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/02/23 13:03	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/02/23 13:03	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/02/23 13:03	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/02/23 13:03	1
Acetone	10	U	25	10	ug/L			05/02/23 13:03	1
Benzene	0.13	U	1.0	0.13	ug/L			05/02/23 13:03	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/02/23 13:03	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/02/23 13:03	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/02/23 13:03	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/02/23 13:03	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/02/23 13:03	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/02/23 13:03	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/02/23 13:03	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/02/23 13:03	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/02/23 13:03	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			05/02/23 13:03	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/02/23 13:03	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/02/23 13:03	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/02/23 13:03	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/02/23 13:03	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/02/23 13:03	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/02/23 13:03	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/02/23 13:03	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/02/23 13:03	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/02/23 13:03	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/02/23 13:03	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/02/23 13:03	1
Styrene	1.0	U	1.0	1.0	ug/L			05/02/23 13:03	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/02/23 13:03	1
Toluene	0.41	U	1.0	0.41	ug/L			05/02/23 13:03	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/02/23 13:03	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/02/23 13:03	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/02/23 13:03	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/02/23 13:03	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/02/23 13:03	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-623114/4
Matrix: Water
Analysis Batch: 623114

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.6	U	10	1.6	ug/L			05/02/23 13:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*67 - 134*		*05/02/23 13:03*	*1*
Toluene-d8 (Surr)	*95*		*64 - 132*		*05/02/23 13:03*	*1*
Dibromofluoromethane	*106*		*75 - 126*		*05/02/23 13:03*	*1*
4-Bromofluorobenzene	*91*		*72 - 119*		*05/02/23 13:03*	*1*

Lab Sample ID: LCS 400-623114/1002
Matrix: Water
Analysis Batch: 623114

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	44.6		ug/L		89	68 - 130
1,1,2,2-Tetrachloroethane	50.0	43.4		ug/L		87	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	48.1		ug/L		96	60 - 139
1,1,2-Trichloroethane	50.0	46.7		ug/L		93	70 - 130
1,1-Dichloroethane	50.0	42.2		ug/L		84	70 - 130
1,1-Dichloroethene	50.0	46.8		ug/L		94	63 - 134
1,2,4-Trichlorobenzene	50.0	46.6		ug/L		93	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	44.6		ug/L		89	54 - 135
1,2-Dibromoethane (EDB)	50.0	46.9		ug/L		94	70 - 130
1,2-Dichlorobenzene	50.0	47.1		ug/L		94	67 - 130
1,2-Dichloroethane	50.0	42.9		ug/L		86	69 - 130
1,2-Dichloropropane	50.0	45.4		ug/L		91	70 - 130
1,3-Dichlorobenzene	50.0	47.1		ug/L		94	70 - 130
1,4-Dichlorobenzene	50.0	47.3		ug/L		95	70 - 130
2-Butanone (MEK)	200	169		ug/L		84	61 - 145
2-Hexanone	200	157		ug/L		78	65 - 137
4-Methyl-2-pentanone	200	161		ug/L		81	69 - 138
Acetone	200	144		ug/L		72	43 - 160
Benzene	50.0	46.8		ug/L		94	70 - 130
Bromodichloromethane	50.0	45.1		ug/L		90	67 - 133
Bromoform	50.0	46.2		ug/L		92	57 - 140
Bromomethane	50.0	67.7		ug/L		135	10 - 160
Carbon disulfide	50.0	44.3		ug/L		89	61 - 137
Carbon tetrachloride	50.0	47.7		ug/L		95	61 - 137
Chlorobenzene	50.0	48.1		ug/L		96	70 - 130
Chloroethane	50.0	43.7		ug/L		87	55 - 141
Chloroform	50.0	43.3		ug/L		87	69 - 130
Chloromethane	50.0	54.8		ug/L		110	58 - 137
cis-1,2-Dichloroethene	50.0	42.0		ug/L		84	68 - 130
cis-1,3-Dichloropropene	50.0	45.0		ug/L		90	69 - 132
Cyclohexane	50.0	44.5		ug/L		89	70 - 130
Dibromochloromethane	50.0	47.2		ug/L		94	67 - 135
Dichlorodifluoromethane	50.0	52.5		ug/L		105	41 - 146
Ethylbenzene	50.0	47.2		ug/L		94	70 - 130
Isopropylbenzene	50.0	47.6		ug/L		95	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-623114/1002
Matrix: Water
Analysis Batch: 623114

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	46.3		ug/L		93	70 - 130
Methyl acetate	100	74.1		ug/L		74	45 - 159
Methyl tert-butyl ether	50.0	42.2		ug/L		84	66 - 130
Methylene Chloride	50.0	45.1		ug/L		90	66 - 135
o-Xylene	50.0	46.9		ug/L		94	70 - 130
Styrene	50.0	48.3		ug/L		97	70 - 130
Tetrachloroethene	50.0	51.5		ug/L		103	65 - 130
Toluene	50.0	45.5		ug/L		91	70 - 130
trans-1,2-Dichloroethene	50.0	45.6		ug/L		91	70 - 130
trans-1,3-Dichloropropene	50.0	44.3		ug/L		89	63 - 130
Trichloroethene	50.0	48.9		ug/L		98	70 - 130
Trichlorofluoromethane	50.0	51.9		ug/L		104	65 - 138
Vinyl chloride	50.0	62.3		ug/L		125	59 - 136
Xylenes, Total	100	93.2		ug/L		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*67 - 134*
Toluene-d8 (Surr)	*98*		*64 - 132*
Dibromofluoromethane	*95*		*75 - 126*
4-Bromofluorobenzene	*93*		*72 - 119*

Lab Sample ID: 400-236605-A-1 MS
Matrix: Water
Analysis Batch: 623114

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	46.2		ug/L		92	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	40.3		ug/L		81	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	50.7		ug/L		101	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	44.8		ug/L		90	66 - 131
1,1-Dichloroethane	0.50	U	50.0	45.6		ug/L		91	61 - 144
1,1-Dichloroethene	0.50	U	50.0	50.8		ug/L		102	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	41.3		ug/L		83	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	41.7		ug/L		83	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	44.8		ug/L		90	64 - 132
1,2-Dichlorobenzene	0.50	U	50.0	43.0		ug/L		86	52 - 137
1,2-Dichloroethane	0.19	U	50.0	43.5		ug/L		87	60 - 141
1,2-Dichloropropane	0.50	U	50.0	45.3		ug/L		91	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	41.6		ug/L		83	54 - 135
1,4-Dichlorobenzene	0.64	U	50.0	42.3		ug/L		85	53 - 135
2-Butanone (MEK)	2.6	U	200	172		ug/L		86	55 - 150
2-Hexanone	1.4	U	200	144		ug/L		72	65 - 140
4-Methyl-2-pentanone	1.8	U	200	151		ug/L		75	63 - 146
Acetone	10	U	200	171		ug/L		85	43 - 150
Benzene	0.13	U	50.0	46.4		ug/L		93	56 - 142
Bromodichloromethane	3.0		50.0	47.3		ug/L		89	59 - 143
Bromoform	0.25	U	50.0	41.0		ug/L		82	50 - 140
Bromomethane	0.98	U	50.0	49.5		ug/L		99	10 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-236605-A-1 MS
Matrix: Water
Analysis Batch: 623114

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	0.50	U	50.0	50.2		ug/L		100	48 - 150
Carbon tetrachloride	0.19	U	50.0	47.4		ug/L		95	55 - 145
Chlorobenzene	0.15	U	50.0	44.0		ug/L		88	64 - 130
Chloroethane	0.76	U	50.0	39.1		ug/L		78	50 - 150
Chloroform	31		50.0	74.8		ug/L		89	60 - 141
Chloromethane	0.32	U	50.0	53.1		ug/L		106	49 - 148
cis-1,2-Dichloroethene	0.20	U	50.0	44.1		ug/L		88	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	43.9		ug/L		88	57 - 140
Cyclohexane	0.50	U	50.0	43.3		ug/L		87	58 - 141
Dibromochloromethane	0.27	I	50.0	45.4		ug/L		90	56 - 143
Dichlorodifluoromethane	0.85	U	50.0	48.7		ug/L		97	16 - 150
Ethylbenzene	0.50	U	50.0	43.8		ug/L		88	58 - 131
Isopropylbenzene	0.53	U	50.0	44.1		ug/L		88	56 - 133
m,p-Xylenes	0.63	U	50.0	42.7		ug/L		85	57 - 130
Methyl acetate	0.61	U	100	79.1		ug/L		79	21 - 150
Methyl tert-butyl ether	0.22	U	50.0	43.3		ug/L		87	59 - 137
Methylene Chloride	3.0	U	50.0	49.2		ug/L		98	60 - 146
o-Xylene	0.60	U	50.0	44.0		ug/L		88	61 - 130
Styrene	1.0	U	50.0	45.3		ug/L		91	58 - 131
Tetrachloroethene	0.90	U	50.0	44.8		ug/L		90	52 - 133
Toluene	0.41	U	50.0	44.9		ug/L		90	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	47.6		ug/L		95	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	41.9		ug/L		84	53 - 133
Trichloroethene	0.15	U	50.0	47.5		ug/L		95	64 - 136
Trichlorofluoromethane	0.52	U	50.0	54.5		ug/L		109	54 - 150
Vinyl chloride	0.50	U	50.0	57.1		ug/L		114	46 - 150
Xylenes, Total	1.6	U	100	86.7		ug/L		87	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*67 - 134*
Toluene-d8 (Surr)	*95*		*64 - 132*
Dibromofluoromethane	*99*		*75 - 126*
4-Bromofluorobenzene	*85*		*72 - 119*

Lab Sample ID: 400-236605-A-1 MSD
Matrix: Water
Analysis Batch: 623114

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	47.3		ug/L		95	57 - 142	2	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	42.5		ug/L		85	66 - 135	5	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	53.2		ug/L		106	55 - 150	5	30
1,1,2-Trichloroethane	0.21	U	50.0	45.8		ug/L		92	66 - 131	2	30
1,1-Dichloroethane	0.50	U	50.0	45.9		ug/L		92	61 - 144	1	30
1,1-Dichloroethene	0.50	U	50.0	51.0		ug/L		102	54 - 147	0	30
1,2,4-Trichlorobenzene	0.82	U	50.0	46.7		ug/L		93	39 - 148	12	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	44.1		ug/L		88	45 - 135	6	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	46.8		ug/L		94	64 - 132	4	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-236605-A-1 MSD
Matrix: Water
Analysis Batch: 623114

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichlorobenzene	0.50	U	50.0	46.9		ug/L		94	52 - 137	9	30
1,2-Dichloroethane	0.19	U	50.0	44.1		ug/L		88	60 - 141	2	30
1,2-Dichloropropane	0.50	U	50.0	46.7		ug/L		93	66 - 137	3	30
1,3-Dichlorobenzene	0.54	U	50.0	45.9		ug/L		92	54 - 135	10	30
1,4-Dichlorobenzene	0.64	U	50.0	45.6		ug/L		91	53 - 135	7	30
2-Butanone (MEK)	2.6	U	200	179		ug/L		89	55 - 150	4	30
2-Hexanone	1.4	U	200	149		ug/L		74	65 - 140	3	30
4-Methyl-2-pentanone	1.8	U	200	155		ug/L		78	63 - 146	3	30
Acetone	10	U	200	172		ug/L		86	43 - 150	1	30
Benzene	0.13	U	50.0	48.0		ug/L		96	56 - 142	3	30
Bromodichloromethane	3.0		50.0	48.9		ug/L		92	59 - 143	3	30
Bromoform	0.25	U	50.0	44.3		ug/L		89	50 - 140	8	30
Bromomethane	0.98	U	50.0	66.1		ug/L		132	10 - 150	29	50
Carbon disulfide	0.50	U	50.0	49.3		ug/L		99	48 - 150	2	30
Carbon tetrachloride	0.19	U	50.0	49.4		ug/L		99	55 - 145	4	30
Chlorobenzene	0.15	U	50.0	46.4		ug/L		93	64 - 130	5	30
Chloroethane	0.76	U	50.0	45.6		ug/L		91	50 - 150	16	30
Chloroform	31		50.0	76.3		ug/L		92	60 - 141	2	30
Chloromethane	0.32	U	50.0	52.8		ug/L		106	49 - 148	0	31
cis-1,2-Dichloroethene	0.20	U	50.0	44.2		ug/L		88	59 - 143	0	30
cis-1,3-Dichloropropene	0.50	U	50.0	45.3		ug/L		91	57 - 140	3	30
Cyclohexane	0.50	U	50.0	47.0		ug/L		94	58 - 141	8	30
Dibromochloromethane	0.27	I	50.0	47.8		ug/L		95	56 - 143	5	30
Dichlorodifluoromethane	0.85	U	50.0	52.8		ug/L		106	16 - 150	8	31
Ethylbenzene	0.50	U	50.0	45.5		ug/L		91	58 - 131	4	30
Isopropylbenzene	0.53	U	50.0	45.3		ug/L		91	56 - 133	3	30
m,p-Xylenes	0.63	U	50.0	44.4		ug/L		89	57 - 130	4	30
Methyl acetate	0.61	U	100	79.7		ug/L		80	21 - 150	1	30
Methyl tert-butyl ether	0.22	U	50.0	45.1		ug/L		90	59 - 137	4	30
Methylene Chloride	3.0	U	50.0	49.1		ug/L		98	60 - 146	0	32
o-Xylene	0.60	U	50.0	45.5		ug/L		91	61 - 130	3	30
Styrene	1.0	U	50.0	46.9		ug/L		94	58 - 131	3	30
Tetrachloroethene	0.90	U	50.0	47.6		ug/L		95	52 - 133	6	30
Toluene	0.41	U	50.0	46.5		ug/L		93	65 - 130	3	30
trans-1,2-Dichloroethene	0.50	U	50.0	48.6		ug/L		97	61 - 143	2	30
trans-1,3-Dichloropropene	0.20	U	50.0	43.0		ug/L		86	53 - 133	3	30
Trichloroethene	0.15	U	50.0	48.8		ug/L		98	64 - 136	3	30
Trichlorofluoromethane	0.52	U	50.0	57.6		ug/L		115	54 - 150	6	30
Vinyl chloride	0.50	U	50.0	61.7		ug/L		123	46 - 150	8	30
Xylenes, Total	1.6	U	100	89.9		ug/L		90	59 - 130	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*67 - 134*
Toluene-d8 (Surr)	*94*		*64 - 132*
Dibromofluoromethane	*100*		*75 - 126*
4-Bromofluorobenzene	*90*		*72 - 119*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-623361/4
Matrix: Water
Analysis Batch: 623361

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			05/03/23 20:28	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			05/03/23 20:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			05/03/23 20:28	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			05/03/23 20:28	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			05/03/23 20:28	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/03/23 20:28	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			05/03/23 20:28	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			05/03/23 20:28	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			05/03/23 20:28	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			05/03/23 20:28	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			05/03/23 20:28	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			05/03/23 20:28	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			05/03/23 20:28	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			05/03/23 20:28	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			05/03/23 20:28	1
2-Hexanone	1.4	U	25	1.4	ug/L			05/03/23 20:28	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			05/03/23 20:28	1
Acetone	10	U	25	10	ug/L			05/03/23 20:28	1
Benzene	0.13	U	1.0	0.13	ug/L			05/03/23 20:28	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			05/03/23 20:28	1
Bromoform	0.25	U	5.0	0.25	ug/L			05/03/23 20:28	1
Bromomethane	0.98	U	1.0	0.98	ug/L			05/03/23 20:28	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			05/03/23 20:28	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			05/03/23 20:28	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			05/03/23 20:28	1
Chloroethane	0.76	U	1.0	0.76	ug/L			05/03/23 20:28	1
Chloroform	1.0	U	1.0	1.0	ug/L			05/03/23 20:28	1
Chloromethane	0.32	U	1.0	0.32	ug/L			05/03/23 20:28	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			05/03/23 20:28	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			05/03/23 20:28	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			05/03/23 20:28	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			05/03/23 20:28	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			05/03/23 20:28	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			05/03/23 20:28	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			05/03/23 20:28	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			05/03/23 20:28	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			05/03/23 20:28	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			05/03/23 20:28	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			05/03/23 20:28	1
o-Xylene	0.60	U	5.0	0.60	ug/L			05/03/23 20:28	1
Styrene	1.0	U	1.0	1.0	ug/L			05/03/23 20:28	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			05/03/23 20:28	1
Toluene	0.41	U	1.0	0.41	ug/L			05/03/23 20:28	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			05/03/23 20:28	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			05/03/23 20:28	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			05/03/23 20:28	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			05/03/23 20:28	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			05/03/23 20:28	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-623361/4
Matrix: Water
Analysis Batch: 623361

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.6	U	10	1.6	ug/L			05/03/23 20:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*05/03/23 20:28*	*1*
Toluene-d8 (Surr)	*94*		*64 - 132*		*05/03/23 20:28*	*1*
Dibromofluoromethane	*107*		*75 - 126*		*05/03/23 20:28*	*1*
4-Bromofluorobenzene	*88*		*72 - 119*		*05/03/23 20:28*	*1*

Lab Sample ID: LCS 400-623361/1002
Matrix: Water
Analysis Batch: 623361

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	47.2		ug/L		94	68 - 130
1,1,2,2-Tetrachloroethane	50.0	43.4		ug/L		87	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	49.8		ug/L		100	60 - 139
1,1,2-Trichloroethane	50.0	46.4		ug/L		93	70 - 130
1,1-Dichloroethane	50.0	45.1		ug/L		90	70 - 130
1,1-Dichloroethene	50.0	50.7		ug/L		101	63 - 134
1,2,4-Trichlorobenzene	50.0	53.4		ug/L		107	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	47.3		ug/L		95	54 - 135
1,2-Dibromoethane (EDB)	50.0	47.2		ug/L		94	70 - 130
1,2-Dichlorobenzene	50.0	49.7		ug/L		99	67 - 130
1,2-Dichloroethane	50.0	45.9		ug/L		92	69 - 130
1,2-Dichloropropane	50.0	44.5		ug/L		89	70 - 130
1,3-Dichlorobenzene	50.0	49.4		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	50.1		ug/L		100	70 - 130
2-Butanone (MEK)	200	193		ug/L		96	61 - 145
2-Hexanone	200	167		ug/L		83	65 - 137
4-Methyl-2-pentanone	200	174		ug/L		87	69 - 138
Acetone	200	201		ug/L		100	43 - 160
Benzene	50.0	47.5		ug/L		95	70 - 130
Bromodichloromethane	50.0	46.6		ug/L		93	67 - 133
Bromoform	50.0	44.7		ug/L		89	57 - 140
Bromomethane	50.0	56.0		ug/L		112	10 - 160
Carbon disulfide	50.0	49.2		ug/L		98	61 - 137
Carbon tetrachloride	50.0	50.0		ug/L		100	61 - 137
Chlorobenzene	50.0	48.8		ug/L		98	70 - 130
Chloroethane	50.0	42.7		ug/L		85	55 - 141
Chloroform	50.0	46.2		ug/L		92	69 - 130
Chloromethane	50.0	49.4		ug/L		99	58 - 137
cis-1,2-Dichloroethene	50.0	44.3		ug/L		89	68 - 130
cis-1,3-Dichloropropene	50.0	46.8		ug/L		94	69 - 132
Cyclohexane	50.0	46.1		ug/L		92	70 - 130
Dibromochloromethane	50.0	48.2		ug/L		96	67 - 135
Dichlorodifluoromethane	50.0	48.0		ug/L		96	41 - 146
Ethylbenzene	50.0	47.9		ug/L		96	70 - 130
Isopropylbenzene	50.0	48.6		ug/L		97	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-623361/1002
Matrix: Water
Analysis Batch: 623361

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	47.4		ug/L		95	70 - 130
Methyl acetate	100	93.8		ug/L		94	45 - 159
Methyl tert-butyl ether	50.0	46.3		ug/L		93	66 - 130
Methylene Chloride	50.0	50.5		ug/L		101	66 - 135
o-Xylene	50.0	48.0		ug/L		96	70 - 130
Styrene	50.0	49.4		ug/L		99	70 - 130
Tetrachloroethene	50.0	49.8		ug/L		100	65 - 130
Toluene	50.0	45.9		ug/L		92	70 - 130
trans-1,2-Dichloroethene	50.0	47.6		ug/L		95	70 - 130
trans-1,3-Dichloropropene	50.0	44.6		ug/L		89	63 - 130
Trichloroethene	50.0	49.7		ug/L		99	70 - 130
Trichlorofluoromethane	50.0	46.7		ug/L		93	65 - 138
Vinyl chloride	50.0	56.2		ug/L		112	59 - 136
Xylenes, Total	100	95.4		ug/L		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*67 - 134*
Toluene-d8 (Surr)	*96*		*64 - 132*
Dibromofluoromethane	*101*		*75 - 126*
4-Bromofluorobenzene	*89*		*72 - 119*

Lab Sample ID: 400-236584-A-1 MS
Matrix: Water
Analysis Batch: 623361

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	45.4		ug/L		91	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	42.1		ug/L		84	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	46.6		ug/L		93	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	45.4		ug/L		91	66 - 131
1,1-Dichloroethane	0.50	U	50.0	44.3		ug/L		89	61 - 144
1,1-Dichloroethene	0.50	U	50.0	45.6		ug/L		91	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	34.8		ug/L		70	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	44.8		ug/L		90	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	45.0		ug/L		90	64 - 132
1,2-Dichlorobenzene	0.50	U	50.0	37.6		ug/L		75	52 - 137
1,2-Dichloroethane	0.19	U	50.0	45.7		ug/L		91	60 - 141
1,2-Dichloropropane	0.50	U	50.0	45.0		ug/L		90	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	33.6		ug/L		67	54 - 135
1,4-Dichlorobenzene	0.64	U	50.0	34.2		ug/L		68	53 - 135
2-Butanone (MEK)	2.6	U	200	187		ug/L		93	55 - 150
2-Hexanone	1.4	U	200	162		ug/L		81	65 - 140
4-Methyl-2-pentanone	1.8	U	200	171		ug/L		86	63 - 146
Acetone	10	U	200	176		ug/L		88	43 - 150
Benzene	0.13	U	50.0	45.0		ug/L		90	56 - 142
Bromodichloromethane	0.50	U	50.0	45.5		ug/L		91	59 - 143
Bromoform	0.25	U	50.0	42.3		ug/L		85	50 - 140
Bromomethane	0.98	U	50.0	37.2		ug/L		74	10 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-236584-A-1 MS
Matrix: Water
Analysis Batch: 623361

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	0.50	U	50.0	43.7		ug/L		87	48 - 150
Carbon tetrachloride	0.19	U	50.0	46.8		ug/L		94	55 - 145
Chlorobenzene	0.15	U	50.0	39.0		ug/L		78	64 - 130
Chloroethane	0.76	U	50.0	42.2		ug/L		84	50 - 150
Chloroform	1.0	U	50.0	45.5		ug/L		91	60 - 141
Chloromethane	0.32	U	50.0	45.7		ug/L		91	49 - 148
cis-1,2-Dichloroethene	0.20	U	50.0	42.7		ug/L		85	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	43.1		ug/L		86	57 - 140
Cyclohexane	0.50	U	50.0	43.7		ug/L		87	58 - 141
Dibromochloromethane	0.24	U	50.0	45.5		ug/L		91	56 - 143
Dichlorodifluoromethane	0.85	U	50.0	46.8		ug/L		94	16 - 150
Ethylbenzene	0.50	U	50.0	34.8		ug/L		70	58 - 131
Isopropylbenzene	0.53	U	50.0	33.4		ug/L		67	56 - 133
m,p-Xylenes	0.63	U	50.0	34.3		ug/L		69	57 - 130
Methyl acetate	0.61	U	100	83.3		ug/L		83	21 - 150
Methyl tert-butyl ether	0.22	U	50.0	46.2		ug/L		92	59 - 137
Methylene Chloride	3.0	U	50.0	49.1		ug/L		98	60 - 146
o-Xylene	0.60	U J3	50.0	36.3		ug/L		73	61 - 130
Styrene	1.0	U	50.0	38.2		ug/L		76	58 - 131
Tetrachloroethene	0.90	U	50.0	38.5		ug/L		77	52 - 133
Toluene	0.41	U	50.0	38.2		ug/L		76	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	45.2		ug/L		90	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	40.8		ug/L		82	53 - 133
Trichloroethene	0.15	U	50.0	43.8		ug/L		88	64 - 136
Trichlorofluoromethane	0.52	U	50.0	46.8		ug/L		94	54 - 150
Vinyl chloride	0.50	U	50.0	54.6		ug/L		109	46 - 150
Xylenes, Total	1.6	U	100	70.6		ug/L		71	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*67 - 134*
Toluene-d8 (Surr)	*96*		*64 - 132*
Dibromofluoromethane	*100*		*75 - 126*
4-Bromofluorobenzene	*89*		*72 - 119*

Lab Sample ID: 400-236584-A-1 MSD
Matrix: Water
Analysis Batch: 623361

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	40.1		ug/L		80	57 - 142	13	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	34.9		ug/L		70	66 - 135	19	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	43.1		ug/L		86	55 - 150	8	30
1,1,2-Trichloroethane	0.21	U	50.0	38.7		ug/L		77	66 - 131	16	30
1,1-Dichloroethane	0.50	U	50.0	39.0		ug/L		78	61 - 144	13	30
1,1-Dichloroethene	0.50	U	50.0	40.7		ug/L		81	54 - 147	11	30
1,2,4-Trichlorobenzene	0.82	U	50.0	29.3		ug/L		59	39 - 148	17	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	38.6		ug/L		77	45 - 135	15	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	38.2		ug/L		76	64 - 132	16	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-236584-A-1 MSD
Matrix: Water
Analysis Batch: 623361

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichlorobenzene	0.50	U	50.0	30.3		ug/L		61	52 - 137	22	30
1,2-Dichloroethane	0.19	U	50.0	38.7		ug/L		77	60 - 141	16	30
1,2-Dichloropropane	0.50	U	50.0	38.5		ug/L		77	66 - 137	15	30
1,3-Dichlorobenzene	0.54	U	50.0	27.7		ug/L		55	54 - 135	19	30
1,4-Dichlorobenzene	0.64	U	50.0	28.1		ug/L		56	53 - 135	20	30
2-Butanone (MEK)	2.6	U	200	160		ug/L		80	55 - 150	15	30
2-Hexanone	1.4	U	200	133		ug/L		67	65 - 140	20	30
4-Methyl-2-pentanone	1.8	U	200	139		ug/L		70	63 - 146	21	30
Acetone	10	U	200	147		ug/L		73	43 - 150	18	30
Benzene	0.13	U	50.0	38.4		ug/L		77	56 - 142	16	30
Bromodichloromethane	0.50	U	50.0	37.8		ug/L		76	59 - 143	18	30
Bromoform	0.25	U	50.0	36.8		ug/L		74	50 - 140	14	30
Bromomethane	0.98	U	50.0	40.2		ug/L		80	10 - 150	8	50
Carbon disulfide	0.50	U	50.0	37.0		ug/L		74	48 - 150	17	30
Carbon tetrachloride	0.19	U	50.0	40.9		ug/L		82	55 - 145	13	30
Chlorobenzene	0.15	U	50.0	32.3		ug/L		65	64 - 130	19	30
Chloroethane	0.76	U	50.0	41.7		ug/L		83	50 - 150	1	30
Chloroform	1.0	U	50.0	39.6		ug/L		79	60 - 141	14	30
Chloromethane	0.32	U	50.0	48.4		ug/L		97	49 - 148	6	31
cis-1,2-Dichloroethene	0.20	U	50.0	37.1		ug/L		74	59 - 143	14	30
cis-1,3-Dichloropropene	0.50	U	50.0	35.8		ug/L		72	57 - 140	19	30
Cyclohexane	0.50	U	50.0	36.7		ug/L		73	58 - 141	18	30
Dibromochloromethane	0.24	U	50.0	39.1		ug/L		78	56 - 143	15	30
Dichlorodifluoromethane	0.85	U	50.0	49.6		ug/L		99	16 - 150	6	31
Ethylbenzene	0.50	U	50.0	29.8		ug/L		60	58 - 131	15	30
Isopropylbenzene	0.53	U	50.0	28.1		ug/L		56	56 - 133	17	30
m,p-Xylenes	0.63	U	50.0	29.4		ug/L		59	57 - 130	16	30
Methyl acetate	0.61	U	100	68.3		ug/L		68	21 - 150	20	30
Methyl tert-butyl ether	0.22	U	50.0	40.4		ug/L		81	59 - 137	13	30
Methylene Chloride	3.0	U	50.0	43.0		ug/L		86	60 - 146	13	32
o-Xylene	0.60	U J3	50.0	30.2	J3	ug/L		60	61 - 130	18	30
Styrene	1.0	U	50.0	31.4		ug/L		63	58 - 131	20	30
Tetrachloroethene	0.90	U	50.0	33.4		ug/L		67	52 - 133	14	30
Toluene	0.41	U	50.0	33.1		ug/L		66	65 - 130	14	30
trans-1,2-Dichloroethene	0.50	U	50.0	39.9		ug/L		80	61 - 143	13	30
trans-1,3-Dichloropropene	0.20	U	50.0	34.4		ug/L		69	53 - 133	17	30
Trichloroethene	0.15	U	50.0	37.5		ug/L		75	64 - 136	15	30
Trichlorofluoromethane	0.52	U	50.0	50.6		ug/L		101	54 - 150	8	30
Vinyl chloride	0.50	U	50.0	56.7		ug/L		113	46 - 150	4	30
Xylenes, Total	1.6	U	100	59.6		ug/L		60	59 - 130	17	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*67 - 134*
Toluene-d8 (Surr)	*97*		*64 - 132*
Dibromofluoromethane	*100*		*75 - 126*
4-Bromofluorobenzene	*90*		*72 - 119*

GC/MS VOA

Analysis Batch: 622919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-18428-1	LC34-iw0147-024.0-20230419	Total/NA	Water	8260D	
670-18428-2	LC34-iw0136-024.0-20230419	Total/NA	Water	8260D	
670-18428-3	LC34-iw0127-024.0-20230419	Total/NA	Water	8260D	
670-18428-4	LC34-iw0128-018.0-20230419	Total/NA	Water	8260D	
670-18428-5	LC34-iw0142-024.0-20230419	Total/NA	Water	8260D	
MB 400-622919/4	Method Blank	Total/NA	Water	8260D	
LCS 400-622919/1002	Lab Control Sample	Total/NA	Water	8260D	
400-236801-B-11 MS	Matrix Spike	Total/NA	Water	8260D	
400-236801-B-11 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 623114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-18428-6	LC34-iw0124-018.0-20230420	Total/NA	Water	8260D	
670-18428-7	LC34-iw0108-024.0-20230420	Total/NA	Water	8260D	
670-18428-9	LC34-iw0145-031.5-20230420	Total/NA	Water	8260D	
670-18428-10	LC34-iw0135-024.0-20230420	Total/NA	Water	8260D	
670-18428-11	LC34-iw0143-024.0-20230420	Total/NA	Water	8260D	
670-18428-13	LC34-iw0138-031.5-20230420	Total/NA	Water	8260D	
670-18428-14	LC34-iw0137-024.0-20230420	Total/NA	Water	8260D	
670-18428-15	LC34-iw0126-024.0-20230420	Total/NA	Water	8260D	
670-18428-16	LC34-sw01004-000.5-20230421	Total/NA	Water	8260D	
MB 400-623114/4	Method Blank	Total/NA	Water	8260D	
LCS 400-623114/1002	Lab Control Sample	Total/NA	Water	8260D	
400-236605-A-1 MS	Matrix Spike	Total/NA	Water	8260D	
400-236605-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 623361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-18428-8	LC34-iw0144-024.0-20230420	Total/NA	Water	8260D	
670-18428-10 - DL	LC34-iw0135-024.0-20230420	Total/NA	Water	8260D	
670-18428-12	LC34-iw0123-024.0-20230420	Total/NA	Water	8260D	
670-18428-17	LC34-sw01001-000.5-20230421	Total/NA	Water	8260D	
670-18428-18	LC34-sw01002-000.5-20230421	Total/NA	Water	8260D	
MB 400-623361/4	Method Blank	Total/NA	Water	8260D	
LCS 400-623361/1002	Lab Control Sample	Total/NA	Water	8260D	
400-236584-A-1 MS	Matrix Spike	Total/NA	Water	8260D	
400-236584-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18428-1

Client Sample ID: LC34-iw0147-024.0-20230419 — **Lab Sample ID: 670-18428-1**
Date Collected: 04/19/23 13:10 — **Matrix: Water**
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622919	AGW	EET PEN	05/01/23 18:03

Client Sample ID: LC34-iw0136-024.0-20230419 — **Lab Sample ID: 670-18428-2**
Date Collected: 04/19/23 14:35 — **Matrix: Water**
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622919	AGW	EET PEN	05/01/23 18:30

Client Sample ID: LC34-iw0127-024.0-20230419 — **Lab Sample ID: 670-18428-3**
Date Collected: 04/19/23 15:25 — **Matrix: Water**
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622919	AGW	EET PEN	05/01/23 18:56

Client Sample ID: LC34-iw0128-018.0-20230419 — **Lab Sample ID: 670-18428-4**
Date Collected: 04/19/23 17:00 — **Matrix: Water**
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622919	AGW	EET PEN	05/01/23 19:23

Client Sample ID: LC34-iw0142-024.0-20230419 — **Lab Sample ID: 670-18428-5**
Date Collected: 04/19/23 17:55 — **Matrix: Water**
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	622919	AGW	EET PEN	05/01/23 19:50

Client Sample ID: LC34-iw0124-018.0-20230420 — **Lab Sample ID: 670-18428-6**
Date Collected: 04/20/23 08:05 — **Matrix: Water**
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623114	BPO	EET PEN	05/02/23 17:02

Client Sample ID: LC34-iw0108-024.0-20230420 — **Lab Sample ID: 670-18428-7**
Date Collected: 04/20/23 09:10 — **Matrix: Water**
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623114	BPO	EET PEN	05/02/23 17:29

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18428-1

Client Sample ID: LC34-iw0144-024.0-20230420
Lab Sample ID: 670-18428-8
Date Collected: 04/20/23 10:20
Matrix: Water
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623361	AGW	EET PEN	05/04/23 00:56

Client Sample ID: LC34-iw0145-031.5-20230420
Lab Sample ID: 670-18428-9
Date Collected: 04/20/23 11:05
Matrix: Water
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623114	BPO	EET PEN	05/02/23 17:55

Client Sample ID: LC34-iw0135-024.0-20230420
Lab Sample ID: 670-18428-10
Date Collected: 04/20/23 12:00
Matrix: Water
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623114	BPO	EET PEN	05/02/23 18:22
Total/NA	Analysis	8260D	DL	10	623361	AGW	EET PEN	05/04/23 03:10

Client Sample ID: LC34-iw0143-024.0-20230420
Lab Sample ID: 670-18428-11
Date Collected: 04/20/23 14:00
Matrix: Water
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623114	BPO	EET PEN	05/02/23 18:49

Client Sample ID: LC34-iw0123-024.0-20230420
Lab Sample ID: 670-18428-12
Date Collected: 04/20/23 14:50
Matrix: Water
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623361	AGW	EET PEN	05/04/23 01:50

Client Sample ID: LC34-iw0138-031.5-20230420
Lab Sample ID: 670-18428-13
Date Collected: 04/20/23 16:20
Matrix: Water
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623114	BPO	EET PEN	05/02/23 19:42

Client Sample ID: LC34-iw0137-024.0-20230420
Lab Sample ID: 670-18428-14
Date Collected: 04/20/23 17:10
Matrix: Water
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623114	BPO	EET PEN	05/02/23 20:09

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-18428-1
Project/Site: NASA KSC LC34

Client Sample ID: LC34-iw0126-024.0-20230420
Lab Sample ID: 670-18428-15
Date Collected: 04/20/23 18:10
Matrix: Water
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623114	BPO	EET PEN	05/02/23 20:35

Client Sample ID: LC34-sw01004-000.5-20230421
Lab Sample ID: 670-18428-16
Date Collected: 04/21/23 09:00
Matrix: Water
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623114	BPO	EET PEN	05/02/23 21:02

Client Sample ID: LC34-sw01001-000.5-20230421
Lab Sample ID: 670-18428-17
Date Collected: 04/21/23 09:30
Matrix: Water
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623361	AGW	EET PEN	05/04/23 02:17

Client Sample ID: LC34-sw01002-000.5-20230421
Lab Sample ID: 670-18428-18
Date Collected: 04/21/23 10:00
Matrix: Water
Date Received: 04/21/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	623361	AGW	EET PEN	05/04/23 02:43

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-18428-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E81010	06-30-23

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18428-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-18428-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-18428-1	LC34-iw0147-024.0-20230419	Water	04/19/23 13:10	04/21/23 14:30
670-18428-2	LC34-iw0136-024.0-20230419	Water	04/19/23 14:35	04/21/23 14:30
670-18428-3	LC34-iw0127-024.0-20230419	Water	04/19/23 15:25	04/21/23 14:30
670-18428-4	LC34-iw0128-018.0-20230419	Water	04/19/23 17:00	04/21/23 14:30
670-18428-5	LC34-iw0142-024.0-20230419	Water	04/19/23 17:55	04/21/23 14:30
670-18428-6	LC34-iw0124-018.0-20230420	Water	04/20/23 08:05	04/21/23 14:30
670-18428-7	LC34-iw0108-024.0-20230420	Water	04/20/23 09:10	04/21/23 14:30
670-18428-8	LC34-iw0144-024.0-20230420	Water	04/20/23 10:20	04/21/23 14:30
670-18428-9	LC34-iw0145-031.5-20230420	Water	04/20/23 11:05	04/21/23 14:30
670-18428-10	LC34-iw0135-024.0-20230420	Water	04/20/23 12:00	04/21/23 14:30
670-18428-11	LC34-iw0143-024.0-20230420	Water	04/20/23 14:00	04/21/23 14:30
670-18428-12	LC34-iw0123-024.0-20230420	Water	04/20/23 14:50	04/21/23 14:30
670-18428-13	LC34-iw0138-031.5-20230420	Water	04/20/23 16:20	04/21/23 14:30
670-18428-14	LC34-iw0137-024.0-20230420	Water	04/20/23 17:10	04/21/23 14:30
670-18428-15	LC34-iw0126-024.0-20230420	Water	04/20/23 18:10	04/21/23 14:30
670-18428-16	LC34-sw01004-000.5-20230421	Water	04/21/23 09:00	04/21/23 14:30
670-18428-17	LC34-sw01001-000.5-20230421	Water	04/21/23 09:30	04/21/23 14:30
670-18428-18	LC34-sw01002-000.5-20230421	Water	04/21/23 10:00	04/21/23 14:30

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 1740 | PAGE 1 OF 2

PROJECT NO: 112608985	FACILITY: KSC NASA LC34	PROJECT MANAGER Mark Jonnet	PHONE NUMBER 412 921 8622	LABORATORY NAME AND CONTACT: Eurofin Kaitlin Dylonch
SAMPLERS (SIGNATURE) Rob Stegel TT		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER 321 591 7580	ADDRESS 481 Newburyport Ave
		~~CARRIER/WAYBILL NUMBER~~ LH 6700156		CITY, STATE Orlando FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G G
PRESERVATIVE USED: HCl Ice Ice

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: 8260d (water) NASA LC34 Custom	8260d (soil) NASA LC34 Custom	COMMENTS
4/19	1310	LC34-iw0147-024.0-20230419	147	20.0	28.0	GW	G	4	2	2	
4/19	1435	LC34-iw0136-024.0-20230419	136	20.0	28.0	GW	G	4	2	2	
4/19	1525	LC34-iw0127-024.0-20230419	127	20.0	28.0	GW	G	4	2	2	
4/19	1700	LC34-iw0128-018.0-20230419	128	13.0	23.0	GW	G	4	2	2	
4/19	1755	LC34-iw0142-024.0-20230419	142	20.0	28.0	GW	G	4	2	2	
4/20	0805	LC34-iw0124-018.0-20230420	124	13.0	23.0	GW	G	4	2	2	
4/20	0910	LC34-iw0108-024.0-20230420	108	20.0	28.0	GW	G	4	2	2	
4/20	1020	LC34-iw0144-024.0-20230420	144	20.0	28.0	GW	G	4	2	2	
4/20	1105	LC34-iw0145-031.5-20230420	145	29.0	34.0	GW	G	4	2	2	
4/20	1200	LC34-iw0135-024.0-20230420	135	20.0	28.0	GW	G	4	2	2	
4/20	1400	LC34-iw0143-024.0-20230420	143	20.0	28.0	GW	G	4	2	2	
4/20	1450	LC34-iw0123-024.0-20230420	123	20.0	28.0	GW	G	4	2	2	
4/20	1620	LC34-iw0138-031.5-20230420	138	29.0	34.0	GW	G	4	2	2	

670-18428 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY R Stegel TT	4-21-23	1430	1. RECEIVED BY James W. Gregory	4/21/23	1430
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

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6,18
5%

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 1433 | PAGE 2 OF 2

PROJECT NO: 112G089B5	FACILITY: KSC NASA H56 LC34	PROJECT MANAGER Mark Jomet	PHONE NUMBER 412 921 8622	LABORATORY NAME AND CONTACT: Eurofin Kaitlin Dylnicki
SAMPLERS (SIGNATURE) Robert Stegel TT		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER 321 591 7580	ADDRESS 461 Newburyport Ave
		~~CARRIER/WAYBILL NUMBER~~ NS Lab # 67001156		CITY, STATE Orlando FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)									COMMENTS
PRESERVATIVE USED											HCL	Ice	Ice					
TYPE OF ANALYSIS									8260C (MOD) NASA LC34 CUSTOM	8260C (MOD) NASA LC34 CUSTOM								
4/20	1710	LC34-iw0137-024.0-20230420	137	20.0	28.0	GW	G	4	2	2								
4/20	1810	LC34-iw0126-024.0-20230420	126	20.0	28.0	GW	G	4	2	2								
4/21	0900	LC34-SW01004-000.5-20230421	SW1004	0.5	0.5	SW	G	4	2	2								
4/21	0930	LC34-SW01001-000.5-20230421	SW1001	0.5	0.5	SW	G	4	2	2								
4/21	1000	LC34-SW01002-000.5-20230421	SW1002	0.5	0.5	SW	G	4	2	2								

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY TT	4-21-23	1430	1. RECEIVED BY James W Gregg	4/21/23	1430
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

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FORM NO. TtNUS-001

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 1740 | PAGE 1 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112608985	KSC NASA HSG	Mark Jonnet	412 921 8622	Eurofin Kastlin Dylnich
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
Rob Siegel TT		Chuck Sorden	321 591 7580	481 Newburyport Ave
		~~CARRIER/WAYBILL NUMBER~~		CITY, STATE
		L# 67001156		Orlando Fl

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G G

PRESERVATIVE USED: HCl Ice Ice

TYPE OF ANALYSIS: 8260d (mod) NASA LC34 Custom; 8260d (mod) NASA LC34 Custom

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	8260d (mod) NASA LC34 Custom	8260d (mod) NASA LC34 Custom	COMMENTS
4/19	1310	LC34-iw0147-024.0-2023 0419	147	20.0	28.0	GW	G	4	2	2	
4/19	1435	LC34-iw0136-024.0-2023 0419	136	20.0	28.0	GW	G	4	2	2	
4/19	1525	LC34-iw0127-024.0-2023 0419	127	20.0	28.0	GW	G	4	2	2	
4/19	1700	LC34-iw0128-018.0-2023 0419	128	13.0	23.0	GW	G	4	2	2	
4/19	1755	LC34-iw0142-024.0-2023 0419	142	20.0	28.0	GW	G	4	2	2	
4/20	0805	LC34-iw0124-018.0-2023 0420	124	13.0	23.0	GW	G	4	2	2	
4/20	0910	LC34-iw0108-024.0-2023 0420	108	20.0	28.0	GW	G	4	2	2	
4/20	1020	LC34-iw0144-024.0-2023 0420	144	20.0	28.0	GW	G	4	2	2	
4/20	1105	LC34-iw0145-031.5-2023 0420	145	29.0	34.0	GW	G	4	2	2	
4/20	1200	LC34-iw0135-024.0-2023 0420	135	20.0	28.0	GW	G	4	2	2	
4/20	1400	LC34-iw0143-024.0-2023 0420	143	20.0	28.0	GW	G	4	2	2	
4/20	1450	LC34-iw0123-024.0-2023 0420	123	20.0	28.0	GW	G	4	2	2	
4/20	1620	LC34-iw0138-031.5-2023 0420	138	29.0	34.0	GW	G	4	2	2	

670-18428 Chain of Custody

1.31
6.18
5.96

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY R Siegel TT	4-21-23	1430	1. RECEIVED BY James W. Gregory	4/21/23	1430
2. RELINQUISHED BY			2. RECEIVED BY		
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

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FORM NO. TtNUS-001

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 1433 | PAGE 2 OF 2

PROJECT NO: 112G089B5	FACILITY: KSC NASA H56 LC34	PROJECT MANAGER Mark Jamet	PHONE NUMBER 912 921 8622	LABORATORY NAME AND CONTACT: Eurofin Kaitlin Dylnicki
SAMPLERS (SIGNATURE) Robert Stegel TT		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER 321 591 7580	ADDRESS 461 Newburyport Ave
		CARRIER/WAYBILL NUMBER ~~NS~~ Lab # 670011S6		CITY, STATE Orlando FL

STANDARD TAT ☒ RUSH TAT ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G G

PRESERVATIVE USED: HCl Ice Ice

TYPE OF ANALYSIS: 8260D (MOD) NASA LC34 Custom; 8260D (MOD) NASA LC34 Custom

DATE YEAR	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS			COMMENTS
4/20/2023	1710	LC34-iw0137-024.0-20230420	137	20.0	28.0	GW	G	4	2	2	
4/20	1810	LC34-iw0126-024.0-20230420	126	20.0	28.0	GW	G	4	2	2	
4/21	0900	LC34-SW01004-0005-20230421	SW1004	0.5	0.5	SW	G	4	2	2	
4/21	0930	LC34-SW01001-0005-20230421	SW1001	0.5	0.5	SW	G	4	2	2	
4/21	1000	LC34-SW01002-0005-20230421	SW1002	0.5	0.5	SW	G	4	2	2	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY TT	4/21/23	1430	1. RECEIVED BY James W Greyg	4/21/23	1430
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 4/02R FORM NO. TtNUS-001

1/3/08 596

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-8158.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 2
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-18428-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 5/2/2023			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA LC34 Custom	8260D/5030B_UP (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
LC34-iw0147-024.0-20230419 (670-18428-1)	4/19/23	13:10 Eastern		Water			X	X	4	
LC34-iw0136-024.0-20230419 (670-18428-2)	4/19/23	14:35 Eastern		Water			X	X	4	
LC34-iw0127-024.0-20230419 (670-18428-3)	4/19/23	15:25 Eastern		Water			X	X	4	
LC34-iw0128-018.0-20230419 (670-18428-4)	4/19/23	17:00 Eastern		Water			X	X	4	
LC34-iw0142-024.0-20230419 (670-18428-5)	4/19/23	17:55 Eastern		Water			X	X	4	
LC34-iw0124-018.0-20230420 (670-18428-6)	4/20/23	08:05 Eastern		Water			X	X	4	
LC34-iw0108-024.0-20230420 (670-18428-7)	4/20/23	09:10 Eastern		Water			X	X	4	
LC34-iw0144-024.0-20230420 (670-18428-8)	4/20/23	10:20 Eastern		Water			X	X	4	
LC34-iw0145-031.5-20230420 (670-18428-9)	4/20/23	11:05 Eastern		Water			X	X	4	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 4/20/23 1122	Company	Received by:	Date/Time: 4/20/23 [illegible]	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 4.4°C IR1			

Ver: 06/08/2021

5/9/2023

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-8158.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 2 of 2
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-18428-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 5/2/2023			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA LC34 Custom	8260D/5030B_UP (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
LC34-iw0135-024.0-20230420 (670-18428-10)	4/20/23	12:00 Eastern		Water			X	X	4	
LC34-iw0143-024.0-20230420 (670-18428-11)	4/20/23	14:00 Eastern		Water			X	X	4	
LC34-iw0123-024.0-20230420 (670-18428-12)	4/20/23	14:50 Eastern		Water			X	X	4	
LC34-iw0138-031.5-20230420 (670-18428-13)	4/20/23	16:20 Eastern		Water			X	X	4	
LC34-iw0137-024.0-20230420 (670-18428-14)	4/20/23	17:10 Eastern		Water			X	X	4	
LC34-iw0126-024.0-20230420 (670-18428-15)	4/20/23	18:10 Eastern		Water			X	X	4	
LC34-sw01004-000.5-20230421 (670-18428-16)	4/21/23	09:00 Eastern		Water			X	X	4	
LC34-sw01001-000.5-20230421 (670-18428-17)	4/21/23	09:30 Eastern		Water			X	X	4	
LC34-sw01002-000.5-20230421 (670-18428-18)	4/21/23	10:00 Eastern		Water			X	X	4	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

5/9/2023

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-18428-1

Login Number: 18428

List Number: 1

Creator: Wehr, Alex C

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-18428-1

Login Number: 18428
List Number: 2
Creator: Peckinpaugh, Marshall

List Source: Eurofins Pensacola
List Creation: 04/25/23 03:33 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.4°C IR11
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Alex Murphy
Tetra Tech, Inc.
1353 N Courtenay Pkwy, Suite S
Merritt Island, Florida 32953

Generated 7/20/2023 11:58:31 AM

JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-22769-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

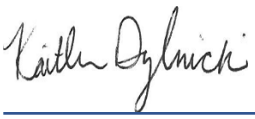
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Authorized for release by
Kaitlin Dylnicki, Project Manager
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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-22769-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
L	Off-scale high. Actual value is known to be greater than the value given.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-22769-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-22769-1

Receipt
The samples were received on 7/7/2023 4:32 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.4°C

Receipt Exceptions
LC34-IW0169-032.5-20230707 (670-22769-4) was not on the COC. Sample added to end of login. ID confirmed by client.

GC/MS VOA
Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0169-032.5-20230707 (670-22769-4). Elevated reporting limits (RLs) are provided.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-IW0188-018.5-20230707 (670-22769-1) and LC34-IW0169-032.5-20230707 (670-22769-4). Elevated reporting limits (RLs) are provided.

Method 8260D: Bromoform and Trichlorofluoromethane were reported with an E flag in the batch QC because the top two points were dropped from the ICAL. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.(ICV 680-786025/15)

Method 8260D: The initial calibration verification (ICV) analyzed in batch 680-787574 was outside method criteria for the following analyte(s): 2-Butanone (MEK), 2-Hexanone, 4-Methyl-2-pentanone, Acetone and Dichlorodifluoromethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-787910 recovered above the upper control limit for Bromomethane, Chloroethane, Chloromethane, Dichlorodifluoromethane, Trichlorofluoromethane and Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-787910 recovered outside acceptance criteria, low biased, for 2-Butanone (MEK) and Methyl acetate. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 680-787910 recovered outside control limits for the following analytes: Chloromethane, Dichlorodifluoromethane and Vinyl chloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-788091 recovered outside acceptance criteria, low biased, for 1,1,2,2-Tetrachloroethane, 1,2-Dibromo-3-Chloropropane, 2-Butanone (MEK), 2-Hexanone, 4-Methyl-2-pentanone and Acetone. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 680-788091 recovered above the upper control limit for Chloroethane, Dichlorodifluoromethane and Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for analytical batch 680-788091 recovered outside control limits for the following analyte(s): 2-Butanone (MEK) and 2-Hexanone. 2-Butanone (MEK) and 2-Hexanone have been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The laboratory control sample duplicate (LCSD) for analytical batch 680-788091 recovered outside control limits for the

Job ID: 670-22769-1 (Continued)

Laboratory: Eurofins Orlando (Continued)

following analytes: Carbon disulfide and Trichlorofluoromethane. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-788091.

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 680-788254 was outside the method criteria for the following analyte(s): 1,1,2,2-Tetrachloroethane, 1,1-Dichloroethene, 2-Hexanone, Carbon disulfide, Chloroethane and Chloromethane. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for analytical batch 680-788254 recovered outside control limits for the following analyte(s): Carbon disulfide. Carbon disulfide has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260D: The laboratory control sample (LCS) for analytical batch 680-788254 recovered outside control limits for the following analytes: 1,1,2,2-Tetrachloroethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22769-1

Client Sample ID: LC34-IW0188-018.5-20230707 — Lab Sample ID: 670-22769-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	27		1.0	0.25	ug/L	1		8260D	Total/NA
Vinyl chloride - DL	160		5.0	2.0	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0187-018.5-20230707 — Lab Sample ID: 670-22769-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	940		10	2.5	ug/L	10		8260D	Total/NA
trans-1,2-Dichloroethene	9.3	I	10	3.4	ug/L	10		8260D	Total/NA
Vinyl chloride	560		10	4.0	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0186-018.5-20230707 — Lab Sample ID: 670-22769-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	320		5.0	1.3	ug/L	5		8260D	Total/NA
trans-1,2-Dichloroethene	1.9	I	5.0	1.7	ug/L	5		8260D	Total/NA
Vinyl chloride	330		5.0	2.0	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0169-032.5-20230707 — Lab Sample ID: 670-22769-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	67		20	5.0	ug/L	20		8260D	Total/NA
Vinyl chloride	1400		20	8.0	ug/L	20		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22769-1

Client Sample ID: LC34-IW0188-018.5-20230707
Date Collected: 07/07/23 11:42
Date Received: 07/07/23 16:32

Lab Sample ID: 670-22769-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			07/12/23 20:52	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			07/12/23 20:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			07/12/23 20:52	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			07/12/23 20:52	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			07/12/23 20:52	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			07/12/23 20:52	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			07/12/23 20:52	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			07/12/23 20:52	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			07/12/23 20:52	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/12/23 20:52	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			07/12/23 20:52	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			07/12/23 20:52	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/12/23 20:52	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/12/23 20:52	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			07/12/23 20:52	1
2-Hexanone	3.2	U	10	3.2	ug/L			07/12/23 20:52	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			07/12/23 20:52	1
Acetone	3.7	U	10	3.7	ug/L			07/12/23 20:52	1
Benzene	0.27	U	1.0	0.27	ug/L			07/12/23 20:52	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			07/12/23 20:52	1
Bromoform	0.59	U	1.0	0.59	ug/L			07/12/23 20:52	1
Bromomethane	3.7	U	5.0	3.7	ug/L			07/12/23 20:52	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			07/12/23 20:52	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			07/12/23 20:52	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/12/23 20:52	1
Chloroethane	4.6	U	5.0	4.6	ug/L			07/12/23 20:52	1
Chloroform	0.27	U	1.0	0.27	ug/L			07/12/23 20:52	1
Chloromethane	0.54	U J3	1.0	0.54	ug/L			07/12/23 20:52	1
cis-1,2-Dichloroethene	**27**		1.0	0.25	ug/L			07/12/23 20:52	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			07/12/23 20:52	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			07/12/23 20:52	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			07/12/23 20:52	1
Dichlorodifluoromethane	0.36	U J3	1.0	0.36	ug/L			07/12/23 20:52	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			07/12/23 20:52	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			07/12/23 20:52	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			07/12/23 20:52	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			07/12/23 20:52	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			07/12/23 20:52	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			07/12/23 20:52	1
o-Xylene	0.26	U	1.0	0.26	ug/L			07/12/23 20:52	1
Styrene	0.27	U	1.0	0.27	ug/L			07/12/23 20:52	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			07/12/23 20:52	1
Toluene	0.25	U	1.0	0.25	ug/L			07/12/23 20:52	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			07/12/23 20:52	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			07/12/23 20:52	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			07/12/23 20:52	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			07/12/23 20:52	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			07/12/23 20:52	1

Client Sample ID: LC34-IW0188-018.5-20230707

Lab Sample ID: 670-22769-1

Date Collected: 07/07/23 11:42

Matrix: Water

Date Received: 07/07/23 16:32

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*74*		*60 - 124*		*07/12/23 20:52*	*1*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*07/12/23 20:52*	*1*
Dibromofluoromethane (Surr)	*87*		*70 - 130*		*07/12/23 20:52*	*1*
Toluene-d8 (Surr)	*104*		*70 - 130*		*07/12/23 20:52*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**160**		5.0	2.0	ug/L			07/14/23 21:34	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*115*		*60 - 124*		*07/14/23 21:34*	*5*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*		*07/14/23 21:34*	*5*
Dibromofluoromethane (Surr)	*124*		*70 - 130*		*07/14/23 21:34*	*5*
Toluene-d8 (Surr)	*123*		*70 - 130*		*07/14/23 21:34*	*5*

Client Sample ID: LC34-IW0187-018.5-20230707

Lab Sample ID: 670-22769-2

Date Collected: 07/07/23 12:11

Matrix: Water

Date Received: 07/07/23 16:32

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	2.1	U	10	2.1	ug/L			07/12/23 21:13	10
1,1,2,2-Tetrachloroethane	4.0	U	10	4.0	ug/L			07/12/23 21:13	10
1,1,2-Trichloro-1,2,2-trifluoroethane	2.3	U	10	2.3	ug/L			07/12/23 21:13	10
1,1,2-Trichloroethane	3.2	U	10	3.2	ug/L			07/12/23 21:13	10
1,1-Dichloroethane	3.3	U	10	3.3	ug/L			07/12/23 21:13	10
1,1-Dichloroethene	3.3	U	10	3.3	ug/L			07/12/23 21:13	10
1,2,4-Trichlorobenzene	5.3	U	50	5.3	ug/L			07/12/23 21:13	10
1,2-Dibromo-3-Chloropropane	18	U	50	18	ug/L			07/12/23 21:13	10
1,2-Dibromoethane (EDB)	3.3	U	10	3.3	ug/L			07/12/23 21:13	10
1,2-Dichlorobenzene	3.1	U	10	3.1	ug/L			07/12/23 21:13	10
1,2-Dichloroethane	2.5	U	10	2.5	ug/L			07/12/23 21:13	10
1,2-Dichloropropane	2.2	U	10	2.2	ug/L			07/12/23 21:13	10
1,3-Dichlorobenzene	3.1	U	10	3.1	ug/L			07/12/23 21:13	10
1,4-Dichlorobenzene	3.1	U	10	3.1	ug/L			07/12/23 21:13	10
2-Butanone (MEK)	64	U	100	64	ug/L			07/12/23 21:13	10
2-Hexanone	32	U	100	32	ug/L			07/12/23 21:13	10
4-Methyl-2-pentanone	27	U	100	27	ug/L			07/12/23 21:13	10
Acetone	37	U	100	37	ug/L			07/12/23 21:13	10
Benzene	2.7	U	10	2.7	ug/L			07/12/23 21:13	10
Bromodichloromethane	2.5	U	10	2.5	ug/L			07/12/23 21:13	10
Bromoform	5.9	U	10	5.9	ug/L			07/12/23 21:13	10
Bromomethane	37	U	50	37	ug/L			07/12/23 21:13	10
Carbon disulfide	4.3	U	20	4.3	ug/L			07/12/23 21:13	10
Carbon tetrachloride	3.0	U	10	3.0	ug/L			07/12/23 21:13	10
Chlorobenzene	1.5	U	10	1.5	ug/L			07/12/23 21:13	10
Chloroethane	46	U	50	46	ug/L			07/12/23 21:13	10
Chloroform	2.7	U	10	2.7	ug/L			07/12/23 21:13	10
Chloromethane	5.4	U J3	10	5.4	ug/L			07/12/23 21:13	10
cis-1,2-Dichloroethene	**940**		10	2.5	ug/L			07/12/23 21:13	10
cis-1,3-Dichloropropene	2.6	U	10	2.6	ug/L			07/12/23 21:13	10

Client Sample ID: LC34-IW0187-018.5-20230707

Lab Sample ID: 670-22769-2

Date Collected: 07/07/23 12:11

Matrix: Water

Date Received: 07/07/23 16:32

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	2.8	U	10	2.8	ug/L			07/12/23 21:13	10
Dibromochloromethane	3.9	U	10	3.9	ug/L			07/12/23 21:13	10
Dichlorodifluoromethane	3.6	U J3	10	3.6	ug/L			07/12/23 21:13	10
Ethylbenzene	2.0	U	10	2.0	ug/L			07/12/23 21:13	10
Isopropylbenzene	2.6	U	10	2.6	ug/L			07/12/23 21:13	10
m,p-Xylenes	4.9	U	10	4.9	ug/L			07/12/23 21:13	10
Methyl acetate	32	U	50	32	ug/L			07/12/23 21:13	10
Methyl tert-butyl ether	8.1	U	50	8.1	ug/L			07/12/23 21:13	10
Methylene Chloride	32	U	50	32	ug/L			07/12/23 21:13	10
o-Xylene	2.6	U	10	2.6	ug/L			07/12/23 21:13	10
Styrene	2.7	U	10	2.7	ug/L			07/12/23 21:13	10
Tetrachloroethene	3.5	U	5.0	3.5	ug/L			07/12/23 21:13	10
Toluene	2.5	U	10	2.5	ug/L			07/12/23 21:13	10
trans-1,2-Dichloroethene	**9.3**	**I**	10	3.4	ug/L			07/12/23 21:13	10
trans-1,3-Dichloropropene	2.3	U	10	2.3	ug/L			07/12/23 21:13	10
Trichloroethene	2.0	U	10	2.0	ug/L			07/12/23 21:13	10
Trichlorofluoromethane	3.3	U	10	3.3	ug/L			07/12/23 21:13	10
Vinyl chloride	**560**		10	4.0	ug/L			07/13/23 19:15	10
Xylenes, Total	2.3	U	10	2.3	ug/L			07/12/23 21:13	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*74*		*60 - 124*		*07/12/23 21:13*	*10*
1,2-Dichloroethane-d4 (Surr)	*102*		*60 - 124*		*07/13/23 19:15*	*10*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*07/12/23 21:13*	*10*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*07/13/23 19:15*	*10*
Dibromofluoromethane (Surr)	*89*		*70 - 130*		*07/12/23 21:13*	*10*
Dibromofluoromethane (Surr)	*116*		*70 - 130*		*07/13/23 19:15*	*10*
Toluene-d8 (Surr)	*104*		*70 - 130*		*07/12/23 21:13*	*10*
Toluene-d8 (Surr)	*110*		*70 - 130*		*07/13/23 19:15*	*10*

Client Sample ID: LC34-IW0186-018.5-20230707

Lab Sample ID: 670-22769-3

Date Collected: 07/07/23 12:45

Matrix: Water

Date Received: 07/07/23 16:32

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.1	U	5.0	1.1	ug/L			07/12/23 21:34	5
1,1,2,2-Tetrachloroethane	2.0	U	5.0	2.0	ug/L			07/12/23 21:34	5
1,1,2-Trichloro-1,2,2-trifluoroethane	1.2	U	5.0	1.2	ug/L			07/12/23 21:34	5
1,1,2-Trichloroethane	1.6	U	5.0	1.6	ug/L			07/12/23 21:34	5
1,1-Dichloroethane	1.7	U	5.0	1.7	ug/L			07/12/23 21:34	5
1,1-Dichloroethene	1.7	U	5.0	1.7	ug/L			07/12/23 21:34	5
1,2,4-Trichlorobenzene	2.7	U	25	2.7	ug/L			07/12/23 21:34	5
1,2-Dibromo-3-Chloropropane	9.0	U	25	9.0	ug/L			07/12/23 21:34	5
1,2-Dibromoethane (EDB)	1.7	U	5.0	1.7	ug/L			07/12/23 21:34	5
1,2-Dichlorobenzene	1.6	U	5.0	1.6	ug/L			07/12/23 21:34	5
1,2-Dichloroethane	1.3	U	5.0	1.3	ug/L			07/12/23 21:34	5
1,2-Dichloropropane	1.1	U	5.0	1.1	ug/L			07/12/23 21:34	5
1,3-Dichlorobenzene	1.6	U	5.0	1.6	ug/L			07/12/23 21:34	5
1,4-Dichlorobenzene	1.6	U	5.0	1.6	ug/L			07/12/23 21:34	5

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22769-1

Client Sample ID: LC34-IW0186-018.5-20230707
Date Collected: 07/07/23 12:45
Date Received: 07/07/23 16:32

Lab Sample ID: 670-22769-3
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	32	U	50	32	ug/L			07/12/23 21:34	5
2-Hexanone	16	U	50	16	ug/L			07/12/23 21:34	5
4-Methyl-2-pentanone	14	U	50	14	ug/L			07/12/23 21:34	5
Acetone	19	U	50	19	ug/L			07/12/23 21:34	5
Benzene	1.4	U	5.0	1.4	ug/L			07/12/23 21:34	5
Bromodichloromethane	1.3	U	5.0	1.3	ug/L			07/12/23 21:34	5
Bromoform	3.0	U	5.0	3.0	ug/L			07/12/23 21:34	5
Bromomethane	19	U	25	19	ug/L			07/12/23 21:34	5
Carbon disulfide	2.2	U	10	2.2	ug/L			07/12/23 21:34	5
Carbon tetrachloride	1.5	U	5.0	1.5	ug/L			07/12/23 21:34	5
Chlorobenzene	0.75	U	5.0	0.75	ug/L			07/12/23 21:34	5
Chloroethane	23	U	25	23	ug/L			07/12/23 21:34	5
Chloroform	1.4	U	5.0	1.4	ug/L			07/12/23 21:34	5
Chloromethane	2.7	U J3	5.0	2.7	ug/L			07/12/23 21:34	5
cis-1,2-Dichloroethene	**320**		5.0	1.3	ug/L			07/12/23 21:34	5
cis-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			07/12/23 21:34	5
Cyclohexane	1.4	U	5.0	1.4	ug/L			07/12/23 21:34	5
Dibromochloromethane	2.0	U	5.0	2.0	ug/L			07/12/23 21:34	5
Dichlorodifluoromethane	1.8	U J3	5.0	1.8	ug/L			07/12/23 21:34	5
Ethylbenzene	1.0	U	5.0	1.0	ug/L			07/12/23 21:34	5
Isopropylbenzene	1.3	U	5.0	1.3	ug/L			07/12/23 21:34	5
m,p-Xylenes	2.5	U	5.0	2.5	ug/L			07/12/23 21:34	5
Methyl acetate	16	U	25	16	ug/L			07/12/23 21:34	5
Methyl tert-butyl ether	4.1	U	25	4.1	ug/L			07/12/23 21:34	5
Methylene Chloride	16	U	25	16	ug/L			07/12/23 21:34	5
o-Xylene	1.3	U	5.0	1.3	ug/L			07/12/23 21:34	5
Styrene	1.4	U	5.0	1.4	ug/L			07/12/23 21:34	5
Tetrachloroethene	1.8	U	2.5	1.8	ug/L			07/12/23 21:34	5
Toluene	1.3	U	5.0	1.3	ug/L			07/12/23 21:34	5
trans-1,2-Dichloroethene	**1.9**	**I**	5.0	1.7	ug/L			07/12/23 21:34	5
trans-1,3-Dichloropropene	1.2	U	5.0	1.2	ug/L			07/12/23 21:34	5
Trichloroethene	1.0	U	5.0	1.0	ug/L			07/12/23 21:34	5
Trichlorofluoromethane	1.7	U	5.0	1.7	ug/L			07/12/23 21:34	5
Vinyl chloride	**330**		5.0	2.0	ug/L			07/13/23 18:36	5
Xylenes, Total	1.2	U	5.0	1.2	ug/L			07/12/23 21:34	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*76*		*60 - 124*		*07/12/23 21:34*	*5*
1,2-Dichloroethane-d4 (Surr)	*100*		*60 - 124*		*07/13/23 18:36*	*5*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*07/12/23 21:34*	*5*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*		*07/13/23 18:36*	*5*
Dibromofluoromethane (Surr)	*89*		*70 - 130*		*07/12/23 21:34*	*5*
Dibromofluoromethane (Surr)	*116*		*70 - 130*		*07/13/23 18:36*	*5*
Toluene-d8 (Surr)	*106*		*70 - 130*		*07/12/23 21:34*	*5*
Toluene-d8 (Surr)	*110*		*70 - 130*		*07/13/23 18:36*	*5*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22769-1

Client Sample ID: LC34-IW0169-032.5-20230707
Date Collected: 07/07/23 13:19
Date Received: 07/07/23 16:32

Lab Sample ID: 670-22769-4
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.2	U	20	4.2	ug/L			07/14/23 21:53	20
1,1,2,2-Tetrachloroethane	8.0	U J3	20	8.0	ug/L			07/14/23 21:53	20
1,1,2-Trichloro-1,2,2-trifluoroethane	4.6	U	20	4.6	ug/L			07/14/23 21:53	20
1,1,2-Trichloroethane	6.4	U	20	6.4	ug/L			07/14/23 21:53	20
1,1-Dichloroethane	6.6	U	20	6.6	ug/L			07/14/23 21:53	20
1,1-Dichloroethene	6.6	U	20	6.6	ug/L			07/14/23 21:53	20
1,2,4-Trichlorobenzene	11	U	100	11	ug/L			07/14/23 21:53	20
1,2-Dibromo-3-Chloropropane	36	U	100	36	ug/L			07/14/23 21:53	20
1,2-Dibromoethane (EDB)	6.6	U	20	6.6	ug/L			07/14/23 21:53	20
1,2-Dichlorobenzene	6.2	U	20	6.2	ug/L			07/14/23 21:53	20
1,2-Dichloroethane	5.0	U	20	5.0	ug/L			07/14/23 21:53	20
1,2-Dichloropropane	4.4	U	20	4.4	ug/L			07/14/23 21:53	20
1,3-Dichlorobenzene	6.2	U	20	6.2	ug/L			07/14/23 21:53	20
1,4-Dichlorobenzene	6.2	U	20	6.2	ug/L			07/14/23 21:53	20
2-Butanone (MEK)	130	U	200	130	ug/L			07/14/23 21:53	20
2-Hexanone	64	U	200	64	ug/L			07/14/23 21:53	20
4-Methyl-2-pentanone	54	U	200	54	ug/L			07/14/23 21:53	20
Acetone	74	U	200	74	ug/L			07/14/23 21:53	20
Benzene	5.4	U	20	5.4	ug/L			07/14/23 21:53	20
Bromodichloromethane	5.0	U	20	5.0	ug/L			07/14/23 21:53	20
Bromoform	12	U	20	12	ug/L			07/14/23 21:53	20
Bromomethane	74	U	100	74	ug/L			07/14/23 21:53	20
Carbon disulfide	8.6	U J3	40	8.6	ug/L			07/14/23 21:53	20
Carbon tetrachloride	6.0	U	20	6.0	ug/L			07/14/23 21:53	20
Chlorobenzene	3.0	U	20	3.0	ug/L			07/14/23 21:53	20
Chloroethane	92	U	100	92	ug/L			07/14/23 21:53	20
Chloroform	5.4	U	20	5.4	ug/L			07/14/23 21:53	20
Chloromethane	11	U	20	11	ug/L			07/14/23 21:53	20
cis-1,2-Dichloroethene	**67**		20	5.0	ug/L			07/14/23 21:53	20
cis-1,3-Dichloropropene	5.2	U	20	5.2	ug/L			07/14/23 21:53	20
Cyclohexane	5.6	U	20	5.6	ug/L			07/14/23 21:53	20
Dibromochloromethane	7.8	U	20	7.8	ug/L			07/14/23 21:53	20
Dichlorodifluoromethane	7.2	U	20	7.2	ug/L			07/14/23 21:53	20
Ethylbenzene	4.0	U	20	4.0	ug/L			07/14/23 21:53	20
Isopropylbenzene	5.2	U	20	5.2	ug/L			07/14/23 21:53	20
m,p-Xylenes	9.8	U	20	9.8	ug/L			07/14/23 21:53	20
Methyl acetate	64	U	100	64	ug/L			07/14/23 21:53	20
Methyl tert-butyl ether	16	U	100	16	ug/L			07/14/23 21:53	20
Methylene Chloride	64	U	100	64	ug/L			07/14/23 21:53	20
o-Xylene	5.2	U	20	5.2	ug/L			07/14/23 21:53	20
Styrene	5.4	U	20	5.4	ug/L			07/14/23 21:53	20
Tetrachloroethene	7.0	U	10	7.0	ug/L			07/14/23 21:53	20
Toluene	5.0	U	20	5.0	ug/L			07/14/23 21:53	20
trans-1,2-Dichloroethene	6.8	U	20	6.8	ug/L			07/14/23 21:53	20
trans-1,3-Dichloropropene	4.6	U	20	4.6	ug/L			07/14/23 21:53	20
Trichloroethene	4.0	U	20	4.0	ug/L			07/14/23 21:53	20
Trichlorofluoromethane	6.6	U	20	6.6	ug/L			07/14/23 21:53	20
Vinyl chloride	**1400**		20	8.0	ug/L			07/14/23 21:53	20
Xylenes, Total	4.6	U	20	4.6	ug/L			07/14/23 21:53	20

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22769-1

Client Sample ID: LC34-IW0169-032.5-20230707
Date Collected: 07/07/23 13:19
Date Received: 07/07/23 16:32

Lab Sample ID: 670-22769-4
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		60 - 124		07/14/23 21:53	20
4-Bromofluorobenzene (Surr)	102		70 - 130		07/14/23 21:53	20
Dibromofluoromethane (Surr)	120		70 - 130		07/14/23 21:53	20
Toluene-d8 (Surr)	118		70 - 130		07/14/23 21:53	20

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22769-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(60-124)	(70-130)	(70-130)	(70-130)
670-22769-1	LC34-IW0188-018.5-20230707	74	102	87	104
670-22769-1 - DL	LC34-IW0188-018.5-20230707	115	107	124	123
670-22769-2	LC34-IW0187-018.5-20230707	74	103	89	104
670-22769-2	LC34-IW0187-018.5-20230707	102	103	116	110
670-22769-3	LC34-IW0186-018.5-20230707	76	102	89	106
670-22769-3	LC34-IW0186-018.5-20230707	100	105	116	110
670-22769-4	LC34-IW0169-032.5-20230707	113	102	120	118
LCS 680-787910/4	Lab Control Sample	89	98	90	104
LCS 680-788091/4	Lab Control Sample	98	92	102	97
LCS 680-788254/5	Lab Control Sample	105	109	111	110
LCSD 680-787910/5	Lab Control Sample Dup	88	95	90	103
LCSD 680-788091/5	Lab Control Sample Dup	98	96	100	100
LCSD 680-788254/6	Lab Control Sample Dup	96	101	102	105
MB 680-787910/8	Method Blank	72	106	81	101
MB 680-788091/7	Method Blank	100	110	116	108
MB 680-788254/9	Method Blank	108	105	113	118

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 680-787910/8
Matrix: Water
Analysis Batch: 787910

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			07/12/23 13:26	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			07/12/23 13:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			07/12/23 13:26	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			07/12/23 13:26	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			07/12/23 13:26	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			07/12/23 13:26	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			07/12/23 13:26	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			07/12/23 13:26	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			07/12/23 13:26	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/12/23 13:26	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			07/12/23 13:26	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			07/12/23 13:26	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/12/23 13:26	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/12/23 13:26	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			07/12/23 13:26	1
2-Hexanone	3.2	U	10	3.2	ug/L			07/12/23 13:26	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			07/12/23 13:26	1
Acetone	3.7	U	10	3.7	ug/L			07/12/23 13:26	1
Benzene	0.27	U	1.0	0.27	ug/L			07/12/23 13:26	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			07/12/23 13:26	1
Bromoform	0.59	U	1.0	0.59	ug/L			07/12/23 13:26	1
Bromomethane	3.7	U	5.0	3.7	ug/L			07/12/23 13:26	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			07/12/23 13:26	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			07/12/23 13:26	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/12/23 13:26	1
Chloroethane	4.6	U	5.0	4.6	ug/L			07/12/23 13:26	1
Chloroform	0.27	U	1.0	0.27	ug/L			07/12/23 13:26	1
Chloromethane	0.54	U	1.0	0.54	ug/L			07/12/23 13:26	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			07/12/23 13:26	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			07/12/23 13:26	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			07/12/23 13:26	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			07/12/23 13:26	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			07/12/23 13:26	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			07/12/23 13:26	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			07/12/23 13:26	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			07/12/23 13:26	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			07/12/23 13:26	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			07/12/23 13:26	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			07/12/23 13:26	1
o-Xylene	0.26	U	1.0	0.26	ug/L			07/12/23 13:26	1
Styrene	0.27	U	1.0	0.27	ug/L			07/12/23 13:26	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			07/12/23 13:26	1
Toluene	0.25	U	1.0	0.25	ug/L			07/12/23 13:26	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			07/12/23 13:26	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			07/12/23 13:26	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			07/12/23 13:26	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			07/12/23 13:26	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			07/12/23 13:26	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-787910/8
Matrix: Water
Analysis Batch: 787910

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	0.23	U	1.0	0.23	ug/L			07/12/23 13:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*72*		*60 - 124*		*07/12/23 13:26*	*1*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*		*07/12/23 13:26*	*1*
Dibromofluoromethane (Surr)	*81*		*70 - 130*		*07/12/23 13:26*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*07/12/23 13:26*	*1*

Lab Sample ID: LCS 680-787910/4
Matrix: Water
Analysis Batch: 787910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	49.3		ug/L		99	70 - 130
1,1,2,2-Tetrachloroethane	50.0	51.4		ug/L		103	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	52.6		ug/L		105	63 - 141
1,1,2-Trichloroethane	50.0	50.9		ug/L		102	70 - 130
1,1-Dichloroethane	50.0	44.2		ug/L		88	70 - 130
1,1-Dichloroethene	50.0	44.8		ug/L		90	70 - 130
1,2,4-Trichlorobenzene	50.0	51.1		ug/L		102	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	45.2		ug/L		90	70 - 130
1,2-Dibromoethane (EDB)	50.0	52.3		ug/L		105	70 - 130
1,2-Dichlorobenzene	50.0	50.2		ug/L		100	70 - 130
1,2-Dichloroethane	50.0	48.9		ug/L		98	70 - 130
1,2-Dichloropropane	50.0	53.3		ug/L		107	70 - 130
1,3-Dichlorobenzene	50.0	49.3		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	47.1		ug/L		94	70 - 130
2-Butanone (MEK)	250	196		ug/L		79	69 - 120
2-Hexanone	250	234		ug/L		94	70 - 130
4-Methyl-2-pentanone	250	225		ug/L		90	68 - 120
Acetone	250	210		ug/L		84	67 - 120
Benzene	50.0	50.1		ug/L		100	70 - 130
Bromodichloromethane	50.0	49.0		ug/L		98	70 - 130
Bromoform	50.0	57.1	L	ug/L		114	69 - 129
Bromomethane	50.0	79.3		ug/L		159	28 - 192
Carbon disulfide	50.0	41.8		ug/L		84	70 - 130
Carbon tetrachloride	50.0	52.0		ug/L		104	70 - 130
Chlorobenzene	50.0	48.6		ug/L		97	70 - 130
Chloroethane	50.0	76.1		ug/L		152	31 - 213
Chloroform	50.0	48.1		ug/L		96	70 - 130
Chloromethane	50.0	66.3	J3	ug/L		133	59 - 127
cis-1,2-Dichloroethene	50.0	48.4		ug/L		97	70 - 130
cis-1,3-Dichloropropene	50.0	50.5		ug/L		101	70 - 130
Cyclohexane	50.0	50.5		ug/L		101	23 - 175
Dibromochloromethane	50.0	48.5		ug/L		97	70 - 130
Dichlorodifluoromethane	50.0	78.8	J3	ug/L		158	70 - 130
Ethylbenzene	50.0	50.1		ug/L		100	70 - 130
Isopropylbenzene	50.0	50.5		ug/L		101	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-787910/4
Matrix: Water
Analysis Batch: 787910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	51.2		ug/L		102	70 - 130
Methyl acetate	100	76.1		ug/L		76	67 - 120
Methyl tert-butyl ether	50.0	48.1		ug/L		96	70 - 130
Methylene Chloride	50.0	43.3		ug/L		87	70 - 130
o-Xylene	50.0	50.9		ug/L		102	70 - 130
Styrene	50.0	51.1		ug/L		102	70 - 130
Tetrachloroethene	50.0	55.8		ug/L		112	70 - 130
Toluene	50.0	50.9		ug/L		102	70 - 130
trans-1,2-Dichloroethene	50.0	52.7		ug/L		105	70 - 130
trans-1,3-Dichloropropene	50.0	47.3		ug/L		95	70 - 130
Trichloroethene	50.0	55.2		ug/L		110	70 - 130
Trichlorofluoromethane	50.0	66.4	L	ug/L		133	63 - 142
Vinyl chloride	50.0	68.8	J3	ug/L		138	66 - 129
Xylenes, Total	100	102		ug/L		102	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*60 - 124*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
Dibromofluoromethane (Surr)	*90*		*70 - 130*
Toluene-d8 (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 680-787910/5
Matrix: Water
Analysis Batch: 787910

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	49.3		ug/L		99	70 - 130	0	30
1,1,2,2-Tetrachloroethane	50.0	51.7		ug/L		103	70 - 130	0	30
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	53.7		ug/L		107	63 - 141	2	30
1,1,2-Trichloroethane	50.0	51.3		ug/L		103	70 - 130	1	30
1,1-Dichloroethane	50.0	44.0		ug/L		88	70 - 130	1	30
1,1-Dichloroethene	50.0	44.8		ug/L		90	70 - 130	0	20
1,2,4-Trichlorobenzene	50.0	50.6		ug/L		101	70 - 130	1	30
1,2-Dibromo-3-Chloropropane	50.0	44.5		ug/L		89	70 - 130	2	30
1,2-Dibromoethane (EDB)	50.0	52.0		ug/L		104	70 - 130	1	30
1,2-Dichlorobenzene	50.0	50.0		ug/L		100	70 - 130	0	30
1,2-Dichloroethane	50.0	49.6		ug/L		99	70 - 130	1	50
1,2-Dichloropropane	50.0	52.2		ug/L		104	70 - 130	2	20
1,3-Dichlorobenzene	50.0	48.9		ug/L		98	70 - 130	1	30
1,4-Dichlorobenzene	50.0	47.4		ug/L		95	70 - 130	1	30
2-Butanone (MEK)	250	197		ug/L		79	69 - 120	0	30
2-Hexanone	250	239		ug/L		96	70 - 130	2	20
4-Methyl-2-pentanone	250	226		ug/L		90	68 - 120	0	30
Acetone	250	214		ug/L		85	67 - 120	2	30
Benzene	50.0	49.7		ug/L		99	70 - 130	1	30
Bromodichloromethane	50.0	48.5		ug/L		97	70 - 130	1	30
Bromoform	50.0	56.6	L	ug/L		113	69 - 129	1	30
Bromomethane	50.0	77.8		ug/L		156	28 - 192	2	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-787910/5
Matrix: Water
Analysis Batch: 787910

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon disulfide	50.0	41.8		ug/L		84	70 - 130	0	30
Carbon tetrachloride	50.0	51.7		ug/L		103	70 - 130	1	30
Chlorobenzene	50.0	48.6		ug/L		97	70 - 130	0	30
Chloroethane	50.0	73.7		ug/L		147	31 - 213	3	30
Chloroform	50.0	47.9		ug/L		96	70 - 130	0	30
Chloromethane	50.0	65.4	J3	ug/L		131	59 - 127	1	30
cis-1,2-Dichloroethene	50.0	48.1		ug/L		96	70 - 130	1	30
cis-1,3-Dichloropropene	50.0	49.9		ug/L		100	70 - 130	1	20
Cyclohexane	50.0	49.9		ug/L		100	23 - 175	1	30
Dibromochloromethane	50.0	47.6		ug/L		95	70 - 130	2	30
Dichlorodifluoromethane	50.0	79.9	J3	ug/L		160	70 - 130	1	40
Ethylbenzene	50.0	50.0		ug/L		100	70 - 130	0	20
Isopropylbenzene	50.0	51.2		ug/L		102	70 - 130	2	30
m,p-Xylenes	50.0	50.8		ug/L		102	70 - 130	1	30
Methyl acetate	100	78.9		ug/L		79	67 - 120	4	30
Methyl tert-butyl ether	50.0	48.1		ug/L		96	70 - 130	0	30
Methylene Chloride	50.0	42.5		ug/L		85	70 - 130	2	30
o-Xylene	50.0	51.0		ug/L		102	70 - 130	0	30
Styrene	50.0	51.8		ug/L		104	70 - 130	2	30
Tetrachloroethene	50.0	56.4		ug/L		113	70 - 130	1	30
Toluene	50.0	50.1		ug/L		100	70 - 130	1	30
trans-1,2-Dichloroethene	50.0	51.4		ug/L		103	70 - 130	2	30
trans-1,3-Dichloropropene	50.0	46.8		ug/L		94	70 - 130	1	30
Trichloroethene	50.0	54.4		ug/L		109	70 - 130	1	30
Trichlorofluoromethane	50.0	66.9	L	ug/L		134	63 - 142	1	30
Vinyl chloride	50.0	68.2	J3	ug/L		136	66 - 129	1	30
Xylenes, Total	100	102		ug/L		102	70 - 130	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*60 - 124*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
Dibromofluoromethane (Surr)	*90*		*70 - 130*
Toluene-d8 (Surr)	*103*		*70 - 130*

Lab Sample ID: MB 680-788091/7
Matrix: Water
Analysis Batch: 788091

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			07/13/23 12:10	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			07/13/23 12:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			07/13/23 12:10	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			07/13/23 12:10	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			07/13/23 12:10	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			07/13/23 12:10	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			07/13/23 12:10	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			07/13/23 12:10	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			07/13/23 12:10	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-788091/7
Matrix: Water
Analysis Batch: 788091

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/13/23 12:10	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			07/13/23 12:10	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			07/13/23 12:10	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/13/23 12:10	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/13/23 12:10	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			07/13/23 12:10	1
2-Hexanone	3.2	U	10	3.2	ug/L			07/13/23 12:10	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			07/13/23 12:10	1
Acetone	3.7	U	10	3.7	ug/L			07/13/23 12:10	1
Benzene	0.27	U	1.0	0.27	ug/L			07/13/23 12:10	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			07/13/23 12:10	1
Bromoform	0.59	U	1.0	0.59	ug/L			07/13/23 12:10	1
Bromomethane	3.7	U	5.0	3.7	ug/L			07/13/23 12:10	1
Carbon disulfide	0.43	U	2.0	0.43	ug/L			07/13/23 12:10	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			07/13/23 12:10	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/13/23 12:10	1
Chloroethane	4.6	U	5.0	4.6	ug/L			07/13/23 12:10	1
Chloroform	0.27	U	1.0	0.27	ug/L			07/13/23 12:10	1
Chloromethane	0.54	U	1.0	0.54	ug/L			07/13/23 12:10	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			07/13/23 12:10	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			07/13/23 12:10	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			07/13/23 12:10	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			07/13/23 12:10	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			07/13/23 12:10	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			07/13/23 12:10	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			07/13/23 12:10	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			07/13/23 12:10	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			07/13/23 12:10	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			07/13/23 12:10	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			07/13/23 12:10	1
o-Xylene	0.26	U	1.0	0.26	ug/L			07/13/23 12:10	1
Styrene	0.27	U	1.0	0.27	ug/L			07/13/23 12:10	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			07/13/23 12:10	1
Toluene	0.25	U	1.0	0.25	ug/L			07/13/23 12:10	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			07/13/23 12:10	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			07/13/23 12:10	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			07/13/23 12:10	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			07/13/23 12:10	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			07/13/23 12:10	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			07/13/23 12:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*60 - 124*		*07/13/23 12:10*	*1*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*		*07/13/23 12:10*	*1*
Dibromofluoromethane (Surr)	*116*		*70 - 130*		*07/13/23 12:10*	*1*
Toluene-d8 (Surr)	*108*		*70 - 130*		*07/13/23 12:10*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-788091/4
Matrix: Water
Analysis Batch: 788091

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	53.1		ug/L		106	70 - 130
1,1,2,2-Tetrachloroethane	50.0	42.1		ug/L		84	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	52.7		ug/L		105	63 - 141
1,1,2-Trichloroethane	50.0	44.8		ug/L		90	70 - 130
1,1-Dichloroethane	50.0	54.9		ug/L		110	70 - 130
1,1-Dichloroethene	50.0	62.9		ug/L		126	70 - 130
1,2,4-Trichlorobenzene	50.0	55.5		ug/L		111	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	38.3		ug/L		77	70 - 130
1,2-Dibromoethane (EDB)	50.0	47.7		ug/L		95	70 - 130
1,2-Dichlorobenzene	50.0	50.1		ug/L		100	70 - 130
1,2-Dichloroethane	50.0	53.4		ug/L		107	70 - 130
1,2-Dichloropropane	50.0	49.5		ug/L		99	70 - 130
1,3-Dichlorobenzene	50.0	51.7		ug/L		103	70 - 130
1,4-Dichlorobenzene	50.0	50.8		ug/L		102	70 - 130
2-Butanone (MEK)	250	158	J3	ug/L		63	69 - 120
2-Hexanone	250	157	J3	ug/L		63	70 - 130
4-Methyl-2-pentanone	250	171		ug/L		68	68 - 120
Acetone	250	191		ug/L		76	67 - 120
Benzene	50.0	52.0		ug/L		104	70 - 130
Bromodichloromethane	50.0	49.6		ug/L		99	70 - 130
Bromoform	50.0	44.3		ug/L		89	69 - 129
Bromomethane	50.0	61.7		ug/L		123	28 - 192
Carbon disulfide	50.0	58.3		ug/L		117	70 - 130
Carbon tetrachloride	50.0	49.8		ug/L		100	70 - 130
Chlorobenzene	50.0	50.5		ug/L		101	70 - 130
Chloroethane	50.0	67.6		ug/L		135	31 - 213
Chloroform	50.0	54.0		ug/L		108	70 - 130
Chloromethane	50.0	55.7		ug/L		111	59 - 127
cis-1,2-Dichloroethene	50.0	55.5		ug/L		111	70 - 130
cis-1,3-Dichloropropene	50.0	47.5		ug/L		95	70 - 130
Cyclohexane	50.0	46.8		ug/L		94	23 - 175
Dibromochloromethane	50.0	47.6		ug/L		95	70 - 130
Dichlorodifluoromethane	50.0	53.3		ug/L		107	70 - 130
Ethylbenzene	50.0	49.7		ug/L		99	70 - 130
Isopropylbenzene	50.0	51.7		ug/L		103	70 - 130
m,p-Xylenes	50.0	49.5		ug/L		99	70 - 130
Methyl acetate	100	80.9		ug/L		81	67 - 120
Methyl tert-butyl ether	50.0	52.7		ug/L		105	70 - 130
Methylene Chloride	50.0	54.3		ug/L		109	70 - 130
o-Xylene	50.0	49.2		ug/L		98	70 - 130
Styrene	50.0	50.4		ug/L		101	70 - 130
Tetrachloroethene	50.0	49.3		ug/L		99	70 - 130
Toluene	50.0	47.7		ug/L		95	70 - 130
trans-1,2-Dichloroethene	50.0	59.3		ug/L		119	70 - 130
trans-1,3-Dichloropropene	50.0	51.1		ug/L		102	70 - 130
Trichloroethene	50.0	51.1		ug/L		102	70 - 130
Trichlorofluoromethane	50.0	67.3		ug/L		135	63 - 142
Vinyl chloride	50.0	52.1		ug/L		104	66 - 129

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-788091/4
Matrix: Water
Analysis Batch: 788091

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Xylenes, Total			100	98.7		ug/L		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*60 - 124*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
Dibromofluoromethane (Surr)	*102*		*70 - 130*
Toluene-d8 (Surr)	*97*		*70 - 130*

Lab Sample ID: LCSD 680-788091/5
Matrix: Water
Analysis Batch: 788091

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane			50.0	53.4		ug/L		107	70 - 130	1	30
1,1,2,2-Tetrachloroethane			50.0	40.6		ug/L		81	70 - 130	4	30
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	55.0		ug/L		110	63 - 141	4	30
1,1,2-Trichloroethane			50.0	46.4		ug/L		93	70 - 130	3	30
1,1-Dichloroethane			50.0	55.1		ug/L		110	70 - 130	0	30
1,1-Dichloroethene			50.0	54.0		ug/L		108	70 - 130	15	20
1,2,4-Trichlorobenzene			50.0	57.5		ug/L		115	70 - 130	4	30
1,2-Dibromo-3-Chloropropane			50.0	38.8		ug/L		78	70 - 130	1	30
1,2-Dibromoethane (EDB)			50.0	48.3		ug/L		97	70 - 130	1	30
1,2-Dichlorobenzene			50.0	52.0		ug/L		104	70 - 130	4	30
1,2-Dichloroethane			50.0	53.8		ug/L		108	70 - 130	1	50
1,2-Dichloropropane			50.0	49.8		ug/L		100	70 - 130	1	20
1,3-Dichlorobenzene			50.0	52.8		ug/L		106	70 - 130	2	30
1,4-Dichlorobenzene			50.0	53.1		ug/L		106	70 - 130	4	30
2-Butanone (MEK)			250	161	J3	ug/L		64	69 - 120	1	30
2-Hexanone			250	163	J3	ug/L		65	70 - 130	4	20
4-Methyl-2-pentanone			250	179		ug/L		72	68 - 120	5	30
Acetone			250	193		ug/L		77	67 - 120	1	30
Benzene			50.0	52.5		ug/L		105	70 - 130	1	30
Bromodichloromethane			50.0	50.8		ug/L		102	70 - 130	2	30
Bromoform			50.0	44.2		ug/L		88	69 - 129	0	30
Bromomethane			50.0	63.0		ug/L		126	28 - 192	2	30
Carbon disulfide			50.0	67.9	J3	ug/L		136	70 - 130	15	30
Carbon tetrachloride			50.0	50.0		ug/L		100	70 - 130	0	30
Chlorobenzene			50.0	49.1		ug/L		98	70 - 130	3	30
Chloroethane			50.0	68.4		ug/L		137	31 - 213	1	30
Chloroform			50.0	53.5		ug/L		107	70 - 130	1	30
Chloromethane			50.0	54.9		ug/L		110	59 - 127	1	30
cis-1,2-Dichloroethene			50.0	54.9		ug/L		110	70 - 130	1	30
cis-1,3-Dichloropropene			50.0	48.7		ug/L		97	70 - 130	2	20
Cyclohexane			50.0	52.3		ug/L		105	23 - 175	11	30
Dibromochloromethane			50.0	48.3		ug/L		97	70 - 130	1	30
Dichlorodifluoromethane			50.0	62.5		ug/L		125	70 - 130	16	40
Ethylbenzene			50.0	49.2		ug/L		98	70 - 130	1	20
Isopropylbenzene			50.0	51.4		ug/L		103	70 - 130	1	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-788091/5
Matrix: Water
Analysis Batch: 788091

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m,p-Xylenes			50.0	49.2		ug/L		98	70 - 130	1	30
Methyl acetate			100	82.6		ug/L		83	67 - 120	2	30
Methyl tert-butyl ether			50.0	53.5		ug/L		107	70 - 130	2	30
Methylene Chloride			50.0	54.1		ug/L		108	70 - 130	0	30
o-Xylene			50.0	48.5		ug/L		97	70 - 130	1	30
Styrene			50.0	51.0		ug/L		102	70 - 130	1	30
Tetrachloroethene			50.0	51.2		ug/L		102	70 - 130	4	30
Toluene			50.0	48.6		ug/L		97	70 - 130	2	30
trans-1,2-Dichloroethene			50.0	58.3		ug/L		117	70 - 130	2	30
trans-1,3-Dichloropropene			50.0	52.2		ug/L		104	70 - 130	2	30
Trichloroethene			50.0	53.4		ug/L		107	70 - 130	4	30
Trichlorofluoromethane			50.0	72.9	J3	ug/L		146	63 - 142	8	30
Vinyl chloride			50.0	52.7		ug/L		105	66 - 129	1	30
Xylenes, Total			100	97.7		ug/L		98	70 - 130	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*60 - 124*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
Dibromofluoromethane (Surr)	*100*		*70 - 130*
Toluene-d8 (Surr)	*100*		*70 - 130*

Lab Sample ID: MB 680-788254/9
Matrix: Water
Analysis Batch: 788254

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.21	U	1.0	0.21	ug/L			07/14/23 14:01	1
1,1,2,2-Tetrachloroethane	0.40	U	1.0	0.40	ug/L			07/14/23 14:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.23	U	1.0	0.23	ug/L			07/14/23 14:01	1
1,1,2-Trichloroethane	0.32	U	1.0	0.32	ug/L			07/14/23 14:01	1
1,1-Dichloroethane	0.33	U	1.0	0.33	ug/L			07/14/23 14:01	1
1,1-Dichloroethene	0.33	U	1.0	0.33	ug/L			07/14/23 14:01	1
1,2,4-Trichlorobenzene	0.53	U	5.0	0.53	ug/L			07/14/23 14:01	1
1,2-Dibromo-3-Chloropropane	1.8	U	5.0	1.8	ug/L			07/14/23 14:01	1
1,2-Dibromoethane (EDB)	0.33	U	1.0	0.33	ug/L			07/14/23 14:01	1
1,2-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/14/23 14:01	1
1,2-Dichloroethane	0.25	U	1.0	0.25	ug/L			07/14/23 14:01	1
1,2-Dichloropropane	0.22	U	1.0	0.22	ug/L			07/14/23 14:01	1
1,3-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/14/23 14:01	1
1,4-Dichlorobenzene	0.31	U	1.0	0.31	ug/L			07/14/23 14:01	1
2-Butanone (MEK)	6.4	U	10	6.4	ug/L			07/14/23 14:01	1
2-Hexanone	3.2	U	10	3.2	ug/L			07/14/23 14:01	1
4-Methyl-2-pentanone	2.7	U	10	2.7	ug/L			07/14/23 14:01	1
Acetone	3.7	U	10	3.7	ug/L			07/14/23 14:01	1
Benzene	0.27	U	1.0	0.27	ug/L			07/14/23 14:01	1
Bromodichloromethane	0.25	U	1.0	0.25	ug/L			07/14/23 14:01	1
Bromoform	0.59	U	1.0	0.59	ug/L			07/14/23 14:01	1
Bromomethane	3.7	U	5.0	3.7	ug/L			07/14/23 14:01	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 680-788254/9
Matrix: Water
Analysis Batch: 788254

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	0.43	U	2.0	0.43	ug/L			07/14/23 14:01	1
Carbon tetrachloride	0.30	U	1.0	0.30	ug/L			07/14/23 14:01	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/14/23 14:01	1
Chloroethane	4.6	U	5.0	4.6	ug/L			07/14/23 14:01	1
Chloroform	0.27	U	1.0	0.27	ug/L			07/14/23 14:01	1
Chloromethane	0.54	U	1.0	0.54	ug/L			07/14/23 14:01	1
cis-1,2-Dichloroethene	0.25	U	1.0	0.25	ug/L			07/14/23 14:01	1
cis-1,3-Dichloropropene	0.26	U	1.0	0.26	ug/L			07/14/23 14:01	1
Cyclohexane	0.28	U	1.0	0.28	ug/L			07/14/23 14:01	1
Dibromochloromethane	0.39	U	1.0	0.39	ug/L			07/14/23 14:01	1
Dichlorodifluoromethane	0.36	U	1.0	0.36	ug/L			07/14/23 14:01	1
Ethylbenzene	0.20	U	1.0	0.20	ug/L			07/14/23 14:01	1
Isopropylbenzene	0.26	U	1.0	0.26	ug/L			07/14/23 14:01	1
m,p-Xylenes	0.49	U	1.0	0.49	ug/L			07/14/23 14:01	1
Methyl acetate	3.2	U	5.0	3.2	ug/L			07/14/23 14:01	1
Methyl tert-butyl ether	0.81	U	5.0	0.81	ug/L			07/14/23 14:01	1
Methylene Chloride	3.2	U	5.0	3.2	ug/L			07/14/23 14:01	1
o-Xylene	0.26	U	1.0	0.26	ug/L			07/14/23 14:01	1
Styrene	0.27	U	1.0	0.27	ug/L			07/14/23 14:01	1
Tetrachloroethene	0.35	U	0.50	0.35	ug/L			07/14/23 14:01	1
Toluene	0.25	U	1.0	0.25	ug/L			07/14/23 14:01	1
trans-1,2-Dichloroethene	0.34	U	1.0	0.34	ug/L			07/14/23 14:01	1
trans-1,3-Dichloropropene	0.23	U	1.0	0.23	ug/L			07/14/23 14:01	1
Trichloroethene	0.20	U	1.0	0.20	ug/L			07/14/23 14:01	1
Trichlorofluoromethane	0.33	U	1.0	0.33	ug/L			07/14/23 14:01	1
Vinyl chloride	0.40	U	1.0	0.40	ug/L			07/14/23 14:01	1
Xylenes, Total	0.23	U	1.0	0.23	ug/L			07/14/23 14:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*60 - 124*		*07/14/23 14:01*	*1*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*		*07/14/23 14:01*	*1*
Dibromofluoromethane (Surr)	*113*		*70 - 130*		*07/14/23 14:01*	*1*
Toluene-d8 (Surr)	*118*		*70 - 130*		*07/14/23 14:01*	*1*

Lab Sample ID: LCS 680-788254/5
Matrix: Water
Analysis Batch: 788254

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	53.5		ug/L		107	70 - 130
1,1,2,2-Tetrachloroethane	50.0	66.4	J3	ug/L		133	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	43.3		ug/L		87	63 - 141
1,1,2-Trichloroethane	50.0	55.1		ug/L		110	70 - 130
1,1-Dichloroethane	50.0	45.5		ug/L		91	70 - 130
1,1-Dichloroethene	50.0	44.1		ug/L		88	70 - 130
1,2,4-Trichlorobenzene	50.0	54.5		ug/L		109	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	53.2		ug/L		106	70 - 130
1,2-Dibromoethane (EDB)	50.0	54.3		ug/L		109	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 680-788254/5
Matrix: Water
Analysis Batch: 788254

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichlorobenzene	50.0	52.8		ug/L		106	70 - 130
1,2-Dichloroethane	50.0	50.4		ug/L		101	70 - 130
1,2-Dichloropropane	50.0	48.9		ug/L		98	70 - 130
1,3-Dichlorobenzene	50.0	53.8		ug/L		108	70 - 130
1,4-Dichlorobenzene	50.0	53.0		ug/L		106	70 - 130
2-Butanone (MEK)	250	242		ug/L		97	69 - 120
2-Hexanone	250	314		ug/L		126	70 - 130
4-Methyl-2-pentanone	250	290		ug/L		116	68 - 120
Acetone	250	262		ug/L		105	67 - 120
Benzene	50.0	49.1		ug/L		98	70 - 130
Bromodichloromethane	50.0	52.8		ug/L		106	70 - 130
Bromoform	50.0	48.6		ug/L		97	69 - 129
Bromomethane	50.0	57.4		ug/L		115	28 - 192
Carbon disulfide	50.0	34.3	J3	ug/L		69	70 - 130
Carbon tetrachloride	50.0	55.7		ug/L		111	70 - 130
Chlorobenzene	50.0	54.2		ug/L		108	70 - 130
Chloroethane	50.0	64.9		ug/L		130	31 - 213
Chloroform	50.0	51.0		ug/L		102	70 - 130
Chloromethane	50.0	41.8		ug/L		84	59 - 127
cis-1,2-Dichloroethene	50.0	53.7		ug/L		107	70 - 130
cis-1,3-Dichloropropene	50.0	52.1		ug/L		104	70 - 130
Cyclohexane	50.0	40.2		ug/L		80	23 - 175
Dibromochloromethane	50.0	59.7		ug/L		119	70 - 130
Dichlorodifluoromethane	50.0	55.0		ug/L		110	70 - 130
Ethylbenzene	50.0	53.5		ug/L		107	70 - 130
Isopropylbenzene	50.0	56.1		ug/L		112	70 - 130
m,p-Xylenes	50.0	54.7		ug/L		109	70 - 130
Methyl acetate	100	89.8		ug/L		90	67 - 120
Methyl tert-butyl ether	50.0	51.6		ug/L		103	70 - 130
Methylene Chloride	50.0	47.0		ug/L		94	70 - 130
o-Xylene	50.0	55.3		ug/L		111	70 - 130
Styrene	50.0	56.7		ug/L		113	70 - 130
Tetrachloroethene	50.0	58.5		ug/L		117	70 - 130
Toluene	50.0	53.7		ug/L		107	70 - 130
trans-1,2-Dichloroethene	50.0	50.2		ug/L		100	70 - 130
trans-1,3-Dichloropropene	50.0	52.9		ug/L		106	70 - 130
Trichloroethene	50.0	51.1		ug/L		102	70 - 130
Trichlorofluoromethane	50.0	55.5		ug/L		111	63 - 142
Vinyl chloride	50.0	49.3		ug/L		99	66 - 129
Xylenes, Total	100	110		ug/L		110	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*60 - 124*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
Dibromofluoromethane (Surr)	*111*		*70 - 130*
Toluene-d8 (Surr)	*110*		*70 - 130*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-788254/6
Matrix: Water
Analysis Batch: 788254

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	50.0	49.8		ug/L		100	70 - 130	7	30
1,1,2,2-Tetrachloroethane	50.0	64.5		ug/L		129	70 - 130	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	40.7		ug/L		81	63 - 141	6	30
1,1,2-Trichloroethane	50.0	52.9		ug/L		106	70 - 130	4	30
1,1-Dichloroethane	50.0	42.0		ug/L		84	70 - 130	8	30
1,1-Dichloroethene	50.0	41.0		ug/L		82	70 - 130	7	20
1,2,4-Trichlorobenzene	50.0	49.3		ug/L		99	70 - 130	10	30
1,2-Dibromo-3-Chloropropane	50.0	51.8		ug/L		104	70 - 130	3	30
1,2-Dibromoethane (EDB)	50.0	52.0		ug/L		104	70 - 130	4	30
1,2-Dichlorobenzene	50.0	49.4		ug/L		99	70 - 130	7	30
1,2-Dichloroethane	50.0	46.6		ug/L		93	70 - 130	8	50
1,2-Dichloropropane	50.0	45.8		ug/L		92	70 - 130	7	20
1,3-Dichlorobenzene	50.0	50.0		ug/L		100	70 - 130	7	30
1,4-Dichlorobenzene	50.0	49.1		ug/L		98	70 - 130	8	30
2-Butanone (MEK)	250	239		ug/L		95	69 - 120	1	30
2-Hexanone	250	316		ug/L		126	70 - 130	1	20
4-Methyl-2-pentanone	250	291		ug/L		117	68 - 120	0	30
Acetone	250	245		ug/L		98	67 - 120	7	30
Benzene	50.0	45.6		ug/L		91	70 - 130	7	30
Bromodichloromethane	50.0	49.3		ug/L		99	70 - 130	7	30
Bromoform	50.0	47.2		ug/L		94	69 - 129	3	30
Bromomethane	50.0	50.0		ug/L		100	28 - 192	14	30
Carbon disulfide	50.0	31.5	J3	ug/L		63	70 - 130	8	30
Carbon tetrachloride	50.0	50.4		ug/L		101	70 - 130	10	30
Chlorobenzene	50.0	50.0		ug/L		100	70 - 130	8	30
Chloroethane	50.0	59.7		ug/L		119	31 - 213	8	30
Chloroform	50.0	46.7		ug/L		93	70 - 130	9	30
Chloromethane	50.0	39.5		ug/L		79	59 - 127	6	30
cis-1,2-Dichloroethene	50.0	48.5		ug/L		97	70 - 130	10	30
cis-1,3-Dichloropropene	50.0	49.5		ug/L		99	70 - 130	5	20
Cyclohexane	50.0	37.9		ug/L		76	23 - 175	6	30
Dibromochloromethane	50.0	56.3		ug/L		113	70 - 130	6	30
Dichlorodifluoromethane	50.0	51.1		ug/L		102	70 - 130	7	40
Ethylbenzene	50.0	49.9		ug/L		100	70 - 130	7	20
Isopropylbenzene	50.0	52.3		ug/L		105	70 - 130	7	30
m,p-Xylenes	50.0	50.5		ug/L		101	70 - 130	8	30
Methyl acetate	100	86.9		ug/L		87	67 - 120	3	30
Methyl tert-butyl ether	50.0	50.2		ug/L		100	70 - 130	3	30
Methylene Chloride	50.0	43.4		ug/L		87	70 - 130	8	30
o-Xylene	50.0	51.1		ug/L		102	70 - 130	8	30
Styrene	50.0	53.5		ug/L		107	70 - 130	6	30
Tetrachloroethene	50.0	53.5		ug/L		107	70 - 130	9	30
Toluene	50.0	50.7		ug/L		101	70 - 130	6	30
trans-1,2-Dichloroethene	50.0	45.5		ug/L		91	70 - 130	10	30
trans-1,3-Dichloropropene	50.0	50.9		ug/L		102	70 - 130	4	30
Trichloroethene	50.0	48.3		ug/L		97	70 - 130	6	30
Trichlorofluoromethane	50.0	48.0		ug/L		96	63 - 142	15	30
Vinyl chloride	50.0	45.3		ug/L		91	66 - 129	9	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 680-788254/6
Matrix: Water
Analysis Batch: 788254

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total			100	102		ug/L		102	70 - 130	8	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*60 - 124*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
Dibromofluoromethane (Surr)	*102*		*70 - 130*
Toluene-d8 (Surr)	*105*		*70 - 130*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22769-1

GC/MS VOA

Analysis Batch: 787910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-22769-1	LC34-IW0188-018.5-20230707	Total/NA	Water	8260D	
670-22769-2	LC34-IW0187-018.5-20230707	Total/NA	Water	8260D	
670-22769-3	LC34-IW0186-018.5-20230707	Total/NA	Water	8260D	
MB 680-787910/8	Method Blank	Total/NA	Water	8260D	
LCS 680-787910/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-787910/5	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 788091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-22769-2	LC34-IW0187-018.5-20230707	Total/NA	Water	8260D	
670-22769-3	LC34-IW0186-018.5-20230707	Total/NA	Water	8260D	
MB 680-788091/7	Method Blank	Total/NA	Water	8260D	
LCS 680-788091/4	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-788091/5	Lab Control Sample Dup	Total/NA	Water	8260D	

Analysis Batch: 788254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-22769-1 - DL	LC34-IW0188-018.5-20230707	Total/NA	Water	8260D	
670-22769-4	LC34-IW0169-032.5-20230707	Total/NA	Water	8260D	
MB 680-788254/9	Method Blank	Total/NA	Water	8260D	
LCS 680-788254/5	Lab Control Sample	Total/NA	Water	8260D	
LCSD 680-788254/6	Lab Control Sample Dup	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22769-1

Client Sample ID: LC34-IW0188-018.5-20230707

Lab Sample ID: 670-22769-1

Date Collected: 07/07/23 11:42
Matrix: Water
Date Received: 07/07/23 16:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	788254	P1C	EET SAV	07/14/23 21:34
Total/NA	Analysis	8260D		1	787910	Y1S	EET SAV	07/12/23 20:52

Client Sample ID: LC34-IW0187-018.5-20230707

Lab Sample ID: 670-22769-2

Date Collected: 07/07/23 12:11
Matrix: Water
Date Received: 07/07/23 16:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	787910	Y1S	EET SAV	07/12/23 21:13
Total/NA	Analysis	8260D		10	788091	P1C	EET SAV	07/13/23 19:15

Client Sample ID: LC34-IW0186-018.5-20230707

Lab Sample ID: 670-22769-3

Date Collected: 07/07/23 12:45
Matrix: Water
Date Received: 07/07/23 16:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		5	787910	Y1S	EET SAV	07/12/23 21:34
Total/NA	Analysis	8260D		5	788091	P1C	EET SAV	07/13/23 18:36

Client Sample ID: LC34-IW0169-032.5-20230707

Lab Sample ID: 670-22769-4

Date Collected: 07/07/23 13:19
Matrix: Water
Date Received: 07/07/23 16:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		20	788254	P1C	EET SAV	07/14/23 21:53

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-22769-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-24
ANAB	Dept. of Defense ELAP	L2463	09-22-24
Arkansas DEQ	State	19-015-0	02-01-24
California	State	2939	06-30-23 *
Florida	NELAP	E87052	06-30-24
Georgia	State	E87052	06-30-24
Georgia (DW)	State	803	06-30-24
Guam	State	19-007R	04-17-24
Hawaii	State	<cert No.>	06-30-23 *
Illinois	NELAP	200022	11-30-23
Iowa	State	353	07-01-25
Kentucky (UST)	State	NA	06-30-24
Louisiana	NELAP	30690	06-30-24
Louisiana (All)	NELAP	30690	06-30-24
Louisiana (DW)	State	LA009	12-31-23
Maine	State	GA00006	09-25-24
Maryland	State	250	12-31-23
Massachusetts	State	M-GA006	06-30-24
Michigan	State	9925	06-30-24
Mississippi	State	<cert No.>	06-30-24
Nebraska	State	NE-OS-7-04	06-30-24
New Jersey	NELAP	GA769	06-30-24
New Mexico	State	GA00006	06-30-24
North Carolina (DW)	State	13701	07-31-23
North Carolina (WW/SW)	State	269	12-31-23
Pennsylvania	NELAP	68-00474	06-30-24
Puerto Rico	State	GA00006	01-01-24
South Carolina	State	98001	06-30-23 *
Tennessee	State	TN02961	06-30-24
Texas	NELAP	T1047004185-19-14	11-30-23
Texas	TCEQ Water Supply	T104704185	06-30-24
USDA	US Federal Programs	P330-18-00313	09-03-24
Virginia	NELAP	460161	06-14-24
Wyoming	State	8TMS-L	06-30-23 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22769-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET SAV
5030B	Purge and Trap	SW846	EET SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22769-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-22769-1	LC34-IW0188-018.5-20230707	Water	07/07/23 11:42	07/07/23 16:32
670-22769-2	LC34-IW0187-018.5-20230707	Water	07/07/23 12:11	07/07/23 16:32
670-22769-3	LC34-IW0186-018.5-20230707	Water	07/07/23 12:45	07/07/23 16:32
670-22769-4	LC34-IW0169-032.5-20230707	Water	07/07/23 13:19	07/07/23 16:32

TETRA TECH

CHAIN OF CUSTODY

NO.

Project No: 112G08985	Facility: NASA KSC	Project Manger: Mark Jonnet	Phone: (412) 921-8622
Samplers: Natalie Fabbri - Natalie Volk -		Field Ops. Leader: Chuck Sorden	Phone: (321) 591-7580
		Fed Ex Airbill Number:	

Laboratory Name and Contact: Eurofins Kaitlin Dylnicki
Address: 481 Newburyport Ave
City, State, Zip: Altamonte Springs, FL 32701

Date Year: 2023	Time	Sample ID	Location ID	Top Depth (FT)	Bottom Depth (FT)	Matrix (GW, SO, SW, QC)	Grab, Composite (G, C)	Total No. of Containers	ANALYSIS	8260 (MOD) NASA LC34 CUSTOM LIST	8260 (MOD) NASA LC34 CUSTOM LIST	Comments
		Container Type: Plastic (P) or Glass (G)								G	G	
		Preservative Used:								HCl/ice	ice	
07/07	1142	LC34-IW0188-018.5-2023	0707	16	21	GW	G	4		2	2	
07/07	1211	LC34-IW0187-018.5-20230	707	16	21	GW	G	4		2	2	
07/07	1245	LC34-IW0186-018.5-202307	07	16	21	GW	G	4		2	2	
07/07	1319	LC34-IW0189-022.0-2023	0707									

670-22769 Chain of Custody

1. Relinquished By:	Date: 7-7-23	Time: 1445	1. Received By:
2. Relinquished By:	Date:	Time:	2. Received By: MC

Date: 7/7/23 Time: 1445
Date: 7/7/23 Time: 1632

Comments: 4.9 / 4.4

596

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-11706.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-22769-1
Address: 5102 LaRoche Avenue, ,	Due Date Requested: 7/19/2023			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC POL / SW3	Project #: 67000968			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030B (MOD) POL/SW3 Custom	8260D/5030B_UP (MOD) POL/SW3 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
LC34-IW0188-018.5-20230707 (670-22769-1)	7/7/23	11.42 Eastern		Water			X	X	4	unp incase of HDSP in HCL, UNP IN CASE HDSP IN HCL
LC34-IW0187-018.5-20230707 (670-22769-2)	7/7/23	12:11 Eastern		Water			X	X	4	unp incase of HDSP in HCL, UNP IN CASE HDSP IN HCL
LC34-IW0186-018.5-20230707 (670-22769-3)	7/7/23	12:45 Eastern		Water			X	X	4	unp incase of HDSP in HCL, UNP IN CASE HDSP IN HCL

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: BD	Date/Time: 7/10 1700	Company	Received by: TH	Date/Time: 07-11-23	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 9:52	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 2.9 - 3.0

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-22769-1

Login Number: 22769

List Number: 1

Creator: Clerisier, Meline

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-22769-1

Login Number: 22769
List Number: 2
Creator: Harley, Tynisha

List Source: Eurofins Savannah
List Creation: 07/11/23 12:54 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-22769-1

Login Number: 22769
List Number: 3
Creator: Padayao, Abigail

List Source: Eurofins Savannah
List Creation: 07/12/23 12:17 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 7/26/2023 9:37:47 AM

JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-22941-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



Generated
7/26/2023 9:37:47 AM

Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Job ID: 670-22941-1
Project/Site: NASA KSC LC34

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

Job ID: 670-22941-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-22941-1

Receipt
The samples were received on 7/11/2023 5:15 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

GC/MS VOA
Method 8260D: The initial calibration verification (ICV) analyzed in batch 400-627009 was outside method criteria for the following analyte(s): Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-634059 recovered above the upper control limit for Bromomethane. The samples associated with this CCV that were non-detects for the affected analyte have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-634059 recovered outside acceptance criteria, low biased, for Chloromethane, Dichlorodifluoromethane and Trichlorofluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-IW0172-022.0-20230710 (670-22941-4), LC34-IW0168-022.0-20230710 (670-22941-6) and LC34-IW0178-018.5-20230710 (670-22941-7). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-634057 recovered above the upper control limit for 1,2-Dibromo-3-Chloropropane, Methyl acetate and Methylene Chloride. The samples associated with this CCV were below the reporting limit (RL) for the affected analytes; therefore, the data have been reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-IW0170-022.0-20230710 (670-22941-8), LC34-IW0171-032.5-20230710 (670-22941-9), LC34-IW0181-022.0-20230710 (670-22941-10), LC34-IW0182-032.5-20230710 (670-22941-11), LC34-IW0179-022.0-20230710 (670-22941-12) and LC34-IW0183-022.0-20230710 (670-22941-14). Elevated reporting limits (RLs) are provided.

Method 8260D: The matrix spike duplicate (MSD) recovery for analytical batch 400-634228 was outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 400-634228 was outside control limits. Sample matrix interference is suspected.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-634228 recovered above the upper control limit for Methyl acetate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-634228 recovered outside acceptance criteria, low biased, for Chloromethane and Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-IW0172-022.0-20230710 (670-22941-4), LC34-IW0173-032.5-20230710 (670-22941-5), LC34-IW0168-022.0-20230710 (670-22941-6), LC34-IW0178-018.5-20230710 (670-22941-7), LC34-IW0171-032.5-20230710 (670-22941-9), LC34-IW0181-022.0-20230710 (670-22941-10), LC34-IW0180-032.5-20230710 (670-22941-13), LC34-IW0183-022.0-20230710 (670-22941-14), LC34-IW0184-032.5-20230710 (670-22941-15) and LC34-IW0185-018.5-20230710 (670-22941-16). Elevated reporting limits (RLs) are provided.

Job ID: 670-22941-1 (Continued)

Laboratory: Eurofins Orlando (Continued)

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0184-032.5-20230710 (670-22941-15). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

Client Sample ID: LC34-IW0175-032.5-20230710 — Lab Sample ID: 670-22941-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	7.3		1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride - RA	26		1.0	0.50	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0174-018.5-20230710 — Lab Sample ID: 670-22941-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	13	I	25	2.6	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	110		1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride - RA	240		1.0	0.50	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0177-018.5-20230710 — Lab Sample ID: 670-22941-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	120		1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride - RA	130		1.0	0.50	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0172-022.0-20230710 — Lab Sample ID: 670-22941-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	2600		20	4.0	ug/L	20		8260D	Total/NA
Vinyl chloride - DL	1700		20	10	ug/L	20		8260D	Total/NA

Client Sample ID: LC34-IW0173-032.5-20230710 — Lab Sample ID: 670-22941-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	0.83	I	1.0	0.50	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	23		1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride - DL	290		2.0	1.0	ug/L	2		8260D	Total/NA

Client Sample ID: LC34-IW0168-022.0-20230710 — Lab Sample ID: 670-22941-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	18	I	20	10	ug/L	20		8260D	Total/NA
cis-1,2-Dichloroethene - DL	6500		50	10	ug/L	50		8260D	Total/NA
Vinyl chloride - DL	3800		50	25	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-IW0178-018.5-20230710 — Lab Sample ID: 670-22941-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	1.1	I	2.0	1.0	ug/L	2		8260D	Total/NA
trans-1,2-Dichloroethene	1.7	I	2.0	1.0	ug/L	2		8260D	Total/NA
cis-1,2-Dichloroethene - DL	810		10	2.0	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	510		10	5.0	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0170-022.0-20230710 — Lab Sample ID: 670-22941-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	990		5.0	1.0	ug/L	5		8260D	Total/NA
Methylene Chloride	15	I	25	15	ug/L	5		8260D	Total/NA
Vinyl chloride	710		5.0	2.5	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0171-032.5-20230710 — Lab Sample ID: 670-22941-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	890		5.0	1.0	ug/L	5		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Orlando

Client Sample ID: LC34-IW0171-032.5-20230710 (Continued) — Lab Sample ID: 670-22941-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	26		5.0	2.5	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	1500		10	5.0	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0181-022.0-20230710 — Lab Sample ID: 670-22941-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	130		2.0	0.40	ug/L	2		8260D	Total/NA
Vinyl chloride - DL	540		5.0	2.5	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0182-032.5-20230710 — Lab Sample ID: 670-22941-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1100		5.0	1.0	ug/L	5		8260D	Total/NA
trans-1,2-Dichloroethene	4.1	I	5.0	2.5	ug/L	5		8260D	Total/NA
Vinyl chloride	540		5.0	2.5	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0179-022.0-20230710 — Lab Sample ID: 670-22941-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	140		5.0	1.0	ug/L	5		8260D	Total/NA
Vinyl chloride	800		5.0	2.5	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0180-032.5-20230710 — Lab Sample ID: 670-22941-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1700		10	2.0	ug/L	10		8260D	Total/NA
trans-1,2-Dichloroethene	7.3	I	10	5.0	ug/L	10		8260D	Total/NA
Vinyl chloride	710		10	5.0	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0183-022.0-20230710 — Lab Sample ID: 670-22941-14

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	46		2.0	0.40	ug/L	2		8260D	Total/NA
Vinyl chloride - DL	720		5.0	2.5	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0184-032.5-20230710 — Lab Sample ID: 670-22941-15

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	2.8	I	5.0	2.5	ug/L	5		8260D	Total/NA
Vinyl chloride	1000		5.0	2.5	ug/L	5		8260D	Total/NA
cis-1,2-Dichloroethene - DL	1600		10	2.0	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0185-018.5-20230710 — Lab Sample ID: 670-22941-16

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	100		1.0	0.20	ug/L	1		8260D	Total/NA
Vinyl chloride - DL	350		2.0	1.0	ug/L	2		8260D	Total/NA

Client Sample ID: LC34-IW0176-018.5-20230710 — Lab Sample ID: 670-22941-17

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	84		1.0	0.20	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	1.1		1.0	0.50	ug/L	1		8260D	Total/NA
Vinyl chloride	50		1.0	0.50	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

Client Sample ID: LC34-IW0175-032.5-20230710
Date Collected: 07/10/23 09:27
Date Received: 07/11/23 17:15

Lab Sample ID: 670-22941-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			07/21/23 11:36	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			07/21/23 11:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			07/21/23 11:36	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			07/21/23 11:36	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			07/21/23 11:36	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/21/23 11:36	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			07/21/23 11:36	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			07/21/23 11:36	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			07/21/23 11:36	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			07/21/23 11:36	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			07/21/23 11:36	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			07/21/23 11:36	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			07/21/23 11:36	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			07/21/23 11:36	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			07/21/23 11:36	1
2-Hexanone	1.4	U	25	1.4	ug/L			07/21/23 11:36	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			07/21/23 11:36	1
Acetone	10	U	25	10	ug/L			07/21/23 11:36	1
Benzene	0.50	U	1.0	0.50	ug/L			07/21/23 11:36	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			07/21/23 11:36	1
Bromoform	0.25	U	5.0	0.25	ug/L			07/21/23 11:36	1
Bromomethane	0.98	U	1.0	0.98	ug/L			07/21/23 11:36	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			07/21/23 11:36	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			07/21/23 11:36	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/21/23 11:36	1
Chloroethane	0.76	U	1.0	0.76	ug/L			07/21/23 11:36	1
Chloroform	0.90	U	1.0	0.90	ug/L			07/21/23 11:36	1
Chloromethane	0.90	U	1.0	0.90	ug/L			07/21/23 11:36	1
cis-1,2-Dichloroethene	**7.3**		1.0	0.20	ug/L			07/21/23 11:36	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			07/21/23 11:36	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			07/21/23 11:36	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			07/21/23 11:36	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			07/21/23 11:36	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			07/21/23 11:36	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			07/21/23 11:36	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			07/21/23 11:36	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			07/21/23 11:36	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			07/21/23 11:36	1
o-Xylene	0.60	U	5.0	0.60	ug/L			07/21/23 11:36	1
Styrene	1.0	U	1.0	1.0	ug/L			07/21/23 11:36	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			07/21/23 11:36	1
Toluene	0.90	U	1.0	0.90	ug/L			07/21/23 11:36	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/21/23 11:36	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			07/21/23 11:36	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			07/21/23 11:36	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			07/21/23 11:36	1
Xylenes, Total	1.6	U	10	1.6	ug/L			07/21/23 11:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*125*		*67 - 134*		*07/21/23 11:36*	*1*

Client Sample ID: LC34-IW0175-032.5-20230710

Lab Sample ID: 670-22941-1

Date Collected: 07/10/23 09:27

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*64 - 132*		*07/21/23 11:36*	*1*
4-Bromofluorobenzene	*101*		*72 - 130*		*07/21/23 11:36*	*1*
Dibromofluoromethane	*110*		*75 - 126*		*07/21/23 11:36*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	3.0	U	5.0	3.0	ug/L			07/22/23 15:49	1
Vinyl chloride	**26**		1.0	0.50	ug/L			07/22/23 15:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 134*		*07/22/23 15:49*	*1*
Toluene-d8 (Surr)	*101*		*64 - 132*		*07/22/23 15:49*	*1*
4-Bromofluorobenzene	*102*		*72 - 130*		*07/22/23 15:49*	*1*
Dibromofluoromethane	*100*		*75 - 126*		*07/22/23 15:49*	*1*

Client Sample ID: LC34-IW0174-018.5-20230710

Lab Sample ID: 670-22941-2

Date Collected: 07/10/23 09:45

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			07/21/23 17:02	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			07/21/23 17:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			07/21/23 17:02	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			07/21/23 17:02	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			07/21/23 17:02	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/21/23 17:02	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			07/21/23 17:02	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			07/21/23 17:02	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			07/21/23 17:02	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			07/21/23 17:02	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			07/21/23 17:02	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			07/21/23 17:02	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			07/21/23 17:02	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			07/21/23 17:02	1
2-Butanone (MEK)	**13**	**I**	25	2.6	ug/L			07/21/23 17:02	1
2-Hexanone	1.4	U	25	1.4	ug/L			07/21/23 17:02	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			07/21/23 17:02	1
Acetone	10	U	25	10	ug/L			07/21/23 17:02	1
Benzene	0.50	U	1.0	0.50	ug/L			07/21/23 17:02	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			07/21/23 17:02	1
Bromoform	0.25	U	5.0	0.25	ug/L			07/21/23 17:02	1
Bromomethane	0.98	U	1.0	0.98	ug/L			07/21/23 17:02	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			07/21/23 17:02	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			07/21/23 17:02	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/21/23 17:02	1
Chloroethane	0.76	U	1.0	0.76	ug/L			07/21/23 17:02	1
Chloroform	0.90	U	1.0	0.90	ug/L			07/21/23 17:02	1
Chloromethane	0.90	U	1.0	0.90	ug/L			07/21/23 17:02	1
cis-1,2-Dichloroethene	**110**		1.0	0.20	ug/L			07/21/23 17:02	1

Client Sample ID: LC34-IW0174-018.5-20230710

Lab Sample ID: 670-22941-2

Date Collected: 07/10/23 09:45

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			07/21/23 17:02	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			07/21/23 17:02	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			07/21/23 17:02	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			07/21/23 17:02	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			07/21/23 17:02	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			07/21/23 17:02	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			07/21/23 17:02	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			07/21/23 17:02	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			07/21/23 17:02	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			07/21/23 17:02	1
o-Xylene	0.60	U	5.0	0.60	ug/L			07/21/23 17:02	1
Styrene	1.0	U	1.0	1.0	ug/L			07/21/23 17:02	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			07/21/23 17:02	1
Toluene	0.90	U	1.0	0.90	ug/L			07/21/23 17:02	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/21/23 17:02	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			07/21/23 17:02	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			07/21/23 17:02	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			07/21/23 17:02	1
Xylenes, Total	1.6	U	10	1.6	ug/L			07/21/23 17:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*122*		*67 - 134*		*07/21/23 17:02*	*1*
Toluene-d8 (Surr)	*105*		*64 - 132*		*07/21/23 17:02*	*1*
4-Bromofluorobenzene	*102*		*72 - 130*		*07/21/23 17:02*	*1*
Dibromofluoromethane	*106*		*75 - 126*		*07/21/23 17:02*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**240**		1.0	0.50	ug/L			07/22/23 16:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*07/22/23 16:16*	*1*
Toluene-d8 (Surr)	*101*		*64 - 132*		*07/22/23 16:16*	*1*
4-Bromofluorobenzene	*103*		*72 - 130*		*07/22/23 16:16*	*1*
Dibromofluoromethane	*99*		*75 - 126*		*07/22/23 16:16*	*1*

Client Sample ID: LC34-IW0177-018.5-20230710

Lab Sample ID: 670-22941-3

Date Collected: 07/10/23 10:10

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			07/21/23 17:28	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			07/21/23 17:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			07/21/23 17:28	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			07/21/23 17:28	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			07/21/23 17:28	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/21/23 17:28	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			07/21/23 17:28	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			07/21/23 17:28	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			07/21/23 17:28	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

Client Sample ID: LC34-IW0177-018.5-20230710
Date Collected: 07/10/23 10:10
Date Received: 07/11/23 17:15

Lab Sample ID: 670-22941-3
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			07/21/23 17:28	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			07/21/23 17:28	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			07/21/23 17:28	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			07/21/23 17:28	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			07/21/23 17:28	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			07/21/23 17:28	1
2-Hexanone	1.4	U	25	1.4	ug/L			07/21/23 17:28	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			07/21/23 17:28	1
Acetone	10	U	25	10	ug/L			07/21/23 17:28	1
Benzene	0.50	U	1.0	0.50	ug/L			07/21/23 17:28	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			07/21/23 17:28	1
Bromoform	0.25	U	5.0	0.25	ug/L			07/21/23 17:28	1
Bromomethane	0.98	U	1.0	0.98	ug/L			07/21/23 17:28	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			07/21/23 17:28	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			07/21/23 17:28	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/21/23 17:28	1
Chloroethane	0.76	U	1.0	0.76	ug/L			07/21/23 17:28	1
Chloroform	0.90	U	1.0	0.90	ug/L			07/21/23 17:28	1
Chloromethane	0.90	U	1.0	0.90	ug/L			07/21/23 17:28	1
cis-1,2-Dichloroethene	**120**		1.0	0.20	ug/L			07/21/23 17:28	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			07/21/23 17:28	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			07/21/23 17:28	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			07/21/23 17:28	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			07/21/23 17:28	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			07/21/23 17:28	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			07/21/23 17:28	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			07/21/23 17:28	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			07/21/23 17:28	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			07/21/23 17:28	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			07/21/23 17:28	1
o-Xylene	0.60	U	5.0	0.60	ug/L			07/21/23 17:28	1
Styrene	1.0	U	1.0	1.0	ug/L			07/21/23 17:28	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			07/21/23 17:28	1
Toluene	0.90	U	1.0	0.90	ug/L			07/21/23 17:28	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/21/23 17:28	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			07/21/23 17:28	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			07/21/23 17:28	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			07/21/23 17:28	1
Xylenes, Total	1.6	U	10	1.6	ug/L			07/21/23 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*67 - 134*		*07/21/23 17:28*	*1*
Toluene-d8 (Surr)	*104*		*64 - 132*		*07/21/23 17:28*	*1*
4-Bromofluorobenzene	*102*		*72 - 130*		*07/21/23 17:28*	*1*
Dibromofluoromethane	*97*		*75 - 126*		*07/21/23 17:28*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**130**		1.0	0.50	ug/L			07/22/23 16:44	1

Client Sample ID: LC34-IW0177-018.5-20230710

Lab Sample ID: 670-22941-3

Date Collected: 07/10/23 10:10

Matrix: Water

Date Received: 07/11/23 17:15

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*07/22/23 16:44*	*1*
Toluene-d8 (Surr)	*101*		*64 - 132*		*07/22/23 16:44*	*1*
4-Bromofluorobenzene	*103*		*72 - 130*		*07/22/23 16:44*	*1*
Dibromofluoromethane	*101*		*75 - 126*		*07/22/23 16:44*	*1*

Client Sample ID: LC34-IW0172-022.0-20230710

Lab Sample ID: 670-22941-4

Date Collected: 07/10/23 10:33

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.8	U	10	1.8	ug/L			07/21/23 19:58	10
1,1,2,2-Tetrachloroethane	5.0	U	10	5.0	ug/L			07/21/23 19:58	10
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	10	5.0	ug/L			07/21/23 19:58	10
1,1,2-Trichloroethane	2.1	U	50	2.1	ug/L			07/21/23 19:58	10
1,1-Dichloroethane	5.0	U	10	5.0	ug/L			07/21/23 19:58	10
1,1-Dichloroethene	5.0	U	10	5.0	ug/L			07/21/23 19:58	10
1,2,4-Trichlorobenzene	8.2	U	10	8.2	ug/L			07/21/23 19:58	10
1,2-Dibromo-3-Chloropropane	15	U	50	15	ug/L			07/21/23 19:58	10
1,2-Dibromoethane (EDB)	2.3	U	10	2.3	ug/L			07/21/23 19:58	10
1,2-Dichlorobenzene	5.0	U	10	5.0	ug/L			07/21/23 19:58	10
1,2-Dichloroethane	1.9	U	10	1.9	ug/L			07/21/23 19:58	10
1,2-Dichloropropane	5.0	U	10	5.0	ug/L			07/21/23 19:58	10
1,3-Dichlorobenzene	5.4	U	10	5.4	ug/L			07/21/23 19:58	10
1,4-Dichlorobenzene	6.4	U	10	6.4	ug/L			07/21/23 19:58	10
2-Butanone (MEK)	26	U	250	26	ug/L			07/21/23 19:58	10
2-Hexanone	14	U	250	14	ug/L			07/21/23 19:58	10
4-Methyl-2-pentanone	18	U	250	18	ug/L			07/21/23 19:58	10
Acetone	100	U	250	100	ug/L			07/21/23 19:58	10
Benzene	5.0	U	10	5.0	ug/L			07/21/23 19:58	10
Bromodichloromethane	5.0	U	10	5.0	ug/L			07/21/23 19:58	10
Bromoform	2.5	U	50	2.5	ug/L			07/21/23 19:58	10
Carbon disulfide	5.0	U	10	5.0	ug/L			07/21/23 19:58	10
Carbon tetrachloride	1.9	U	10	1.9	ug/L			07/21/23 19:58	10
Chlorobenzene	1.5	U	10	1.5	ug/L			07/21/23 19:58	10
Chloroethane	7.6	U	10	7.6	ug/L			07/21/23 19:58	10
Chloroform	9.0	U	10	9.0	ug/L			07/21/23 19:58	10
Chloromethane	9.0	U	10	9.0	ug/L			07/21/23 19:58	10
cis-1,3-Dichloropropene	5.0	U	50	5.0	ug/L			07/21/23 19:58	10
Cyclohexane	5.0	U	10	5.0	ug/L			07/21/23 19:58	10
Dibromochloromethane	2.4	U	10	2.4	ug/L			07/21/23 19:58	10
Dichlorodifluoromethane	8.5	U	10	8.5	ug/L			07/21/23 19:58	10
Ethylbenzene	5.0	U	10	5.0	ug/L			07/21/23 19:58	10
Isopropylbenzene	5.3	U	10	5.3	ug/L			07/21/23 19:58	10
m,p-Xylenes	6.3	U	50	6.3	ug/L			07/21/23 19:58	10
Methyl acetate	6.1	U	50	6.1	ug/L			07/21/23 19:58	10
Methyl tert-butyl ether	2.2	U	10	2.2	ug/L			07/21/23 19:58	10
Methylene Chloride	30	U	50	30	ug/L			07/21/23 19:58	10
o-Xylene	6.0	U	50	6.0	ug/L			07/21/23 19:58	10
Styrene	10	U	10	10	ug/L			07/21/23 19:58	10

Client Sample ID: LC34-IW0172-022.0-20230710

Lab Sample ID: 670-22941-4

Date Collected: 07/10/23 10:33

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	9.0	U	10	9.0	ug/L			07/21/23 19:58	10
Toluene	9.0	U	10	9.0	ug/L			07/21/23 19:58	10
trans-1,2-Dichloroethene	5.0	U	10	5.0	ug/L			07/21/23 19:58	10
trans-1,3-Dichloropropene	2.0	U	50	2.0	ug/L			07/21/23 19:58	10
Trichloroethene	1.5	U	10	1.5	ug/L			07/21/23 19:58	10
Trichlorofluoromethane	5.2	U	10	5.2	ug/L			07/21/23 19:58	10
Xylenes, Total	16	U	100	16	ug/L			07/21/23 19:58	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*116*		*67 - 134*		*07/21/23 19:58*	*10*
Toluene-d8 (Surr)	*106*		*64 - 132*		*07/21/23 19:58*	*10*
4-Bromofluorobenzene	*102*		*72 - 130*		*07/21/23 19:58*	*10*
Dibromofluoromethane	*103*		*75 - 126*		*07/21/23 19:58*	*10*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	20	U	20	20	ug/L			07/22/23 20:48	20
cis-1,2-Dichloroethene	**2600**		20	4.0	ug/L			07/22/23 20:48	20
Vinyl chloride	**1700**		20	10	ug/L			07/22/23 20:48	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*67 - 134*		*07/22/23 20:48*	*20*
Toluene-d8 (Surr)	*102*		*64 - 132*		*07/22/23 20:48*	*20*
4-Bromofluorobenzene	*101*		*72 - 130*		*07/22/23 20:48*	*20*
Dibromofluoromethane	*100*		*75 - 126*		*07/22/23 20:48*	*20*

Client Sample ID: LC34-IW0173-032.5-20230710

Lab Sample ID: 670-22941-5

Date Collected: 07/10/23 10:53

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			07/21/23 17:53	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			07/21/23 17:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			07/21/23 17:53	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			07/21/23 17:53	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			07/21/23 17:53	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/21/23 17:53	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			07/21/23 17:53	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			07/21/23 17:53	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			07/21/23 17:53	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			07/21/23 17:53	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			07/21/23 17:53	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			07/21/23 17:53	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			07/21/23 17:53	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			07/21/23 17:53	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			07/21/23 17:53	1
2-Hexanone	1.4	U	25	1.4	ug/L			07/21/23 17:53	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			07/21/23 17:53	1
Acetone	10	U	25	10	ug/L			07/21/23 17:53	1
Benzene	0.50	U	1.0	0.50	ug/L			07/21/23 17:53	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

Client Sample ID: LC34-IW0173-032.5-20230710
Date Collected: 07/10/23 10:53
Date Received: 07/11/23 17:15

Lab Sample ID: 670-22941-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			07/21/23 17:53	1
Bromoform	0.25	U	5.0	0.25	ug/L			07/21/23 17:53	1
Bromomethane	0.98	U	1.0	0.98	ug/L			07/21/23 17:53	1
Carbon disulfide	**0.83**	**I**	1.0	0.50	ug/L			07/21/23 17:53	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			07/21/23 17:53	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/21/23 17:53	1
Chloroethane	0.76	U	1.0	0.76	ug/L			07/21/23 17:53	1
Chloroform	0.90	U	1.0	0.90	ug/L			07/21/23 17:53	1
Chloromethane	0.90	U	1.0	0.90	ug/L			07/21/23 17:53	1
cis-1,2-Dichloroethene	**23**		1.0	0.20	ug/L			07/21/23 17:53	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			07/21/23 17:53	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			07/21/23 17:53	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			07/21/23 17:53	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			07/21/23 17:53	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			07/21/23 17:53	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			07/21/23 17:53	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			07/21/23 17:53	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			07/21/23 17:53	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			07/21/23 17:53	1
o-Xylene	0.60	U	5.0	0.60	ug/L			07/21/23 17:53	1
Styrene	1.0	U	1.0	1.0	ug/L			07/21/23 17:53	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			07/21/23 17:53	1
Toluene	0.90	U	1.0	0.90	ug/L			07/21/23 17:53	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/21/23 17:53	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			07/21/23 17:53	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			07/21/23 17:53	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			07/21/23 17:53	1
Xylenes, Total	1.6	U	10	1.6	ug/L			07/21/23 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*123*		*67 - 134*		*07/21/23 17:53*	*1*
Toluene-d8 (Surr)	*105*		*64 - 132*		*07/21/23 17:53*	*1*
4-Bromofluorobenzene	*103*		*72 - 130*		*07/21/23 17:53*	*1*
Dibromofluoromethane	*112*		*75 - 126*		*07/21/23 17:53*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	6.0	U	10	6.0	ug/L			07/22/23 17:11	2
Vinyl chloride	**290**		2.0	1.0	ug/L			07/22/23 17:11	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*67 - 134*		*07/22/23 17:11*	*2*
Toluene-d8 (Surr)	*102*		*64 - 132*		*07/22/23 17:11*	*2*
4-Bromofluorobenzene	*104*		*72 - 130*		*07/22/23 17:11*	*2*
Dibromofluoromethane	*99*		*75 - 126*		*07/22/23 17:11*	*2*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

Client Sample ID: LC34-IW0168-022.0-20230710
Date Collected: 07/10/23 11:17
Date Received: 07/11/23 17:15

Lab Sample ID: 670-22941-6
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	3.6	U	20	3.6	ug/L			07/21/23 20:23	20
1,1,2,2-Tetrachloroethane	10	U	20	10	ug/L			07/21/23 20:23	20
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	20	10	ug/L			07/21/23 20:23	20
1,1,2-Trichloroethane	4.2	U	100	4.2	ug/L			07/21/23 20:23	20
1,1-Dichloroethane	10	U	20	10	ug/L			07/21/23 20:23	20
1,1-Dichloroethene	10	U	20	10	ug/L			07/21/23 20:23	20
1,2,4-Trichlorobenzene	16	U	20	16	ug/L			07/21/23 20:23	20
1,2-Dibromo-3-Chloropropane	30	U	100	30	ug/L			07/21/23 20:23	20
1,2-Dibromoethane (EDB)	4.6	U	20	4.6	ug/L			07/21/23 20:23	20
1,2-Dichlorobenzene	10	U	20	10	ug/L			07/21/23 20:23	20
1,2-Dichloroethane	3.8	U	20	3.8	ug/L			07/21/23 20:23	20
1,2-Dichloropropane	10	U	20	10	ug/L			07/21/23 20:23	20
1,3-Dichlorobenzene	11	U	20	11	ug/L			07/21/23 20:23	20
1,4-Dichlorobenzene	13	U	20	13	ug/L			07/21/23 20:23	20
2-Butanone (MEK)	52	U	500	52	ug/L			07/21/23 20:23	20
2-Hexanone	28	U	500	28	ug/L			07/21/23 20:23	20
4-Methyl-2-pentanone	36	U	500	36	ug/L			07/21/23 20:23	20
Acetone	200	U	500	200	ug/L			07/21/23 20:23	20
Benzene	10	U	20	10	ug/L			07/21/23 20:23	20
Bromodichloromethane	10	U	20	10	ug/L			07/21/23 20:23	20
Bromoform	5.0	U	100	5.0	ug/L			07/21/23 20:23	20
Bromomethane	20	U	20	20	ug/L			07/21/23 20:23	20
Carbon disulfide	10	U	20	10	ug/L			07/21/23 20:23	20
Carbon tetrachloride	3.8	U	20	3.8	ug/L			07/21/23 20:23	20
Chlorobenzene	3.0	U	20	3.0	ug/L			07/21/23 20:23	20
Chloroethane	15	U	20	15	ug/L			07/21/23 20:23	20
Chloroform	18	U	20	18	ug/L			07/21/23 20:23	20
Chloromethane	18	U	20	18	ug/L			07/21/23 20:23	20
cis-1,3-Dichloropropene	10	U	100	10	ug/L			07/21/23 20:23	20
Cyclohexane	10	U	20	10	ug/L			07/21/23 20:23	20
Dibromochloromethane	4.8	U	20	4.8	ug/L			07/21/23 20:23	20
Dichlorodifluoromethane	17	U	20	17	ug/L			07/21/23 20:23	20
Ethylbenzene	10	U	20	10	ug/L			07/21/23 20:23	20
Isopropylbenzene	11	U	20	11	ug/L			07/21/23 20:23	20
m,p-Xylenes	13	U	100	13	ug/L			07/21/23 20:23	20
Methyl acetate	12	U	100	12	ug/L			07/21/23 20:23	20
Methyl tert-butyl ether	4.4	U	20	4.4	ug/L			07/21/23 20:23	20
Methylene Chloride	60	U	100	60	ug/L			07/21/23 20:23	20
o-Xylene	12	U	100	12	ug/L			07/21/23 20:23	20
Styrene	20	U	20	20	ug/L			07/21/23 20:23	20
Tetrachloroethene	18	U	20	18	ug/L			07/21/23 20:23	20
Toluene	18	U	20	18	ug/L			07/21/23 20:23	20
trans-1,2-Dichloroethene	**18**	**I**	20	10	ug/L			07/21/23 20:23	20
trans-1,3-Dichloropropene	4.0	U	100	4.0	ug/L			07/21/23 20:23	20
Trichloroethene	3.0	U	20	3.0	ug/L			07/21/23 20:23	20
Trichlorofluoromethane	10	U	20	10	ug/L			07/21/23 20:23	20
Xylenes, Total	32	U	200	32	ug/L			07/21/23 20:23	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*119*		*67 - 134*		*07/21/23 20:23*	*20*

Client Sample ID: LC34-IW0168-022.0-20230710

Lab Sample ID: 670-22941-6

Date Collected: 07/10/23 11:17

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*64 - 132*		*07/21/23 20:23*	*20*
4-Bromofluorobenzene	*103*		*72 - 130*		*07/21/23 20:23*	*20*
Dibromofluoromethane	*99*		*75 - 126*		*07/21/23 20:23*	*20*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**6500**		50	10	ug/L			07/22/23 21:15	50
Vinyl chloride	**3800**		50	25	ug/L			07/22/23 21:15	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 134*		*07/22/23 21:15*	*50*
Toluene-d8 (Surr)	*103*		*64 - 132*		*07/22/23 21:15*	*50*
4-Bromofluorobenzene	*103*		*72 - 130*		*07/22/23 21:15*	*50*
Dibromofluoromethane	*100*		*75 - 126*		*07/22/23 21:15*	*50*

Client Sample ID: LC34-IW0178-018.5-20230710

Lab Sample ID: 670-22941-7

Date Collected: 07/10/23 11:39

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.36	U	2.0	0.36	ug/L			07/21/23 19:33	2
1,1,2,2-Tetrachloroethane	1.0	U	2.0	1.0	ug/L			07/21/23 19:33	2
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	2.0	1.0	ug/L			07/21/23 19:33	2
1,1,2-Trichloroethane	0.42	U	10	0.42	ug/L			07/21/23 19:33	2
1,1-Dichloroethane	1.0	U	2.0	1.0	ug/L			07/21/23 19:33	2
1,1-Dichloroethene	**1.1**	**I**	2.0	1.0	ug/L			07/21/23 19:33	2
1,2,4-Trichlorobenzene	1.6	U	2.0	1.6	ug/L			07/21/23 19:33	2
1,2-Dibromo-3-Chloropropane	3.0	U	10	3.0	ug/L			07/21/23 19:33	2
1,2-Dibromoethane (EDB)	0.46	U	2.0	0.46	ug/L			07/21/23 19:33	2
1,2-Dichlorobenzene	1.0	U	2.0	1.0	ug/L			07/21/23 19:33	2
1,2-Dichloroethane	0.38	U	2.0	0.38	ug/L			07/21/23 19:33	2
1,2-Dichloropropane	1.0	U	2.0	1.0	ug/L			07/21/23 19:33	2
1,3-Dichlorobenzene	1.1	U	2.0	1.1	ug/L			07/21/23 19:33	2
1,4-Dichlorobenzene	1.3	U	2.0	1.3	ug/L			07/21/23 19:33	2
2-Butanone (MEK)	5.2	U	50	5.2	ug/L			07/21/23 19:33	2
2-Hexanone	2.8	U	50	2.8	ug/L			07/21/23 19:33	2
4-Methyl-2-pentanone	3.6	U	50	3.6	ug/L			07/21/23 19:33	2
Acetone	20	U	50	20	ug/L			07/21/23 19:33	2
Benzene	1.0	U	2.0	1.0	ug/L			07/21/23 19:33	2
Bromodichloromethane	1.0	U	2.0	1.0	ug/L			07/21/23 19:33	2
Bromoform	0.50	U	10	0.50	ug/L			07/21/23 19:33	2
Bromomethane	2.0	U	2.0	2.0	ug/L			07/21/23 19:33	2
Carbon disulfide	1.0	U	2.0	1.0	ug/L			07/21/23 19:33	2
Carbon tetrachloride	0.38	U	2.0	0.38	ug/L			07/21/23 19:33	2
Chlorobenzene	0.30	U	2.0	0.30	ug/L			07/21/23 19:33	2
Chloroethane	1.5	U	2.0	1.5	ug/L			07/21/23 19:33	2
Chloroform	1.8	U	2.0	1.8	ug/L			07/21/23 19:33	2
Chloromethane	1.8	U	2.0	1.8	ug/L			07/21/23 19:33	2
cis-1,3-Dichloropropene	1.0	U	10	1.0	ug/L			07/21/23 19:33	2

Client Sample ID: LC34-IW0178-018.5-20230710 — **Lab Sample ID: 670-22941-7**
Date Collected: 07/10/23 11:39 — **Matrix: Water**
Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	1.0	U	2.0	1.0	ug/L			07/21/23 19:33	2
Dibromochloromethane	0.48	U	2.0	0.48	ug/L			07/21/23 19:33	2
Dichlorodifluoromethane	1.7	U	2.0	1.7	ug/L			07/21/23 19:33	2
Ethylbenzene	1.0	U	2.0	1.0	ug/L			07/21/23 19:33	2
Isopropylbenzene	1.1	U	2.0	1.1	ug/L			07/21/23 19:33	2
m,p-Xylenes	1.3	U	10	1.3	ug/L			07/21/23 19:33	2
Methyl acetate	1.2	U	10	1.2	ug/L			07/21/23 19:33	2
Methyl tert-butyl ether	0.44	U	2.0	0.44	ug/L			07/21/23 19:33	2
Methylene Chloride	6.0	U	10	6.0	ug/L			07/21/23 19:33	2
o-Xylene	1.2	U	10	1.2	ug/L			07/21/23 19:33	2
Styrene	2.0	U	2.0	2.0	ug/L			07/21/23 19:33	2
Tetrachloroethene	1.8	U	2.0	1.8	ug/L			07/21/23 19:33	2
Toluene	1.8	U	2.0	1.8	ug/L			07/21/23 19:33	2
trans-1,2-Dichloroethene	**1.7**	**I**	2.0	1.0	ug/L			07/21/23 19:33	2
trans-1,3-Dichloropropene	0.40	U	10	0.40	ug/L			07/21/23 19:33	2
Trichloroethene	0.30	U	2.0	0.30	ug/L			07/21/23 19:33	2
Trichlorofluoromethane	1.0	U	2.0	1.0	ug/L			07/21/23 19:33	2
Xylenes, Total	3.2	U	20	3.2	ug/L			07/21/23 19:33	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*117*		*67 - 134*		*07/21/23 19:33*	*2*
Toluene-d8 (Surr)	*105*		*64 - 132*		*07/21/23 19:33*	*2*
4-Bromofluorobenzene	*102*		*72 - 130*		*07/21/23 19:33*	*2*
Dibromofluoromethane	*98*		*75 - 126*		*07/21/23 19:33*	*2*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**810**		10	2.0	ug/L			07/22/23 19:27	10
Vinyl chloride	**510**		10	5.0	ug/L			07/22/23 19:27	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*07/22/23 19:27*	*10*
Toluene-d8 (Surr)	*101*		*64 - 132*		*07/22/23 19:27*	*10*
4-Bromofluorobenzene	*102*		*72 - 130*		*07/22/23 19:27*	*10*
Dibromofluoromethane	*101*		*75 - 126*		*07/22/23 19:27*	*10*

Client Sample ID: LC34-IW0170-022.0-20230710 — **Lab Sample ID: 670-22941-8**
Date Collected: 07/10/23 12:01 — **Matrix: Water**
Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.90	U	5.0	0.90	ug/L			07/21/23 18:59	5
1,1,2,2-Tetrachloroethane	2.5	U	5.0	2.5	ug/L			07/21/23 18:59	5
1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U	5.0	2.5	ug/L			07/21/23 18:59	5
1,1,2-Trichloroethane	1.1	U	25	1.1	ug/L			07/21/23 18:59	5
1,1-Dichloroethane	2.5	U	5.0	2.5	ug/L			07/21/23 18:59	5
1,1-Dichloroethene	2.5	U	5.0	2.5	ug/L			07/21/23 18:59	5
1,2,4-Trichlorobenzene	4.1	U	5.0	4.1	ug/L			07/21/23 18:59	5
1,2-Dibromo-3-Chloropropane	7.5	U	25	7.5	ug/L			07/21/23 18:59	5
1,2-Dibromoethane (EDB)	1.2	U	5.0	1.2	ug/L			07/21/23 18:59	5

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

Client Sample ID: LC34-IW0170-022.0-20230710
Date Collected: 07/10/23 12:01
Date Received: 07/11/23 17:15

Lab Sample ID: 670-22941-8
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	2.5	U	5.0	2.5	ug/L			07/21/23 18:59	5
1,2-Dichloroethane	0.95	U	5.0	0.95	ug/L			07/21/23 18:59	5
1,2-Dichloropropane	2.5	U	5.0	2.5	ug/L			07/21/23 18:59	5
1,3-Dichlorobenzene	2.7	U	5.0	2.7	ug/L			07/21/23 18:59	5
1,4-Dichlorobenzene	3.2	U	5.0	3.2	ug/L			07/21/23 18:59	5
2-Butanone (MEK)	13	U	130	13	ug/L			07/21/23 18:59	5
2-Hexanone	7.0	U	130	7.0	ug/L			07/21/23 18:59	5
4-Methyl-2-pentanone	9.0	U	130	9.0	ug/L			07/21/23 18:59	5
Acetone	50	U	130	50	ug/L			07/21/23 18:59	5
Benzene	2.5	U	5.0	2.5	ug/L			07/21/23 18:59	5
Bromodichloromethane	2.5	U	5.0	2.5	ug/L			07/21/23 18:59	5
Bromoform	1.3	U	25	1.3	ug/L			07/21/23 18:59	5
Bromomethane	4.9	U	5.0	4.9	ug/L			07/21/23 18:59	5
Carbon disulfide	2.5	U	5.0	2.5	ug/L			07/21/23 18:59	5
Carbon tetrachloride	0.95	U	5.0	0.95	ug/L			07/21/23 18:59	5
Chlorobenzene	0.75	U	5.0	0.75	ug/L			07/21/23 18:59	5
Chloroethane	3.8	U	5.0	3.8	ug/L			07/21/23 18:59	5
Chloroform	4.5	U	5.0	4.5	ug/L			07/21/23 18:59	5
Chloromethane	4.5	U	5.0	4.5	ug/L			07/21/23 18:59	5
cis-1,2-Dichloroethene	**990**		5.0	1.0	ug/L			07/21/23 18:59	5
cis-1,3-Dichloropropene	2.5	U	25	2.5	ug/L			07/21/23 18:59	5
Cyclohexane	2.5	U	5.0	2.5	ug/L			07/21/23 18:59	5
Dibromochloromethane	1.2	U	5.0	1.2	ug/L			07/21/23 18:59	5
Dichlorodifluoromethane	4.3	U	5.0	4.3	ug/L			07/21/23 18:59	5
Ethylbenzene	2.5	U	5.0	2.5	ug/L			07/21/23 18:59	5
Isopropylbenzene	2.7	U	5.0	2.7	ug/L			07/21/23 18:59	5
m,p-Xylenes	3.2	U	25	3.2	ug/L			07/21/23 18:59	5
Methyl acetate	3.1	U	25	3.1	ug/L			07/21/23 18:59	5
Methyl tert-butyl ether	1.1	U	5.0	1.1	ug/L			07/21/23 18:59	5
Methylene Chloride	**15**	**I**	25	15	ug/L			07/21/23 18:59	5
o-Xylene	3.0	U	25	3.0	ug/L			07/21/23 18:59	5
Styrene	5.0	U	5.0	5.0	ug/L			07/21/23 18:59	5
Tetrachloroethene	4.5	U	5.0	4.5	ug/L			07/21/23 18:59	5
Toluene	4.5	U	5.0	4.5	ug/L			07/21/23 18:59	5
trans-1,2-Dichloroethene	2.5	U	5.0	2.5	ug/L			07/21/23 18:59	5
trans-1,3-Dichloropropene	1.0	U	25	1.0	ug/L			07/21/23 18:59	5
Trichloroethene	0.75	U	5.0	0.75	ug/L			07/21/23 18:59	5
Trichlorofluoromethane	2.6	U	5.0	2.6	ug/L			07/21/23 18:59	5
Vinyl chloride	**710**		5.0	2.5	ug/L			07/21/23 18:59	5
Xylenes, Total	8.0	U	50	8.0	ug/L			07/21/23 18:59	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*67 - 134*		*07/21/23 18:59*	*5*
Toluene-d8 (Surr)	*101*		*64 - 132*		*07/21/23 18:59*	*5*
4-Bromofluorobenzene	*103*		*72 - 130*		*07/21/23 18:59*	*5*
Dibromofluoromethane	*100*		*75 - 126*		*07/21/23 18:59*	*5*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

Client Sample ID: LC34-IW0171-032.5-20230710
Date Collected: 07/10/23 12:11
Date Received: 07/11/23 17:15

Lab Sample ID: 670-22941-9
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.90	U	5.0	0.90	ug/L			07/21/23 19:26	5
1,1,2,2-Tetrachloroethane	2.5	U	5.0	2.5	ug/L			07/21/23 19:26	5
1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U	5.0	2.5	ug/L			07/21/23 19:26	5
1,1,2-Trichloroethane	1.1	U	25	1.1	ug/L			07/21/23 19:26	5
1,1-Dichloroethane	2.5	U	5.0	2.5	ug/L			07/21/23 19:26	5
1,1-Dichloroethene	2.5	U	5.0	2.5	ug/L			07/21/23 19:26	5
1,2,4-Trichlorobenzene	4.1	U	5.0	4.1	ug/L			07/21/23 19:26	5
1,2-Dibromo-3-Chloropropane	7.5	U	25	7.5	ug/L			07/21/23 19:26	5
1,2-Dibromoethane (EDB)	1.2	U	5.0	1.2	ug/L			07/21/23 19:26	5
1,2-Dichlorobenzene	2.5	U	5.0	2.5	ug/L			07/21/23 19:26	5
1,2-Dichloroethane	0.95	U	5.0	0.95	ug/L			07/21/23 19:26	5
1,2-Dichloropropane	2.5	U	5.0	2.5	ug/L			07/21/23 19:26	5
1,3-Dichlorobenzene	2.7	U	5.0	2.7	ug/L			07/21/23 19:26	5
1,4-Dichlorobenzene	3.2	U	5.0	3.2	ug/L			07/21/23 19:26	5
2-Butanone (MEK)	13	U	130	13	ug/L			07/21/23 19:26	5
2-Hexanone	7.0	U	130	7.0	ug/L			07/21/23 19:26	5
4-Methyl-2-pentanone	9.0	U	130	9.0	ug/L			07/21/23 19:26	5
Acetone	50	U	130	50	ug/L			07/21/23 19:26	5
Benzene	2.5	U	5.0	2.5	ug/L			07/21/23 19:26	5
Bromodichloromethane	2.5	U	5.0	2.5	ug/L			07/21/23 19:26	5
Bromoform	1.3	U	25	1.3	ug/L			07/21/23 19:26	5
Bromomethane	4.9	U	5.0	4.9	ug/L			07/21/23 19:26	5
Carbon disulfide	2.5	U	5.0	2.5	ug/L			07/21/23 19:26	5
Carbon tetrachloride	0.95	U	5.0	0.95	ug/L			07/21/23 19:26	5
Chlorobenzene	0.75	U	5.0	0.75	ug/L			07/21/23 19:26	5
Chloroethane	3.8	U	5.0	3.8	ug/L			07/21/23 19:26	5
Chloroform	4.5	U	5.0	4.5	ug/L			07/21/23 19:26	5
Chloromethane	4.5	U	5.0	4.5	ug/L			07/21/23 19:26	5
cis-1,2-Dichloroethene	**890**		5.0	1.0	ug/L			07/21/23 19:26	5
cis-1,3-Dichloropropene	2.5	U	25	2.5	ug/L			07/21/23 19:26	5
Cyclohexane	2.5	U	5.0	2.5	ug/L			07/21/23 19:26	5
Dibromochloromethane	1.2	U	5.0	1.2	ug/L			07/21/23 19:26	5
Dichlorodifluoromethane	4.3	U	5.0	4.3	ug/L			07/21/23 19:26	5
Ethylbenzene	2.5	U	5.0	2.5	ug/L			07/21/23 19:26	5
Isopropylbenzene	2.7	U	5.0	2.7	ug/L			07/21/23 19:26	5
m,p-Xylenes	3.2	U	25	3.2	ug/L			07/21/23 19:26	5
Methyl acetate	3.1	U	25	3.1	ug/L			07/21/23 19:26	5
Methyl tert-butyl ether	1.1	U	5.0	1.1	ug/L			07/21/23 19:26	5
Methylene Chloride	15	U	25	15	ug/L			07/21/23 19:26	5
o-Xylene	3.0	U	25	3.0	ug/L			07/21/23 19:26	5
Styrene	5.0	U	5.0	5.0	ug/L			07/21/23 19:26	5
Tetrachloroethene	4.5	U	5.0	4.5	ug/L			07/21/23 19:26	5
Toluene	4.5	U	5.0	4.5	ug/L			07/21/23 19:26	5
trans-1,2-Dichloroethene	**26**		5.0	2.5	ug/L			07/21/23 19:26	5
trans-1,3-Dichloropropene	1.0	U	25	1.0	ug/L			07/21/23 19:26	5
Trichloroethene	0.75	U	5.0	0.75	ug/L			07/21/23 19:26	5
Trichlorofluoromethane	2.6	U	5.0	2.6	ug/L			07/21/23 19:26	5
Xylenes, Total	8.0	U	50	8.0	ug/L			07/21/23 19:26	5

Client Sample ID: LC34-IW0171-032.5-20230710

Lab Sample ID: 670-22941-9

Date Collected: 07/10/23 12:11

Matrix: Water

Date Received: 07/11/23 17:15

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*67 - 134*		*07/21/23 19:26*	*5*
Toluene-d8 (Surr)	*102*		*64 - 132*		*07/21/23 19:26*	*5*
4-Bromofluorobenzene	*103*		*72 - 130*		*07/21/23 19:26*	*5*
Dibromofluoromethane	*99*		*75 - 126*		*07/21/23 19:26*	*5*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**1500**		10	5.0	ug/L			07/22/23 19:54	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*67 - 134*		*07/22/23 19:54*	*10*
Toluene-d8 (Surr)	*102*		*64 - 132*		*07/22/23 19:54*	*10*
4-Bromofluorobenzene	*101*		*72 - 130*		*07/22/23 19:54*	*10*
Dibromofluoromethane	*101*		*75 - 126*		*07/22/23 19:54*	*10*

Client Sample ID: LC34-IW0181-022.0-20230710

Lab Sample ID: 670-22941-10

Date Collected: 07/10/23 12:53

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.36	U	2.0	0.36	ug/L			07/21/23 18:05	2
1,1,2,2-Tetrachloroethane	1.0	U	2.0	1.0	ug/L			07/21/23 18:05	2
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	2.0	1.0	ug/L			07/21/23 18:05	2
1,1,2-Trichloroethane	0.42	U	10	0.42	ug/L			07/21/23 18:05	2
1,1-Dichloroethane	1.0	U	2.0	1.0	ug/L			07/21/23 18:05	2
1,1-Dichloroethene	1.0	U	2.0	1.0	ug/L			07/21/23 18:05	2
1,2,4-Trichlorobenzene	1.6	U	2.0	1.6	ug/L			07/21/23 18:05	2
1,2-Dibromo-3-Chloropropane	3.0	U	10	3.0	ug/L			07/21/23 18:05	2
1,2-Dibromoethane (EDB)	0.46	U	2.0	0.46	ug/L			07/21/23 18:05	2
1,2-Dichlorobenzene	1.0	U	2.0	1.0	ug/L			07/21/23 18:05	2
1,2-Dichloroethane	0.38	U	2.0	0.38	ug/L			07/21/23 18:05	2
1,2-Dichloropropane	1.0	U	2.0	1.0	ug/L			07/21/23 18:05	2
1,3-Dichlorobenzene	1.1	U	2.0	1.1	ug/L			07/21/23 18:05	2
1,4-Dichlorobenzene	1.3	U	2.0	1.3	ug/L			07/21/23 18:05	2
2-Butanone (MEK)	5.2	U	50	5.2	ug/L			07/21/23 18:05	2
2-Hexanone	2.8	U	50	2.8	ug/L			07/21/23 18:05	2
4-Methyl-2-pentanone	3.6	U	50	3.6	ug/L			07/21/23 18:05	2
Acetone	20	U	50	20	ug/L			07/21/23 18:05	2
Benzene	1.0	U	2.0	1.0	ug/L			07/21/23 18:05	2
Bromodichloromethane	1.0	U	2.0	1.0	ug/L			07/21/23 18:05	2
Bromoform	0.50	U	10	0.50	ug/L			07/21/23 18:05	2
Bromomethane	2.0	U	2.0	2.0	ug/L			07/21/23 18:05	2
Carbon disulfide	1.0	U	2.0	1.0	ug/L			07/21/23 18:05	2
Carbon tetrachloride	0.38	U	2.0	0.38	ug/L			07/21/23 18:05	2
Chlorobenzene	0.30	U	2.0	0.30	ug/L			07/21/23 18:05	2
Chloroethane	1.5	U	2.0	1.5	ug/L			07/21/23 18:05	2
Chloroform	1.8	U	2.0	1.8	ug/L			07/21/23 18:05	2
Chloromethane	1.8	U	2.0	1.8	ug/L			07/21/23 18:05	2
cis-1,2-Dichloroethene	**130**		2.0	0.40	ug/L			07/21/23 18:05	2
cis-1,3-Dichloropropene	1.0	U	10	1.0	ug/L			07/21/23 18:05	2

Client Sample ID: LC34-IW0181-022.0-20230710

Lab Sample ID: 670-22941-10

Date Collected: 07/10/23 12:53

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	1.0	U	2.0	1.0	ug/L			07/21/23 18:05	2
Dibromochloromethane	0.48	U	2.0	0.48	ug/L			07/21/23 18:05	2
Dichlorodifluoromethane	1.7	U	2.0	1.7	ug/L			07/21/23 18:05	2
Ethylbenzene	1.0	U	2.0	1.0	ug/L			07/21/23 18:05	2
Isopropylbenzene	1.1	U	2.0	1.1	ug/L			07/21/23 18:05	2
m,p-Xylenes	1.3	U	10	1.3	ug/L			07/21/23 18:05	2
Methyl acetate	1.2	U	10	1.2	ug/L			07/21/23 18:05	2
Methyl tert-butyl ether	0.44	U	2.0	0.44	ug/L			07/21/23 18:05	2
Methylene Chloride	6.0	U	10	6.0	ug/L			07/21/23 18:05	2
o-Xylene	1.2	U	10	1.2	ug/L			07/21/23 18:05	2
Styrene	2.0	U	2.0	2.0	ug/L			07/21/23 18:05	2
Tetrachloroethene	1.8	U	2.0	1.8	ug/L			07/21/23 18:05	2
Toluene	1.8	U	2.0	1.8	ug/L			07/21/23 18:05	2
trans-1,2-Dichloroethene	1.0	U	2.0	1.0	ug/L			07/21/23 18:05	2
trans-1,3-Dichloropropene	0.40	U	10	0.40	ug/L			07/21/23 18:05	2
Trichloroethene	0.30	U	2.0	0.30	ug/L			07/21/23 18:05	2
Trichlorofluoromethane	1.0	U	2.0	1.0	ug/L			07/21/23 18:05	2
Xylenes, Total	3.2	U	20	3.2	ug/L			07/21/23 18:05	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*67 - 134*		*07/21/23 18:05*	*2*
Toluene-d8 (Surr)	*103*		*64 - 132*		*07/21/23 18:05*	*2*
4-Bromofluorobenzene	*102*		*72 - 130*		*07/21/23 18:05*	*2*
Dibromofluoromethane	*99*		*75 - 126*		*07/21/23 18:05*	*2*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**540**		5.0	2.5	ug/L			07/22/23 18:05	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*67 - 134*		*07/22/23 18:05*	*5*
Toluene-d8 (Surr)	*103*		*64 - 132*		*07/22/23 18:05*	*5*
4-Bromofluorobenzene	*104*		*72 - 130*		*07/22/23 18:05*	*5*
Dibromofluoromethane	*100*		*75 - 126*		*07/22/23 18:05*	*5*

Client Sample ID: LC34-IW0182-032.5-20230710

Lab Sample ID: 670-22941-11

Date Collected: 07/10/23 13:12

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.90	U	5.0	0.90	ug/L			07/21/23 19:53	5
1,1,2,2-Tetrachloroethane	2.5	U	5.0	2.5	ug/L			07/21/23 19:53	5
1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U	5.0	2.5	ug/L			07/21/23 19:53	5
1,1,2-Trichloroethane	1.1	U	25	1.1	ug/L			07/21/23 19:53	5
1,1-Dichloroethane	2.5	U	5.0	2.5	ug/L			07/21/23 19:53	5
1,1-Dichloroethene	2.5	U	5.0	2.5	ug/L			07/21/23 19:53	5
1,2,4-Trichlorobenzene	4.1	U	5.0	4.1	ug/L			07/21/23 19:53	5
1,2-Dibromo-3-Chloropropane	7.5	U	25	7.5	ug/L			07/21/23 19:53	5
1,2-Dibromoethane (EDB)	1.2	U	5.0	1.2	ug/L			07/21/23 19:53	5
1,2-Dichlorobenzene	2.5	U	5.0	2.5	ug/L			07/21/23 19:53	5

Client Sample ID: LC34-IW0182-032.5-20230710
Date Collected: 07/10/23 13:12
Date Received: 07/11/23 17:15

Lab Sample ID: 670-22941-11
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	0.95	U	5.0	0.95	ug/L			07/21/23 19:53	5
1,2-Dichloropropane	2.5	U	5.0	2.5	ug/L			07/21/23 19:53	5
1,3-Dichlorobenzene	2.7	U	5.0	2.7	ug/L			07/21/23 19:53	5
1,4-Dichlorobenzene	3.2	U	5.0	3.2	ug/L			07/21/23 19:53	5
2-Butanone (MEK)	13	U	130	13	ug/L			07/21/23 19:53	5
2-Hexanone	7.0	U	130	7.0	ug/L			07/21/23 19:53	5
4-Methyl-2-pentanone	9.0	U	130	9.0	ug/L			07/21/23 19:53	5
Acetone	50	U	130	50	ug/L			07/21/23 19:53	5
Benzene	2.5	U	5.0	2.5	ug/L			07/21/23 19:53	5
Bromodichloromethane	2.5	U	5.0	2.5	ug/L			07/21/23 19:53	5
Bromoform	1.3	U	25	1.3	ug/L			07/21/23 19:53	5
Bromomethane	4.9	U	5.0	4.9	ug/L			07/21/23 19:53	5
Carbon disulfide	2.5	U	5.0	2.5	ug/L			07/21/23 19:53	5
Carbon tetrachloride	0.95	U	5.0	0.95	ug/L			07/21/23 19:53	5
Chlorobenzene	0.75	U	5.0	0.75	ug/L			07/21/23 19:53	5
Chloroethane	3.8	U	5.0	3.8	ug/L			07/21/23 19:53	5
Chloroform	4.5	U	5.0	4.5	ug/L			07/21/23 19:53	5
Chloromethane	4.5	U	5.0	4.5	ug/L			07/21/23 19:53	5
cis-1,2-Dichloroethene	**1100**		5.0	1.0	ug/L			07/21/23 19:53	5
cis-1,3-Dichloropropene	2.5	U	25	2.5	ug/L			07/21/23 19:53	5
Cyclohexane	2.5	U	5.0	2.5	ug/L			07/21/23 19:53	5
Dibromochloromethane	1.2	U	5.0	1.2	ug/L			07/21/23 19:53	5
Dichlorodifluoromethane	4.3	U	5.0	4.3	ug/L			07/21/23 19:53	5
Ethylbenzene	2.5	U	5.0	2.5	ug/L			07/21/23 19:53	5
Isopropylbenzene	2.7	U	5.0	2.7	ug/L			07/21/23 19:53	5
m,p-Xylenes	3.2	U	25	3.2	ug/L			07/21/23 19:53	5
Methyl acetate	3.1	U	25	3.1	ug/L			07/21/23 19:53	5
Methyl tert-butyl ether	1.1	U	5.0	1.1	ug/L			07/21/23 19:53	5
Methylene Chloride	15	U	25	15	ug/L			07/21/23 19:53	5
o-Xylene	3.0	U	25	3.0	ug/L			07/21/23 19:53	5
Styrene	5.0	U	5.0	5.0	ug/L			07/21/23 19:53	5
Tetrachloroethene	4.5	U	5.0	4.5	ug/L			07/21/23 19:53	5
Toluene	4.5	U	5.0	4.5	ug/L			07/21/23 19:53	5
trans-1,2-Dichloroethene	**4.1**	**I**	5.0	2.5	ug/L			07/21/23 19:53	5
trans-1,3-Dichloropropene	1.0	U	25	1.0	ug/L			07/21/23 19:53	5
Trichloroethene	0.75	U	5.0	0.75	ug/L			07/21/23 19:53	5
Trichlorofluoromethane	2.6	U	5.0	2.6	ug/L			07/21/23 19:53	5
Vinyl chloride	**540**		5.0	2.5	ug/L			07/21/23 19:53	5
Xylenes, Total	8.0	U	50	8.0	ug/L			07/21/23 19:53	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*67 - 134*		*07/21/23 19:53*	*5*
Toluene-d8 (Surr)	*102*		*64 - 132*		*07/21/23 19:53*	*5*
4-Bromofluorobenzene	*105*		*72 - 130*		*07/21/23 19:53*	*5*
Dibromofluoromethane	*100*		*75 - 126*		*07/21/23 19:53*	*5*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

Client Sample ID: LC34-IW0179-022.0-20230710
Date Collected: 07/10/23 13:45
Date Received: 07/11/23 17:15

Lab Sample ID: 670-22941-12
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.90	U	5.0	0.90	ug/L			07/21/23 20:20	5
1,1,2,2-Tetrachloroethane	2.5	U	5.0	2.5	ug/L			07/21/23 20:20	5
1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U	5.0	2.5	ug/L			07/21/23 20:20	5
1,1,2-Trichloroethane	1.1	U	25	1.1	ug/L			07/21/23 20:20	5
1,1-Dichloroethane	2.5	U	5.0	2.5	ug/L			07/21/23 20:20	5
1,1-Dichloroethene	2.5	U	5.0	2.5	ug/L			07/21/23 20:20	5
1,2,4-Trichlorobenzene	4.1	U	5.0	4.1	ug/L			07/21/23 20:20	5
1,2-Dibromo-3-Chloropropane	7.5	U	25	7.5	ug/L			07/21/23 20:20	5
1,2-Dibromoethane (EDB)	1.2	U	5.0	1.2	ug/L			07/21/23 20:20	5
1,2-Dichlorobenzene	2.5	U	5.0	2.5	ug/L			07/21/23 20:20	5
1,2-Dichloroethane	0.95	U	5.0	0.95	ug/L			07/21/23 20:20	5
1,2-Dichloropropane	2.5	U	5.0	2.5	ug/L			07/21/23 20:20	5
1,3-Dichlorobenzene	2.7	U	5.0	2.7	ug/L			07/21/23 20:20	5
1,4-Dichlorobenzene	3.2	U	5.0	3.2	ug/L			07/21/23 20:20	5
2-Butanone (MEK)	13	U	130	13	ug/L			07/21/23 20:20	5
2-Hexanone	7.0	U	130	7.0	ug/L			07/21/23 20:20	5
4-Methyl-2-pentanone	9.0	U	130	9.0	ug/L			07/21/23 20:20	5
Acetone	50	U	130	50	ug/L			07/21/23 20:20	5
Benzene	2.5	U	5.0	2.5	ug/L			07/21/23 20:20	5
Bromodichloromethane	2.5	U	5.0	2.5	ug/L			07/21/23 20:20	5
Bromoform	1.3	U	25	1.3	ug/L			07/21/23 20:20	5
Bromomethane	4.9	U	5.0	4.9	ug/L			07/21/23 20:20	5
Carbon disulfide	2.5	U	5.0	2.5	ug/L			07/21/23 20:20	5
Carbon tetrachloride	0.95	U	5.0	0.95	ug/L			07/21/23 20:20	5
Chlorobenzene	0.75	U	5.0	0.75	ug/L			07/21/23 20:20	5
Chloroethane	3.8	U	5.0	3.8	ug/L			07/21/23 20:20	5
Chloroform	4.5	U	5.0	4.5	ug/L			07/21/23 20:20	5
Chloromethane	4.5	U	5.0	4.5	ug/L			07/21/23 20:20	5
cis-1,2-Dichloroethene	**140**		5.0	1.0	ug/L			07/21/23 20:20	5
cis-1,3-Dichloropropene	2.5	U	25	2.5	ug/L			07/21/23 20:20	5
Cyclohexane	2.5	U	5.0	2.5	ug/L			07/21/23 20:20	5
Dibromochloromethane	1.2	U	5.0	1.2	ug/L			07/21/23 20:20	5
Dichlorodifluoromethane	4.3	U	5.0	4.3	ug/L			07/21/23 20:20	5
Ethylbenzene	2.5	U	5.0	2.5	ug/L			07/21/23 20:20	5
Isopropylbenzene	2.7	U	5.0	2.7	ug/L			07/21/23 20:20	5
m,p-Xylenes	3.2	U	25	3.2	ug/L			07/21/23 20:20	5
Methyl acetate	3.1	U	25	3.1	ug/L			07/21/23 20:20	5
Methyl tert-butyl ether	1.1	U	5.0	1.1	ug/L			07/21/23 20:20	5
Methylene Chloride	15	U	25	15	ug/L			07/21/23 20:20	5
o-Xylene	3.0	U	25	3.0	ug/L			07/21/23 20:20	5
Styrene	5.0	U	5.0	5.0	ug/L			07/21/23 20:20	5
Tetrachloroethene	4.5	U	5.0	4.5	ug/L			07/21/23 20:20	5
Toluene	4.5	U	5.0	4.5	ug/L			07/21/23 20:20	5
trans-1,2-Dichloroethene	2.5	U	5.0	2.5	ug/L			07/21/23 20:20	5
trans-1,3-Dichloropropene	1.0	U	25	1.0	ug/L			07/21/23 20:20	5
Trichloroethene	0.75	U	5.0	0.75	ug/L			07/21/23 20:20	5
Trichlorofluoromethane	2.6	U	5.0	2.6	ug/L			07/21/23 20:20	5
Vinyl chloride	**800**		5.0	2.5	ug/L			07/21/23 20:20	5
Xylenes, Total	8.0	U	50	8.0	ug/L			07/21/23 20:20	5

Client Sample ID: LC34-IW0179-022.0-20230710

Lab Sample ID: 670-22941-12

Date Collected: 07/10/23 13:45

Matrix: Water

Date Received: 07/11/23 17:15

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*67 - 134*		*07/21/23 20:20*	*5*
Toluene-d8 (Surr)	*101*		*64 - 132*		*07/21/23 20:20*	*5*
4-Bromofluorobenzene	*104*		*72 - 130*		*07/21/23 20:20*	*5*
Dibromofluoromethane	*98*		*75 - 126*		*07/21/23 20:20*	*5*

Client Sample ID: LC34-IW0180-032.5-20230710

Lab Sample ID: 670-22941-13

Date Collected: 07/10/23 14:05

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.8	U	10	1.8	ug/L			07/22/23 20:21	10
1,1,2,2-Tetrachloroethane	5.0	U	10	5.0	ug/L			07/22/23 20:21	10
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	10	5.0	ug/L			07/22/23 20:21	10
1,1,2-Trichloroethane	2.1	U	50	2.1	ug/L			07/22/23 20:21	10
1,1-Dichloroethane	5.0	U	10	5.0	ug/L			07/22/23 20:21	10
1,1-Dichloroethene	5.0	U	10	5.0	ug/L			07/22/23 20:21	10
1,2,4-Trichlorobenzene	8.2	U	10	8.2	ug/L			07/22/23 20:21	10
1,2-Dibromo-3-Chloropropane	15	U	50	15	ug/L			07/22/23 20:21	10
1,2-Dibromoethane (EDB)	2.3	U	10	2.3	ug/L			07/22/23 20:21	10
1,2-Dichlorobenzene	5.0	U	10	5.0	ug/L			07/22/23 20:21	10
1,2-Dichloroethane	1.9	U	10	1.9	ug/L			07/22/23 20:21	10
1,2-Dichloropropane	5.0	U	10	5.0	ug/L			07/22/23 20:21	10
1,3-Dichlorobenzene	5.4	U	10	5.4	ug/L			07/22/23 20:21	10
1,4-Dichlorobenzene	6.4	U	10	6.4	ug/L			07/22/23 20:21	10
2-Butanone (MEK)	26	U	250	26	ug/L			07/22/23 20:21	10
2-Hexanone	14	U	250	14	ug/L			07/22/23 20:21	10
4-Methyl-2-pentanone	18	U	250	18	ug/L			07/22/23 20:21	10
Acetone	100	U	250	100	ug/L			07/22/23 20:21	10
Benzene	5.0	U	10	5.0	ug/L			07/22/23 20:21	10
Bromodichloromethane	5.0	U	10	5.0	ug/L			07/22/23 20:21	10
Bromoform	2.5	U	50	2.5	ug/L			07/22/23 20:21	10
Bromomethane	9.8	U	10	9.8	ug/L			07/22/23 20:21	10
Carbon disulfide	5.0	U	10	5.0	ug/L			07/22/23 20:21	10
Carbon tetrachloride	1.9	U	10	1.9	ug/L			07/22/23 20:21	10
Chlorobenzene	1.5	U	10	1.5	ug/L			07/22/23 20:21	10
Chloroethane	7.6	U	10	7.6	ug/L			07/22/23 20:21	10
Chloroform	9.0	U	10	9.0	ug/L			07/22/23 20:21	10
Chloromethane	9.0	U	10	9.0	ug/L			07/22/23 20:21	10
cis-1,2-Dichloroethene	**1700**		10	2.0	ug/L			07/22/23 20:21	10
cis-1,3-Dichloropropene	5.0	U	50	5.0	ug/L			07/22/23 20:21	10
Cyclohexane	5.0	U	10	5.0	ug/L			07/22/23 20:21	10
Dibromochloromethane	2.4	U	10	2.4	ug/L			07/22/23 20:21	10
Dichlorodifluoromethane	8.5	U	10	8.5	ug/L			07/22/23 20:21	10
Ethylbenzene	5.0	U	10	5.0	ug/L			07/22/23 20:21	10
Isopropylbenzene	5.3	U	10	5.3	ug/L			07/22/23 20:21	10
m,p-Xylenes	6.3	U	50	6.3	ug/L			07/22/23 20:21	10
Methyl acetate	6.1	U	50	6.1	ug/L			07/22/23 20:21	10
Methyl tert-butyl ether	2.2	U	10	2.2	ug/L			07/22/23 20:21	10
Methylene Chloride	30	U	50	30	ug/L			07/22/23 20:21	10

Client Sample ID: LC34-IW0180-032.5-20230710 — **Lab Sample ID: 670-22941-13**
Date Collected: 07/10/23 14:05 — **Matrix: Water**
Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	6.0	U	50	6.0	ug/L			07/22/23 20:21	10
Styrene	10	U	10	10	ug/L			07/22/23 20:21	10
Tetrachloroethene	9.0	U	10	9.0	ug/L			07/22/23 20:21	10
Toluene	9.0	U	10	9.0	ug/L			07/22/23 20:21	10
trans-1,2-Dichloroethene	**7.3**	**I**	10	5.0	ug/L			07/22/23 20:21	10
trans-1,3-Dichloropropene	2.0	U	50	2.0	ug/L			07/22/23 20:21	10
Trichloroethene	1.5	U	10	1.5	ug/L			07/22/23 20:21	10
Trichlorofluoromethane	5.2	U	10	5.2	ug/L			07/22/23 20:21	10
Vinyl chloride	**710**		10	5.0	ug/L			07/22/23 20:21	10
Xylenes, Total	16	U	100	16	ug/L			07/22/23 20:21	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*67 - 134*		*07/22/23 20:21*	*10*
Toluene-d8 (Surr)	*102*		*64 - 132*		*07/22/23 20:21*	*10*
4-Bromofluorobenzene	*103*		*72 - 130*		*07/22/23 20:21*	*10*
Dibromofluoromethane	*100*		*75 - 126*		*07/22/23 20:21*	*10*

Client Sample ID: LC34-IW0183-022.0-20230710 — **Lab Sample ID: 670-22941-14**
Date Collected: 07/10/23 14:33 — **Matrix: Water**
Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.36	U	2.0	0.36	ug/L			07/21/23 18:32	2
1,1,2,2-Tetrachloroethane	1.0	U	2.0	1.0	ug/L			07/21/23 18:32	2
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	2.0	1.0	ug/L			07/21/23 18:32	2
1,1,2-Trichloroethane	0.42	U	10	0.42	ug/L			07/21/23 18:32	2
1,1-Dichloroethane	1.0	U	2.0	1.0	ug/L			07/21/23 18:32	2
1,1-Dichloroethene	1.0	U	2.0	1.0	ug/L			07/21/23 18:32	2
1,2,4-Trichlorobenzene	1.6	U	2.0	1.6	ug/L			07/21/23 18:32	2
1,2-Dibromo-3-Chloropropane	3.0	U	10	3.0	ug/L			07/21/23 18:32	2
1,2-Dibromoethane (EDB)	0.46	U	2.0	0.46	ug/L			07/21/23 18:32	2
1,2-Dichlorobenzene	1.0	U	2.0	1.0	ug/L			07/21/23 18:32	2
1,2-Dichloroethane	0.38	U	2.0	0.38	ug/L			07/21/23 18:32	2
1,2-Dichloropropane	1.0	U	2.0	1.0	ug/L			07/21/23 18:32	2
1,3-Dichlorobenzene	1.1	U	2.0	1.1	ug/L			07/21/23 18:32	2
1,4-Dichlorobenzene	1.3	U	2.0	1.3	ug/L			07/21/23 18:32	2
2-Butanone (MEK)	5.2	U	50	5.2	ug/L			07/21/23 18:32	2
2-Hexanone	2.8	U	50	2.8	ug/L			07/21/23 18:32	2
4-Methyl-2-pentanone	3.6	U	50	3.6	ug/L			07/21/23 18:32	2
Acetone	20	U	50	20	ug/L			07/21/23 18:32	2
Benzene	1.0	U	2.0	1.0	ug/L			07/21/23 18:32	2
Bromodichloromethane	1.0	U	2.0	1.0	ug/L			07/21/23 18:32	2
Bromoform	0.50	U	10	0.50	ug/L			07/21/23 18:32	2
Bromomethane	2.0	U	2.0	2.0	ug/L			07/21/23 18:32	2
Carbon disulfide	1.0	U	2.0	1.0	ug/L			07/21/23 18:32	2
Carbon tetrachloride	0.38	U	2.0	0.38	ug/L			07/21/23 18:32	2
Chlorobenzene	0.30	U	2.0	0.30	ug/L			07/21/23 18:32	2
Chloroethane	1.5	U	2.0	1.5	ug/L			07/21/23 18:32	2
Chloroform	1.8	U	2.0	1.8	ug/L			07/21/23 18:32	2

Client Sample ID: LC34-IW0183-022.0-20230710

Lab Sample ID: 670-22941-14

Date Collected: 07/10/23 14:33

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	1.8	U	2.0	1.8	ug/L			07/21/23 18:32	2
cis-1,2-Dichloroethene	**46**		2.0	0.40	ug/L			07/21/23 18:32	2
cis-1,3-Dichloropropene	1.0	U	10	1.0	ug/L			07/21/23 18:32	2
Cyclohexane	1.0	U	2.0	1.0	ug/L			07/21/23 18:32	2
Dibromochloromethane	0.48	U	2.0	0.48	ug/L			07/21/23 18:32	2
Dichlorodifluoromethane	1.7	U	2.0	1.7	ug/L			07/21/23 18:32	2
Ethylbenzene	1.0	U	2.0	1.0	ug/L			07/21/23 18:32	2
Isopropylbenzene	1.1	U	2.0	1.1	ug/L			07/21/23 18:32	2
m,p-Xylenes	1.3	U	10	1.3	ug/L			07/21/23 18:32	2
Methyl acetate	1.2	U	10	1.2	ug/L			07/21/23 18:32	2
Methyl tert-butyl ether	0.44	U	2.0	0.44	ug/L			07/21/23 18:32	2
Methylene Chloride	6.0	U	10	6.0	ug/L			07/21/23 18:32	2
o-Xylene	1.2	U	10	1.2	ug/L			07/21/23 18:32	2
Styrene	2.0	U	2.0	2.0	ug/L			07/21/23 18:32	2
Tetrachloroethene	1.8	U	2.0	1.8	ug/L			07/21/23 18:32	2
Toluene	1.8	U	2.0	1.8	ug/L			07/21/23 18:32	2
trans-1,2-Dichloroethene	1.0	U	2.0	1.0	ug/L			07/21/23 18:32	2
trans-1,3-Dichloropropene	0.40	U	10	0.40	ug/L			07/21/23 18:32	2
Trichloroethene	0.30	U	2.0	0.30	ug/L			07/21/23 18:32	2
Trichlorofluoromethane	1.0	U	2.0	1.0	ug/L			07/21/23 18:32	2
Xylenes, Total	3.2	U	20	3.2	ug/L			07/21/23 18:32	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*07/21/23 18:32*	*2*
Toluene-d8 (Surr)	*102*		*64 - 132*		*07/21/23 18:32*	*2*
4-Bromofluorobenzene	*103*		*72 - 130*		*07/21/23 18:32*	*2*
Dibromofluoromethane	*100*		*75 - 126*		*07/21/23 18:32*	*2*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**720**		5.0	2.5	ug/L			07/22/23 18:32	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*67 - 134*		*07/22/23 18:32*	*5*
Toluene-d8 (Surr)	*102*		*64 - 132*		*07/22/23 18:32*	*5*
4-Bromofluorobenzene	*104*		*72 - 130*		*07/22/23 18:32*	*5*
Dibromofluoromethane	*98*		*75 - 126*		*07/22/23 18:32*	*5*

Client Sample ID: LC34-IW0184-032.5-20230710

Lab Sample ID: 670-22941-15

Date Collected: 07/10/23 14:49

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.90	U	5.0	0.90	ug/L			07/22/23 18:59	5
1,1,2,2-Tetrachloroethane	2.5	U	5.0	2.5	ug/L			07/22/23 18:59	5
1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U	5.0	2.5	ug/L			07/22/23 18:59	5
1,1,2-Trichloroethane	1.1	U	25	1.1	ug/L			07/22/23 18:59	5
1,1-Dichloroethane	2.5	U	5.0	2.5	ug/L			07/22/23 18:59	5
1,1-Dichloroethene	2.5	U	5.0	2.5	ug/L			07/22/23 18:59	5
1,2,4-Trichlorobenzene	4.1	U	5.0	4.1	ug/L			07/22/23 18:59	5

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

Client Sample ID: LC34-IW0184-032.5-20230710
Date Collected: 07/10/23 14:49
Date Received: 07/11/23 17:15

Lab Sample ID: 670-22941-15
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	7.5	U	25	7.5	ug/L			07/22/23 18:59	5
1,2-Dibromoethane (EDB)	1.2	U	5.0	1.2	ug/L			07/22/23 18:59	5
1,2-Dichlorobenzene	2.5	U	5.0	2.5	ug/L			07/22/23 18:59	5
1,2-Dichloroethane	0.95	U	5.0	0.95	ug/L			07/22/23 18:59	5
1,2-Dichloropropane	2.5	U	5.0	2.5	ug/L			07/22/23 18:59	5
1,3-Dichlorobenzene	2.7	U	5.0	2.7	ug/L			07/22/23 18:59	5
1,4-Dichlorobenzene	3.2	U	5.0	3.2	ug/L			07/22/23 18:59	5
2-Butanone (MEK)	13	U	130	13	ug/L			07/22/23 18:59	5
2-Hexanone	7.0	U	130	7.0	ug/L			07/22/23 18:59	5
4-Methyl-2-pentanone	9.0	U	130	9.0	ug/L			07/22/23 18:59	5
Acetone	50	U	130	50	ug/L			07/22/23 18:59	5
Benzene	2.5	U	5.0	2.5	ug/L			07/22/23 18:59	5
Bromodichloromethane	2.5	U	5.0	2.5	ug/L			07/22/23 18:59	5
Bromoform	1.3	U	25	1.3	ug/L			07/22/23 18:59	5
Bromomethane	4.9	U	5.0	4.9	ug/L			07/22/23 18:59	5
Carbon disulfide	2.5	U	5.0	2.5	ug/L			07/22/23 18:59	5
Carbon tetrachloride	0.95	U	5.0	0.95	ug/L			07/22/23 18:59	5
Chlorobenzene	0.75	U	5.0	0.75	ug/L			07/22/23 18:59	5
Chloroethane	3.8	U	5.0	3.8	ug/L			07/22/23 18:59	5
Chloroform	4.5	U	5.0	4.5	ug/L			07/22/23 18:59	5
Chloromethane	4.5	U	5.0	4.5	ug/L			07/22/23 18:59	5
cis-1,3-Dichloropropene	2.5	U	25	2.5	ug/L			07/22/23 18:59	5
Cyclohexane	2.5	U	5.0	2.5	ug/L			07/22/23 18:59	5
Dibromochloromethane	1.2	U	5.0	1.2	ug/L			07/22/23 18:59	5
Dichlorodifluoromethane	4.3	U	5.0	4.3	ug/L			07/22/23 18:59	5
Ethylbenzene	2.5	U	5.0	2.5	ug/L			07/22/23 18:59	5
Isopropylbenzene	2.7	U	5.0	2.7	ug/L			07/22/23 18:59	5
m,p-Xylenes	3.2	U	25	3.2	ug/L			07/22/23 18:59	5
Methyl acetate	3.1	U	25	3.1	ug/L			07/22/23 18:59	5
Methyl tert-butyl ether	1.1	U	5.0	1.1	ug/L			07/22/23 18:59	5
Methylene Chloride	15	U	25	15	ug/L			07/22/23 18:59	5
o-Xylene	3.0	U	25	3.0	ug/L			07/22/23 18:59	5
Styrene	5.0	U	5.0	5.0	ug/L			07/22/23 18:59	5
Tetrachloroethene	4.5	U	5.0	4.5	ug/L			07/22/23 18:59	5
Toluene	4.5	U	5.0	4.5	ug/L			07/22/23 18:59	5
trans-1,2-Dichloroethene	**2.8**	**I**	5.0	2.5	ug/L			07/22/23 18:59	5
trans-1,3-Dichloropropene	1.0	U	25	1.0	ug/L			07/22/23 18:59	5
Trichloroethene	0.75	U	5.0	0.75	ug/L			07/22/23 18:59	5
Trichlorofluoromethane	2.6	U	5.0	2.6	ug/L			07/22/23 18:59	5
Vinyl chloride	**1000**		5.0	2.5	ug/L			07/22/23 18:59	5
Xylenes, Total	8.0	U	50	8.0	ug/L			07/22/23 18:59	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*67 - 134*		*07/22/23 18:59*	*5*
Toluene-d8 (Surr)	*102*		*64 - 132*		*07/22/23 18:59*	*5*
4-Bromofluorobenzene	*103*		*72 - 130*		*07/22/23 18:59*	*5*
Dibromofluoromethane	*99*		*75 - 126*		*07/22/23 18:59*	*5*

Client Sample ID: LC34-IW0184-032.5-20230710

Lab Sample ID: 670-22941-15

Date Collected: 07/10/23 14:49

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1600		10	2.0	ug/L			07/24/23 12:21	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*67 - 134*		*07/24/23 12:21*	*10*
Toluene-d8 (Surr)	*102*		*64 - 132*		*07/24/23 12:21*	*10*
4-Bromofluorobenzene	*103*		*72 - 130*		*07/24/23 12:21*	*10*
Dibromofluoromethane	*101*		*75 - 126*		*07/24/23 12:21*	*10*

Client Sample ID: LC34-IW0185-018.5-20230710

Lab Sample ID: 670-22941-16

Date Collected: 07/10/23 15:13

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			07/21/23 12:12	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			07/21/23 12:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			07/21/23 12:12	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			07/21/23 12:12	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			07/21/23 12:12	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/21/23 12:12	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			07/21/23 12:12	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			07/21/23 12:12	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			07/21/23 12:12	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			07/21/23 12:12	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			07/21/23 12:12	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			07/21/23 12:12	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			07/21/23 12:12	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			07/21/23 12:12	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			07/21/23 12:12	1
2-Hexanone	1.4	U	25	1.4	ug/L			07/21/23 12:12	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			07/21/23 12:12	1
Acetone	10	U	25	10	ug/L			07/21/23 12:12	1
Benzene	0.50	U	1.0	0.50	ug/L			07/21/23 12:12	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			07/21/23 12:12	1
Bromoform	0.25	U	5.0	0.25	ug/L			07/21/23 12:12	1
Bromomethane	0.98	U	1.0	0.98	ug/L			07/21/23 12:12	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			07/21/23 12:12	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			07/21/23 12:12	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/21/23 12:12	1
Chloroethane	0.76	U	1.0	0.76	ug/L			07/21/23 12:12	1
Chloroform	0.90	U	1.0	0.90	ug/L			07/21/23 12:12	1
Chloromethane	0.90	U	1.0	0.90	ug/L			07/21/23 12:12	1
cis-1,2-Dichloroethene	100		1.0	0.20	ug/L			07/21/23 12:12	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			07/21/23 12:12	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			07/21/23 12:12	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			07/21/23 12:12	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			07/21/23 12:12	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			07/21/23 12:12	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			07/21/23 12:12	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			07/21/23 12:12	1

Client Sample ID: LC34-IW0185-018.5-20230710

Lab Sample ID: 670-22941-16

Date Collected: 07/10/23 15:13

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	0.61	U	5.0	0.61	ug/L			07/21/23 12:12	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			07/21/23 12:12	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			07/21/23 12:12	1
o-Xylene	0.60	U	5.0	0.60	ug/L			07/21/23 12:12	1
Styrene	1.0	U	1.0	1.0	ug/L			07/21/23 12:12	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			07/21/23 12:12	1
Toluene	0.90	U	1.0	0.90	ug/L			07/21/23 12:12	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/21/23 12:12	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			07/21/23 12:12	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			07/21/23 12:12	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			07/21/23 12:12	1
Xylenes, Total	1.6	U	10	1.6	ug/L			07/21/23 12:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*		*07/21/23 12:12*	*1*
Toluene-d8 (Surr)	*101*		*64 - 132*		*07/21/23 12:12*	*1*
4-Bromofluorobenzene	*100*		*72 - 130*		*07/21/23 12:12*	*1*
Dibromofluoromethane	*97*		*75 - 126*		*07/21/23 12:12*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**350**		2.0	1.0	ug/L			07/22/23 17:38	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*67 - 134*		*07/22/23 17:38*	*2*
Toluene-d8 (Surr)	*101*		*64 - 132*		*07/22/23 17:38*	*2*
4-Bromofluorobenzene	*102*		*72 - 130*		*07/22/23 17:38*	*2*
Dibromofluoromethane	*99*		*75 - 126*		*07/22/23 17:38*	*2*

Client Sample ID: LC34-IW0176-018.5-20230710

Lab Sample ID: 670-22941-17

Date Collected: 07/10/23 15:43

Matrix: Water

Date Received: 07/11/23 17:15

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			07/22/23 15:22	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			07/22/23 15:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			07/22/23 15:22	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			07/22/23 15:22	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			07/22/23 15:22	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/22/23 15:22	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			07/22/23 15:22	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			07/22/23 15:22	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			07/22/23 15:22	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			07/22/23 15:22	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			07/22/23 15:22	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			07/22/23 15:22	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			07/22/23 15:22	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			07/22/23 15:22	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			07/22/23 15:22	1
2-Hexanone	1.4	U	25	1.4	ug/L			07/22/23 15:22	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

Client Sample ID: LC34-IW0176-018.5-20230710
Date Collected: 07/10/23 15:43
Date Received: 07/11/23 17:15

Lab Sample ID: 670-22941-17
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			07/22/23 15:22	1
Acetone	10	U	25	10	ug/L			07/22/23 15:22	1
Benzene	0.50	U	1.0	0.50	ug/L			07/22/23 15:22	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			07/22/23 15:22	1
Bromoform	0.25	U	5.0	0.25	ug/L			07/22/23 15:22	1
Bromomethane	0.98	U	1.0	0.98	ug/L			07/22/23 15:22	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			07/22/23 15:22	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			07/22/23 15:22	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/22/23 15:22	1
Chloroethane	0.76	U	1.0	0.76	ug/L			07/22/23 15:22	1
Chloroform	0.90	U	1.0	0.90	ug/L			07/22/23 15:22	1
Chloromethane	0.90	U	1.0	0.90	ug/L			07/22/23 15:22	1
cis-1,2-Dichloroethene	**84**		1.0	0.20	ug/L			07/22/23 15:22	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			07/22/23 15:22	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			07/22/23 15:22	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			07/22/23 15:22	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			07/22/23 15:22	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			07/22/23 15:22	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			07/22/23 15:22	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			07/22/23 15:22	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			07/22/23 15:22	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			07/22/23 15:22	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			07/22/23 15:22	1
o-Xylene	0.60	U	5.0	0.60	ug/L			07/22/23 15:22	1
Styrene	1.0	U	1.0	1.0	ug/L			07/22/23 15:22	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			07/22/23 15:22	1
Toluene	0.90	U	1.0	0.90	ug/L			07/22/23 15:22	1
trans-1,2-Dichloroethene	**1.1**		1.0	0.50	ug/L			07/22/23 15:22	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			07/22/23 15:22	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			07/22/23 15:22	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			07/22/23 15:22	1
Vinyl chloride	**50**		1.0	0.50	ug/L			07/22/23 15:22	1
Xylenes, Total	1.6	U	10	1.6	ug/L			07/22/23 15:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*07/22/23 15:22*	*1*
Toluene-d8 (Surr)	*101*		*64 - 132*		*07/22/23 15:22*	*1*
4-Bromofluorobenzene	*101*		*72 - 130*		*07/22/23 15:22*	*1*
Dibromofluoromethane	*102*		*75 - 126*		*07/22/23 15:22*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(67-134)	(64-132)	(72-130)	(75-126)
400-240404-A-2 MS	Matrix Spike	101	101	98	99
400-240404-A-2 MSD	Matrix Spike Duplicate	103	100	99	99
400-240426-A-4 MS	Matrix Spike	102	102	98	101
400-240426-A-4 MSD	Matrix Spike Duplicate	105	103	100	101
670-22939-B-4 MS	Matrix Spike	100	101	98	101
670-22939-B-4 MSD	Matrix Spike Duplicate	102	101	96	102
670-22941-1	LC34-IW0175-032.5-20230710	125	105	101	110
670-22941-1 - RA	LC34-IW0175-032.5-20230710	107	101	102	100
670-22941-1 MS	LC34-IW0175-032.5-20230710	111	103	100	102
670-22941-1 MSD	LC34-IW0175-032.5-20230710	111	102	101	100
670-22941-2	LC34-IW0174-018.5-20230710	122	105	102	106
670-22941-2 - RA	LC34-IW0174-018.5-20230710	103	101	103	99
670-22941-3	LC34-IW0177-018.5-20230710	113	104	102	97
670-22941-3 - RA	LC34-IW0177-018.5-20230710	103	101	103	101
670-22941-4	LC34-IW0172-022.0-20230710	116	106	102	103
670-22941-4 - DL	LC34-IW0172-022.0-20230710	106	102	101	100
670-22941-5	LC34-IW0173-032.5-20230710	123	105	103	112
670-22941-5 - DL	LC34-IW0173-032.5-20230710	104	102	104	99
670-22941-6	LC34-IW0168-022.0-20230710	119	107	103	99
670-22941-6 - DL	LC34-IW0168-022.0-20230710	107	103	103	100
670-22941-7	LC34-IW0178-018.5-20230710	117	105	102	98
670-22941-7 - DL	LC34-IW0178-018.5-20230710	103	101	102	101
670-22941-8	LC34-IW0170-022.0-20230710	102	101	103	100
670-22941-9	LC34-IW0171-032.5-20230710	102	102	103	99
670-22941-9 - DL	LC34-IW0171-032.5-20230710	105	102	101	101
670-22941-10	LC34-IW0181-022.0-20230710	100	103	102	99
670-22941-10 - DL	LC34-IW0181-022.0-20230710	104	103	104	100
670-22941-11	LC34-IW0182-032.5-20230710	102	102	105	100
670-22941-12	LC34-IW0179-022.0-20230710	104	101	104	98
670-22941-13	LC34-IW0180-032.5-20230710	105	102	103	100
670-22941-14	LC34-IW0183-022.0-20230710	103	102	103	100
670-22941-14 - DL	LC34-IW0183-022.0-20230710	106	102	104	98
670-22941-15	LC34-IW0184-032.5-20230710	106	102	103	99
670-22941-15 - DL	LC34-IW0184-032.5-20230710	105	102	103	101
670-22941-16	LC34-IW0185-018.5-20230710	101	101	100	97
670-22941-16 - DL	LC34-IW0185-018.5-20230710	105	101	102	99
670-22941-17	LC34-IW0176-018.5-20230710	103	101	101	102
LCS 400-634057/1002	Lab Control Sample	99	103	96	101
LCS 400-634059/1002	Lab Control Sample	113	100	99	99
LCS 400-634059/1003	Lab Control Sample	109	109	104	98
LCS 400-634228/1002	Lab Control Sample	100	103	98	100
LCS 400-634257/1002	Lab Control Sample	104	101	98	100
MB 400-634057/30	Method Blank	101	102	101	98
MB 400-634059/5	Method Blank	112	106	101	99
MB 400-634228/5	Method Blank	102	102	103	98
MB 400-634257/4	Method Blank	105	101	100	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 400-634057/30
Matrix: Water
Analysis Batch: 634057

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			07/21/23 11:18	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			07/21/23 11:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			07/21/23 11:18	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			07/21/23 11:18	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			07/21/23 11:18	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/21/23 11:18	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			07/21/23 11:18	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			07/21/23 11:18	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			07/21/23 11:18	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			07/21/23 11:18	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			07/21/23 11:18	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			07/21/23 11:18	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			07/21/23 11:18	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			07/21/23 11:18	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			07/21/23 11:18	1
2-Hexanone	1.4	U	25	1.4	ug/L			07/21/23 11:18	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			07/21/23 11:18	1
Acetone	10	U	25	10	ug/L			07/21/23 11:18	1
Benzene	0.50	U	1.0	0.50	ug/L			07/21/23 11:18	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			07/21/23 11:18	1
Bromoform	0.25	U	5.0	0.25	ug/L			07/21/23 11:18	1
Bromomethane	0.98	U	1.0	0.98	ug/L			07/21/23 11:18	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			07/21/23 11:18	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			07/21/23 11:18	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/21/23 11:18	1
Chloroethane	0.76	U	1.0	0.76	ug/L			07/21/23 11:18	1
Chloroform	0.90	U	1.0	0.90	ug/L			07/21/23 11:18	1
Chloromethane	0.90	U	1.0	0.90	ug/L			07/21/23 11:18	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			07/21/23 11:18	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			07/21/23 11:18	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			07/21/23 11:18	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			07/21/23 11:18	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			07/21/23 11:18	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			07/21/23 11:18	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			07/21/23 11:18	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			07/21/23 11:18	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			07/21/23 11:18	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			07/21/23 11:18	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			07/21/23 11:18	1
o-Xylene	0.60	U	5.0	0.60	ug/L			07/21/23 11:18	1
Styrene	1.0	U	1.0	1.0	ug/L			07/21/23 11:18	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			07/21/23 11:18	1
Toluene	0.90	U	1.0	0.90	ug/L			07/21/23 11:18	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/21/23 11:18	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			07/21/23 11:18	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			07/21/23 11:18	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			07/21/23 11:18	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			07/21/23 11:18	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-634057/30
Matrix: Water
Analysis Batch: 634057

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.6	U	10	1.6	ug/L			07/21/23 11:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*		*07/21/23 11:18*	*1*
Toluene-d8 (Surr)	*102*		*64 - 132*		*07/21/23 11:18*	*1*
4-Bromofluorobenzene	*101*		*72 - 130*		*07/21/23 11:18*	*1*
Dibromofluoromethane	*98*		*75 - 126*		*07/21/23 11:18*	*1*

Lab Sample ID: LCS 400-634057/1002
Matrix: Water
Analysis Batch: 634057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	54.2		ug/L		108	68 - 130
1,1,2,2-Tetrachloroethane	50.0	56.0		ug/L		112	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	54.4		ug/L		109	60 - 139
1,1,2-Trichloroethane	50.0	56.8		ug/L		114	70 - 130
1,1-Dichloroethane	50.0	53.9		ug/L		108	70 - 130
1,1-Dichloroethene	50.0	51.2		ug/L		102	63 - 134
1,2,4-Trichlorobenzene	50.0	58.1		ug/L		116	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	60.7		ug/L		121	54 - 135
1,2-Dibromoethane (EDB)	50.0	58.8		ug/L		118	70 - 130
1,2-Dichlorobenzene	50.0	58.9		ug/L		118	67 - 130
1,2-Dichloroethane	50.0	53.9		ug/L		108	69 - 130
1,2-Dichloropropane	50.0	55.2		ug/L		110	70 - 130
1,3-Dichlorobenzene	50.0	57.0		ug/L		114	70 - 130
1,4-Dichlorobenzene	50.0	56.8		ug/L		114	70 - 130
2-Butanone (MEK)	200	242		ug/L		121	61 - 145
2-Hexanone	200	234		ug/L		117	65 - 137
4-Methyl-2-pentanone	200	230		ug/L		115	69 - 138
Acetone	200	207		ug/L		103	43 - 160
Benzene	50.0	54.8		ug/L		110	70 - 130
Bromodichloromethane	50.0	55.1		ug/L		110	67 - 133
Bromoform	50.0	57.6		ug/L		115	57 - 140
Bromomethane	50.0	44.4		ug/L		89	10 - 160
Carbon disulfide	50.0	55.8		ug/L		112	61 - 137
Carbon tetrachloride	50.0	54.5		ug/L		109	61 - 137
Chlorobenzene	50.0	57.0		ug/L		114	70 - 130
Chloroethane	50.0	57.0		ug/L		114	55 - 141
Chloroform	50.0	54.1		ug/L		108	69 - 130
Chloromethane	50.0	43.4		ug/L		87	58 - 137
cis-1,2-Dichloroethene	50.0	54.4		ug/L		109	68 - 130
cis-1,3-Dichloropropene	50.0	55.3		ug/L		111	69 - 132
Cyclohexane	50.0	53.9		ug/L		108	70 - 130
Dibromochloromethane	50.0	56.0		ug/L		112	67 - 135
Dichlorodifluoromethane	50.0	46.7		ug/L		93	41 - 146
Ethylbenzene	50.0	56.5		ug/L		113	70 - 130
Isopropylbenzene	50.0	56.7		ug/L		113	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-634057/1002
Matrix: Water
Analysis Batch: 634057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	56.3		ug/L		113	70 - 130
Methyl acetate	100	148		ug/L		148	45 - 159
Methyl tert-butyl ether	50.0	56.5		ug/L		113	66 - 130
Methylene Chloride	50.0	66.3		ug/L		133	66 - 135
o-Xylene	50.0	56.4		ug/L		113	70 - 130
Styrene	50.0	56.3		ug/L		113	70 - 130
Tetrachloroethene	50.0	60.0		ug/L		120	65 - 130
Toluene	50.0	56.9		ug/L		114	70 - 130
trans-1,2-Dichloroethene	50.0	55.9		ug/L		112	70 - 130
trans-1,3-Dichloropropene	50.0	57.2		ug/L		114	63 - 130
Trichloroethene	50.0	56.3		ug/L		113	70 - 130
Trichlorofluoromethane	50.0	50.3		ug/L		101	65 - 138
Vinyl chloride	50.0	46.4		ug/L		93	59 - 136
Xylenes, Total	100	113		ug/L		113	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*67 - 134*
Toluene-d8 (Surr)	*103*		*64 - 132*
4-Bromofluorobenzene	*96*		*72 - 130*
Dibromofluoromethane	*101*		*75 - 126*

Lab Sample ID: 670-22939-B-4 MS
Matrix: Water
Analysis Batch: 634057

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	47.3		ug/L		95	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	47.0		ug/L		94	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	50.7		ug/L		101	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	47.5		ug/L		95	66 - 131
1,1-Dichloroethane	0.50	U	50.0	46.8		ug/L		94	61 - 144
1,1-Dichloroethene	0.50	U	50.0	47.8		ug/L		96	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	46.8		ug/L		94	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	50.3		ug/L		101	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	48.6		ug/L		97	64 - 132
1,2-Dichlorobenzene	0.50	U	50.0	47.5		ug/L		95	52 - 137
1,2-Dichloroethane	0.19	U	50.0	45.6		ug/L		91	60 - 141
1,2-Dichloropropane	0.50	U	50.0	46.4		ug/L		93	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	45.7		ug/L		91	54 - 135
1,4-Dichlorobenzene	0.64	U	50.0	46.0		ug/L		92	53 - 135
2-Butanone (MEK)	2.6	U	200	191		ug/L		95	55 - 150
2-Hexanone	1.4	U	200	191		ug/L		96	65 - 140
4-Methyl-2-pentanone	1.8	U	200	194		ug/L		97	63 - 146
Acetone	10	U	200	163		ug/L		81	43 - 150
Benzene	0.50	U	50.0	47.1		ug/L		94	56 - 142
Bromodichloromethane	0.50	U	50.0	45.2		ug/L		90	59 - 143
Bromoform	0.25	U	50.0	46.1		ug/L		92	50 - 140
Bromomethane	0.98	U	50.0	47.4		ug/L		95	10 - 150

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-22939-B-4 MS
Matrix: Water
Analysis Batch: 634057

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon disulfide	0.50	U	50.0	47.8		ug/L		96	48 - 150
Carbon tetrachloride	0.19	U	50.0	47.4		ug/L		95	55 - 145
Chlorobenzene	0.15	U	50.0	46.7		ug/L		93	64 - 130
Chloroethane	0.76	U	50.0	58.2		ug/L		116	50 - 150
Chloroform	0.90	U	50.0	46.3		ug/L		93	60 - 141
Chloromethane	0.90	U	50.0	41.2		ug/L		82	49 - 148
cis-1,2-Dichloroethene	0.92	I	50.0	47.6		ug/L		93	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	45.8		ug/L		92	57 - 140
Cyclohexane	0.50	U	50.0	48.2		ug/L		96	58 - 141
Dibromochloromethane	0.24	U	50.0	46.1		ug/L		92	56 - 143
Dichlorodifluoromethane	0.85	U	50.0	46.3		ug/L		93	16 - 150
Ethylbenzene	0.50	U	50.0	46.8		ug/L		94	58 - 131
Isopropylbenzene	0.53	U	50.0	46.4		ug/L		93	56 - 133
m,p-Xylenes	0.63	U	50.0	46.3		ug/L		93	57 - 130
Methyl acetate	0.61	U	100	101		ug/L		101	21 - 150
Methyl tert-butyl ether	0.22	U	50.0	46.3		ug/L		93	59 - 137
Methylene Chloride	3.0	U	50.0	47.3		ug/L		95	60 - 146
o-Xylene	0.60	U	50.0	46.1		ug/L		92	61 - 130
Styrene	1.0	U	50.0	45.2		ug/L		90	58 - 131
Tetrachloroethene	0.90	U	50.0	47.9		ug/L		96	52 - 133
Toluene	0.90	U	50.0	47.5		ug/L		95	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	48.9		ug/L		98	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	46.4		ug/L		93	53 - 133
Trichloroethene	0.15	U	50.0	48.4		ug/L		97	64 - 136
Trichlorofluoromethane	0.52	U	50.0	58.1		ug/L		116	54 - 150
Vinyl chloride	0.76	I	50.0	49.1		ug/L		97	46 - 150
Xylenes, Total	1.6	U	100	92.4		ug/L		92	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*67 - 134*
Toluene-d8 (Surr)	*101*		*64 - 132*
4-Bromofluorobenzene	*98*		*72 - 130*
Dibromofluoromethane	*101*		*75 - 126*

Lab Sample ID: 670-22939-B-4 MSD
Matrix: Water
Analysis Batch: 634057

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	49.3		ug/L		99	57 - 142	4	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	48.2		ug/L		96	66 - 135	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	52.3		ug/L		105	55 - 150	3	30
1,1,2-Trichloroethane	0.21	U	50.0	49.0		ug/L		98	66 - 131	3	30
1,1-Dichloroethane	0.50	U	50.0	49.6		ug/L		99	61 - 144	6	30
1,1-Dichloroethene	0.50	U	50.0	52.5		ug/L		105	54 - 147	9	30
1,2,4-Trichlorobenzene	0.82	U	50.0	47.7		ug/L		95	39 - 148	2	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	51.8		ug/L		104	45 - 135	3	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	48.9		ug/L		98	64 - 132	1	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-22939-B-4 MSD
Matrix: Water
Analysis Batch: 634057

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichlorobenzene	0.50	U	50.0	48.7		ug/L		97	52 - 137	3	30
1,2-Dichloroethane	0.19	U	50.0	47.6		ug/L		95	60 - 141	4	30
1,2-Dichloropropane	0.50	U	50.0	47.9		ug/L		96	66 - 137	3	30
1,3-Dichlorobenzene	0.54	U	50.0	47.5		ug/L		95	54 - 135	4	30
1,4-Dichlorobenzene	0.64	U	50.0	47.5		ug/L		95	53 - 135	3	30
2-Butanone (MEK)	2.6	U	200	205		ug/L		102	55 - 150	7	30
2-Hexanone	1.4	U	200	206		ug/L		103	65 - 140	7	30
4-Methyl-2-pentanone	1.8	U	200	205		ug/L		103	63 - 146	5	30
Acetone	10	U	200	176		ug/L		88	43 - 150	8	30
Benzene	0.50	U	50.0	49.3		ug/L		99	56 - 142	5	30
Bromodichloromethane	0.50	U	50.0	47.0		ug/L		94	59 - 143	4	30
Bromoform	0.25	U	50.0	46.8		ug/L		94	50 - 140	2	30
Bromomethane	0.98	U	50.0	50.2		ug/L		100	10 - 150	6	50
Carbon disulfide	0.50	U	50.0	54.4		ug/L		109	48 - 150	13	30
Carbon tetrachloride	0.19	U	50.0	49.9		ug/L		100	55 - 145	5	30
Chlorobenzene	0.15	U	50.0	48.7		ug/L		97	64 - 130	4	30
Chloroethane	0.76	U	50.0	51.1		ug/L		102	50 - 150	13	30
Chloroform	0.90	U	50.0	48.1		ug/L		96	60 - 141	4	30
Chloromethane	0.90	U	50.0	45.6		ug/L		91	49 - 148	10	31
cis-1,2-Dichloroethene	0.92	I	50.0	49.5		ug/L		97	59 - 143	4	30
cis-1,3-Dichloropropene	0.50	U	50.0	47.6		ug/L		95	57 - 140	4	30
Cyclohexane	0.50	U	50.0	49.8		ug/L		100	58 - 141	3	30
Dibromochloromethane	0.24	U	50.0	47.4		ug/L		95	56 - 143	3	30
Dichlorodifluoromethane	0.85	U	50.0	50.8		ug/L		102	16 - 150	9	31
Ethylbenzene	0.50	U	50.0	49.8		ug/L		100	58 - 131	6	30
Isopropylbenzene	0.53	U	50.0	49.5		ug/L		99	56 - 133	7	30
m,p-Xylenes	0.63	U	50.0	49.6		ug/L		99	57 - 130	7	30
Methyl acetate	0.61	U	100	106		ug/L		106	21 - 150	5	30
Methyl tert-butyl ether	0.22	U	50.0	48.9		ug/L		98	59 - 137	5	30
Methylene Chloride	3.0	U	50.0	50.9		ug/L		102	60 - 146	7	32
o-Xylene	0.60	U	50.0	48.7		ug/L		97	61 - 130	5	30
Styrene	1.0	U	50.0	47.7		ug/L		95	58 - 131	6	30
Tetrachloroethene	0.90	U	50.0	48.9		ug/L		98	52 - 133	2	30
Toluene	0.90	U	50.0	49.7		ug/L		99	65 - 130	4	30
trans-1,2-Dichloroethene	0.50	U	50.0	51.1		ug/L		102	61 - 143	4	30
trans-1,3-Dichloropropene	0.20	U	50.0	47.8		ug/L		96	53 - 133	3	30
Trichloroethene	0.15	U	50.0	50.4		ug/L		101	64 - 136	4	30
Trichlorofluoromethane	0.52	U	50.0	61.4		ug/L		123	54 - 150	5	30
Vinyl chloride	0.76	I	50.0	54.0		ug/L		107	46 - 150	10	30
Xylenes, Total	1.6	U	100	98.3		ug/L		98	59 - 130	6	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*67 - 134*
Toluene-d8 (Surr)	*101*		*64 - 132*
4-Bromofluorobenzene	*96*		*72 - 130*
Dibromofluoromethane	*102*		*75 - 126*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-634059/5
Matrix: Water
Analysis Batch: 634059

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			07/21/23 10:45	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			07/21/23 10:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			07/21/23 10:45	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			07/21/23 10:45	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			07/21/23 10:45	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/21/23 10:45	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			07/21/23 10:45	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			07/21/23 10:45	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			07/21/23 10:45	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			07/21/23 10:45	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			07/21/23 10:45	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			07/21/23 10:45	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			07/21/23 10:45	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			07/21/23 10:45	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			07/21/23 10:45	1
2-Hexanone	1.4	U	25	1.4	ug/L			07/21/23 10:45	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			07/21/23 10:45	1
Acetone	10	U	25	10	ug/L			07/21/23 10:45	1
Benzene	0.50	U	1.0	0.50	ug/L			07/21/23 10:45	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			07/21/23 10:45	1
Bromoform	0.25	U	5.0	0.25	ug/L			07/21/23 10:45	1
Bromomethane	0.98	U	1.0	0.98	ug/L			07/21/23 10:45	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			07/21/23 10:45	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			07/21/23 10:45	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/21/23 10:45	1
Chloroethane	0.76	U	1.0	0.76	ug/L			07/21/23 10:45	1
Chloroform	0.90	U	1.0	0.90	ug/L			07/21/23 10:45	1
Chloromethane	0.90	U	1.0	0.90	ug/L			07/21/23 10:45	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			07/21/23 10:45	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			07/21/23 10:45	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			07/21/23 10:45	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			07/21/23 10:45	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			07/21/23 10:45	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			07/21/23 10:45	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			07/21/23 10:45	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			07/21/23 10:45	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			07/21/23 10:45	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			07/21/23 10:45	1
Methylene Chloride	3.0	U	5.0	3.0	ug/L			07/21/23 10:45	1
o-Xylene	0.60	U	5.0	0.60	ug/L			07/21/23 10:45	1
Styrene	1.0	U	1.0	1.0	ug/L			07/21/23 10:45	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			07/21/23 10:45	1
Toluene	0.90	U	1.0	0.90	ug/L			07/21/23 10:45	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/21/23 10:45	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			07/21/23 10:45	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			07/21/23 10:45	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			07/21/23 10:45	1
Xylenes, Total	1.6	U	10	1.6	ug/L			07/21/23 10:45	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-634059/5
Matrix: Water
Analysis Batch: 634059

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*112*		*67 - 134*		*07/21/23 10:45*	*1*
Toluene-d8 (Surr)	*106*		*64 - 132*		*07/21/23 10:45*	*1*
4-Bromofluorobenzene	*101*		*72 - 130*		*07/21/23 10:45*	*1*
Dibromofluoromethane	*99*		*75 - 126*		*07/21/23 10:45*	*1*

Lab Sample ID: LCS 400-634059/1002
Matrix: Water
Analysis Batch: 634059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	47.6		ug/L		95	68 - 130
1,1,2,2-Tetrachloroethane	50.0	42.3		ug/L		85	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	41.9		ug/L		84	60 - 139
1,1,2-Trichloroethane	50.0	49.4		ug/L		99	70 - 130
1,1-Dichloroethane	50.0	48.0		ug/L		96	70 - 130
1,1-Dichloroethene	50.0	45.5		ug/L		91	63 - 134
1,2,4-Trichlorobenzene	50.0	45.3		ug/L		91	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	47.2		ug/L		94	54 - 135
1,2-Dibromoethane (EDB)	50.0	47.8		ug/L		96	70 - 130
1,2-Dichlorobenzene	50.0	48.0		ug/L		96	67 - 130
1,2-Dichloroethane	50.0	50.9		ug/L		102	69 - 130
1,2-Dichloropropane	50.0	50.8		ug/L		102	70 - 130
1,3-Dichlorobenzene	50.0	48.2		ug/L		96	70 - 130
1,4-Dichlorobenzene	50.0	48.2		ug/L		96	70 - 130
Benzene	50.0	48.4		ug/L		97	70 - 130
Bromodichloromethane	50.0	49.0		ug/L		98	67 - 133
Bromoform	50.0	43.0		ug/L		86	57 - 140
Bromomethane	50.0	74.7		ug/L		149	10 - 160
Carbon disulfide	50.0	40.8		ug/L		82	61 - 137
Carbon tetrachloride	50.0	49.0		ug/L		98	61 - 137
Chlorobenzene	50.0	47.8		ug/L		96	70 - 130
Chloroethane	50.0	45.9		ug/L		92	55 - 141
Chloroform	50.0	48.8		ug/L		98	69 - 130
Chloromethane	50.0	35.3		ug/L		71	58 - 137
cis-1,2-Dichloroethene	50.0	48.1		ug/L		96	68 - 130
cis-1,3-Dichloropropene	50.0	47.8		ug/L		96	69 - 132
Cyclohexane	50.0	48.1		ug/L		96	70 - 130
Dibromochloromethane	50.0	46.3		ug/L		93	67 - 135
Dichlorodifluoromethane	50.0	23.1		ug/L		46	41 - 146
Ethylbenzene	50.0	49.7		ug/L		99	70 - 130
Isopropylbenzene	50.0	49.4		ug/L		99	70 - 130
m,p-Xylenes	50.0	49.2		ug/L		98	70 - 130
Methyl acetate	100	100		ug/L		100	45 - 159
Methyl tert-butyl ether	50.0	44.9		ug/L		90	66 - 130
Methylene Chloride	50.0	44.4		ug/L		89	66 - 135
o-Xylene	50.0	48.3		ug/L		97	70 - 130
Styrene	50.0	45.3		ug/L		91	70 - 130
Tetrachloroethene	50.0	59.7		ug/L		119	65 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-634059/1002
Matrix: Water
Analysis Batch: 634059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	50.0	47.8		ug/L		96	70 - 130
trans-1,2-Dichloroethene	50.0	45.4		ug/L		91	70 - 130
trans-1,3-Dichloropropene	50.0	46.2		ug/L		92	63 - 130
Trichloroethene	50.0	52.7		ug/L		105	70 - 130
Trichlorofluoromethane	50.0	35.3		ug/L		71	65 - 138
Xylenes, Total	100	97.4		ug/L		97	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*113*		*67 - 134*
Toluene-d8 (Surr)	*100*		*64 - 132*
4-Bromofluorobenzene	*99*		*72 - 130*
Dibromofluoromethane	*99*		*75 - 126*

Lab Sample ID: LCS 400-634059/1003
Matrix: Water
Analysis Batch: 634059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-Butanone (MEK)	200	216		ug/L		108	61 - 145
2-Hexanone	200	247		ug/L		123	65 - 137
4-Methyl-2-pentanone	200	233		ug/L		117	69 - 138
Acetone	200	242		ug/L		121	43 - 160

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*109*		*67 - 134*
Toluene-d8 (Surr)	*109*		*64 - 132*
4-Bromofluorobenzene	*104*		*72 - 130*
Dibromofluoromethane	*98*		*75 - 126*

Lab Sample ID: 670-22941-1 MS
Matrix: Water
Analysis Batch: 634059

Client Sample ID: LC34-IW0175-032.5-20230710
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	48.9		ug/L		98	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	51.4		ug/L		103	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	42.9		ug/L		86	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	54.4		ug/L		109	66 - 131
1,1-Dichloroethane	0.50	U	50.0	52.1		ug/L		104	61 - 144
1,1-Dichloroethene	0.50	U	50.0	47.2		ug/L		94	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	42.2		ug/L		84	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	51.0		ug/L		102	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	51.3		ug/L		103	64 - 132
1,2-Dichlorobenzene	0.50	U	50.0	45.5		ug/L		91	52 - 137
1,2-Dichloroethane	0.19	U	50.0	55.2		ug/L		110	60 - 141
1,2-Dichloropropane	0.50	U	50.0	54.1		ug/L		108	66 - 137
1,3-Dichlorobenzene	0.54	U	50.0	42.6		ug/L		85	54 - 135

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-22941-1 MS
Matrix: Water
Analysis Batch: 634059

Client Sample ID: LC34-IW0175-032.5-20230710
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dichlorobenzene	0.64	U	50.0	43.0		ug/L		86	53 - 135
2-Butanone (MEK)	2.6	U	200	229		ug/L		114	55 - 150
2-Hexanone	1.4	U	200	235		ug/L		118	65 - 140
4-Methyl-2-pentanone	1.8	U	200	243		ug/L		122	63 - 146
Acetone	10	U	200	240		ug/L		120	43 - 150
Benzene	0.50	U	50.0	49.1		ug/L		98	56 - 142
Bromodichloromethane	0.50	U	50.0	54.1		ug/L		108	59 - 143
Bromoform	0.25	U	50.0	45.1		ug/L		90	50 - 140
Bromomethane	0.98	U	50.0	64.8		ug/L		130	10 - 150
Carbon disulfide	0.50	U	50.0	53.3		ug/L		107	48 - 150
Carbon tetrachloride	0.19	U	50.0	48.8		ug/L		98	55 - 145
Chlorobenzene	0.15	U	50.0	46.8		ug/L		94	64 - 130
Chloroethane	0.76	U	50.0	73.7		ug/L		147	50 - 150
Chloroform	0.90	U	50.0	53.1		ug/L		106	60 - 141
Chloromethane	0.90	U	50.0	50.2		ug/L		100	49 - 148
cis-1,2-Dichloroethene	7.3		50.0	58.2		ug/L		102	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	50.3		ug/L		101	57 - 140
Cyclohexane	0.50	U	50.0	46.1		ug/L		92	58 - 141
Dibromochloromethane	0.24	U	50.0	50.3		ug/L		101	56 - 143
Dichlorodifluoromethane	0.85	U	50.0	25.8		ug/L		52	16 - 150
Ethylbenzene	0.50	U	50.0	45.7		ug/L		91	58 - 131
Isopropylbenzene	0.53	U	50.0	43.1		ug/L		86	56 - 133
m,p-Xylenes	0.63	U	50.0	45.1		ug/L		90	57 - 130
Methyl acetate	0.61	U	100	112		ug/L		112	21 - 150
Methyl tert-butyl ether	0.22	U	50.0	52.5		ug/L		105	59 - 137
Methylene Chloride	4.7	I	50.0	51.3		ug/L		93	60 - 146
o-Xylene	0.60	U	50.0	45.7		ug/L		91	61 - 130
Styrene	1.0	U	50.0	43.7		ug/L		87	58 - 131
Tetrachloroethene	0.90	U	50.0	41.0		ug/L		82	52 - 133
Toluene	0.90	U	50.0	47.6		ug/L		95	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	47.6		ug/L		95	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	48.4		ug/L		97	53 - 133
Trichloroethene	0.15	U	50.0	48.7		ug/L		97	64 - 136
Trichlorofluoromethane	0.52	U	50.0	37.7		ug/L		75	54 - 150
Xylenes, Total	1.6	U	100	90.8		ug/L		91	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*111*		*67 - 134*
Toluene-d8 (Surr)	*103*		*64 - 132*
4-Bromofluorobenzene	*100*		*72 - 130*
Dibromofluoromethane	*102*		*75 - 126*

Lab Sample ID: 670-22941-1 MSD
Matrix: Water
Analysis Batch: 634059

Client Sample ID: LC34-IW0175-032.5-20230710
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	43.2		ug/L		86	57 - 142	12	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-22941-1 MSD
Matrix: Water
Analysis Batch: 634059

Client Sample ID: LC34-IW0175-032.5-20230710
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,2,2-Tetrachloroethane	0.50	U	50.0	47.4		ug/L		95	66 - 135	8	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	38.2		ug/L		76	55 - 150	11	30
1,1,2-Trichloroethane	0.21	U	50.0	48.9		ug/L		98	66 - 131	11	30
1,1-Dichloroethane	0.50	U	50.0	46.7		ug/L		93	61 - 144	11	30
1,1-Dichloroethene	0.50	U	50.0	42.6		ug/L		85	54 - 147	10	30
1,2,4-Trichlorobenzene	0.82	U	50.0	38.3		ug/L		77	39 - 148	10	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	47.0		ug/L		94	45 - 135	8	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	46.1		ug/L		92	64 - 132	11	30
1,2-Dichlorobenzene	0.50	U	50.0	41.3		ug/L		83	52 - 137	10	30
1,2-Dichloroethane	0.19	U	50.0	50.5		ug/L		101	60 - 141	9	30
1,2-Dichloropropane	0.50	U	50.0	48.5		ug/L		97	66 - 137	11	30
1,3-Dichlorobenzene	0.54	U	50.0	38.7		ug/L		77	54 - 135	9	30
1,4-Dichlorobenzene	0.64	U	50.0	39.3		ug/L		79	53 - 135	9	30
2-Butanone (MEK)	2.6	U	200	198		ug/L		99	55 - 150	14	30
2-Hexanone	1.4	U	200	211		ug/L		106	65 - 140	11	30
4-Methyl-2-pentanone	1.8	U	200	215		ug/L		108	63 - 146	12	30
Acetone	10	U	200	209		ug/L		105	43 - 150	14	30
Benzene	0.50	U	50.0	45.7		ug/L		91	56 - 142	7	30
Bromodichloromethane	0.50	U	50.0	48.2		ug/L		96	59 - 143	12	30
Bromoform	0.25	U	50.0	42.2		ug/L		84	50 - 140	7	30
Bromomethane	0.98	U	50.0	53.5		ug/L		107	10 - 150	19	50
Carbon disulfide	0.50	U	50.0	48.8		ug/L		98	48 - 150	9	30
Carbon tetrachloride	0.19	U	50.0	44.0		ug/L		88	55 - 145	10	30
Chlorobenzene	0.15	U	50.0	42.9		ug/L		86	64 - 130	9	30
Chloroethane	0.76	U	50.0	61.8		ug/L		124	50 - 150	18	30
Chloroform	0.90	U	50.0	47.5		ug/L		95	60 - 141	11	30
Chloromethane	0.90	U	50.0	46.5		ug/L		93	49 - 148	8	31
cis-1,2-Dichloroethene	7.3		50.0	52.3		ug/L		90	59 - 143	11	30
cis-1,3-Dichloropropene	0.50	U	50.0	44.5		ug/L		89	57 - 140	12	30
Cyclohexane	0.50	U	50.0	42.2		ug/L		84	58 - 141	9	30
Dibromochloromethane	0.24	U	50.0	46.4		ug/L		93	56 - 143	8	30
Dichlorodifluoromethane	0.85	U	50.0	22.3		ug/L		45	16 - 150	15	31
Ethylbenzene	0.50	U	50.0	41.9		ug/L		84	58 - 131	9	30
Isopropylbenzene	0.53	U	50.0	39.4		ug/L		79	56 - 133	9	30
m,p-Xylenes	0.63	U	50.0	40.9		ug/L		82	57 - 130	10	30
Methyl acetate	0.61	U	100	98.9		ug/L		99	21 - 150	12	30
Methyl tert-butyl ether	0.22	U	50.0	46.4		ug/L		93	59 - 137	12	30
Methylene Chloride	4.7	I	50.0	45.2		ug/L		81	60 - 146	13	32
o-Xylene	0.60	U	50.0	41.7		ug/L		83	61 - 130	9	30
Styrene	1.0	U	50.0	39.4		ug/L		79	58 - 131	10	30
Tetrachloroethene	0.90	U	50.0	36.5		ug/L		73	52 - 133	12	30
Toluene	0.90	U	50.0	43.2		ug/L		86	65 - 130	10	30
trans-1,2-Dichloroethene	0.50	U	50.0	42.5		ug/L		85	61 - 143	11	30
trans-1,3-Dichloropropene	0.20	U	50.0	43.8		ug/L		88	53 - 133	10	30
Trichloroethene	0.15	U	50.0	43.8		ug/L		88	64 - 136	11	30
Trichlorofluoromethane	0.52	U	50.0	32.4		ug/L		65	54 - 150	15	30
Xylenes, Total	1.6	U	100	82.6		ug/L		83	59 - 130	10	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-22941-1 MSD
Matrix: Water
Analysis Batch: 634059

Client Sample ID: LC34-IW0175-032.5-20230710
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*111*		*67 - 134*
Toluene-d8 (Surr)	*102*		*64 - 132*
4-Bromofluorobenzene	*101*		*72 - 130*
Dibromofluoromethane	*100*		*75 - 126*

Lab Sample ID: MB 400-634228/5
Matrix: Water
Analysis Batch: 634228

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.18	U	1.0	0.18	ug/L			07/22/23 11:45	1
1,1,2,2-Tetrachloroethane	0.50	U	1.0	0.50	ug/L			07/22/23 11:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	1.0	0.50	ug/L			07/22/23 11:45	1
1,1,2-Trichloroethane	0.21	U	5.0	0.21	ug/L			07/22/23 11:45	1
1,1-Dichloroethane	0.50	U	1.0	0.50	ug/L			07/22/23 11:45	1
1,1-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/22/23 11:45	1
1,2,4-Trichlorobenzene	0.82	U	1.0	0.82	ug/L			07/22/23 11:45	1
1,2-Dibromo-3-Chloropropane	1.5	U	5.0	1.5	ug/L			07/22/23 11:45	1
1,2-Dibromoethane (EDB)	0.23	U	1.0	0.23	ug/L			07/22/23 11:45	1
1,2-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			07/22/23 11:45	1
1,2-Dichloroethane	0.19	U	1.0	0.19	ug/L			07/22/23 11:45	1
1,2-Dichloropropane	0.50	U	1.0	0.50	ug/L			07/22/23 11:45	1
1,3-Dichlorobenzene	0.54	U	1.0	0.54	ug/L			07/22/23 11:45	1
1,4-Dichlorobenzene	0.64	U	1.0	0.64	ug/L			07/22/23 11:45	1
2-Butanone (MEK)	2.6	U	25	2.6	ug/L			07/22/23 11:45	1
2-Hexanone	1.4	U	25	1.4	ug/L			07/22/23 11:45	1
4-Methyl-2-pentanone	1.8	U	25	1.8	ug/L			07/22/23 11:45	1
Acetone	10	U	25	10	ug/L			07/22/23 11:45	1
Benzene	0.50	U	1.0	0.50	ug/L			07/22/23 11:45	1
Bromodichloromethane	0.50	U	1.0	0.50	ug/L			07/22/23 11:45	1
Bromoform	0.25	U	5.0	0.25	ug/L			07/22/23 11:45	1
Bromomethane	0.98	U	1.0	0.98	ug/L			07/22/23 11:45	1
Carbon disulfide	0.50	U	1.0	0.50	ug/L			07/22/23 11:45	1
Carbon tetrachloride	0.19	U	1.0	0.19	ug/L			07/22/23 11:45	1
Chlorobenzene	0.15	U	1.0	0.15	ug/L			07/22/23 11:45	1
Chloroethane	0.76	U	1.0	0.76	ug/L			07/22/23 11:45	1
Chloroform	0.90	U	1.0	0.90	ug/L			07/22/23 11:45	1
Chloromethane	0.90	U	1.0	0.90	ug/L			07/22/23 11:45	1
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			07/22/23 11:45	1
cis-1,3-Dichloropropene	0.50	U	5.0	0.50	ug/L			07/22/23 11:45	1
Cyclohexane	0.50	U	1.0	0.50	ug/L			07/22/23 11:45	1
Dibromochloromethane	0.24	U	1.0	0.24	ug/L			07/22/23 11:45	1
Dichlorodifluoromethane	0.85	U	1.0	0.85	ug/L			07/22/23 11:45	1
Ethylbenzene	0.50	U	1.0	0.50	ug/L			07/22/23 11:45	1
Isopropylbenzene	0.53	U	1.0	0.53	ug/L			07/22/23 11:45	1
m,p-Xylenes	0.63	U	5.0	0.63	ug/L			07/22/23 11:45	1
Methyl acetate	0.61	U	5.0	0.61	ug/L			07/22/23 11:45	1
Methyl tert-butyl ether	0.22	U	1.0	0.22	ug/L			07/22/23 11:45	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-634228/5
Matrix: Water
Analysis Batch: 634228

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	3.0	U	5.0	3.0	ug/L			07/22/23 11:45	1
o-Xylene	0.60	U	5.0	0.60	ug/L			07/22/23 11:45	1
Styrene	1.0	U	1.0	1.0	ug/L			07/22/23 11:45	1
Tetrachloroethene	0.90	U	1.0	0.90	ug/L			07/22/23 11:45	1
Toluene	0.90	U	1.0	0.90	ug/L			07/22/23 11:45	1
trans-1,2-Dichloroethene	0.50	U	1.0	0.50	ug/L			07/22/23 11:45	1
trans-1,3-Dichloropropene	0.20	U	5.0	0.20	ug/L			07/22/23 11:45	1
Trichloroethene	0.15	U	1.0	0.15	ug/L			07/22/23 11:45	1
Trichlorofluoromethane	0.52	U	1.0	0.52	ug/L			07/22/23 11:45	1
Vinyl chloride	0.50	U	1.0	0.50	ug/L			07/22/23 11:45	1
Xylenes, Total	1.6	U	10	1.6	ug/L			07/22/23 11:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*67 - 134*		*07/22/23 11:45*	*1*
Toluene-d8 (Surr)	*102*		*64 - 132*		*07/22/23 11:45*	*1*
4-Bromofluorobenzene	*103*		*72 - 130*		*07/22/23 11:45*	*1*
Dibromofluoromethane	*98*		*75 - 126*		*07/22/23 11:45*	*1*

Lab Sample ID: LCS 400-634228/1002
Matrix: Water
Analysis Batch: 634228

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	49.0		ug/L		98	68 - 130
1,1,2,2-Tetrachloroethane	50.0	51.4		ug/L		103	70 - 131
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	48.3		ug/L		97	60 - 139
1,1,2-Trichloroethane	50.0	52.6		ug/L		105	70 - 130
1,1-Dichloroethane	50.0	50.0		ug/L		100	70 - 130
1,1-Dichloroethene	50.0	45.4		ug/L		91	63 - 134
1,2,4-Trichlorobenzene	50.0	52.0		ug/L		104	60 - 140
1,2-Dibromo-3-Chloropropane	50.0	52.5		ug/L		105	54 - 135
1,2-Dibromoethane (EDB)	50.0	53.1		ug/L		106	70 - 130
1,2-Dichlorobenzene	50.0	53.3		ug/L		107	67 - 130
1,2-Dichloroethane	50.0	49.9		ug/L		100	69 - 130
1,2-Dichloropropane	50.0	49.4		ug/L		99	70 - 130
1,3-Dichlorobenzene	50.0	51.6		ug/L		103	70 - 130
1,4-Dichlorobenzene	50.0	51.7		ug/L		103	70 - 130
2-Butanone (MEK)	200	217		ug/L		109	61 - 145
2-Hexanone	200	216		ug/L		108	65 - 137
4-Methyl-2-pentanone	200	207		ug/L		103	69 - 138
Acetone	200	193		ug/L		96	43 - 160
Benzene	50.0	50.1		ug/L		100	70 - 130
Bromodichloromethane	50.0	49.8		ug/L		100	67 - 133
Bromoform	50.0	49.9		ug/L		100	57 - 140
Bromomethane	50.0	40.0		ug/L		80	10 - 160
Carbon disulfide	50.0	49.8		ug/L		100	61 - 137
Carbon tetrachloride	50.0	49.5		ug/L		99	61 - 137
Chlorobenzene	50.0	51.4		ug/L		103	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-634228/1002
Matrix: Water
Analysis Batch: 634228

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroethane	50.0	57.2		ug/L		114	55 - 141
Chloroform	50.0	49.6		ug/L		99	69 - 130
Chloromethane	50.0	36.8		ug/L		74	58 - 137
cis-1,2-Dichloroethene	50.0	50.5		ug/L		101	68 - 130
cis-1,3-Dichloropropene	50.0	49.8		ug/L		100	69 - 132
Cyclohexane	50.0	49.3		ug/L		99	70 - 130
Dibromochloromethane	50.0	50.6		ug/L		101	67 - 135
Dichlorodifluoromethane	50.0	31.6		ug/L		63	41 - 146
Ethylbenzene	50.0	51.3		ug/L		103	70 - 130
Isopropylbenzene	50.0	51.2		ug/L		102	70 - 130
m,p-Xylenes	50.0	51.1		ug/L		102	70 - 130
Methyl acetate	100	140		ug/L		140	45 - 159
Methyl tert-butyl ether	50.0	50.0		ug/L		100	66 - 130
Methylene Chloride	50.0	54.6		ug/L		109	66 - 135
o-Xylene	50.0	50.8		ug/L		102	70 - 130
Styrene	50.0	50.6		ug/L		101	70 - 130
Tetrachloroethene	50.0	53.9		ug/L		108	65 - 130
Toluene	50.0	51.5		ug/L		103	70 - 130
trans-1,2-Dichloroethene	50.0	50.6		ug/L		101	70 - 130
trans-1,3-Dichloropropene	50.0	52.0		ug/L		104	63 - 130
Trichloroethene	50.0	50.0		ug/L		100	70 - 130
Trichlorofluoromethane	50.0	48.0		ug/L		96	65 - 138
Vinyl chloride	50.0	41.9		ug/L		84	59 - 136
Xylenes, Total	100	102		ug/L		102	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*67 - 134*
Toluene-d8 (Surr)	*103*		*64 - 132*
4-Bromofluorobenzene	*98*		*72 - 130*
Dibromofluoromethane	*100*		*75 - 126*

Lab Sample ID: 400-240404-A-2 MS
Matrix: Water
Analysis Batch: 634228

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.18	U	50.0	47.8		ug/L		96	57 - 142
1,1,2,2-Tetrachloroethane	0.50	U	50.0	49.4		ug/L		99	66 - 135
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	49.1		ug/L		98	55 - 150
1,1,2-Trichloroethane	0.21	U	50.0	51.0		ug/L		102	66 - 131
1,1-Dichloroethane	0.50	U	50.0	49.9		ug/L		100	61 - 144
1,1-Dichloroethene	0.50	U	50.0	48.7		ug/L		97	54 - 147
1,2,4-Trichlorobenzene	0.82	U	50.0	41.6		ug/L		83	39 - 148
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	49.8		ug/L		100	45 - 135
1,2-Dibromoethane (EDB)	0.23	U	50.0	49.6		ug/L		99	64 - 132
1,2-Dichlorobenzene	2.1		50.0	46.1		ug/L		88	52 - 137
1,2-Dichloroethane	3.4		50.0	53.1		ug/L		99	60 - 141
1,2-Dichloropropane	0.50	U	50.0	50.1		ug/L		100	66 - 137

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-240404-A-2 MS
Matrix: Water
Analysis Batch: 634228

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	0.54	U	50.0	41.6		ug/L		83	54 - 135
1,4-Dichlorobenzene	3.8		50.0	44.9		ug/L		82	53 - 135
2-Butanone (MEK)	2.6	U	200	198		ug/L		99	55 - 150
2-Hexanone	1.4	U	200	205		ug/L		102	65 - 140
4-Methyl-2-pentanone	1.8	U	200	204		ug/L		102	63 - 146
Acetone	10	U	200	168		ug/L		84	43 - 150
Benzene	1.1		50.0	50.2		ug/L		98	56 - 142
Bromodichloromethane	0.50	U	50.0	48.4		ug/L		97	59 - 143
Bromoform	0.25	U	50.0	47.1		ug/L		94	50 - 140
Bromomethane	0.98	U	50.0	39.9		ug/L		80	10 - 150
Carbon disulfide	0.50	U	50.0	49.7		ug/L		99	48 - 150
Carbon tetrachloride	43		50.0	89.8		ug/L		94	55 - 145
Chlorobenzene	63	J3	50.0	107		ug/L		89	64 - 130
Chloroethane	0.76	U J3	50.0	48.9		ug/L		98	50 - 150
Chloroform	20		50.0	69.7		ug/L		99	60 - 141
Chloromethane	0.90	U	50.0	37.9		ug/L		76	49 - 148
cis-1,2-Dichloroethene	0.20	U	50.0	49.4		ug/L		99	59 - 143
cis-1,3-Dichloropropene	0.50	U	50.0	47.6		ug/L		95	57 - 140
Cyclohexane	0.50	U	50.0	48.4		ug/L		97	58 - 141
Dibromochloromethane	0.24	U	50.0	47.7		ug/L		95	56 - 143
Dichlorodifluoromethane	0.85	U	50.0	32.9		ug/L		66	16 - 150
Ethylbenzene	0.50	U	50.0	44.9		ug/L		90	58 - 131
Isopropylbenzene	0.53	U	50.0	42.6		ug/L		85	56 - 133
m,p-Xylenes	0.63	U	50.0	44.7		ug/L		89	57 - 130
Methyl acetate	0.61	U	100	106		ug/L		106	21 - 150
Methyl tert-butyl ether	0.22	U	50.0	50.2		ug/L		100	59 - 137
Methylene Chloride	3.0	U	50.0	49.1		ug/L		98	60 - 146
o-Xylene	0.60	U	50.0	45.1		ug/L		90	61 - 130
Styrene	1.0	U	50.0	43.7		ug/L		87	58 - 131
Tetrachloroethene	0.90	U	50.0	43.8		ug/L		88	52 - 133
Toluene	0.90	U	50.0	47.6		ug/L		95	65 - 130
trans-1,2-Dichloroethene	0.50	U	50.0	50.3		ug/L		101	61 - 143
trans-1,3-Dichloropropene	0.20	U	50.0	48.6		ug/L		97	53 - 133
Trichloroethene	0.15	U	50.0	47.1		ug/L		94	64 - 136
Trichlorofluoromethane	0.52	U	50.0	52.6		ug/L		105	54 - 150
Vinyl chloride	0.50	U	50.0	45.6		ug/L		91	46 - 150
Xylenes, Total	1.6	U	100	89.8		ug/L		90	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*
Toluene-d8 (Surr)	*101*		*64 - 132*
4-Bromofluorobenzene	*98*		*72 - 130*
Dibromofluoromethane	*99*		*75 - 126*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-240404-A-2 MSD
Matrix: Water
Analysis Batch: 634228

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.18	U	50.0	44.6		ug/L		89	57 - 142	7	30
1,1,2,2-Tetrachloroethane	0.50	U	50.0	48.5		ug/L		97	66 - 135	2	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	50.0	45.8		ug/L		92	55 - 150	7	30
1,1,2-Trichloroethane	0.21	U	50.0	48.7		ug/L		97	66 - 131	5	30
1,1-Dichloroethane	0.50	U	50.0	47.1		ug/L		94	61 - 144	6	30
1,1-Dichloroethene	0.50	U	50.0	44.3		ug/L		89	54 - 147	9	30
1,2,4-Trichlorobenzene	0.82	U	50.0	37.2		ug/L		74	39 - 148	11	30
1,2-Dibromo-3-Chloropropane	1.5	U	50.0	50.4		ug/L		101	45 - 135	1	30
1,2-Dibromoethane (EDB)	0.23	U	50.0	48.7		ug/L		97	64 - 132	2	30
1,2-Dichlorobenzene	2.1		50.0	41.5		ug/L		79	52 - 137	11	30
1,2-Dichloroethane	3.4		50.0	52.2		ug/L		98	60 - 141	2	30
1,2-Dichloropropane	0.50	U	50.0	46.8		ug/L		94	66 - 137	7	30
1,3-Dichlorobenzene	0.54	U	50.0	35.8		ug/L		72	54 - 135	15	30
1,4-Dichlorobenzene	3.8		50.0	38.9		ug/L		70	53 - 135	14	30
2-Butanone (MEK)	2.6	U	200	200		ug/L		100	55 - 150	1	30
2-Hexanone	1.4	U	200	210		ug/L		105	65 - 140	3	30
4-Methyl-2-pentanone	1.8	U	200	213		ug/L		107	63 - 146	4	30
Acetone	10	U	200	172		ug/L		86	43 - 150	2	30
Benzene	1.1		50.0	46.4		ug/L		91	56 - 142	8	30
Bromodichloromethane	0.50	U	50.0	45.3		ug/L		91	59 - 143	7	30
Bromoform	0.25	U	50.0	46.0		ug/L		92	50 - 140	2	30
Bromomethane	0.98	U	50.0	48.1		ug/L		96	10 - 150	19	50
Carbon disulfide	0.50	U	50.0	45.5		ug/L		91	48 - 150	9	30
Carbon tetrachloride	43		50.0	81.2		ug/L		77	55 - 145	10	30
Chlorobenzene	63	J3	50.0	93.6	J3	ug/L		62	64 - 130	13	30
Chloroethane	0.76	U J3	50.0	67.3	J3	ug/L		135	50 - 150	32	30
Chloroform	20		50.0	66.5		ug/L		93	60 - 141	5	30
Chloromethane	0.90	U	50.0	45.8		ug/L		92	49 - 148	19	31
cis-1,2-Dichloroethene	0.20	U	50.0	46.1		ug/L		92	59 - 143	7	30
cis-1,3-Dichloropropene	0.50	U	50.0	45.1		ug/L		90	57 - 140	5	30
Cyclohexane	0.50	U	50.0	41.8		ug/L		84	58 - 141	14	30
Dibromochloromethane	0.24	U	50.0	45.5		ug/L		91	56 - 143	5	30
Dichlorodifluoromethane	0.85	U	50.0	39.7		ug/L		79	16 - 150	19	31
Ethylbenzene	0.50	U	50.0	37.9		ug/L		76	58 - 131	17	30
Isopropylbenzene	0.53	U	50.0	34.7		ug/L		69	56 - 133	20	30
m,p-Xylenes	0.63	U	50.0	37.7		ug/L		75	57 - 130	17	30
Methyl acetate	0.61	U	100	107		ug/L		107	21 - 150	1	30
Methyl tert-butyl ether	0.22	U	50.0	49.8		ug/L		100	59 - 137	1	30
Methylene Chloride	3.0	U	50.0	47.4		ug/L		95	60 - 146	3	32
o-Xylene	0.60	U	50.0	38.4		ug/L		77	61 - 130	16	30
Styrene	1.0	U	50.0	38.3		ug/L		77	58 - 131	13	30
Tetrachloroethene	0.90	U	50.0	37.1		ug/L		74	52 - 133	16	30
Toluene	0.90	U	50.0	42.0		ug/L		84	65 - 130	13	30
trans-1,2-Dichloroethene	0.50	U	50.0	45.2		ug/L		90	61 - 143	11	30
trans-1,3-Dichloropropene	0.20	U	50.0	47.2		ug/L		94	53 - 133	3	30
Trichloroethene	0.15	U	50.0	41.8		ug/L		84	64 - 136	12	30
Trichlorofluoromethane	0.52	U	50.0	61.8		ug/L		124	54 - 150	16	30
Vinyl chloride	0.50	U	50.0	54.7		ug/L		109	46 - 150	18	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-240404-A-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 634228

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	1.6	U	100	76.2		ug/L		76	59 - 130	16	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*
Toluene-d8 (Surr)	*100*		*64 - 132*
4-Bromofluorobenzene	*99*		*72 - 130*
Dibromofluoromethane	*99*		*75 - 126*

Lab Sample ID: MB 400-634257/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 634257

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.20	U	1.0	0.20	ug/L			07/24/23 11:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*67 - 134*		*07/24/23 11:00*	*1*
Toluene-d8 (Surr)	*101*		*64 - 132*		*07/24/23 11:00*	*1*
4-Bromofluorobenzene	*100*		*72 - 130*		*07/24/23 11:00*	*1*
Dibromofluoromethane	*101*		*75 - 126*		*07/24/23 11:00*	*1*

Lab Sample ID: LCS 400-634257/1002 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 634257

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
cis-1,2-Dichloroethene			50.0	48.6		ug/L		97	68 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*67 - 134*
Toluene-d8 (Surr)	*101*		*64 - 132*
4-Bromofluorobenzene	*98*		*72 - 130*
Dibromofluoromethane	*100*		*75 - 126*

Lab Sample ID: 400-240426-A-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 634257

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
cis-1,2-Dichloroethene	0.20	U	50.0	60.8		ug/L		122	59 - 143		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*67 - 134*
Toluene-d8 (Surr)	*102*		*64 - 132*
4-Bromofluorobenzene	*98*		*72 - 130*
Dibromofluoromethane	*101*		*75 - 126*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-240426-A-4 MSD
Matrix: Water
Analysis Batch: 634257

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	0.20	U	50.0	56.2		ug/L		112	59 - 143	8	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*67 - 134*
Toluene-d8 (Surr)	*103*		*64 - 132*
4-Bromofluorobenzene	*100*		*72 - 130*
Dibromofluoromethane	*101*		*75 - 126*

GC/MS VOA

Analysis Batch: 634057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-22941-8	LC34-IW0170-022.0-20230710	Total/NA	Water	8260D	
670-22941-9	LC34-IW0171-032.5-20230710	Total/NA	Water	8260D	
670-22941-10	LC34-IW0181-022.0-20230710	Total/NA	Water	8260D	
670-22941-11	LC34-IW0182-032.5-20230710	Total/NA	Water	8260D	
670-22941-12	LC34-IW0179-022.0-20230710	Total/NA	Water	8260D	
670-22941-14	LC34-IW0183-022.0-20230710	Total/NA	Water	8260D	
670-22941-16	LC34-IW0185-018.5-20230710	Total/NA	Water	8260D	
MB 400-634057/30	Method Blank	Total/NA	Water	8260D	
LCS 400-634057/1002	Lab Control Sample	Total/NA	Water	8260D	
670-22939-B-4 MS	Matrix Spike	Total/NA	Water	8260D	
670-22939-B-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 634059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-22941-1	LC34-IW0175-032.5-20230710	Total/NA	Water	8260D	
670-22941-2	LC34-IW0174-018.5-20230710	Total/NA	Water	8260D	
670-22941-3	LC34-IW0177-018.5-20230710	Total/NA	Water	8260D	
670-22941-4	LC34-IW0172-022.0-20230710	Total/NA	Water	8260D	
670-22941-5	LC34-IW0173-032.5-20230710	Total/NA	Water	8260D	
670-22941-6	LC34-IW0168-022.0-20230710	Total/NA	Water	8260D	
670-22941-7	LC34-IW0178-018.5-20230710	Total/NA	Water	8260D	
MB 400-634059/5	Method Blank	Total/NA	Water	8260D	
LCS 400-634059/1002	Lab Control Sample	Total/NA	Water	8260D	
LCS 400-634059/1003	Lab Control Sample	Total/NA	Water	8260D	
670-22941-1 MS	LC34-IW0175-032.5-20230710	Total/NA	Water	8260D	
670-22941-1 MSD	LC34-IW0175-032.5-20230710	Total/NA	Water	8260D	

Analysis Batch: 634228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-22941-1 - RA	LC34-IW0175-032.5-20230710	Total/NA	Water	8260D	
670-22941-2 - RA	LC34-IW0174-018.5-20230710	Total/NA	Water	8260D	
670-22941-3 - RA	LC34-IW0177-018.5-20230710	Total/NA	Water	8260D	
670-22941-4 - DL	LC34-IW0172-022.0-20230710	Total/NA	Water	8260D	
670-22941-5 - DL	LC34-IW0173-032.5-20230710	Total/NA	Water	8260D	
670-22941-6 - DL	LC34-IW0168-022.0-20230710	Total/NA	Water	8260D	
670-22941-7 - DL	LC34-IW0178-018.5-20230710	Total/NA	Water	8260D	
670-22941-9 - DL	LC34-IW0171-032.5-20230710	Total/NA	Water	8260D	
670-22941-10 - DL	LC34-IW0181-022.0-20230710	Total/NA	Water	8260D	
670-22941-13	LC34-IW0180-032.5-20230710	Total/NA	Water	8260D	
670-22941-14 - DL	LC34-IW0183-022.0-20230710	Total/NA	Water	8260D	
670-22941-15	LC34-IW0184-032.5-20230710	Total/NA	Water	8260D	
670-22941-16 - DL	LC34-IW0185-018.5-20230710	Total/NA	Water	8260D	
670-22941-17	LC34-IW0176-018.5-20230710	Total/NA	Water	8260D	
MB 400-634228/5	Method Blank	Total/NA	Water	8260D	
LCS 400-634228/1002	Lab Control Sample	Total/NA	Water	8260D	
400-240404-A-2 MS	Matrix Spike	Total/NA	Water	8260D	
400-240404-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 634257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-22941-15 - DL	LC34-IW0184-032.5-20230710	Total/NA	Water	8260D	

GC/MS VOA (Continued)

Analysis Batch: 634257 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-634257/4	Method Blank	Total/NA	Water	8260D	
LCS 400-634257/1002	Lab Control Sample	Total/NA	Water	8260D	
400-240426-A-4 MS	Matrix Spike	Total/NA	Water	8260D	
400-240426-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

Client Sample ID: LC34-IW0175-032.5-20230710
Lab Sample ID: 670-22941-1
Date Collected: 07/10/23 09:27
Matrix: Water
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	634059	BPO	EET PEN	07/21/23 11:36
Total/NA	Analysis	8260D	RA	1	634228	BPO	EET PEN	07/22/23 15:49

Client Sample ID: LC34-IW0174-018.5-20230710
Lab Sample ID: 670-22941-2
Date Collected: 07/10/23 09:45
Matrix: Water
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	634059	BPO	EET PEN	07/21/23 17:02
Total/NA	Analysis	8260D	RA	1	634228	BPO	EET PEN	07/22/23 16:16

Client Sample ID: LC34-IW0177-018.5-20230710
Lab Sample ID: 670-22941-3
Date Collected: 07/10/23 10:10
Matrix: Water
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	634059	BPO	EET PEN	07/21/23 17:28
Total/NA	Analysis	8260D	RA	1	634228	BPO	EET PEN	07/22/23 16:44

Client Sample ID: LC34-IW0172-022.0-20230710
Lab Sample ID: 670-22941-4
Date Collected: 07/10/23 10:33
Matrix: Water
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	634059	BPO	EET PEN	07/21/23 19:58
Total/NA	Analysis	8260D	DL	20	634228	BPO	EET PEN	07/22/23 20:48

Client Sample ID: LC34-IW0173-032.5-20230710
Lab Sample ID: 670-22941-5
Date Collected: 07/10/23 10:53
Matrix: Water
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	634059	BPO	EET PEN	07/21/23 17:53
Total/NA	Analysis	8260D	DL	2	634228	BPO	EET PEN	07/22/23 17:11

Client Sample ID: LC34-IW0168-022.0-20230710
Lab Sample ID: 670-22941-6
Date Collected: 07/10/23 11:17
Matrix: Water
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		20	634059	BPO	EET PEN	07/21/23 20:23
Total/NA	Analysis	8260D	DL	50	634228	BPO	EET PEN	07/22/23 21:15

Client Sample ID: LC34-IW0178-018.5-20230710 — **Lab Sample ID: 670-22941-7**
Date Collected: 07/10/23 11:39 — **Matrix: Water**
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2	634059	BPO	EET PEN	07/21/23 19:33
Total/NA	Analysis	8260D	DL	10	634228	BPO	EET PEN	07/22/23 19:27

Client Sample ID: LC34-IW0170-022.0-20230710 — **Lab Sample ID: 670-22941-8**
Date Collected: 07/10/23 12:01 — **Matrix: Water**
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		5	634057	BPO	EET PEN	07/21/23 18:59

Client Sample ID: LC34-IW0171-032.5-20230710 — **Lab Sample ID: 670-22941-9**
Date Collected: 07/10/23 12:11 — **Matrix: Water**
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		5	634057	BPO	EET PEN	07/21/23 19:26
Total/NA	Analysis	8260D	DL	10	634228	BPO	EET PEN	07/22/23 19:54

Client Sample ID: LC34-IW0181-022.0-20230710 — **Lab Sample ID: 670-22941-10**
Date Collected: 07/10/23 12:53 — **Matrix: Water**
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2	634057	BPO	EET PEN	07/21/23 18:05
Total/NA	Analysis	8260D	DL	5	634228	BPO	EET PEN	07/22/23 18:05

Client Sample ID: LC34-IW0182-032.5-20230710 — **Lab Sample ID: 670-22941-11**
Date Collected: 07/10/23 13:12 — **Matrix: Water**
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		5	634057	BPO	EET PEN	07/21/23 19:53

Client Sample ID: LC34-IW0179-022.0-20230710 — **Lab Sample ID: 670-22941-12**
Date Collected: 07/10/23 13:45 — **Matrix: Water**
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		5	634057	BPO	EET PEN	07/21/23 20:20

Client Sample ID: LC34-IW0180-032.5-20230710 — **Lab Sample ID: 670-22941-13**
Date Collected: 07/10/23 14:05 — **Matrix: Water**
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	634228	BPO	EET PEN	07/22/23 20:21

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

Client Sample ID: LC34-IW0183-022.0-20230710
Lab Sample ID: 670-22941-14

Date Collected: 07/10/23 14:33
Matrix: Water
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		2	634057	BPO	EET PEN	07/21/23 18:32
Total/NA	Analysis	8260D	DL	5	634228	BPO	EET PEN	07/22/23 18:32

Client Sample ID: LC34-IW0184-032.5-20230710
Lab Sample ID: 670-22941-15

Date Collected: 07/10/23 14:49
Matrix: Water
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		5	634228	BPO	EET PEN	07/22/23 18:59
Total/NA	Analysis	8260D	DL	10	634257	BPO	EET PEN	07/24/23 12:21

Client Sample ID: LC34-IW0185-018.5-20230710
Lab Sample ID: 670-22941-16

Date Collected: 07/10/23 15:13
Matrix: Water
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	634057	BPO	EET PEN	07/21/23 12:12
Total/NA	Analysis	8260D	DL	2	634228	BPO	EET PEN	07/22/23 17:38

Client Sample ID: LC34-IW0176-018.5-20230710
Lab Sample ID: 670-22941-17

Date Collected: 07/10/23 15:43
Matrix: Water
Date Received: 07/11/23 17:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	634228	BPO	EET PEN	07/22/23 15:22

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-22941-1
Project/Site: NASA KSC LC34

Laboratory: Eurofins Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E81010	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-22941-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-22941-1	LC34-IW0175-032.5-20230710	Water	07/10/23 09:27	07/11/23 17:15
670-22941-2	LC34-IW0174-018.5-20230710	Water	07/10/23 09:45	07/11/23 17:15
670-22941-3	LC34-IW0177-018.5-20230710	Water	07/10/23 10:10	07/11/23 17:15
670-22941-4	LC34-IW0172-022.0-20230710	Water	07/10/23 10:33	07/11/23 17:15
670-22941-5	LC34-IW0173-032.5-20230710	Water	07/10/23 10:53	07/11/23 17:15
670-22941-6	LC34-IW0168-022.0-20230710	Water	07/10/23 11:17	07/11/23 17:15
670-22941-7	LC34-IW0178-018.5-20230710	Water	07/10/23 11:39	07/11/23 17:15
670-22941-8	LC34-IW0170-022.0-20230710	Water	07/10/23 12:01	07/11/23 17:15
670-22941-9	LC34-IW0171-032.5-20230710	Water	07/10/23 12:11	07/11/23 17:15
670-22941-10	LC34-IW0181-022.0-20230710	Water	07/10/23 12:53	07/11/23 17:15
670-22941-11	LC34-IW0182-032.5-20230710	Water	07/10/23 13:12	07/11/23 17:15
670-22941-12	LC34-IW0179-022.0-20230710	Water	07/10/23 13:45	07/11/23 17:15
670-22941-13	LC34-IW0180-032.5-20230710	Water	07/10/23 14:05	07/11/23 17:15
670-22941-14	LC34-IW0183-022.0-20230710	Water	07/10/23 14:33	07/11/23 17:15
670-22941-15	LC34-IW0184-032.5-20230710	Water	07/10/23 14:49	07/11/23 17:15
670-22941-16	LC34-IW0185-018.5-20230710	Water	07/10/23 15:13	07/11/23 17:15
670-22941-17	LC34-IW0176-018.5-20230710	Water	07/10/23 15:43	07/11/23 17:15

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 3720 | PAGE 1 OF 2

PROJECT NO: 112G08985	FACILITY: NASA KSC	PROJECT MANAGER Mark Jonnet	PHONE NUMBER (412) 921-8622	LABORATORY NAME AND CONTACT: Eurofins Kaitlin Dylnicki
SAMPLERS (SIGNATURE) Natalie Fabbri - Natalie Fabbri; Natalie Volk - Natalie Volk		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321)591-7580	ADDRESS 481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER Eurofins Project # 6700 1156		CITY, STATE Altamonte Springs, FL 32701

STANDARD TAT ☒ RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)										COMMENTS
									G	G									
									PRESERVATIVE USED		HCl + ice	ice							
									TYPE OF ANALYSIS		8260 (MOD) NASA LC34 CUSTOM	8260 (MOD) NASA LC34 CUSTOM							
07/10	0927	LC34-IW0175-032.5-20230710		30	35	GW	G	4	2	2									
07/10	0945	LC34-IW0174-018.5-20230710		16	21	GW	G	4	2	2									
07/10	1010	LC34-IW0177-018.5-20230710		16	21	GW	G	4	2	2									
07/10	~~1035~~ MW 1035	LC34-IW0172-022.0-20230710		17	27	GW	G	4	2	2									
07/10	1053	LC34-IW0173-032.5-20230710		30	35	GW	G	4	2	2									
07/10	1117	LC34-IW0168-022.0-20230710		17	27	GW	G	4	2	2									
07/10	1139	LC34-IW0178-018.5-20230710		16	21	GW	G	4	2	2									
07/10	1201	LC34-IW0170-022.0-20230710		17	27	GW	G	4	2	2									
07/10	1211	LC34-IW0171-032.5-20230710		30	35	GW	G	4	2	2									
07/10	1253	LC34-IW0181-022.0-20230710		17	27	GW	G	4	2	2									
07/10	1312	LC34-IW0182-032.5-20230710		30	35	GW	G	4	2	2									
07/10	1345	LC34-IW0179-022.0-20230710		17	27	GW	G	4	2	2									
07/10	1405	LC34-IW0180-032.5-20230710		30	35	GW	G	4	2	2									

670-22941 Chain of Custody

1. RELINQUISHED BY	DATE 07/10/23	TIME 1630	1. RECEIVED BY
2. RELINQUISHED BY	DATE 07/11/23	TIME 1535	2. RECEIVED BY
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY

DATE 07/10/23	TIME 1630		
DATE 7/11/23	TIME 1535		
DATE 7/11	TIME 1715		

COMMENTS 1511.0546

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

FORM NO. TtNUS-002 4/02R 7/26/2023

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3721 | PAGE 2 OF 2

PROJECT NO: 112G08985	FACILITY: NASA KSC	PROJECT MANAGER Mark Jonnet	PHONE NUMBER (412)921-8622	LABORATORY NAME AND CONTACT: Eurofins Kaitlin Dylnicki
SAMPLERS (SIGNATURE) Natalie Volk - Natalie Volk Nat8 - Natalie Fabbri		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER Eurofins Project # 620011156		CITY, STATE Altamonte Springs, FL 32701

STANDARD TAT ☒
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)									COMMENTS
PRESERVATIVE USED											HCL + ICE	ICE						
TYPE OF ANALYSIS											8260 (MOD) NASA LC34 Custom	8260 (MOD) NASA LC34 Custom						
07/10	1433	LC34-IW0183-022.0-20230710		17	27	GW	G	4			2	2						
07/10	1449	LC34-IW0184-032.5-20230710		30	35	GW	G	4			2	2						
07/10	1513	LC34-IW0185-018.5-20230710		16	21	GW	G	4			2	2						
07/10	1543	LC34-IW0176-018.5-20230710		16	21	GW	G	4			2	2						

1. RELINQUISHED BY	DATE 07/10/23	TIME 1630	1. RECEIVED BY		DATE 07/10/23	TIME 1630
2. RELINQUISHED BY	DATE 07/11/23	TIME 1535	2. RECEIVED BY		DATE 7/11/23	TIME 1535
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY		DATE 7/11	TIME 715

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-004

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins
Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-11815.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 2
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-22941-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 7/24/2023			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA LC34 Custom	8260D/5030B_UP (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
LC34-IW0175-032.5-20230710 (670-22941-1)	7/10/23	09:27 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in
LC34-IW0174-018.5-20230710 (670-22941-2)	7/10/23	09:45 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in
LC34-IW0177-018.5-20230710 (670-22941-3)	7/10/23	10:10 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in
LC34-IW0172-022.0-20230710 (670-22941-4)	7/10/23	10:33 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in
LC34-IW0173-032.5-20230710 (670-22941-5)	7/10/23	10:53 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in
LC34-IW0168-022.0-20230710 (670-22941-6)	7/10/23	11:17 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in
LC34-IW0178-018.5-20230710 (670-22941-7)	7/10/23	11:39 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in
LC34-IW0170-022.0-20230710 (670-22941-8)	7/10/23	12:01 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in
LC34-IW0171-032.5-20230710 (670-22941-9)	7/10/23	12:11 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	7/12 1500				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 7.13.23 8:19	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.7 IR8

Ver: 06/08/2021

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-11815.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 2 of 2
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-22941-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 7/24/2023			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC LC34	Project #: 67001156			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA LC34 Custom	8260D/5030B_UP (MOD) NASA LC34 Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
LC34-IW0181-022.0-20230710 (670-22941-10)	7/10/23	12:53 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in
LC34-IW0182-032.5-20230710 (670-22941-11)	7/10/23	13:12 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in
LC34-IW0179-022.0-20230710 (670-22941-12)	7/10/23	13:45 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in
LC34-IW0180-032.5-20230710 (670-22941-13)	7/10/23	14:05 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in
LC34-IW0183-022.0-20230710 (670-22941-14)	7/10/23	14:33 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in
LC34-IW0184-032.5-20230710 (670-22941-15)	7/10/23	14:49 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in
LC34-IW0185-018.5-20230710 (670-22941-16)	7/10/23	15:13 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in
LC34-IW0176-018.5-20230710 (670-22941-17)	7/10/23	15:43 Eastern		Water			X	X	4	use caution site high in TCE. unp incase of HDSP, use caution site high in TCE. unp in

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		7/12 1500				
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 7.13.23 8:19	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.7 IR8

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-22941-1

Login Number: 22941

List Number: 1

Creator: Beck, Brent

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-22941-1

Login Number: 22941
List Number: 2
Creator: Roberts, Alexis J

List Source: Eurofins Pensacola
List Creation: 07/13/23 06:07 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Sample 15-B VOA arrived broken
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 12/27/2023 5:52:01 PM Revision 1

JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-31051-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

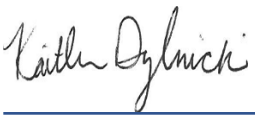
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



Generated
12/27/2023 5:52:01 PM
Revision 1

Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
L	Off-scale high. Actual value is known to be greater than the value given.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-31051-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Revision
The report being provided is a revision of the original report sent on 12/13/2023. The report (revision 1) is being revised to update reported results for sample LC34-IW0134-024.0-20231129 (670-31051-43) to remove duplicate reported analytes..

Receipt
The samples were received on 12/1/2023 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.7°C and 0.9°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 670-65972 recovered above the upper control limit for 1,1,2,2-Tetrachloroethane, Chloroethane, Dichlorodifluoromethane and Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-65972/3).

Method 8260D: The laboratory control sample (LCS) for analytical batch 670-65972 recovered outside control limits for the following analytes: Dichlorodifluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-IW0168-022.0 -20231128 (670-31051-12), LC34-IW0178-018.5-20231128 (670-31051-13), LC34-IW0172-022.0-20231128 (670-31051-15), LC34-IW0174-018.5-20231128 (670-31051-22), LC34-IW0057I-025.5-20231129 (670-31051-23), LC34-IW0188-018.5-20231129 (670-31051-24), LC34-IW0181-022.0-20231129 (670-31051-26) and LC34-IW0182-032.5-20231129 (670-31051-29). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-65936 recovered above the upper control limit for 1,2,4-Trichlorobenzene, Carbon tetrachloride and Chloromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-65936/4).

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-IW0177-018.5-20231128 (670-31051-4), LC34-IW0170-22.0-20231128 (670-31051-5) and LC34-IW0169-032.5-20231128 (670-31051-10). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-66030 recovered above the upper control limit for Bromomethane and Chloroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-66030/4).

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-66030 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane, 4-Methyl-2-pentanone, Acetone and Tetrachloroethene. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The laboratory control sample (LCS) for analytical batch 670-66030 recovered outside control limits for the following analytes: Chloroethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 670-66030 were outside control limits. Sample matrix is suspected as the cause of this failure; therefore, the data have been reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-IW0184-032.5-20231129 (670-31051-32), LC34-IW0180-032.5-20231129 (670-31051-34), LC34-IW0179-022.0-20231129 (670-31051-36), LC34-IW0185-018.5-20231129 (670-31051-38), LC34-IW0176-018.5-20231129 (670-31051-39), LC34-IW0186-018.5-20231129 (670-31051-40) and LC34-IW0135-024.0-20231129 (670-31051-41). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-66108 recovered outside acceptance criteria, low biased, for Chloromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 670-66108 were outside control limits for one or more analytes. See QC Sample Results for detail. The associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-66108 recovered above the upper control limit for Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-66108/3).

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-IW0169-032.5-20231128 (670-31051-10), LC34-IW0187-018.5-20231129 (670-31051-42) and LC34-IW0134-024.0-20231129 (670-31051-43). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-66248 recovered outside acceptance criteria, low biased, for Bromomethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Non-detections of the affected analytes are reported. Any detections are considered estimated.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-66248 recovered above the upper control limit for 1,2,4-Trichlorobenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-66248/3).

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-66443 recovered outside acceptance criteria, low biased, for Bromomethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-66443 recovered above the upper control limit for 1,2,4-Trichlorobenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-66443/3).

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0134-024.0-20231129 (670-31051-43). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0136-024.0-20231128 — Lab Sample ID: 670-31051-1

No Detections.

Client Sample ID: LC34-IW0133-018.0-20231128 — Lab Sample ID: 670-31051-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.1		1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0125-018.0-20231128 — Lab Sample ID: 670-31051-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.55	I	1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0177-018.5-20231128 — Lab Sample ID: 670-31051-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	280		5.0	2.7	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0170-22.0-20231128 — Lab Sample ID: 670-31051-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	740		25	13	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	220		10	7.1	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0132-018.0 -20231128 — Lab Sample ID: 670-31051-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.89	I	1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0171-032.5-20231128 — Lab Sample ID: 670-31051-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	34		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	2.0		1.0	0.73	ug/L	1		8260D	Total/NA
Vinyl chloride	39		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0131-018.0-20231128 — Lab Sample ID: 670-31051-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.97	I	1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	0.80	I	1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0129-018.0-20231128 — Lab Sample ID: 670-31051-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.66	I	1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	9.4		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0169-032.5-20231128 — Lab Sample ID: 670-31051-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	110		5.0	2.7	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	370		25	18	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-IW0130-024.0-20231128 — Lab Sample ID: 670-31051-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.7		1.0	0.53	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample ID: LC34-IW0130-024.0-20231128 (Continued) — Lab Sample ID: 670-31051-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	30		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0168-022.0 -20231128 — Lab Sample ID: 670-31051-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3900		100	53	ug/L	100		8260D	Total/NA
Vinyl chloride	3100		100	71	ug/L	100		8260D	Total/NA

Client Sample ID: LC34-IW0178-018.5-20231128 — Lab Sample ID: 670-31051-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	730		10	5.3	ug/L	10		8260D	Total/NA
Vinyl chloride	900		10	7.1	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0108-024.0-20231128 — Lab Sample ID: 670-31051-14

No Detections.

Client Sample ID: LC34-IW0172-022.0-20231128 — Lab Sample ID: 670-31051-15

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	400		10	5.3	ug/L	10		8260D	Total/NA
Vinyl chloride	110		10	7.1	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0124-018.0-20231128 — Lab Sample ID: 670-31051-16

No Detections.

Client Sample ID: LC34-IW0173-032.5-20231128 — Lab Sample ID: 670-31051-17

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.8		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	10		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0128-018.0-20231128 — Lab Sample ID: 670-31051-18

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.55	I	1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0127-024.0-20231128 — Lab Sample ID: 670-31051-19

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.8		1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0175-032.5-20231128 — Lab Sample ID: 670-31051-20

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	12		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	13		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0142-024.0-20231128 — Lab Sample ID: 670-31051-21

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.76	I	1.0	0.53	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0174-018.5-20231128 — Lab Sample ID: 670-31051-22

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	66		5.0	2.7	ug/L	5		8260D	Total/NA
Vinyl chloride	62		5.0	3.6	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0057I-025.5-20231129 — Lab Sample ID: 670-31051-23

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	9.2		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	1.0		1.0	0.73	ug/L	1		8260D	Total/NA
Vinyl chloride	7.6		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0188-018.5-20231129 — Lab Sample ID: 670-31051-24

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	440		50	36	ug/L	50		8260D	Total/NA
cis-1,2-Dichloroethene - DL	29		10	5.3	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0057S-007.3-20231129 — Lab Sample ID: 670-31051-25

No Detections.

Client Sample ID: LC34-IW0181-022.0-20231129 — Lab Sample ID: 670-31051-26

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	34		5.0	2.7	ug/L	5		8260D	Total/NA
Vinyl chloride	100		5.0	3.6	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0147-024.0-20231129 — Lab Sample ID: 670-31051-27

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.73	I	1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0146-018.0-20231129 — Lab Sample ID: 670-31051-28

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.81	I	1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0182-032.5-20231129 — Lab Sample ID: 670-31051-29

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	850		25	13	ug/L	25		8260D	Total/NA
Vinyl chloride	760		25	18	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-IW0183-022.0-20231129 — Lab Sample ID: 670-31051-30

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	77		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	2.4		1.0	0.73	ug/L	1		8260D	Total/NA
Vinyl chloride	2.7		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0144-018.0-20231129 — Lab Sample ID: 670-31051-31

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.8		1.0	0.53	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0184-032.5-20231129 — Lab Sample ID: 670-31051-32

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1100		50	27	ug/L	50		8260D	Total/NA
Vinyl chloride - DL	720		50	36	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-IW0145-031.5-20231129 — Lab Sample ID: 670-31051-33

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.4		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	3.7		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0180-032.5-20231129 — Lab Sample ID: 670-31051-34

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	780		25	13	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	400		25	18	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-IW0143-024.0-20231129 — Lab Sample ID: 670-31051-35

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4.6		1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0179-022.0-20231129 — Lab Sample ID: 670-31051-36

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	57		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	0.75	I	1.0	0.73	ug/L	1		8260D	Total/NA
Vinyl chloride	75		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0123-024.0-20231129 — Lab Sample ID: 670-31051-37

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	17		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	1.8		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0185-018.5-20231129 — Lab Sample ID: 670-31051-38

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	100		10	5.3	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	250		10	7.1	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0176-018.5-20231129 — Lab Sample ID: 670-31051-39

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	150		2.0	1.1	ug/L	2		8260D	Total/NA
trans-1,2-Dichloroethene - DL	1.5	I	2.0	1.5	ug/L	2		8260D	Total/NA
Vinyl chloride - DL	38		2.0	1.4	ug/L	2		8260D	Total/NA

Client Sample ID: LC34-IW0186-018.5-20231129 — Lab Sample ID: 670-31051-40

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	240		5.0	2.7	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	140		5.0	3.6	ug/L	5		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0135-024.0-20231129 — Lab Sample ID: 670-31051-41

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	110		2.0	1.1	ug/L	2		8260D	Total/NA
trans-1,2-Dichloroethene - DL	7.7		2.0	1.5	ug/L	2		8260D	Total/NA
Vinyl chloride - DL	12		2.0	1.4	ug/L	2		8260D	Total/NA

Client Sample ID: LC34-IW0187-018.5-20231129 — Lab Sample ID: 670-31051-42

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	150		25	13	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	780		25	18	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-IW0134-024.0-20231129 — Lab Sample ID: 670-31051-43

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1900		25	13	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	3700		50	36	ug/L	50		8260D	Total/NA

Client Sample ID: LC34-IW0141-024.0 -20231130 — Lab Sample ID: 670-31051-44

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.2		1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0126-024.0 -20231130 — Lab Sample ID: 670-31051-45

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.95	I	1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-SW1004-000.5-20231130 — Lab Sample ID: 670-31051-46

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bromodichloromethane	1.1		1.0	0.52	ug/L	1		8260D	Total/NA
Chloroform	1.8	I	5.0	0.80	ug/L	1		8260D	Total/NA
Dibromochloromethane	1.3		1.0	0.50	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0137-024.0-20231130 — Lab Sample ID: 670-31051-47

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.8		1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-SW1001-000.5 -20231130 — Lab Sample ID: 670-31051-48

No Detections.

Client Sample ID: LC34-SW1002-000.5 -20231130 — Lab Sample ID: 670-31051-49

No Detections.

Client Sample ID: LC34-IW0138-031.5 -20231130 — Lab Sample ID: 670-31051-50

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.78	I	1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0140-024.0-20231130 — Lab Sample ID: 670-31051-51

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.7		1.0	0.53	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0139-018.0-20231130 — Lab Sample ID: 670-31051-52

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.67	I	1.0	0.53	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0136-024.0-20231128
Date Collected: 11/28/23 09:05
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 16:04	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 16:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 16:04	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 16:04	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 16:04	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 16:04	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 16:04	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 16:04	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 16:04	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 16:04	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 16:04	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 16:04	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 16:04	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 16:04	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 16:04	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 16:04	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 16:04	1
Acetone	25	U	50	25	ug/L			12/04/23 16:04	1
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 16:04	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 16:04	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 16:04	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 16:04	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 16:04	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 16:04	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 16:04	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 16:04	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 16:04	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 16:04	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/04/23 16:04	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 16:04	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 16:04	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 16:04	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/04/23 16:04	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 16:04	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 16:04	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 16:04	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 16:04	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 16:04	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 16:04	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 16:04	1
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 16:04	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 16:04	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 16:04	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 16:04	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 16:04	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 16:04	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 16:04	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/04/23 16:04	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 16:04	1

Client Sample ID: LC34-IW0136-024.0-20231128

Lab Sample ID: 670-31051-1

Date Collected: 11/28/23 09:05

Matrix: Water

Date Received: 12/01/23 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*101*		*40 - 146*		*12/04/23 16:04*	*1*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*12/04/23 16:04*	*1*
Dibromofluoromethane (Surr)	*110*		*53 - 146*		*12/04/23 16:04*	*1*

Client Sample ID: LC34-IW0133-018.0-20231128

Lab Sample ID: 670-31051-2

Date Collected: 11/28/23 09:10

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 17:42	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 17:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 17:42	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 17:42	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 17:42	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 17:42	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 17:42	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 17:42	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 17:42	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 17:42	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 17:42	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 17:42	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 17:42	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 17:42	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 17:42	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 17:42	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 17:42	1
Acetone	25	U	50	25	ug/L			12/04/23 17:42	1
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 17:42	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 17:42	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 17:42	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 17:42	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 17:42	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 17:42	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 17:42	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 17:42	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 17:42	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 17:42	1
cis-1,2-Dichloroethene	**3.1**		1.0	0.53	ug/L			12/04/23 17:42	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 17:42	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 17:42	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 17:42	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/04/23 17:42	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 17:42	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 17:42	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 17:42	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 17:42	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 17:42	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 17:42	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 17:42	1

Client Sample ID: LC34-IW0133-018.0-20231128

Lab Sample ID: 670-31051-2

Date Collected: 11/28/23 09:10

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 17:42	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 17:42	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 17:42	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 17:42	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 17:42	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 17:42	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 17:42	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/04/23 17:42	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*40 - 146*		*12/04/23 17:42*	*1*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*12/04/23 17:42*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/04/23 17:42*	*1*

Client Sample ID: LC34-IW0125-018.0-20231128

Lab Sample ID: 670-31051-3

Date Collected: 11/28/23 09:40

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 18:00	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 18:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 18:00	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 18:00	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 18:00	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 18:00	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 18:00	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 18:00	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 18:00	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 18:00	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 18:00	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 18:00	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 18:00	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 18:00	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 18:00	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 18:00	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 18:00	1
Acetone	25	U	50	25	ug/L			12/04/23 18:00	1
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 18:00	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 18:00	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 18:00	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 18:00	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 18:00	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 18:00	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 18:00	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 18:00	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 18:00	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 18:00	1
cis-1,2-Dichloroethene	**0.55**	**I**	1.0	0.53	ug/L			12/04/23 18:00	1

Client Sample ID: LC34-IW0125-018.0-20231128

Lab Sample ID: 670-31051-3

Date Collected: 11/28/23 09:40

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 18:00	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 18:00	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 18:00	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/04/23 18:00	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 18:00	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 18:00	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 18:00	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 18:00	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 18:00	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 18:00	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 18:00	1
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 18:00	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 18:00	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 18:00	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 18:00	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 18:00	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 18:00	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 18:00	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/04/23 18:00	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/04/23 18:00*	*1*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*12/04/23 18:00*	*1*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*12/04/23 18:00*	*1*

Client Sample ID: LC34-IW0177-018.5-20231128

Lab Sample ID: 670-31051-4

Date Collected: 11/28/23 09:40

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			12/04/23 23:06	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			12/04/23 23:06	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			12/04/23 23:06	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			12/04/23 23:06	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			12/04/23 23:06	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			12/04/23 23:06	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			12/04/23 23:06	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			12/04/23 23:06	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			12/04/23 23:06	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			12/04/23 23:06	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			12/04/23 23:06	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			12/04/23 23:06	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			12/04/23 23:06	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			12/04/23 23:06	5
2-Butanone (MEK)	23	U	50	23	ug/L			12/04/23 23:06	5
2-Hexanone	13	U	100	13	ug/L			12/04/23 23:06	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			12/04/23 23:06	5
Acetone	130	U	250	130	ug/L			12/04/23 23:06	5

Client Sample ID: LC34-IW0177-018.5-20231128

Lab Sample ID: 670-31051-4

Date Collected: 11/28/23 09:40

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	3.6	U	5.0	3.6	ug/L			12/04/23 23:06	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			12/04/23 23:06	5
Bromoform	3.8	U	5.0	3.8	ug/L			12/04/23 23:06	5
Bromomethane	4.8	U	10	4.8	ug/L			12/04/23 23:06	5
Carbon disulfide	13	U	25	13	ug/L			12/04/23 23:06	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			12/04/23 23:06	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			12/04/23 23:06	5
Chloroethane	4.9	U	10	4.9	ug/L			12/04/23 23:06	5
Chloroform	4.0	U	25	4.0	ug/L			12/04/23 23:06	5
Chloromethane	4.1	U	10	4.1	ug/L			12/04/23 23:06	5
cis-1,2-Dichloroethene	**280**		5.0	2.7	ug/L			12/04/23 23:06	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			12/04/23 23:06	5
Cyclohexane	4.7	U	25	4.7	ug/L			12/04/23 23:06	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			12/04/23 23:06	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			12/04/23 23:06	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			12/04/23 23:06	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			12/04/23 23:06	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			12/04/23 23:06	5
Methyl acetate	4.8	U	50	4.8	ug/L			12/04/23 23:06	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			12/04/23 23:06	5
Methylene Chloride	25	U	50	25	ug/L			12/04/23 23:06	5
o-Xylene	2.7	U	5.0	2.7	ug/L			12/04/23 23:06	5
Styrene	3.1	U	5.0	3.1	ug/L			12/04/23 23:06	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			12/04/23 23:06	5
Toluene	3.6	U	5.0	3.6	ug/L			12/04/23 23:06	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			12/04/23 23:06	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			12/04/23 23:06	5
Trichloroethene	4.5	U	5.0	4.5	ug/L			12/04/23 23:06	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			12/04/23 23:06	5
Vinyl chloride	3.6	U	5.0	3.6	ug/L			12/04/23 23:06	5
Xylenes, Total	6.5	U	10	6.5	ug/L			12/04/23 23:06	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*40 - 146*		*12/04/23 23:06*	*5*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*12/04/23 23:06*	*5*
Dibromofluoromethane (Surr)	*111*		*53 - 146*		*12/04/23 23:06*	*5*

Client Sample ID: LC34-IW0170-22.0-20231128

Lab Sample ID: 670-31051-5

Date Collected: 11/28/23 10:10

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			12/04/23 23:28	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			12/04/23 23:28	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			12/04/23 23:28	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			12/04/23 23:28	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			12/04/23 23:28	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			12/04/23 23:28	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			12/04/23 23:28	10

Client Sample ID: LC34-IW0170-22.0-20231128
Date Collected: 11/28/23 10:10
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			12/04/23 23:28	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			12/04/23 23:28	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			12/04/23 23:28	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			12/04/23 23:28	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			12/04/23 23:28	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			12/04/23 23:28	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			12/04/23 23:28	10
2-Butanone (MEK)	45	U	100	45	ug/L			12/04/23 23:28	10
2-Hexanone	25	U	200	25	ug/L			12/04/23 23:28	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			12/04/23 23:28	10
Acetone	250	U	500	250	ug/L			12/04/23 23:28	10
Benzene	7.1	U	10	7.1	ug/L			12/04/23 23:28	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			12/04/23 23:28	10
Bromoform	7.5	U	10	7.5	ug/L			12/04/23 23:28	10
Bromomethane	9.5	U	20	9.5	ug/L			12/04/23 23:28	10
Carbon disulfide	25	U	50	25	ug/L			12/04/23 23:28	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			12/04/23 23:28	10
Chlorobenzene	7.2	U	10	7.2	ug/L			12/04/23 23:28	10
Chloroethane	9.8	U	20	9.8	ug/L			12/04/23 23:28	10
Chloroform	8.0	U	50	8.0	ug/L			12/04/23 23:28	10
Chloromethane	8.2	U	20	8.2	ug/L			12/04/23 23:28	10
cis-1,2-Dichloroethene	**740**		25	13	ug/L			12/05/23 17:51	25
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			12/04/23 23:28	10
Cyclohexane	9.3	U	50	9.3	ug/L			12/04/23 23:28	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			12/04/23 23:28	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			12/04/23 23:28	10
Ethylbenzene	6.9	U	10	6.9	ug/L			12/04/23 23:28	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			12/04/23 23:28	10
m,p-Xylenes	13	U	20	13	ug/L			12/04/23 23:28	10
Methyl acetate	9.5	U	100	9.5	ug/L			12/04/23 23:28	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			12/04/23 23:28	10
Methylene Chloride	50	U	100	50	ug/L			12/04/23 23:28	10
o-Xylene	5.3	U	10	5.3	ug/L			12/04/23 23:28	10
Styrene	6.1	U	10	6.1	ug/L			12/04/23 23:28	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			12/04/23 23:28	10
Toluene	7.2	U	10	7.2	ug/L			12/04/23 23:28	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			12/04/23 23:28	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			12/04/23 23:28	10
Trichloroethene	8.9	U	10	8.9	ug/L			12/04/23 23:28	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			12/04/23 23:28	10
Vinyl chloride	**220**		10	7.1	ug/L			12/04/23 23:28	10
Xylenes, Total	13	U	20	13	ug/L			12/04/23 23:28	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/04/23 23:28*	*10*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/05/23 17:51*	*25*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*12/04/23 23:28*	*10*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*12/05/23 17:51*	*25*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/04/23 23:28*	*10*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*12/05/23 17:51*	*25*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0132-018.0 -20231128

Lab Sample ID: 670-31051-6

Date Collected: 11/28/23 10:10

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 18:18	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 18:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 18:18	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 18:18	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 18:18	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 18:18	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 18:18	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 18:18	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 18:18	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 18:18	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 18:18	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 18:18	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 18:18	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 18:18	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 18:18	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 18:18	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 18:18	1
Acetone	25	U	50	25	ug/L			12/04/23 18:18	1
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 18:18	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 18:18	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 18:18	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 18:18	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 18:18	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 18:18	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 18:18	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 18:18	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 18:18	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 18:18	1
cis-1,2-Dichloroethene	**0.89**	**I**	1.0	0.53	ug/L			12/04/23 18:18	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 18:18	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 18:18	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 18:18	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/04/23 18:18	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 18:18	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 18:18	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 18:18	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 18:18	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 18:18	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 18:18	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 18:18	1
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 18:18	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 18:18	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 18:18	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 18:18	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 18:18	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 18:18	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 18:18	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/04/23 18:18	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 18:18	1

Client Sample ID: LC34-IW0132-018.0 -20231128

Lab Sample ID: 670-31051-6

Date Collected: 11/28/23 10:10

Matrix: Water

Date Received: 12/01/23 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/04/23 18:18*	*1*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*12/04/23 18:18*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/04/23 18:18*	*1*

Client Sample ID: LC34-IW0171-032.5-20231128

Lab Sample ID: 670-31051-7

Date Collected: 11/28/23 10:35

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 18:50	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 18:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 18:50	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 18:50	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 18:50	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 18:50	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 18:50	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 18:50	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 18:50	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 18:50	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 18:50	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 18:50	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 18:50	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 18:50	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 18:50	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 18:50	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 18:50	1
Acetone	25	U	50	25	ug/L			12/04/23 18:50	1
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 18:50	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 18:50	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 18:50	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 18:50	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 18:50	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 18:50	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 18:50	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 18:50	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 18:50	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 18:50	1
cis-1,2-Dichloroethene	**34**		1.0	0.53	ug/L			12/04/23 18:50	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 18:50	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 18:50	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 18:50	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/04/23 18:50	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 18:50	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 18:50	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 18:50	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 18:50	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 18:50	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 18:50	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 18:50	1

Client Sample ID: LC34-IW0171-032.5-20231128

Lab Sample ID: 670-31051-7

Date Collected: 11/28/23 10:35

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 18:50	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 18:50	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 18:50	1
trans-1,2-Dichloroethene	**2.0**		1.0	0.73	ug/L			12/04/23 18:50	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 18:50	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 18:50	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 18:50	1
Vinyl chloride	**39**		1.0	0.71	ug/L			12/04/23 18:50	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 18:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/04/23 18:50*	*1*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*12/04/23 18:50*	*1*
Dibromofluoromethane (Surr)	*104*		*53 - 146*		*12/04/23 18:50*	*1*

Client Sample ID: LC34-IW0131-018.0-20231128

Lab Sample ID: 670-31051-8

Date Collected: 11/28/23 10:40

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 19:09	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 19:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 19:09	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 19:09	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 19:09	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 19:09	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 19:09	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 19:09	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 19:09	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 19:09	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 19:09	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 19:09	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 19:09	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 19:09	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 19:09	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 19:09	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 19:09	1
Acetone	25	U	50	25	ug/L			12/04/23 19:09	1
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 19:09	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 19:09	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 19:09	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 19:09	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 19:09	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 19:09	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 19:09	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 19:09	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 19:09	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 19:09	1
cis-1,2-Dichloroethene	**0.97**	**I**	1.0	0.53	ug/L			12/04/23 19:09	1

Client Sample ID: LC34-IW0131-018.0-20231128

Lab Sample ID: 670-31051-8

Date Collected: 11/28/23 10:40

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 19:09	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 19:09	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 19:09	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/04/23 19:09	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 19:09	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 19:09	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 19:09	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 19:09	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 19:09	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 19:09	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 19:09	1
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 19:09	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 19:09	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 19:09	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 19:09	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 19:09	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 19:09	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 19:09	1
Vinyl chloride	**0.80**	**I**	1.0	0.71	ug/L			12/04/23 19:09	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*40 - 146*		*12/04/23 19:09*	*1*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*12/04/23 19:09*	*1*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*12/04/23 19:09*	*1*

Client Sample ID: LC34-IW0129-018.0-20231128

Lab Sample ID: 670-31051-9

Date Collected: 11/28/23 11:05

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 19:46	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 19:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 19:46	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 19:46	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 19:46	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 19:46	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 19:46	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 19:46	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 19:46	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 19:46	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 19:46	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 19:46	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 19:46	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 19:46	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 19:46	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 19:46	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 19:46	1
Acetone	25	U	50	25	ug/L			12/04/23 19:46	1

Client Sample ID: LC34-IW0129-018.0-20231128

Lab Sample ID: 670-31051-9

Date Collected: 11/28/23 11:05

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 19:46	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 19:46	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 19:46	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 19:46	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 19:46	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 19:46	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 19:46	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 19:46	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 19:46	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 19:46	1
cis-1,2-Dichloroethene	**0.66**	**I**	1.0	0.53	ug/L			12/04/23 19:46	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 19:46	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 19:46	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 19:46	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/04/23 19:46	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 19:46	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 19:46	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 19:46	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 19:46	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 19:46	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 19:46	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 19:46	1
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 19:46	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 19:46	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 19:46	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 19:46	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 19:46	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 19:46	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 19:46	1
Vinyl chloride	**9.4**		1.0	0.71	ug/L			12/04/23 19:46	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 19:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/04/23 19:46*	*1*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*12/04/23 19:46*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/04/23 19:46*	*1*

Client Sample ID: LC34-IW0169-032.5-20231128

Lab Sample ID: 670-31051-10

Date Collected: 11/28/23 11:10

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			12/05/23 17:42	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			12/05/23 17:42	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			12/05/23 17:42	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			12/05/23 17:42	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			12/05/23 17:42	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			12/05/23 17:42	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			12/05/23 17:42	5

Client Sample ID: LC34-IW0169-032.5-20231128
Date Collected: 11/28/23 11:10
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-10
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			12/05/23 17:42	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			12/05/23 17:42	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			12/05/23 17:42	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			12/05/23 17:42	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			12/05/23 17:42	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			12/05/23 17:42	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			12/05/23 17:42	5
2-Butanone (MEK)	23	U	50	23	ug/L			12/05/23 17:42	5
2-Hexanone	13	U	100	13	ug/L			12/05/23 17:42	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			12/05/23 17:42	5
Acetone	130	U	250	130	ug/L			12/05/23 17:42	5
Benzene	3.6	U	5.0	3.6	ug/L			12/05/23 17:42	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			12/05/23 17:42	5
Bromoform	3.8	U	5.0	3.8	ug/L			12/05/23 17:42	5
Bromomethane	4.8	U	10	4.8	ug/L			12/05/23 17:42	5
Carbon disulfide	13	U	25	13	ug/L			12/05/23 17:42	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			12/05/23 17:42	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			12/05/23 17:42	5
Chloroethane	4.9	U	10	4.9	ug/L			12/05/23 17:42	5
Chloroform	4.0	U	25	4.0	ug/L			12/05/23 17:42	5
Chloromethane	4.1	U	10	4.1	ug/L			12/05/23 17:42	5
cis-1,2-Dichloroethene	**110**		5.0	2.7	ug/L			12/05/23 17:42	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			12/05/23 17:42	5
Cyclohexane	4.7	U	25	4.7	ug/L			12/05/23 17:42	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			12/05/23 17:42	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			12/05/23 17:42	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			12/05/23 17:42	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			12/05/23 17:42	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			12/05/23 17:42	5
Methyl acetate	4.8	U	50	4.8	ug/L			12/05/23 17:42	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			12/05/23 17:42	5
Methylene Chloride	25	U	50	25	ug/L			12/05/23 17:42	5
o-Xylene	2.7	U	5.0	2.7	ug/L			12/05/23 17:42	5
Styrene	3.1	U	5.0	3.1	ug/L			12/05/23 17:42	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			12/05/23 17:42	5
Toluene	3.6	U	5.0	3.6	ug/L			12/05/23 17:42	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			12/05/23 17:42	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			12/05/23 17:42	5
Trichloroethene	4.5	U	5.0	4.5	ug/L			12/05/23 17:42	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			12/05/23 17:42	5
Vinyl chloride	**370**		25	18	ug/L			12/05/23 00:09	25
Xylenes, Total	6.5	U	10	6.5	ug/L			12/05/23 17:42	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/05/23 00:09*	*25*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/05/23 17:42*	*5*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*12/05/23 00:09*	*25*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*12/05/23 17:42*	*5*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*12/05/23 00:09*	*25*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/05/23 17:42*	*5*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0130-024.0-20231128
Date Collected: 11/28/23 11:25
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-11
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 20:04	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 20:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 20:04	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 20:04	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 20:04	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 20:04	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 20:04	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 20:04	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 20:04	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 20:04	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 20:04	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 20:04	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 20:04	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 20:04	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 20:04	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 20:04	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 20:04	1
Acetone	25	U	50	25	ug/L			12/04/23 20:04	1
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 20:04	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 20:04	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 20:04	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 20:04	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 20:04	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 20:04	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 20:04	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 20:04	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 20:04	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 20:04	1
cis-1,2-Dichloroethene	**1.7**		1.0	0.53	ug/L			12/04/23 20:04	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 20:04	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 20:04	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 20:04	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/04/23 20:04	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 20:04	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 20:04	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 20:04	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 20:04	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 20:04	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 20:04	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 20:04	1
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 20:04	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 20:04	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 20:04	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 20:04	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 20:04	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 20:04	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 20:04	1
Vinyl chloride	**30**		1.0	0.71	ug/L			12/04/23 20:04	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 20:04	1

Client Sample ID: LC34-IW0130-024.0-20231128

Lab Sample ID: 670-31051-11

Date Collected: 11/28/23 11:25

Matrix: Water

Date Received: 12/01/23 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*40 - 146*		*12/04/23 20:04*	*1*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*12/04/23 20:04*	*1*
Dibromofluoromethane (Surr)	*110*		*53 - 146*		*12/04/23 20:04*	*1*

Client Sample ID: LC34-IW0168-022.0 -20231128

Lab Sample ID: 670-31051-12

Date Collected: 11/28/23 11:35

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	80	U	100	80	ug/L			12/04/23 19:47	100
1,1,2,2-Tetrachloroethane	54	U	100	54	ug/L			12/04/23 19:47	100
1,1,2-Trichloro-1,2,2-trifluoroethane	73	U	200	73	ug/L			12/04/23 19:47	100
1,1,2-Trichloroethane	76	U	200	76	ug/L			12/04/23 19:47	100
1,1-Dichloroethane	62	U	100	62	ug/L			12/04/23 19:47	100
1,1-Dichloroethene	94	U	100	94	ug/L			12/04/23 19:47	100
1,2,4-Trichlorobenzene	70	U	200	70	ug/L			12/04/23 19:47	100
1,2-Dibromo-3-Chloropropane	96	U	1000	96	ug/L			12/04/23 19:47	100
1,2-Dibromoethane (EDB)	78	U	1200	78	ug/L			12/04/23 19:47	100
1,2-Dichlorobenzene	73	U	100	73	ug/L			12/04/23 19:47	100
1,2-Dichloroethane	63	U	100	63	ug/L			12/04/23 19:47	100
1,2-Dichloropropane	80	U	100	80	ug/L			12/04/23 19:47	100
1,3-Dichlorobenzene	77	U	100	77	ug/L			12/04/23 19:47	100
1,4-Dichlorobenzene	76	U	100	76	ug/L			12/04/23 19:47	100
2-Butanone (MEK)	450	U	1000	450	ug/L			12/04/23 19:47	100
2-Hexanone	250	U	2000	250	ug/L			12/04/23 19:47	100
4-Methyl-2-pentanone	500	U	2000	500	ug/L			12/04/23 19:47	100
Acetone	2500	U	5000	2500	ug/L			12/04/23 19:47	100
Benzene	71	U	100	71	ug/L			12/04/23 19:47	100
Bromodichloromethane	52	U	100	52	ug/L			12/04/23 19:47	100
Bromoform	75	U	100	75	ug/L			12/04/23 19:47	100
Bromomethane	95	U	200	95	ug/L			12/04/23 19:47	100
Carbon disulfide	250	U	500	250	ug/L			12/04/23 19:47	100
Carbon tetrachloride	94	U	100	94	ug/L			12/04/23 19:47	100
Chlorobenzene	72	U	100	72	ug/L			12/04/23 19:47	100
Chloroethane	98	U	200	98	ug/L			12/04/23 19:47	100
Chloroform	80	U	500	80	ug/L			12/04/23 19:47	100
Chloromethane	82	U	200	82	ug/L			12/04/23 19:47	100
cis-1,2-Dichloroethene	**3900**		100	53	ug/L			12/04/23 19:47	100
cis-1,3-Dichloropropene	59	U	100	59	ug/L			12/04/23 19:47	100
Cyclohexane	93	U	500	93	ug/L			12/04/23 19:47	100
Dibromochloromethane	50	U	100	50	ug/L			12/04/23 19:47	100
Dichlorodifluoromethane	74	U J3	100	74	ug/L			12/04/23 19:47	100
Ethylbenzene	69	U	100	69	ug/L			12/04/23 19:47	100
Isopropylbenzene	67	U	200	67	ug/L			12/04/23 19:47	100
m,p-Xylenes	130	U	200	130	ug/L			12/04/23 19:47	100
Methyl acetate	95	U	1000	95	ug/L			12/04/23 19:47	100
Methyl tert-butyl ether	60	U	200	60	ug/L			12/04/23 19:47	100
Methylene Chloride	500	U	1000	500	ug/L			12/04/23 19:47	100
o-Xylene	53	U	100	53	ug/L			12/04/23 19:47	100

Client Sample ID: LC34-IW0168-022.0 -20231128

Lab Sample ID: 670-31051-12

Date Collected: 11/28/23 11:35

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	61	U	100	61	ug/L			12/04/23 19:47	100
Tetrachloroethene	76	U	100	76	ug/L			12/04/23 19:47	100
Toluene	72	U	100	72	ug/L			12/04/23 19:47	100
trans-1,2-Dichloroethene	73	U	100	73	ug/L			12/04/23 19:47	100
trans-1,3-Dichloropropene	73	U	100	73	ug/L			12/04/23 19:47	100
Trichloroethene	89	U	100	89	ug/L			12/04/23 19:47	100
Trichlorofluoromethane	94	U	100	94	ug/L			12/04/23 19:47	100
Vinyl chloride	**3100**		100	71	ug/L			12/04/23 19:47	100
Xylenes, Total	130	U	200	130	ug/L			12/04/23 19:47	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/04/23 19:47*	*100*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*12/04/23 19:47*	*100*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*12/04/23 19:47*	*100*

Client Sample ID: LC34-IW0178-018.5-20231128

Lab Sample ID: 670-31051-13

Date Collected: 11/28/23 12:07

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			12/04/23 20:07	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			12/04/23 20:07	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			12/04/23 20:07	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			12/04/23 20:07	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			12/04/23 20:07	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			12/04/23 20:07	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			12/04/23 20:07	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			12/04/23 20:07	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			12/04/23 20:07	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			12/04/23 20:07	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			12/04/23 20:07	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			12/04/23 20:07	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			12/04/23 20:07	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			12/04/23 20:07	10
2-Butanone (MEK)	45	U	100	45	ug/L			12/04/23 20:07	10
2-Hexanone	25	U	200	25	ug/L			12/04/23 20:07	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			12/04/23 20:07	10
Acetone	250	U	500	250	ug/L			12/04/23 20:07	10
Benzene	7.1	U	10	7.1	ug/L			12/04/23 20:07	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			12/04/23 20:07	10
Bromoform	7.5	U	10	7.5	ug/L			12/04/23 20:07	10
Bromomethane	9.5	U	20	9.5	ug/L			12/04/23 20:07	10
Carbon disulfide	25	U	50	25	ug/L			12/04/23 20:07	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			12/04/23 20:07	10
Chlorobenzene	7.2	U	10	7.2	ug/L			12/04/23 20:07	10
Chloroethane	9.8	U	20	9.8	ug/L			12/04/23 20:07	10
Chloroform	8.0	U	50	8.0	ug/L			12/04/23 20:07	10
Chloromethane	8.2	U	20	8.2	ug/L			12/04/23 20:07	10
cis-1,2-Dichloroethene	**730**		10	5.3	ug/L			12/04/23 20:07	10

Client Sample ID: LC34-IW0178-018.5-20231128

Lab Sample ID: 670-31051-13

Date Collected: 11/28/23 12:07

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			12/04/23 20:07	10
Cyclohexane	9.3	U	50	9.3	ug/L			12/04/23 20:07	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			12/04/23 20:07	10
Dichlorodifluoromethane	7.4	U J3	10	7.4	ug/L			12/04/23 20:07	10
Ethylbenzene	6.9	U	10	6.9	ug/L			12/04/23 20:07	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			12/04/23 20:07	10
m,p-Xylenes	13	U	20	13	ug/L			12/04/23 20:07	10
Methyl acetate	9.5	U	100	9.5	ug/L			12/04/23 20:07	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			12/04/23 20:07	10
Methylene Chloride	50	U	100	50	ug/L			12/04/23 20:07	10
o-Xylene	5.3	U	10	5.3	ug/L			12/04/23 20:07	10
Styrene	6.1	U	10	6.1	ug/L			12/04/23 20:07	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			12/04/23 20:07	10
Toluene	7.2	U	10	7.2	ug/L			12/04/23 20:07	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			12/04/23 20:07	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			12/04/23 20:07	10
Trichloroethene	8.9	U	10	8.9	ug/L			12/04/23 20:07	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			12/04/23 20:07	10
Vinyl chloride	**900**		10	7.1	ug/L			12/04/23 20:07	10
Xylenes, Total	13	U	20	13	ug/L			12/04/23 20:07	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*40 - 146*		*12/04/23 20:07*	*10*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*12/04/23 20:07*	*10*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/04/23 20:07*	*10*

Client Sample ID: LC34-IW0108-024.0-20231128

Lab Sample ID: 670-31051-14

Date Collected: 11/28/23 12:10

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 20:25	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 20:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 20:25	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 20:25	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 20:25	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 20:25	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 20:25	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 20:25	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 20:25	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 20:25	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 20:25	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 20:25	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 20:25	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 20:25	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 20:25	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 20:25	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 20:25	1
Acetone	25	U	50	25	ug/L			12/04/23 20:25	1

Client Sample ID: LC34-IW0108-024.0-20231128

Lab Sample ID: 670-31051-14

Date Collected: 11/28/23 12:10

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 20:25	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 20:25	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 20:25	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 20:25	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 20:25	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 20:25	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 20:25	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 20:25	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 20:25	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 20:25	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/04/23 20:25	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 20:25	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 20:25	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 20:25	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			12/04/23 20:25	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 20:25	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 20:25	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 20:25	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 20:25	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 20:25	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 20:25	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 20:25	1
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 20:25	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 20:25	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 20:25	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 20:25	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 20:25	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 20:25	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 20:25	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/04/23 20:25	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 20:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*40 - 146*		*12/04/23 20:25*	*1*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*12/04/23 20:25*	*1*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*12/04/23 20:25*	*1*

Client Sample ID: LC34-IW0172-022.0-20231128

Lab Sample ID: 670-31051-15

Date Collected: 11/28/23 12:40

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			12/04/23 20:45	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			12/04/23 20:45	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			12/04/23 20:45	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			12/04/23 20:45	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			12/04/23 20:45	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			12/04/23 20:45	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			12/04/23 20:45	10

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0172-022.0-20231128
Date Collected: 11/28/23 12:40
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-15
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			12/04/23 20:45	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			12/04/23 20:45	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			12/04/23 20:45	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			12/04/23 20:45	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			12/04/23 20:45	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			12/04/23 20:45	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			12/04/23 20:45	10
2-Butanone (MEK)	45	U	100	45	ug/L			12/04/23 20:45	10
2-Hexanone	25	U	200	25	ug/L			12/04/23 20:45	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			12/04/23 20:45	10
Acetone	250	U	500	250	ug/L			12/04/23 20:45	10
Benzene	7.1	U	10	7.1	ug/L			12/04/23 20:45	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			12/04/23 20:45	10
Bromoform	7.5	U	10	7.5	ug/L			12/04/23 20:45	10
Bromomethane	9.5	U	20	9.5	ug/L			12/04/23 20:45	10
Carbon disulfide	25	U	50	25	ug/L			12/04/23 20:45	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			12/04/23 20:45	10
Chlorobenzene	7.2	U	10	7.2	ug/L			12/04/23 20:45	10
Chloroethane	9.8	U	20	9.8	ug/L			12/04/23 20:45	10
Chloroform	8.0	U	50	8.0	ug/L			12/04/23 20:45	10
Chloromethane	8.2	U	20	8.2	ug/L			12/04/23 20:45	10
cis-1,2-Dichloroethene	**400**		10	5.3	ug/L			12/04/23 20:45	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			12/04/23 20:45	10
Cyclohexane	9.3	U	50	9.3	ug/L			12/04/23 20:45	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			12/04/23 20:45	10
Dichlorodifluoromethane	7.4	U J3	10	7.4	ug/L			12/04/23 20:45	10
Ethylbenzene	6.9	U	10	6.9	ug/L			12/04/23 20:45	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			12/04/23 20:45	10
m,p-Xylenes	13	U	20	13	ug/L			12/04/23 20:45	10
Methyl acetate	9.5	U	100	9.5	ug/L			12/04/23 20:45	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			12/04/23 20:45	10
Methylene Chloride	50	U	100	50	ug/L			12/04/23 20:45	10
o-Xylene	5.3	U	10	5.3	ug/L			12/04/23 20:45	10
Styrene	6.1	U	10	6.1	ug/L			12/04/23 20:45	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			12/04/23 20:45	10
Toluene	7.2	U	10	7.2	ug/L			12/04/23 20:45	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			12/04/23 20:45	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			12/04/23 20:45	10
Trichloroethene	8.9	U	10	8.9	ug/L			12/04/23 20:45	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			12/04/23 20:45	10
Vinyl chloride	**110**		10	7.1	ug/L			12/04/23 20:45	10
Xylenes, Total	13	U	20	13	ug/L			12/04/23 20:45	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/04/23 20:45*	*10*
4-Bromofluorobenzene (Surr)	*90*		*41 - 142*		*12/04/23 20:45*	*10*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*12/04/23 20:45*	*10*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0124-018.0-20231128
Date Collected: 11/28/23 12:45
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-16
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 18:18	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 18:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 18:18	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 18:18	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 18:18	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 18:18	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 18:18	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 18:18	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 18:18	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 18:18	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 18:18	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 18:18	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 18:18	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 18:18	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 18:18	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 18:18	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 18:18	1
Acetone	25	U	50	25	ug/L			12/04/23 18:18	1
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 18:18	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 18:18	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 18:18	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 18:18	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 18:18	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 18:18	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 18:18	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 18:18	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 18:18	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 18:18	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/04/23 18:18	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 18:18	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 18:18	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 18:18	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			12/04/23 18:18	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 18:18	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 18:18	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 18:18	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 18:18	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 18:18	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 18:18	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 18:18	1
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 18:18	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 18:18	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 18:18	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 18:18	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 18:18	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 18:18	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 18:18	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/04/23 18:18	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 18:18	1

Client Sample ID: LC34-IW0124-018.0-20231128

Lab Sample ID: 670-31051-16

Date Collected: 11/28/23 12:45

Matrix: Water

Date Received: 12/01/23 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*40 - 146*		*12/04/23 18:18*	*1*
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*		*12/04/23 18:18*	*1*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*12/04/23 18:18*	*1*

Client Sample ID: LC34-IW0173-032.5-20231128

Lab Sample ID: 670-31051-17

Date Collected: 11/28/23 13:03

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 18:54	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 18:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 18:54	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 18:54	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 18:54	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 18:54	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 18:54	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 18:54	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 18:54	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 18:54	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 18:54	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 18:54	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 18:54	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 18:54	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 18:54	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 18:54	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 18:54	1
Acetone	25	U	50	25	ug/L			12/04/23 18:54	1
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 18:54	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 18:54	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 18:54	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 18:54	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 18:54	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 18:54	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 18:54	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 18:54	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 18:54	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 18:54	1
cis-1,2-Dichloroethene	**1.8**		1.0	0.53	ug/L			12/04/23 18:54	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 18:54	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 18:54	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 18:54	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			12/04/23 18:54	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 18:54	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 18:54	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 18:54	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 18:54	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 18:54	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 18:54	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 18:54	1

Client Sample ID: LC34-IW0173-032.5-20231128

Lab Sample ID: 670-31051-17

Date Collected: 11/28/23 13:03

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 18:54	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 18:54	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 18:54	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 18:54	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 18:54	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 18:54	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 18:54	1
Vinyl chloride	**10**		1.0	0.71	ug/L			12/04/23 18:54	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 18:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*40 - 146*		*12/04/23 18:54*	*1*
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*		*12/04/23 18:54*	*1*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*12/04/23 18:54*	*1*

Client Sample ID: LC34-IW0128-018.0-20231128

Lab Sample ID: 670-31051-18

Date Collected: 11/28/23 13:10

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 21:02	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 21:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 21:02	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 21:02	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 21:02	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 21:02	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 21:02	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 21:02	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 21:02	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 21:02	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 21:02	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 21:02	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 21:02	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 21:02	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 21:02	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 21:02	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 21:02	1
Acetone	25	U	50	25	ug/L			12/04/23 21:02	1
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 21:02	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 21:02	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 21:02	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 21:02	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 21:02	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 21:02	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 21:02	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 21:02	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 21:02	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 21:02	1
cis-1,2-Dichloroethene	**0.55**	**I**	1.0	0.53	ug/L			12/04/23 21:02	1

Client Sample ID: LC34-IW0128-018.0-20231128

Lab Sample ID: 670-31051-18

Date Collected: 11/28/23 13:10

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 21:02	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 21:02	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 21:02	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			12/04/23 21:02	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 21:02	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 21:02	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 21:02	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 21:02	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 21:02	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 21:02	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 21:02	1
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 21:02	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 21:02	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 21:02	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 21:02	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 21:02	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 21:02	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 21:02	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/04/23 21:02	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 21:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*40 - 146*		*12/04/23 21:02*	*1*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*12/04/23 21:02*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/04/23 21:02*	*1*

Client Sample ID: LC34-IW0127-024.0-20231128

Lab Sample ID: 670-31051-19

Date Collected: 11/28/23 13:35

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 21:20	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 21:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 21:20	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 21:20	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 21:20	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 21:20	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 21:20	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 21:20	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 21:20	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 21:20	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 21:20	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 21:20	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 21:20	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 21:20	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 21:20	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 21:20	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 21:20	1
Acetone	25	U	50	25	ug/L			12/04/23 21:20	1

Client Sample ID: LC34-IW0127-024.0-20231128

Lab Sample ID: 670-31051-19

Date Collected: 11/28/23 13:35

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 21:20	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 21:20	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 21:20	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 21:20	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 21:20	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 21:20	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 21:20	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 21:20	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 21:20	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 21:20	1
cis-1,2-Dichloroethene	**1.8**		1.0	0.53	ug/L			12/04/23 21:20	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 21:20	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 21:20	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 21:20	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			12/04/23 21:20	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 21:20	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 21:20	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 21:20	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 21:20	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 21:20	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 21:20	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 21:20	1
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 21:20	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 21:20	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 21:20	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 21:20	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 21:20	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 21:20	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 21:20	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/04/23 21:20	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 21:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*40 - 146*		*12/04/23 21:20*	*1*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*12/04/23 21:20*	*1*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*12/04/23 21:20*	*1*

Client Sample ID: LC34-IW0175-032.5-20231128

Lab Sample ID: 670-31051-20

Date Collected: 11/28/23 13:35

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 21:38	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 21:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 21:38	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 21:38	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 21:38	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 21:38	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 21:38	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0175-032.5-20231128
Date Collected: 11/28/23 13:35
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-20
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 21:38	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 21:38	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 21:38	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 21:38	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 21:38	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 21:38	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 21:38	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 21:38	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 21:38	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 21:38	1
Acetone	25	U	50	25	ug/L			12/04/23 21:38	1
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 21:38	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 21:38	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 21:38	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 21:38	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 21:38	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 21:38	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 21:38	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 21:38	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 21:38	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 21:38	1
cis-1,2-Dichloroethene	**12**		1.0	0.53	ug/L			12/04/23 21:38	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 21:38	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 21:38	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 21:38	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			12/04/23 21:38	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 21:38	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 21:38	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 21:38	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 21:38	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 21:38	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 21:38	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 21:38	1
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 21:38	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 21:38	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 21:38	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 21:38	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 21:38	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 21:38	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 21:38	1
Vinyl chloride	**13**		1.0	0.71	ug/L			12/04/23 21:38	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 21:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*40 - 146*		*12/04/23 21:38*	*1*
4-Bromofluorobenzene (Surr)	*91*		*41 - 142*		*12/04/23 21:38*	*1*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*12/04/23 21:38*	*1*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0142-024.0-20231128
Date Collected: 11/28/23 14:00
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-21
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 21:55	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 21:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 21:55	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 21:55	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 21:55	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 21:55	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 21:55	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 21:55	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 21:55	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 21:55	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 21:55	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 21:55	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 21:55	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 21:55	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 21:55	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 21:55	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 21:55	1
Acetone	25	U	50	25	ug/L			12/04/23 21:55	1
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 21:55	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 21:55	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 21:55	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 21:55	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 21:55	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 21:55	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 21:55	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 21:55	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 21:55	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 21:55	1
cis-1,2-Dichloroethene	**0.76**	**I**	1.0	0.53	ug/L			12/04/23 21:55	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 21:55	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 21:55	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 21:55	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			12/04/23 21:55	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 21:55	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 21:55	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 21:55	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 21:55	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 21:55	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 21:55	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 21:55	1
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 21:55	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 21:55	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 21:55	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 21:55	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 21:55	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 21:55	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 21:55	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/04/23 21:55	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 21:55	1

Client Sample ID: LC34-IW0142-024.0-20231128

Lab Sample ID: 670-31051-21

Date Collected: 11/28/23 14:00
Matrix: Water
Date Received: 12/01/23 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/04/23 21:55*	*1*
4-Bromofluorobenzene (Surr)	*92*		*41 - 142*		*12/04/23 21:55*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/04/23 21:55*	*1*

Client Sample ID: LC34-IW0174-018.5-20231128

Lab Sample ID: 670-31051-22

Date Collected: 11/28/23 14:00
Matrix: Water
Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			12/04/23 22:16	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			12/04/23 22:16	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			12/04/23 22:16	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			12/04/23 22:16	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			12/04/23 22:16	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			12/04/23 22:16	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			12/04/23 22:16	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			12/04/23 22:16	5
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/05/23 14:52	1
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			12/04/23 22:16	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			12/04/23 22:16	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			12/04/23 22:16	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			12/04/23 22:16	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			12/04/23 22:16	5
2-Butanone (MEK)	23	U	50	23	ug/L			12/04/23 22:16	5
2-Hexanone	13	U	100	13	ug/L			12/04/23 22:16	5
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/05/23 14:52	1
Acetone	25	U	50	25	ug/L			12/05/23 14:52	1
Benzene	0.71	U	1.0	0.71	ug/L			12/05/23 14:52	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/05/23 14:52	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/05/23 14:52	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/05/23 14:52	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/05/23 14:52	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/05/23 14:52	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/05/23 14:52	1
Chloroethane	0.98	U J3	2.0	0.98	ug/L			12/05/23 14:52	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/05/23 14:52	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/05/23 14:52	1
cis-1,2-Dichloroethene	**66**		5.0	2.7	ug/L			12/04/23 22:16	5
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/05/23 14:52	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/05/23 14:52	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/05/23 14:52	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/05/23 14:52	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/05/23 14:52	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/05/23 14:52	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/05/23 14:52	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/05/23 14:52	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/05/23 14:52	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/05/23 14:52	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/05/23 14:52	1

Client Sample ID: LC34-IW0174-018.5-20231128

Lab Sample ID: 670-31051-22

Date Collected: 11/28/23 14:00

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			12/05/23 14:52	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/05/23 14:52	1
Toluene	0.72	U	1.0	0.72	ug/L			12/05/23 14:52	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/05/23 14:52	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/05/23 14:52	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/05/23 14:52	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/05/23 14:52	1
Vinyl chloride	**62**		5.0	3.6	ug/L			12/04/23 22:16	5
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/05/23 14:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/04/23 22:16*	*5*
Toluene-d8 (Surr)	*98*		*40 - 146*		*12/05/23 14:52*	*1*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*12/04/23 22:16*	*5*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*12/05/23 14:52*	*1*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*12/04/23 22:16*	*5*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*12/05/23 14:52*	*1*

Client Sample ID: LC34-IW0057I-025.5-20231129

Lab Sample ID: 670-31051-23

Date Collected: 11/29/23 09:15

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/05/23 15:10	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/05/23 15:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/05/23 15:10	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/05/23 15:10	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/05/23 15:10	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/05/23 15:10	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/05/23 15:10	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/05/23 15:10	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/05/23 15:10	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/05/23 15:10	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/05/23 15:10	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/05/23 15:10	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/05/23 15:10	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/05/23 15:10	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/05/23 15:10	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/05/23 15:10	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/05/23 15:10	1
Acetone	25	U	50	25	ug/L			12/05/23 15:10	1
Benzene	0.71	U	1.0	0.71	ug/L			12/05/23 15:10	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/05/23 15:10	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/05/23 15:10	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/05/23 15:10	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/05/23 15:10	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/05/23 15:10	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/05/23 15:10	1
Chloroethane	0.98	U J3	2.0	0.98	ug/L			12/05/23 15:10	1

Client Sample ID: LC34-IW0057I-025.5-20231129

Lab Sample ID: 670-31051-23

Date Collected: 11/29/23 09:15
Matrix: Water
Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	0.80	U	5.0	0.80	ug/L			12/05/23 15:10	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/05/23 15:10	1
cis-1,2-Dichloroethene	**9.2**		1.0	0.53	ug/L			12/05/23 15:10	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/05/23 15:10	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/05/23 15:10	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/05/23 15:10	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/05/23 15:10	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/05/23 15:10	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/05/23 15:10	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/05/23 15:10	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/05/23 15:10	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/05/23 15:10	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/05/23 15:10	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/05/23 15:10	1
Styrene	0.61	U	1.0	0.61	ug/L			12/05/23 15:10	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/05/23 15:10	1
Toluene	0.72	U	1.0	0.72	ug/L			12/05/23 15:10	1
trans-1,2-Dichloroethene	**1.0**		1.0	0.73	ug/L			12/05/23 15:10	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/05/23 15:10	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/05/23 15:10	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/05/23 15:10	1
Vinyl chloride	**7.6**		1.0	0.71	ug/L			12/05/23 15:10	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/05/23 15:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/05/23 15:10*	*1*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*12/05/23 15:10*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*12/05/23 15:10*	*1*

Client Sample ID: LC34-IW0188-018.5-20231129

Lab Sample ID: 670-31051-24

Date Collected: 11/29/23 09:25
Matrix: Water
Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**440**		50	36	ug/L			12/04/23 22:56	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*40 - 146*		*12/04/23 22:56*	*50*
4-Bromofluorobenzene (Surr)	*90*		*41 - 142*		*12/04/23 22:56*	*50*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*12/04/23 22:56*	*50*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			12/05/23 17:10	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			12/05/23 17:10	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			12/05/23 17:10	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			12/05/23 17:10	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			12/05/23 17:10	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			12/05/23 17:10	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			12/05/23 17:10	10

Client Sample ID: LC34-IW0188-018.5-20231129
Date Collected: 11/29/23 09:25
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-24
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			12/05/23 17:10	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			12/05/23 17:10	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			12/05/23 17:10	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			12/05/23 17:10	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			12/05/23 17:10	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			12/05/23 17:10	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			12/05/23 17:10	10
2-Butanone (MEK)	45	U	100	45	ug/L			12/05/23 17:10	10
2-Hexanone	25	U	200	25	ug/L			12/05/23 17:10	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			12/05/23 17:10	10
Acetone	250	U	500	250	ug/L			12/05/23 17:10	10
Benzene	7.1	U	10	7.1	ug/L			12/05/23 17:10	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			12/05/23 17:10	10
Bromoform	7.5	U	10	7.5	ug/L			12/05/23 17:10	10
Bromomethane	9.5	U	20	9.5	ug/L			12/05/23 17:10	10
Carbon disulfide	25	U	50	25	ug/L			12/05/23 17:10	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			12/05/23 17:10	10
Chlorobenzene	7.2	U	10	7.2	ug/L			12/05/23 17:10	10
Chloroethane	9.8	U J3	20	9.8	ug/L			12/05/23 17:10	10
Chloroform	8.0	U	50	8.0	ug/L			12/05/23 17:10	10
Chloromethane	8.2	U	20	8.2	ug/L			12/05/23 17:10	10
cis-1,2-Dichloroethene	**29**		10	5.3	ug/L			12/05/23 17:10	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			12/05/23 17:10	10
Cyclohexane	9.3	U	50	9.3	ug/L			12/05/23 17:10	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			12/05/23 17:10	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			12/05/23 17:10	10
Ethylbenzene	6.9	U	10	6.9	ug/L			12/05/23 17:10	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			12/05/23 17:10	10
m,p-Xylenes	13	U	20	13	ug/L			12/05/23 17:10	10
Methyl acetate	9.5	U	100	9.5	ug/L			12/05/23 17:10	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			12/05/23 17:10	10
Methylene Chloride	50	U	100	50	ug/L			12/05/23 17:10	10
o-Xylene	5.3	U	10	5.3	ug/L			12/05/23 17:10	10
Styrene	6.1	U	10	6.1	ug/L			12/05/23 17:10	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			12/05/23 17:10	10
Toluene	7.2	U	10	7.2	ug/L			12/05/23 17:10	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			12/05/23 17:10	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			12/05/23 17:10	10
Trichloroethene	8.9	U	10	8.9	ug/L			12/05/23 17:10	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			12/05/23 17:10	10
Xylenes, Total	13	U	20	13	ug/L			12/05/23 17:10	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/05/23 17:10*	*10*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*12/05/23 17:10*	*10*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*12/05/23 17:10*	*10*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0057S-007.3-20231129
Date Collected: 11/29/23 09:35
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-25
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 23:14	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 23:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 23:14	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 23:14	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 23:14	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 23:14	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 23:14	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 23:14	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 23:14	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 23:14	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 23:14	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 23:14	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 23:14	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 23:14	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 23:14	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 23:14	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 23:14	1
Acetone	25	U	50	25	ug/L			12/04/23 23:14	1
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 23:14	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 23:14	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 23:14	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 23:14	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 23:14	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 23:14	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 23:14	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 23:14	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 23:14	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 23:14	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/04/23 23:14	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 23:14	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 23:14	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 23:14	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			12/04/23 23:14	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 23:14	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 23:14	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 23:14	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 23:14	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 23:14	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 23:14	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 23:14	1
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 23:14	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 23:14	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 23:14	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 23:14	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 23:14	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 23:14	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 23:14	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/04/23 23:14	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 23:14	1

Client Sample ID: LC34-IW0057S-007.3-20231129

Lab Sample ID: 670-31051-25

Date Collected: 11/29/23 09:35

Matrix: Water

Date Received: 12/01/23 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/04/23 23:14*	*1*
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*		*12/04/23 23:14*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/04/23 23:14*	*1*

Client Sample ID: LC34-IW0181-022.0-20231129

Lab Sample ID: 670-31051-26

Date Collected: 11/29/23 09:57

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			12/04/23 23:34	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			12/04/23 23:34	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			12/04/23 23:34	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			12/04/23 23:34	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			12/04/23 23:34	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			12/04/23 23:34	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			12/04/23 23:34	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			12/04/23 23:34	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			12/04/23 23:34	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			12/04/23 23:34	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			12/04/23 23:34	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			12/04/23 23:34	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			12/04/23 23:34	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			12/04/23 23:34	5
2-Butanone (MEK)	23	U	50	23	ug/L			12/04/23 23:34	5
2-Hexanone	13	U	100	13	ug/L			12/04/23 23:34	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			12/04/23 23:34	5
Acetone	130	U	250	130	ug/L			12/04/23 23:34	5
Benzene	3.6	U	5.0	3.6	ug/L			12/04/23 23:34	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			12/04/23 23:34	5
Bromoform	3.8	U	5.0	3.8	ug/L			12/04/23 23:34	5
Bromomethane	4.8	U	10	4.8	ug/L			12/04/23 23:34	5
Carbon disulfide	13	U	25	13	ug/L			12/04/23 23:34	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			12/04/23 23:34	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			12/04/23 23:34	5
Chloroethane	4.9	U	10	4.9	ug/L			12/04/23 23:34	5
Chloroform	4.0	U	25	4.0	ug/L			12/04/23 23:34	5
Chloromethane	4.1	U	10	4.1	ug/L			12/04/23 23:34	5
cis-1,2-Dichloroethene	**34**		5.0	2.7	ug/L			12/04/23 23:34	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			12/04/23 23:34	5
Cyclohexane	4.7	U	25	4.7	ug/L			12/04/23 23:34	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			12/04/23 23:34	5
Dichlorodifluoromethane	3.7	U J3	5.0	3.7	ug/L			12/04/23 23:34	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			12/04/23 23:34	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			12/04/23 23:34	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			12/04/23 23:34	5
Methyl acetate	4.8	U	50	4.8	ug/L			12/04/23 23:34	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			12/04/23 23:34	5
Methylene Chloride	25	U	50	25	ug/L			12/04/23 23:34	5
o-Xylene	2.7	U	5.0	2.7	ug/L			12/04/23 23:34	5

Client Sample ID: LC34-IW0181-022.0-20231129

Lab Sample ID: 670-31051-26

Date Collected: 11/29/23 09:57

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	3.1	U	5.0	3.1	ug/L			12/04/23 23:34	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			12/04/23 23:34	5
Toluene	3.6	U	5.0	3.6	ug/L			12/04/23 23:34	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			12/04/23 23:34	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			12/04/23 23:34	5
Trichloroethene	4.5	U	5.0	4.5	ug/L			12/04/23 23:34	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			12/04/23 23:34	5
Vinyl chloride	**100**		5.0	3.6	ug/L			12/04/23 23:34	5
Xylenes, Total	6.5	U	10	6.5	ug/L			12/04/23 23:34	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*40 - 146*		*12/04/23 23:34*	*5*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*12/04/23 23:34*	*5*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*12/04/23 23:34*	*5*

Client Sample ID: LC34-IW0147-024.0-20231129

Lab Sample ID: 670-31051-27

Date Collected: 11/29/23 10:00

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 23:52	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 23:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 23:52	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 23:52	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 23:52	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 23:52	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 23:52	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 23:52	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 23:52	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 23:52	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 23:52	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 23:52	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 23:52	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 23:52	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 23:52	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 23:52	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 23:52	1
Acetone	25	U	50	25	ug/L			12/04/23 23:52	1
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 23:52	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 23:52	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 23:52	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 23:52	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 23:52	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 23:52	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 23:52	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 23:52	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 23:52	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 23:52	1
cis-1,2-Dichloroethene	**0.73**	**I**	1.0	0.53	ug/L			12/04/23 23:52	1

Client Sample ID: LC34-IW0147-024.0-20231129

Lab Sample ID: 670-31051-27

Date Collected: 11/29/23 10:00
Date Received: 12/01/23 08:00

Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 23:52	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 23:52	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 23:52	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			12/04/23 23:52	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 23:52	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 23:52	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 23:52	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 23:52	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 23:52	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 23:52	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 23:52	1
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 23:52	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 23:52	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 23:52	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 23:52	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 23:52	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 23:52	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 23:52	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/04/23 23:52	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 23:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*40 - 146*		*12/04/23 23:52*	*1*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*12/04/23 23:52*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/04/23 23:52*	*1*

Client Sample ID: LC34-IW0146-018.0-20231129

Lab Sample ID: 670-31051-28

Date Collected: 11/29/23 10:20
Date Received: 12/01/23 08:00

Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/05/23 00:09	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/05/23 00:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/05/23 00:09	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/05/23 00:09	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/05/23 00:09	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/05/23 00:09	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/05/23 00:09	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/05/23 00:09	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/05/23 00:09	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/05/23 00:09	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/05/23 00:09	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/05/23 00:09	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/05/23 00:09	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/05/23 00:09	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/05/23 00:09	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/05/23 00:09	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/05/23 00:09	1
Acetone	25	U	50	25	ug/L			12/05/23 00:09	1

Client Sample ID: LC34-IW0146-018.0-20231129

Lab Sample ID: 670-31051-28

Date Collected: 11/29/23 10:20

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			12/05/23 00:09	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/05/23 00:09	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/05/23 00:09	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/05/23 00:09	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/05/23 00:09	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/05/23 00:09	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/05/23 00:09	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/05/23 00:09	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/05/23 00:09	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/05/23 00:09	1
cis-1,2-Dichloroethene	**0.81**	**I**	1.0	0.53	ug/L			12/05/23 00:09	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/05/23 00:09	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/05/23 00:09	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/05/23 00:09	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			12/05/23 00:09	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/05/23 00:09	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/05/23 00:09	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/05/23 00:09	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/05/23 00:09	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/05/23 00:09	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/05/23 00:09	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/05/23 00:09	1
Styrene	0.61	U	1.0	0.61	ug/L			12/05/23 00:09	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/05/23 00:09	1
Toluene	0.72	U	1.0	0.72	ug/L			12/05/23 00:09	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/05/23 00:09	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/05/23 00:09	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/05/23 00:09	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/05/23 00:09	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/05/23 00:09	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/05/23 00:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*40 - 146*		*12/05/23 00:09*	*1*
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*		*12/05/23 00:09*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/05/23 00:09*	*1*

Client Sample ID: LC34-IW0182-032.5-20231129

Lab Sample ID: 670-31051-29

Date Collected: 11/29/23 10:20

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			12/05/23 00:29	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			12/05/23 00:29	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			12/05/23 00:29	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			12/05/23 00:29	25
1,1-Dichloroethane	16	U	25	16	ug/L			12/05/23 00:29	25
1,1-Dichloroethene	24	U	25	24	ug/L			12/05/23 00:29	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			12/05/23 00:29	25

Client Sample ID: LC34-IW0182-032.5-20231129
Date Collected: 11/29/23 10:20
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-29
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			12/05/23 00:29	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			12/05/23 00:29	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			12/05/23 00:29	25
1,2-Dichloroethane	16	U	25	16	ug/L			12/05/23 00:29	25
1,2-Dichloropropane	20	U	25	20	ug/L			12/05/23 00:29	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			12/05/23 00:29	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			12/05/23 00:29	25
2-Butanone (MEK)	110	U	250	110	ug/L			12/05/23 00:29	25
2-Hexanone	63	U	500	63	ug/L			12/05/23 00:29	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			12/05/23 00:29	25
Acetone	630	U	1300	630	ug/L			12/05/23 00:29	25
Benzene	18	U	25	18	ug/L			12/05/23 00:29	25
Bromodichloromethane	13	U	25	13	ug/L			12/05/23 00:29	25
Bromoform	19	U	25	19	ug/L			12/05/23 00:29	25
Bromomethane	24	U	50	24	ug/L			12/05/23 00:29	25
Carbon disulfide	63	U	130	63	ug/L			12/05/23 00:29	25
Carbon tetrachloride	24	U	25	24	ug/L			12/05/23 00:29	25
Chlorobenzene	18	U	25	18	ug/L			12/05/23 00:29	25
Chloroethane	25	U	50	25	ug/L			12/05/23 00:29	25
Chloroform	20	U	130	20	ug/L			12/05/23 00:29	25
Chloromethane	21	U	50	21	ug/L			12/05/23 00:29	25
cis-1,2-Dichloroethene	**850**		25	13	ug/L			12/05/23 00:29	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			12/05/23 00:29	25
Cyclohexane	23	U	130	23	ug/L			12/05/23 00:29	25
Dibromochloromethane	13	U	25	13	ug/L			12/05/23 00:29	25
Dichlorodifluoromethane	19	U J3	25	19	ug/L			12/05/23 00:29	25
Ethylbenzene	17	U	25	17	ug/L			12/05/23 00:29	25
Isopropylbenzene	17	U	50	17	ug/L			12/05/23 00:29	25
m,p-Xylenes	33	U	50	33	ug/L			12/05/23 00:29	25
Methyl acetate	24	U	250	24	ug/L			12/05/23 00:29	25
Methyl tert-butyl ether	15	U	50	15	ug/L			12/05/23 00:29	25
Methylene Chloride	130	U	250	130	ug/L			12/05/23 00:29	25
o-Xylene	13	U	25	13	ug/L			12/05/23 00:29	25
Styrene	15	U	25	15	ug/L			12/05/23 00:29	25
Tetrachloroethene	19	U	25	19	ug/L			12/05/23 00:29	25
Toluene	18	U	25	18	ug/L			12/05/23 00:29	25
trans-1,2-Dichloroethene	18	U	25	18	ug/L			12/05/23 00:29	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			12/05/23 00:29	25
Trichloroethene	22	U	25	22	ug/L			12/05/23 00:29	25
Trichlorofluoromethane	24	U	25	24	ug/L			12/05/23 00:29	25
Vinyl chloride	**760**		25	18	ug/L			12/05/23 00:29	25
Xylenes, Total	33	U	50	33	ug/L			12/05/23 00:29	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*40 - 146*		*12/05/23 00:29*	*25*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*12/05/23 00:29*	*25*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*12/05/23 00:29*	*25*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0183-022.0-20231129
Date Collected: 11/29/23 10:45
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-30
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/05/23 00:47	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/05/23 00:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/05/23 00:47	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/05/23 00:47	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/05/23 00:47	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/05/23 00:47	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/05/23 00:47	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/05/23 00:47	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/05/23 00:47	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/05/23 00:47	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/05/23 00:47	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/05/23 00:47	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/05/23 00:47	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/05/23 00:47	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/05/23 00:47	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/05/23 00:47	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/05/23 00:47	1
Acetone	25	U	50	25	ug/L			12/05/23 00:47	1
Benzene	0.71	U	1.0	0.71	ug/L			12/05/23 00:47	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/05/23 00:47	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/05/23 00:47	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/05/23 00:47	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/05/23 00:47	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/05/23 00:47	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/05/23 00:47	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/05/23 00:47	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/05/23 00:47	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/05/23 00:47	1
cis-1,2-Dichloroethene	**77**		1.0	0.53	ug/L			12/05/23 00:47	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/05/23 00:47	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/05/23 00:47	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/05/23 00:47	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			12/05/23 00:47	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/05/23 00:47	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/05/23 00:47	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/05/23 00:47	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/05/23 00:47	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/05/23 00:47	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/05/23 00:47	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/05/23 00:47	1
Styrene	0.61	U	1.0	0.61	ug/L			12/05/23 00:47	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/05/23 00:47	1
Toluene	0.72	U	1.0	0.72	ug/L			12/05/23 00:47	1
trans-1,2-Dichloroethene	**2.4**		1.0	0.73	ug/L			12/05/23 00:47	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/05/23 00:47	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/05/23 00:47	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/05/23 00:47	1
Vinyl chloride	**2.7**		1.0	0.71	ug/L			12/05/23 00:47	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/05/23 00:47	1

Client Sample ID: LC34-IW0183-022.0-20231129

Lab Sample ID: 670-31051-30

Date Collected: 11/29/23 10:45

Matrix: Water

Date Received: 12/01/23 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*40 - 146*		*12/05/23 00:47*	*1*
4-Bromofluorobenzene (Surr)	*91*		*41 - 142*		*12/05/23 00:47*	*1*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*12/05/23 00:47*	*1*

Client Sample ID: LC34-IW0144-018.0-20231129

Lab Sample ID: 670-31051-31

Date Collected: 11/29/23 10:55

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/05/23 01:05	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/05/23 01:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/05/23 01:05	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/05/23 01:05	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/05/23 01:05	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/05/23 01:05	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/05/23 01:05	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/05/23 01:05	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/05/23 01:05	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/05/23 01:05	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/05/23 01:05	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/05/23 01:05	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/05/23 01:05	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/05/23 01:05	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/05/23 01:05	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/05/23 01:05	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/05/23 01:05	1
Acetone	25	U	50	25	ug/L			12/05/23 01:05	1
Benzene	0.71	U	1.0	0.71	ug/L			12/05/23 01:05	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/05/23 01:05	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/05/23 01:05	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/05/23 01:05	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/05/23 01:05	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/05/23 01:05	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/05/23 01:05	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/05/23 01:05	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/05/23 01:05	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/05/23 01:05	1
cis-1,2-Dichloroethene	**1.8**		1.0	0.53	ug/L			12/05/23 01:05	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/05/23 01:05	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/05/23 01:05	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/05/23 01:05	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			12/05/23 01:05	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/05/23 01:05	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/05/23 01:05	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/05/23 01:05	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/05/23 01:05	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/05/23 01:05	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/05/23 01:05	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/05/23 01:05	1

Client Sample ID: LC34-IW0144-018.0-20231129

Lab Sample ID: 670-31051-31

Date Collected: 11/29/23 10:55

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			12/05/23 01:05	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/05/23 01:05	1
Toluene	0.72	U	1.0	0.72	ug/L			12/05/23 01:05	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/05/23 01:05	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/05/23 01:05	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/05/23 01:05	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/05/23 01:05	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/05/23 01:05	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/05/23 01:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*40 - 146*		*12/05/23 01:05*	*1*
4-Bromofluorobenzene (Surr)	*91*		*41 - 142*		*12/05/23 01:05*	*1*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*12/05/23 01:05*	*1*

Client Sample ID: LC34-IW0184-032.5-20231129

Lab Sample ID: 670-31051-32

Date Collected: 11/29/23 11:10

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	40	U	50	40	ug/L			12/05/23 11:21	50
1,1,2,2-Tetrachloroethane	27	U	50	27	ug/L			12/05/23 11:21	50
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	100	37	ug/L			12/05/23 11:21	50
1,1,2-Trichloroethane	38	U	100	38	ug/L			12/05/23 11:21	50
1,1-Dichloroethane	31	U	50	31	ug/L			12/05/23 11:21	50
1,1-Dichloroethene	47	U	50	47	ug/L			12/05/23 11:21	50
1,2,4-Trichlorobenzene	35	U	100	35	ug/L			12/05/23 11:21	50
1,2-Dibromo-3-Chloropropane	48	U	500	48	ug/L			12/05/23 11:21	50
1,2-Dibromoethane (EDB)	39	U	600	39	ug/L			12/05/23 11:21	50
1,2-Dichlorobenzene	37	U	50	37	ug/L			12/05/23 11:21	50
1,2-Dichloroethane	32	U	50	32	ug/L			12/05/23 11:21	50
1,2-Dichloropropane	40	U	50	40	ug/L			12/05/23 11:21	50
1,3-Dichlorobenzene	39	U	50	39	ug/L			12/05/23 11:21	50
1,4-Dichlorobenzene	38	U	50	38	ug/L			12/05/23 11:21	50
2-Butanone (MEK)	230	U	500	230	ug/L			12/05/23 11:21	50
2-Hexanone	130	U	1000	130	ug/L			12/05/23 11:21	50
4-Methyl-2-pentanone	250	U	1000	250	ug/L			12/05/23 11:21	50
Acetone	1300	U	2500	1300	ug/L			12/05/23 11:21	50
Benzene	36	U	50	36	ug/L			12/05/23 11:21	50
Bromodichloromethane	26	U	50	26	ug/L			12/05/23 11:21	50
Bromoform	38	U	50	38	ug/L			12/05/23 11:21	50
Bromomethane	48	U	100	48	ug/L			12/05/23 11:21	50
Carbon disulfide	130	U	250	130	ug/L			12/05/23 11:21	50
Carbon tetrachloride	47	U	50	47	ug/L			12/05/23 11:21	50
Chlorobenzene	36	U	50	36	ug/L			12/05/23 11:21	50
Chloroethane	49	U J3	100	49	ug/L			12/05/23 11:21	50
Chloroform	40	U	250	40	ug/L			12/05/23 11:21	50
Chloromethane	41	U	100	41	ug/L			12/05/23 11:21	50
cis-1,2-Dichloroethene	**1100**		50	27	ug/L			12/05/23 11:21	50

Client Sample ID: LC34-IW0184-032.5-20231129

Lab Sample ID: 670-31051-32

Date Collected: 11/29/23 11:10

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	30	U	50	30	ug/L			12/05/23 11:21	50
Cyclohexane	47	U	250	47	ug/L			12/05/23 11:21	50
Dibromochloromethane	25	U	50	25	ug/L			12/05/23 11:21	50
Dichlorodifluoromethane	37	U	50	37	ug/L			12/05/23 11:21	50
Ethylbenzene	35	U	50	35	ug/L			12/05/23 11:21	50
Isopropylbenzene	34	U	100	34	ug/L			12/05/23 11:21	50
m,p-Xylenes	65	U	100	65	ug/L			12/05/23 11:21	50
Methyl acetate	48	U	500	48	ug/L			12/05/23 11:21	50
Methyl tert-butyl ether	30	U	100	30	ug/L			12/05/23 11:21	50
Methylene Chloride	250	U	500	250	ug/L			12/05/23 11:21	50
o-Xylene	27	U	50	27	ug/L			12/05/23 11:21	50
Styrene	31	U	50	31	ug/L			12/05/23 11:21	50
Tetrachloroethene	38	U	50	38	ug/L			12/05/23 11:21	50
Toluene	36	U	50	36	ug/L			12/05/23 11:21	50
trans-1,2-Dichloroethene	37	U	50	37	ug/L			12/05/23 11:21	50
trans-1,3-Dichloropropene	37	U	50	37	ug/L			12/05/23 11:21	50
Trichloroethene	45	U	50	45	ug/L			12/05/23 11:21	50
Trichlorofluoromethane	47	U	50	47	ug/L			12/05/23 11:21	50
Vinyl chloride	**720**		50	36	ug/L			12/05/23 11:21	50
Xylenes, Total	65	U	100	65	ug/L			12/05/23 11:21	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/05/23 11:21*	*50*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*12/05/23 11:21*	*50*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*12/05/23 11:21*	*50*

Client Sample ID: LC34-IW0145-031.5-20231129

Lab Sample ID: 670-31051-33

Date Collected: 11/29/23 11:20

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/05/23 15:27	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/05/23 15:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/05/23 15:27	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/05/23 15:27	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/05/23 15:27	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/05/23 15:27	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/05/23 15:27	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/05/23 15:27	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/05/23 15:27	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/05/23 15:27	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/05/23 15:27	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/05/23 15:27	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/05/23 15:27	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/05/23 15:27	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/05/23 15:27	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/05/23 15:27	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/05/23 15:27	1
Acetone	25	U	50	25	ug/L			12/05/23 15:27	1

Client Sample ID: LC34-IW0145-031.5-20231129

Lab Sample ID: 670-31051-33

Date Collected: 11/29/23 11:20

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			12/05/23 15:27	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/05/23 15:27	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/05/23 15:27	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/05/23 15:27	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/05/23 15:27	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/05/23 15:27	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/05/23 15:27	1
Chloroethane	0.98	U J3	2.0	0.98	ug/L			12/05/23 15:27	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/05/23 15:27	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/05/23 15:27	1
cis-1,2-Dichloroethene	**1.4**		1.0	0.53	ug/L			12/05/23 15:27	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/05/23 15:27	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/05/23 15:27	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/05/23 15:27	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/05/23 15:27	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/05/23 15:27	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/05/23 15:27	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/05/23 15:27	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/05/23 15:27	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/05/23 15:27	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/05/23 15:27	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/05/23 15:27	1
Styrene	0.61	U	1.0	0.61	ug/L			12/05/23 15:27	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/05/23 15:27	1
Toluene	0.72	U	1.0	0.72	ug/L			12/05/23 15:27	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/05/23 15:27	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/05/23 15:27	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/05/23 15:27	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/05/23 15:27	1
Vinyl chloride	**3.7**		1.0	0.71	ug/L			12/05/23 15:27	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/05/23 15:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/05/23 15:27*	*1*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*		*12/05/23 15:27*	*1*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*12/05/23 15:27*	*1*

Client Sample ID: LC34-IW0180-032.5-20231129

Lab Sample ID: 670-31051-34

Date Collected: 11/29/23 11:40

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			12/05/23 18:11	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			12/05/23 18:11	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			12/05/23 18:11	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			12/05/23 18:11	25
1,1-Dichloroethane	16	U	25	16	ug/L			12/05/23 18:11	25
1,1-Dichloroethene	24	U	25	24	ug/L			12/05/23 18:11	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			12/05/23 18:11	25

Client Sample ID: LC34-IW0180-032.5-20231129
Date Collected: 11/29/23 11:40
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-34
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			12/05/23 18:11	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			12/05/23 18:11	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			12/05/23 18:11	25
1,2-Dichloroethane	16	U	25	16	ug/L			12/05/23 18:11	25
1,2-Dichloropropane	20	U	25	20	ug/L			12/05/23 18:11	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			12/05/23 18:11	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			12/05/23 18:11	25
2-Butanone (MEK)	110	U	250	110	ug/L			12/05/23 18:11	25
2-Hexanone	63	U	500	63	ug/L			12/05/23 18:11	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			12/05/23 18:11	25
Acetone	630	U	1300	630	ug/L			12/05/23 18:11	25
Benzene	18	U	25	18	ug/L			12/05/23 18:11	25
Bromodichloromethane	13	U	25	13	ug/L			12/05/23 18:11	25
Bromoform	19	U	25	19	ug/L			12/05/23 18:11	25
Bromomethane	24	U	50	24	ug/L			12/05/23 18:11	25
Carbon disulfide	63	U	130	63	ug/L			12/05/23 18:11	25
Carbon tetrachloride	24	U	25	24	ug/L			12/05/23 18:11	25
Chlorobenzene	18	U	25	18	ug/L			12/05/23 18:11	25
Chloroethane	25	U J3	50	25	ug/L			12/05/23 18:11	25
Chloroform	20	U	130	20	ug/L			12/05/23 18:11	25
Chloromethane	21	U	50	21	ug/L			12/05/23 18:11	25
cis-1,2-Dichloroethene	**780**		25	13	ug/L			12/05/23 18:11	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			12/05/23 18:11	25
Cyclohexane	23	U	130	23	ug/L			12/05/23 18:11	25
Dibromochloromethane	13	U	25	13	ug/L			12/05/23 18:11	25
Dichlorodifluoromethane	19	U	25	19	ug/L			12/05/23 18:11	25
Ethylbenzene	17	U	25	17	ug/L			12/05/23 18:11	25
Isopropylbenzene	17	U	50	17	ug/L			12/05/23 18:11	25
m,p-Xylenes	33	U	50	33	ug/L			12/05/23 18:11	25
Methyl acetate	24	U	250	24	ug/L			12/05/23 18:11	25
Methyl tert-butyl ether	15	U	50	15	ug/L			12/05/23 18:11	25
Methylene Chloride	130	U	250	130	ug/L			12/05/23 18:11	25
o-Xylene	13	U	25	13	ug/L			12/05/23 18:11	25
Styrene	15	U	25	15	ug/L			12/05/23 18:11	25
Tetrachloroethene	19	U	25	19	ug/L			12/05/23 18:11	25
Toluene	18	U	25	18	ug/L			12/05/23 18:11	25
trans-1,2-Dichloroethene	18	U	25	18	ug/L			12/05/23 18:11	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			12/05/23 18:11	25
Trichloroethene	22	U	25	22	ug/L			12/05/23 18:11	25
Trichlorofluoromethane	24	U	25	24	ug/L			12/05/23 18:11	25
Vinyl chloride	**400**		25	18	ug/L			12/05/23 18:11	25
Xylenes, Total	33	U	50	33	ug/L			12/05/23 18:11	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*40 - 146*		*12/05/23 18:11*	*25*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*12/05/23 18:11*	*25*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*12/05/23 18:11*	*25*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0143-024.0-20231129
Date Collected: 11/29/23 12:05
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-35
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/05/23 12:31	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/05/23 12:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/05/23 12:31	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/05/23 12:31	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/05/23 12:31	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/05/23 12:31	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/05/23 12:31	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/05/23 12:31	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/05/23 12:31	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/05/23 12:31	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/05/23 12:31	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/05/23 12:31	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/05/23 12:31	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/05/23 12:31	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/05/23 12:31	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/05/23 12:31	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/05/23 12:31	1
Acetone	25	U	50	25	ug/L			12/05/23 12:31	1
Benzene	0.71	U	1.0	0.71	ug/L			12/05/23 12:31	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/05/23 12:31	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/05/23 12:31	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/05/23 12:31	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/05/23 12:31	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/05/23 12:31	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/05/23 12:31	1
Chloroethane	0.98	U J3	2.0	0.98	ug/L			12/05/23 12:31	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/05/23 12:31	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/05/23 12:31	1
cis-1,2-Dichloroethene	**4.6**		1.0	0.53	ug/L			12/05/23 12:31	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/05/23 12:31	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/05/23 12:31	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/05/23 12:31	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/05/23 12:31	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/05/23 12:31	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/05/23 12:31	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/05/23 12:31	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/05/23 12:31	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/05/23 12:31	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/05/23 12:31	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/05/23 12:31	1
Styrene	0.61	U	1.0	0.61	ug/L			12/05/23 12:31	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/05/23 12:31	1
Toluene	0.72	U	1.0	0.72	ug/L			12/05/23 12:31	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/05/23 12:31	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/05/23 12:31	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/05/23 12:31	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/05/23 12:31	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/05/23 12:31	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/05/23 12:31	1

Client Sample ID: LC34-IW0143-024.0-20231129

Lab Sample ID: 670-31051-35

Date Collected: 11/29/23 12:05

Matrix: Water

Date Received: 12/01/23 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/05/23 12:31*	*1*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*12/05/23 12:31*	*1*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*12/05/23 12:31*	*1*

Client Sample ID: LC34-IW0179-022.0-20231129

Lab Sample ID: 670-31051-36

Date Collected: 11/29/23 12:07

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/06/23 17:04	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/06/23 17:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/06/23 17:04	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/06/23 17:04	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/06/23 17:04	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/06/23 17:04	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/06/23 17:04	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/06/23 17:04	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/06/23 17:04	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/06/23 17:04	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/06/23 17:04	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/06/23 17:04	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/06/23 17:04	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/06/23 17:04	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/06/23 17:04	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/06/23 17:04	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/06/23 17:04	1
Acetone	25	U	50	25	ug/L			12/06/23 17:04	1
Benzene	0.71	U	1.0	0.71	ug/L			12/06/23 17:04	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/06/23 17:04	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/06/23 17:04	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/06/23 17:04	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/06/23 17:04	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/06/23 17:04	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/06/23 17:04	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/06/23 17:04	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/06/23 17:04	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/06/23 17:04	1
cis-1,2-Dichloroethene	**57**		1.0	0.53	ug/L			12/06/23 17:04	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/06/23 17:04	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/06/23 17:04	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/06/23 17:04	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/06/23 17:04	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/06/23 17:04	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/06/23 17:04	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/06/23 17:04	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/06/23 17:04	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/06/23 17:04	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/06/23 17:04	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/06/23 17:04	1

Client Sample ID: LC34-IW0179-022.0-20231129

Lab Sample ID: 670-31051-36

Date Collected: 11/29/23 12:07

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			12/06/23 17:04	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/06/23 17:04	1
Toluene	0.72	U	1.0	0.72	ug/L			12/06/23 17:04	1
trans-1,2-Dichloroethene	**0.75**	**I**	1.0	0.73	ug/L			12/06/23 17:04	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/06/23 17:04	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/06/23 17:04	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/06/23 17:04	1
Vinyl chloride	**75**		1.0	0.71	ug/L			12/06/23 17:04	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/06/23 17:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*40 - 146*		*12/06/23 17:04*	*1*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*12/06/23 17:04*	*1*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*12/06/23 17:04*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/05/23 16:49*	*5*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*12/05/23 16:49*	*5*
Dibromofluoromethane (Surr)	*101*		*53 - 146*		*12/05/23 16:49*	*5*

Client Sample ID: LC34-IW0123-024.0-20231129

Lab Sample ID: 670-31051-37

Date Collected: 11/29/23 12:30

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/05/23 12:49	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/05/23 12:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/05/23 12:49	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/05/23 12:49	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/05/23 12:49	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/05/23 12:49	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/05/23 12:49	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/05/23 12:49	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/05/23 12:49	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/05/23 12:49	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/05/23 12:49	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/05/23 12:49	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/05/23 12:49	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/05/23 12:49	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/05/23 12:49	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/05/23 12:49	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/05/23 12:49	1
Acetone	25	U	50	25	ug/L			12/05/23 12:49	1
Benzene	0.71	U	1.0	0.71	ug/L			12/05/23 12:49	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/05/23 12:49	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/05/23 12:49	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/05/23 12:49	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/05/23 12:49	1

Client Sample ID: LC34-IW0123-024.0-20231129

Lab Sample ID: 670-31051-37

Date Collected: 11/29/23 12:30

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/05/23 12:49	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/05/23 12:49	1
Chloroethane	0.98	U J3	2.0	0.98	ug/L			12/05/23 12:49	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/05/23 12:49	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/05/23 12:49	1
cis-1,2-Dichloroethene	**17**		1.0	0.53	ug/L			12/05/23 12:49	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/05/23 12:49	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/05/23 12:49	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/05/23 12:49	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/05/23 12:49	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/05/23 12:49	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/05/23 12:49	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/05/23 12:49	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/05/23 12:49	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/05/23 12:49	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/05/23 12:49	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/05/23 12:49	1
Styrene	0.61	U	1.0	0.61	ug/L			12/05/23 12:49	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/05/23 12:49	1
Toluene	0.72	U	1.0	0.72	ug/L			12/05/23 12:49	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/05/23 12:49	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/05/23 12:49	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/05/23 12:49	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/05/23 12:49	1
Vinyl chloride	**1.8**		1.0	0.71	ug/L			12/05/23 12:49	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/05/23 12:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*40 - 146*		*12/05/23 12:49*	*1*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*12/05/23 12:49*	*1*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*12/05/23 12:49*	*1*

Client Sample ID: LC34-IW0185-018.5-20231129

Lab Sample ID: 670-31051-38

Date Collected: 11/29/23 12:50

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			12/05/23 17:30	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			12/05/23 17:30	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			12/05/23 17:30	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			12/05/23 17:30	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			12/05/23 17:30	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			12/05/23 17:30	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			12/05/23 17:30	10
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			12/05/23 17:30	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			12/05/23 17:30	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			12/05/23 17:30	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			12/05/23 17:30	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			12/05/23 17:30	10

Client Sample ID: LC34-IW0185-018.5-20231129

Lab Sample ID: 670-31051-38

Date Collected: 11/29/23 12:50

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			12/05/23 17:30	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			12/05/23 17:30	10
2-Butanone (MEK)	45	U	100	45	ug/L			12/05/23 17:30	10
2-Hexanone	25	U	200	25	ug/L			12/05/23 17:30	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			12/05/23 17:30	10
Acetone	250	U	500	250	ug/L			12/05/23 17:30	10
Benzene	7.1	U	10	7.1	ug/L			12/05/23 17:30	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			12/05/23 17:30	10
Bromoform	7.5	U	10	7.5	ug/L			12/05/23 17:30	10
Bromomethane	9.5	U	20	9.5	ug/L			12/05/23 17:30	10
Carbon disulfide	25	U	50	25	ug/L			12/05/23 17:30	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			12/05/23 17:30	10
Chlorobenzene	7.2	U	10	7.2	ug/L			12/05/23 17:30	10
Chloroethane	9.8	U J3	20	9.8	ug/L			12/05/23 17:30	10
Chloroform	8.0	U	50	8.0	ug/L			12/05/23 17:30	10
Chloromethane	8.2	U	20	8.2	ug/L			12/05/23 17:30	10
cis-1,2-Dichloroethene	**100**		10	5.3	ug/L			12/05/23 17:30	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			12/05/23 17:30	10
Cyclohexane	9.3	U	50	9.3	ug/L			12/05/23 17:30	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			12/05/23 17:30	10
Dichlorodifluoromethane	7.4	U	10	7.4	ug/L			12/05/23 17:30	10
Ethylbenzene	6.9	U	10	6.9	ug/L			12/05/23 17:30	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			12/05/23 17:30	10
m,p-Xylenes	13	U	20	13	ug/L			12/05/23 17:30	10
Methyl acetate	9.5	U	100	9.5	ug/L			12/05/23 17:30	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			12/05/23 17:30	10
Methylene Chloride	50	U	100	50	ug/L			12/05/23 17:30	10
o-Xylene	5.3	U	10	5.3	ug/L			12/05/23 17:30	10
Styrene	6.1	U	10	6.1	ug/L			12/05/23 17:30	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			12/05/23 17:30	10
Toluene	7.2	U	10	7.2	ug/L			12/05/23 17:30	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			12/05/23 17:30	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			12/05/23 17:30	10
Trichloroethene	8.9	U	10	8.9	ug/L			12/05/23 17:30	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			12/05/23 17:30	10
Vinyl chloride	**250**		10	7.1	ug/L			12/05/23 17:30	10
Xylenes, Total	13	U	20	13	ug/L			12/05/23 17:30	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*40 - 146*		*12/05/23 17:30*	*10*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*12/05/23 17:30*	*10*
Dibromofluoromethane (Surr)	*102*		*53 - 146*		*12/05/23 17:30*	*10*

Client Sample ID: LC34-IW0176-018.5-20231129

Lab Sample ID: 670-31051-39

Date Collected: 11/29/23 13:00

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.6	U	2.0	1.6	ug/L			12/05/23 16:08	2

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0176-018.5-20231129
Date Collected: 11/29/23 13:00
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-39
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	1.1	U	2.0	1.1	ug/L			12/05/23 16:08	2
1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	U	4.0	1.5	ug/L			12/05/23 16:08	2
1,1,2-Trichloroethane	1.5	U	4.0	1.5	ug/L			12/05/23 16:08	2
1,1-Dichloroethane	1.2	U	2.0	1.2	ug/L			12/05/23 16:08	2
1,1-Dichloroethene	1.9	U	2.0	1.9	ug/L			12/05/23 16:08	2
1,2,4-Trichlorobenzene	1.4	U	4.0	1.4	ug/L			12/05/23 16:08	2
1,2-Dibromo-3-Chloropropane	1.9	U	20	1.9	ug/L			12/05/23 16:08	2
1,2-Dibromoethane (EDB)	1.6	U	24	1.6	ug/L			12/05/23 16:08	2
1,2-Dichlorobenzene	1.5	U	2.0	1.5	ug/L			12/05/23 16:08	2
1,2-Dichloroethane	1.3	U	2.0	1.3	ug/L			12/05/23 16:08	2
1,2-Dichloropropane	1.6	U	2.0	1.6	ug/L			12/05/23 16:08	2
1,3-Dichlorobenzene	1.5	U	2.0	1.5	ug/L			12/05/23 16:08	2
1,4-Dichlorobenzene	1.5	U	2.0	1.5	ug/L			12/05/23 16:08	2
2-Butanone (MEK)	9.0	U	20	9.0	ug/L			12/05/23 16:08	2
2-Hexanone	5.0	U	40	5.0	ug/L			12/05/23 16:08	2
4-Methyl-2-pentanone	10	U	40	10	ug/L			12/05/23 16:08	2
Acetone	50	U	100	50	ug/L			12/05/23 16:08	2
Benzene	1.4	U	2.0	1.4	ug/L			12/05/23 16:08	2
Bromodichloromethane	1.0	U	2.0	1.0	ug/L			12/05/23 16:08	2
Bromoform	1.5	U	2.0	1.5	ug/L			12/05/23 16:08	2
Bromomethane	1.9	U	4.0	1.9	ug/L			12/05/23 16:08	2
Carbon disulfide	5.0	U	10	5.0	ug/L			12/05/23 16:08	2
Carbon tetrachloride	1.9	U	2.0	1.9	ug/L			12/05/23 16:08	2
Chlorobenzene	1.4	U	2.0	1.4	ug/L			12/05/23 16:08	2
Chloroethane	2.0	U J3	4.0	2.0	ug/L			12/05/23 16:08	2
Chloroform	1.6	U	10	1.6	ug/L			12/05/23 16:08	2
Chloromethane	1.6	U	4.0	1.6	ug/L			12/05/23 16:08	2
cis-1,2-Dichloroethene	**150**		2.0	1.1	ug/L			12/05/23 16:08	2
cis-1,3-Dichloropropene	1.2	U	2.0	1.2	ug/L			12/05/23 16:08	2
Cyclohexane	1.9	U	10	1.9	ug/L			12/05/23 16:08	2
Dibromochloromethane	1.0	U	2.0	1.0	ug/L			12/05/23 16:08	2
Dichlorodifluoromethane	1.5	U	2.0	1.5	ug/L			12/05/23 16:08	2
Ethylbenzene	1.4	U	2.0	1.4	ug/L			12/05/23 16:08	2
Isopropylbenzene	1.3	U	4.0	1.3	ug/L			12/05/23 16:08	2
m,p-Xylenes	2.6	U	4.0	2.6	ug/L			12/05/23 16:08	2
Methyl acetate	1.9	U	20	1.9	ug/L			12/05/23 16:08	2
Methyl tert-butyl ether	1.2	U	4.0	1.2	ug/L			12/05/23 16:08	2
Methylene Chloride	10	U	20	10	ug/L			12/05/23 16:08	2
o-Xylene	1.1	U	2.0	1.1	ug/L			12/05/23 16:08	2
Styrene	1.2	U	2.0	1.2	ug/L			12/05/23 16:08	2
Tetrachloroethene	1.5	U	2.0	1.5	ug/L			12/05/23 16:08	2
Toluene	1.4	U	2.0	1.4	ug/L			12/05/23 16:08	2
trans-1,2-Dichloroethene	**1.5**	**I**	2.0	1.5	ug/L			12/05/23 16:08	2
trans-1,3-Dichloropropene	1.5	U	2.0	1.5	ug/L			12/05/23 16:08	2
Trichloroethene	1.8	U	2.0	1.8	ug/L			12/05/23 16:08	2
Trichlorofluoromethane	1.9	U	2.0	1.9	ug/L			12/05/23 16:08	2
Vinyl chloride	**38**		2.0	1.4	ug/L			12/05/23 16:08	2
Xylenes, Total	2.6	U	4.0	2.6	ug/L			12/05/23 16:08	2

Client Sample ID: LC34-IW0176-018.5-20231129

Lab Sample ID: 670-31051-39

Date Collected: 11/29/23 13:00

Matrix: Water

Date Received: 12/01/23 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*40 - 146*		*12/05/23 16:08*	*2*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*12/05/23 16:08*	*2*
Dibromofluoromethane (Surr)	*97*		*53 - 146*		*12/05/23 16:08*	*2*

Client Sample ID: LC34-IW0186-018.5-20231129

Lab Sample ID: 670-31051-40

Date Collected: 11/29/23 13:20

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			12/05/23 16:29	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			12/05/23 16:29	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			12/05/23 16:29	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			12/05/23 16:29	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			12/05/23 16:29	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			12/05/23 16:29	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			12/05/23 16:29	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			12/05/23 16:29	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			12/05/23 16:29	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			12/05/23 16:29	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			12/05/23 16:29	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			12/05/23 16:29	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			12/05/23 16:29	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			12/05/23 16:29	5
2-Butanone (MEK)	23	U	50	23	ug/L			12/05/23 16:29	5
2-Hexanone	13	U	100	13	ug/L			12/05/23 16:29	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			12/05/23 16:29	5
Acetone	130	U	250	130	ug/L			12/05/23 16:29	5
Benzene	3.6	U	5.0	3.6	ug/L			12/05/23 16:29	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			12/05/23 16:29	5
Bromoform	3.8	U	5.0	3.8	ug/L			12/05/23 16:29	5
Bromomethane	4.8	U	10	4.8	ug/L			12/05/23 16:29	5
Carbon disulfide	13	U	25	13	ug/L			12/05/23 16:29	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			12/05/23 16:29	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			12/05/23 16:29	5
Chloroethane	4.9	U J3	10	4.9	ug/L			12/05/23 16:29	5
Chloroform	4.0	U	25	4.0	ug/L			12/05/23 16:29	5
Chloromethane	4.1	U	10	4.1	ug/L			12/05/23 16:29	5
cis-1,2-Dichloroethene	**240**		5.0	2.7	ug/L			12/05/23 16:29	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			12/05/23 16:29	5
Cyclohexane	4.7	U	25	4.7	ug/L			12/05/23 16:29	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			12/05/23 16:29	5
Dichlorodifluoromethane	3.7	U	5.0	3.7	ug/L			12/05/23 16:29	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			12/05/23 16:29	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			12/05/23 16:29	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			12/05/23 16:29	5
Methyl acetate	4.8	U	50	4.8	ug/L			12/05/23 16:29	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			12/05/23 16:29	5
Methylene Chloride	25	U	50	25	ug/L			12/05/23 16:29	5
o-Xylene	2.7	U	5.0	2.7	ug/L			12/05/23 16:29	5

Client Sample ID: LC34-IW0186-018.5-20231129

Lab Sample ID: 670-31051-40

Date Collected: 11/29/23 13:20

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	3.1	U	5.0	3.1	ug/L			12/05/23 16:29	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			12/05/23 16:29	5
Toluene	3.6	U	5.0	3.6	ug/L			12/05/23 16:29	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			12/05/23 16:29	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			12/05/23 16:29	5
Trichloroethene	4.5	U	5.0	4.5	ug/L			12/05/23 16:29	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			12/05/23 16:29	5
Vinyl chloride	**140**		5.0	3.6	ug/L			12/05/23 16:29	5
Xylenes, Total	6.5	U	10	6.5	ug/L			12/05/23 16:29	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*40 - 146*		*12/05/23 16:29*	*5*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*12/05/23 16:29*	*5*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*12/05/23 16:29*	*5*

Client Sample ID: LC34-IW0135-024.0-20231129

Lab Sample ID: 670-31051-41

Date Collected: 11/29/23 13:45

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.6	U	2.0	1.6	ug/L			12/05/23 15:48	2
1,1,2,2-Tetrachloroethane	1.1	U	2.0	1.1	ug/L			12/05/23 15:48	2
1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	U	4.0	1.5	ug/L			12/05/23 15:48	2
1,1,2-Trichloroethane	1.5	U	4.0	1.5	ug/L			12/05/23 15:48	2
1,1-Dichloroethane	1.2	U	2.0	1.2	ug/L			12/05/23 15:48	2
1,1-Dichloroethene	1.9	U	2.0	1.9	ug/L			12/05/23 15:48	2
1,2,4-Trichlorobenzene	1.4	U	4.0	1.4	ug/L			12/05/23 15:48	2
1,2-Dibromo-3-Chloropropane	1.9	U	20	1.9	ug/L			12/05/23 15:48	2
1,2-Dibromoethane (EDB)	1.6	U	24	1.6	ug/L			12/05/23 15:48	2
1,2-Dichlorobenzene	1.5	U	2.0	1.5	ug/L			12/05/23 15:48	2
1,2-Dichloroethane	1.3	U	2.0	1.3	ug/L			12/05/23 15:48	2
1,2-Dichloropropane	1.6	U	2.0	1.6	ug/L			12/05/23 15:48	2
1,3-Dichlorobenzene	1.5	U	2.0	1.5	ug/L			12/05/23 15:48	2
1,4-Dichlorobenzene	1.5	U	2.0	1.5	ug/L			12/05/23 15:48	2
2-Butanone (MEK)	9.0	U	20	9.0	ug/L			12/05/23 15:48	2
2-Hexanone	5.0	U	40	5.0	ug/L			12/05/23 15:48	2
4-Methyl-2-pentanone	10	U	40	10	ug/L			12/05/23 15:48	2
Acetone	50	U	100	50	ug/L			12/05/23 15:48	2
Benzene	1.4	U	2.0	1.4	ug/L			12/05/23 15:48	2
Bromodichloromethane	1.0	U	2.0	1.0	ug/L			12/05/23 15:48	2
Bromoform	1.5	U	2.0	1.5	ug/L			12/05/23 15:48	2
Bromomethane	1.9	U	4.0	1.9	ug/L			12/05/23 15:48	2
Carbon disulfide	5.0	U	10	5.0	ug/L			12/05/23 15:48	2
Carbon tetrachloride	1.9	U	2.0	1.9	ug/L			12/05/23 15:48	2
Chlorobenzene	1.4	U	2.0	1.4	ug/L			12/05/23 15:48	2
Chloroethane	2.0	U J3	4.0	2.0	ug/L			12/05/23 15:48	2
Chloroform	1.6	U	10	1.6	ug/L			12/05/23 15:48	2
Chloromethane	1.6	U	4.0	1.6	ug/L			12/05/23 15:48	2
cis-1,2-Dichloroethene	**110**		2.0	1.1	ug/L			12/05/23 15:48	2

Client Sample ID: LC34-IW0135-024.0-20231129

Lab Sample ID: 670-31051-41

Date Collected: 11/29/23 13:45

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	1.2	U	2.0	1.2	ug/L			12/05/23 15:48	2
Cyclohexane	1.9	U	10	1.9	ug/L			12/05/23 15:48	2
Dibromochloromethane	1.0	U	2.0	1.0	ug/L			12/05/23 15:48	2
Dichlorodifluoromethane	1.5	U	2.0	1.5	ug/L			12/05/23 15:48	2
Ethylbenzene	1.4	U	2.0	1.4	ug/L			12/05/23 15:48	2
Isopropylbenzene	1.3	U	4.0	1.3	ug/L			12/05/23 15:48	2
m,p-Xylenes	2.6	U	4.0	2.6	ug/L			12/05/23 15:48	2
Methyl acetate	1.9	U	20	1.9	ug/L			12/05/23 15:48	2
Methyl tert-butyl ether	1.2	U	4.0	1.2	ug/L			12/05/23 15:48	2
Methylene Chloride	10	U	20	10	ug/L			12/05/23 15:48	2
o-Xylene	1.1	U	2.0	1.1	ug/L			12/05/23 15:48	2
Styrene	1.2	U	2.0	1.2	ug/L			12/05/23 15:48	2
Tetrachloroethene	1.5	U	2.0	1.5	ug/L			12/05/23 15:48	2
Toluene	1.4	U	2.0	1.4	ug/L			12/05/23 15:48	2
trans-1,2-Dichloroethene	**7.7**		2.0	1.5	ug/L			12/05/23 15:48	2
trans-1,3-Dichloropropene	1.5	U	2.0	1.5	ug/L			12/05/23 15:48	2
Trichloroethene	1.8	U	2.0	1.8	ug/L			12/05/23 15:48	2
Trichlorofluoromethane	1.9	U	2.0	1.9	ug/L			12/05/23 15:48	2
Vinyl chloride	**12**		2.0	1.4	ug/L			12/05/23 15:48	2
Xylenes, Total	2.6	U	4.0	2.6	ug/L			12/05/23 15:48	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/05/23 15:48*	*2*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*		*12/05/23 15:48*	*2*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*12/05/23 15:48*	*2*

Client Sample ID: LC34-IW0187-018.5-20231129

Lab Sample ID: 670-31051-42

Date Collected: 11/29/23 14:00

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			12/05/23 18:02	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			12/05/23 18:02	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			12/05/23 18:02	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			12/05/23 18:02	25
1,1-Dichloroethane	16	U	25	16	ug/L			12/05/23 18:02	25
1,1-Dichloroethene	24	U	25	24	ug/L			12/05/23 18:02	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			12/05/23 18:02	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			12/05/23 18:02	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			12/05/23 18:02	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			12/05/23 18:02	25
1,2-Dichloroethane	16	U	25	16	ug/L			12/05/23 18:02	25
1,2-Dichloropropane	20	U	25	20	ug/L			12/05/23 18:02	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			12/05/23 18:02	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			12/05/23 18:02	25
2-Butanone (MEK)	110	U	250	110	ug/L			12/05/23 18:02	25
2-Hexanone	63	U	500	63	ug/L			12/05/23 18:02	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			12/05/23 18:02	25
Acetone	630	U	1300	630	ug/L			12/05/23 18:02	25

Client Sample ID: LC34-IW0187-018.5-20231129

Lab Sample ID: 670-31051-42

Date Collected: 11/29/23 14:00

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	18	U	25	18	ug/L			12/05/23 18:02	25
Bromodichloromethane	13	U	25	13	ug/L			12/05/23 18:02	25
Bromoform	19	U	25	19	ug/L			12/05/23 18:02	25
Bromomethane	24	U	50	24	ug/L			12/05/23 18:02	25
Carbon disulfide	63	U	130	63	ug/L			12/05/23 18:02	25
Carbon tetrachloride	24	U	25	24	ug/L			12/05/23 18:02	25
Chlorobenzene	18	U	25	18	ug/L			12/05/23 18:02	25
Chloroethane	25	U	50	25	ug/L			12/05/23 18:02	25
Chloroform	20	U	130	20	ug/L			12/05/23 18:02	25
Chloromethane	21	U	50	21	ug/L			12/05/23 18:02	25
cis-1,2-Dichloroethene	**150**		25	13	ug/L			12/05/23 18:02	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			12/05/23 18:02	25
Cyclohexane	23	U	130	23	ug/L			12/05/23 18:02	25
Dibromochloromethane	13	U	25	13	ug/L			12/05/23 18:02	25
Dichlorodifluoromethane	19	U	25	19	ug/L			12/05/23 18:02	25
Ethylbenzene	17	U	25	17	ug/L			12/05/23 18:02	25
Isopropylbenzene	17	U	50	17	ug/L			12/05/23 18:02	25
m,p-Xylenes	33	U	50	33	ug/L			12/05/23 18:02	25
Methyl acetate	24	U	250	24	ug/L			12/05/23 18:02	25
Methyl tert-butyl ether	15	U	50	15	ug/L			12/05/23 18:02	25
Methylene Chloride	130	U	250	130	ug/L			12/05/23 18:02	25
o-Xylene	13	U	25	13	ug/L			12/05/23 18:02	25
Styrene	15	U	25	15	ug/L			12/05/23 18:02	25
Tetrachloroethene	19	U	25	19	ug/L			12/05/23 18:02	25
Toluene	18	U	25	18	ug/L			12/05/23 18:02	25
trans-1,2-Dichloroethene	18	U	25	18	ug/L			12/05/23 18:02	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			12/05/23 18:02	25
Trichloroethene	22	U	25	22	ug/L			12/05/23 18:02	25
Trichlorofluoromethane	24	U	25	24	ug/L			12/05/23 18:02	25
Vinyl chloride	**780**		25	18	ug/L			12/05/23 18:02	25
Xylenes, Total	33	U	50	33	ug/L			12/05/23 18:02	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/05/23 18:02*	*25*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*		*12/05/23 18:02*	*25*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*12/05/23 18:02*	*25*

Client Sample ID: LC34-IW0134-024.0-20231129

Lab Sample ID: 670-31051-43

Date Collected: 11/29/23 14:15

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			12/05/23 18:22	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			12/05/23 18:22	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			12/05/23 18:22	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			12/05/23 18:22	25
1,1-Dichloroethane	16	U	25	16	ug/L			12/05/23 18:22	25
1,1-Dichloroethene	24	U	25	24	ug/L			12/05/23 18:22	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			12/05/23 18:22	25

Client Sample ID: LC34-IW0134-024.0-20231129
Date Collected: 11/29/23 14:15
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-43
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			12/05/23 18:22	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			12/05/23 18:22	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			12/05/23 18:22	25
1,2-Dichloroethane	16	U	25	16	ug/L			12/05/23 18:22	25
1,2-Dichloropropane	20	U	25	20	ug/L			12/05/23 18:22	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			12/05/23 18:22	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			12/05/23 18:22	25
2-Butanone (MEK)	110	U	250	110	ug/L			12/05/23 18:22	25
2-Hexanone	63	U	500	63	ug/L			12/05/23 18:22	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			12/05/23 18:22	25
Acetone	630	U	1300	630	ug/L			12/05/23 18:22	25
Benzene	18	U	25	18	ug/L			12/05/23 18:22	25
Bromodichloromethane	13	U	25	13	ug/L			12/05/23 18:22	25
Bromoform	19	U	25	19	ug/L			12/05/23 18:22	25
Bromomethane	24	U	50	24	ug/L			12/05/23 18:22	25
Carbon disulfide	63	U	130	63	ug/L			12/05/23 18:22	25
Carbon tetrachloride	24	U	25	24	ug/L			12/05/23 18:22	25
Chlorobenzene	18	U	25	18	ug/L			12/05/23 18:22	25
Chloroethane	25	U	50	25	ug/L			12/05/23 18:22	25
Chloroform	20	U	130	20	ug/L			12/05/23 18:22	25
Chloromethane	21	U	50	21	ug/L			12/05/23 18:22	25
cis-1,2-Dichloroethene	**1900**		25	13	ug/L			12/05/23 18:22	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			12/05/23 18:22	25
Cyclohexane	23	U	130	23	ug/L			12/05/23 18:22	25
Dibromochloromethane	13	U	25	13	ug/L			12/05/23 18:22	25
Dichlorodifluoromethane	19	U	25	19	ug/L			12/05/23 18:22	25
Ethylbenzene	17	U	25	17	ug/L			12/05/23 18:22	25
Isopropylbenzene	17	U	50	17	ug/L			12/05/23 18:22	25
m,p-Xylenes	33	U	50	33	ug/L			12/05/23 18:22	25
Methyl acetate	24	U	250	24	ug/L			12/05/23 18:22	25
Methyl tert-butyl ether	15	U	50	15	ug/L			12/05/23 18:22	25
Methylene Chloride	130	U	250	130	ug/L			12/05/23 18:22	25
o-Xylene	13	U	25	13	ug/L			12/05/23 18:22	25
Styrene	15	U	25	15	ug/L			12/05/23 18:22	25
Tetrachloroethene	19	U	25	19	ug/L			12/05/23 18:22	25
Toluene	18	U	25	18	ug/L			12/05/23 18:22	25
trans-1,2-Dichloroethene	18	U	25	18	ug/L			12/05/23 18:22	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			12/05/23 18:22	25
Trichloroethene	22	U	25	22	ug/L			12/05/23 18:22	25
Trichlorofluoromethane	24	U	25	24	ug/L			12/05/23 18:22	25
Vinyl chloride	**3700**		50	36	ug/L			12/07/23 14:20	50
Xylenes, Total	33	U	50	33	ug/L			12/05/23 18:22	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*40 - 146*		*12/05/23 18:22*	*25*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*12/05/23 18:22*	*25*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/05/23 18:22*	*25*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*12/07/23 14:20*	*50*
Dibromofluoromethane (Surr)	*112*		*53 - 146*		*12/07/23 14:20*	*50*
Toluene-d8 (Surr)	*103*		*40 - 146*		*12/07/23 14:20*	*50*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0141-024.0 -20231130
Date Collected: 11/30/23 10:15
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-44
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/06/23 12:28	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/06/23 12:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/06/23 12:28	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/06/23 12:28	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/06/23 12:28	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/06/23 12:28	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/06/23 12:28	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/06/23 12:28	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/06/23 12:28	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/06/23 12:28	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/06/23 12:28	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/06/23 12:28	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/06/23 12:28	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/06/23 12:28	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/06/23 12:28	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/06/23 12:28	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/06/23 12:28	1
Acetone	25	U	50	25	ug/L			12/06/23 12:28	1
Benzene	0.71	U	1.0	0.71	ug/L			12/06/23 12:28	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/06/23 12:28	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/06/23 12:28	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/06/23 12:28	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/06/23 12:28	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/06/23 12:28	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/06/23 12:28	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/06/23 12:28	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/06/23 12:28	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/06/23 12:28	1
cis-1,2-Dichloroethene	**1.2**		1.0	0.53	ug/L			12/06/23 12:28	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/06/23 12:28	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/06/23 12:28	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/06/23 12:28	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/06/23 12:28	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/06/23 12:28	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/06/23 12:28	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/06/23 12:28	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/06/23 12:28	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/06/23 12:28	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/06/23 12:28	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/06/23 12:28	1
Styrene	0.61	U	1.0	0.61	ug/L			12/06/23 12:28	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/06/23 12:28	1
Toluene	0.72	U	1.0	0.72	ug/L			12/06/23 12:28	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/06/23 12:28	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/06/23 12:28	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/06/23 12:28	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/06/23 12:28	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/06/23 12:28	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/06/23 12:28	1

Client Sample ID: LC34-IW0141-024.0 -20231130

Lab Sample ID: 670-31051-44

Date Collected: 11/30/23 10:15

Matrix: Water

Date Received: 12/01/23 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/06/23 12:28*	*1*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*12/06/23 12:28*	*1*
Dibromofluoromethane (Surr)	*110*		*53 - 146*		*12/06/23 12:28*	*1*

Client Sample ID: LC34-IW0126-024.0 -20231130

Lab Sample ID: 670-31051-45

Date Collected: 11/30/23 10:50

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/06/23 17:39	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/06/23 17:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/06/23 17:39	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/06/23 17:39	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/06/23 17:39	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/06/23 17:39	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/06/23 17:39	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/06/23 17:39	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/06/23 17:39	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/06/23 17:39	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/06/23 17:39	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/06/23 17:39	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/06/23 17:39	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/06/23 17:39	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/06/23 17:39	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/06/23 17:39	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/06/23 17:39	1
Acetone	25	U	50	25	ug/L			12/06/23 17:39	1
Benzene	0.71	U	1.0	0.71	ug/L			12/06/23 17:39	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/06/23 17:39	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/06/23 17:39	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/06/23 17:39	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/06/23 17:39	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/06/23 17:39	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/06/23 17:39	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/06/23 17:39	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/06/23 17:39	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/06/23 17:39	1
cis-1,2-Dichloroethene	**0.95**	**I**	1.0	0.53	ug/L			12/06/23 17:39	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/06/23 17:39	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/06/23 17:39	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/06/23 17:39	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/06/23 17:39	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/06/23 17:39	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/06/23 17:39	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/06/23 17:39	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/06/23 17:39	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/06/23 17:39	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/06/23 17:39	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/06/23 17:39	1

Client Sample ID: LC34-IW0126-024.0 -20231130

Lab Sample ID: 670-31051-45

Date Collected: 11/30/23 10:50

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			12/06/23 17:39	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/06/23 17:39	1
Toluene	0.72	U	1.0	0.72	ug/L			12/06/23 17:39	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/06/23 17:39	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/06/23 17:39	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/06/23 17:39	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/06/23 17:39	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/06/23 17:39	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/06/23 17:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/06/23 17:39*	*1*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*12/06/23 17:39*	*1*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*12/06/23 17:39*	*1*

Client Sample ID: LC34-SW1004-000.5-20231130

Lab Sample ID: 670-31051-46

Date Collected: 11/30/23 11:10

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/06/23 17:57	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/06/23 17:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/06/23 17:57	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/06/23 17:57	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/06/23 17:57	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/06/23 17:57	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/06/23 17:57	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/06/23 17:57	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/06/23 17:57	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/06/23 17:57	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/06/23 17:57	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/06/23 17:57	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/06/23 17:57	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/06/23 17:57	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/06/23 17:57	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/06/23 17:57	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/06/23 17:57	1
Acetone	25	U	50	25	ug/L			12/06/23 17:57	1
Benzene	0.71	U	1.0	0.71	ug/L			12/06/23 17:57	1
Bromodichloromethane	**1.1**		1.0	0.52	ug/L			12/06/23 17:57	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/06/23 17:57	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/06/23 17:57	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/06/23 17:57	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/06/23 17:57	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/06/23 17:57	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/06/23 17:57	1
Chloroform	**1.8**	**I**	5.0	0.80	ug/L			12/06/23 17:57	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/06/23 17:57	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/06/23 17:57	1

Client Sample ID: LC34-SW1004-000.5-20231130

Lab Sample ID: 670-31051-46

Date Collected: 11/30/23 11:10

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/06/23 17:57	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/06/23 17:57	1
Dibromochloromethane	**1.3**		1.0	0.50	ug/L			12/06/23 17:57	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/06/23 17:57	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/06/23 17:57	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/06/23 17:57	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/06/23 17:57	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/06/23 17:57	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/06/23 17:57	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/06/23 17:57	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/06/23 17:57	1
Styrene	0.61	U	1.0	0.61	ug/L			12/06/23 17:57	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/06/23 17:57	1
Toluene	0.72	U	1.0	0.72	ug/L			12/06/23 17:57	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/06/23 17:57	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/06/23 17:57	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/06/23 17:57	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/06/23 17:57	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/06/23 17:57	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/06/23 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/06/23 17:57*	*1*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*12/06/23 17:57*	*1*
Dibromofluoromethane (Surr)	*109*		*53 - 146*		*12/06/23 17:57*	*1*

Client Sample ID: LC34-IW0137-024.0-20231130

Lab Sample ID: 670-31051-47

Date Collected: 11/30/23 11:23

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/06/23 18:34	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/06/23 18:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/06/23 18:34	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/06/23 18:34	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/06/23 18:34	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/06/23 18:34	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/06/23 18:34	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/06/23 18:34	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/06/23 18:34	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/06/23 18:34	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/06/23 18:34	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/06/23 18:34	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/06/23 18:34	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/06/23 18:34	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/06/23 18:34	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/06/23 18:34	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/06/23 18:34	1
Acetone	25	U	50	25	ug/L			12/06/23 18:34	1

Client Sample ID: LC34-IW0137-024.0-20231130

Lab Sample ID: 670-31051-47

Date Collected: 11/30/23 11:23
Matrix: Water
Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			12/06/23 18:34	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/06/23 18:34	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/06/23 18:34	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/06/23 18:34	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/06/23 18:34	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/06/23 18:34	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/06/23 18:34	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/06/23 18:34	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/06/23 18:34	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/06/23 18:34	1
cis-1,2-Dichloroethene	**2.8**		1.0	0.53	ug/L			12/06/23 18:34	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/06/23 18:34	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/06/23 18:34	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/06/23 18:34	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/06/23 18:34	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/06/23 18:34	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/06/23 18:34	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/06/23 18:34	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/06/23 18:34	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/06/23 18:34	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/06/23 18:34	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/06/23 18:34	1
Styrene	0.61	U	1.0	0.61	ug/L			12/06/23 18:34	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/06/23 18:34	1
Toluene	0.72	U	1.0	0.72	ug/L			12/06/23 18:34	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/06/23 18:34	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/06/23 18:34	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/06/23 18:34	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/06/23 18:34	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/06/23 18:34	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/06/23 18:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/06/23 18:34*	*1*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*12/06/23 18:34*	*1*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*12/06/23 18:34*	*1*

Client Sample ID: LC34-SW1001-000.5 -20231130

Lab Sample ID: 670-31051-48

Date Collected: 11/30/23 11:30
Matrix: Water
Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/06/23 18:52	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/06/23 18:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/06/23 18:52	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/06/23 18:52	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/06/23 18:52	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/06/23 18:52	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/06/23 18:52	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-SW1001-000.5 -20231130
Date Collected: 11/30/23 11:30
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-48
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/06/23 18:52	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/06/23 18:52	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/06/23 18:52	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/06/23 18:52	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/06/23 18:52	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/06/23 18:52	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/06/23 18:52	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/06/23 18:52	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/06/23 18:52	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/06/23 18:52	1
Acetone	25	U	50	25	ug/L			12/06/23 18:52	1
Benzene	0.71	U	1.0	0.71	ug/L			12/06/23 18:52	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/06/23 18:52	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/06/23 18:52	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/06/23 18:52	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/06/23 18:52	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/06/23 18:52	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/06/23 18:52	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/06/23 18:52	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/06/23 18:52	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/06/23 18:52	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/06/23 18:52	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/06/23 18:52	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/06/23 18:52	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/06/23 18:52	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/06/23 18:52	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/06/23 18:52	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/06/23 18:52	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/06/23 18:52	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/06/23 18:52	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/06/23 18:52	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/06/23 18:52	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/06/23 18:52	1
Styrene	0.61	U	1.0	0.61	ug/L			12/06/23 18:52	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/06/23 18:52	1
Toluene	0.72	U	1.0	0.72	ug/L			12/06/23 18:52	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/06/23 18:52	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/06/23 18:52	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/06/23 18:52	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/06/23 18:52	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/06/23 18:52	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/06/23 18:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*40 - 146*		*12/06/23 18:52*	*1*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*12/06/23 18:52*	*1*
Dibromofluoromethane (Surr)	*105*		*53 - 146*		*12/06/23 18:52*	*1*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-SW1002-000.5 -20231130
Date Collected: 11/30/23 11:50
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-49
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/06/23 19:29	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/06/23 19:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/06/23 19:29	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/06/23 19:29	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/06/23 19:29	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/06/23 19:29	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/06/23 19:29	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/06/23 19:29	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/06/23 19:29	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/06/23 19:29	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/06/23 19:29	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/06/23 19:29	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/06/23 19:29	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/06/23 19:29	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/06/23 19:29	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/06/23 19:29	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/06/23 19:29	1
Acetone	25	U	50	25	ug/L			12/06/23 19:29	1
Benzene	0.71	U	1.0	0.71	ug/L			12/06/23 19:29	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/06/23 19:29	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/06/23 19:29	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/06/23 19:29	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/06/23 19:29	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/06/23 19:29	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/06/23 19:29	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/06/23 19:29	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/06/23 19:29	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/06/23 19:29	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/06/23 19:29	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/06/23 19:29	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/06/23 19:29	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/06/23 19:29	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/06/23 19:29	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/06/23 19:29	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/06/23 19:29	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/06/23 19:29	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/06/23 19:29	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/06/23 19:29	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/06/23 19:29	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/06/23 19:29	1
Styrene	0.61	U	1.0	0.61	ug/L			12/06/23 19:29	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/06/23 19:29	1
Toluene	0.72	U	1.0	0.72	ug/L			12/06/23 19:29	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/06/23 19:29	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/06/23 19:29	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/06/23 19:29	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/06/23 19:29	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/06/23 19:29	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/06/23 19:29	1

Client Sample ID: LC34-SW1002-000.5 -20231130

Lab Sample ID: 670-31051-49

Date Collected: 11/30/23 11:50

Matrix: Water

Date Received: 12/01/23 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*40 - 146*		*12/06/23 19:29*	*1*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*12/06/23 19:29*	*1*
Dibromofluoromethane (Surr)	*111*		*53 - 146*		*12/06/23 19:29*	*1*

Client Sample ID: LC34-IW0138-031.5 -20231130

Lab Sample ID: 670-31051-50

Date Collected: 11/30/23 11:55

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/06/23 19:47	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/06/23 19:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/06/23 19:47	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/06/23 19:47	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/06/23 19:47	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/06/23 19:47	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/06/23 19:47	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/06/23 19:47	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/06/23 19:47	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/06/23 19:47	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/06/23 19:47	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/06/23 19:47	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/06/23 19:47	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/06/23 19:47	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/06/23 19:47	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/06/23 19:47	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/06/23 19:47	1
Acetone	25	U	50	25	ug/L			12/06/23 19:47	1
Benzene	0.71	U	1.0	0.71	ug/L			12/06/23 19:47	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/06/23 19:47	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/06/23 19:47	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/06/23 19:47	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/06/23 19:47	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/06/23 19:47	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/06/23 19:47	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/06/23 19:47	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/06/23 19:47	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/06/23 19:47	1
cis-1,2-Dichloroethene	**0.78**	**I**	1.0	0.53	ug/L			12/06/23 19:47	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/06/23 19:47	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/06/23 19:47	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/06/23 19:47	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/06/23 19:47	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/06/23 19:47	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/06/23 19:47	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/06/23 19:47	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/06/23 19:47	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/06/23 19:47	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/06/23 19:47	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/06/23 19:47	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0138-031.5 -20231130

Lab Sample ID: 670-31051-50

Date Collected: 11/30/23 11:55
Matrix: Water
Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			12/06/23 19:47	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/06/23 19:47	1
Toluene	0.72	U	1.0	0.72	ug/L			12/06/23 19:47	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/06/23 19:47	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/06/23 19:47	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/06/23 19:47	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/06/23 19:47	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/06/23 19:47	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/06/23 19:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/06/23 19:47*	*1*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*12/06/23 19:47*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/06/23 19:47*	*1*

Client Sample ID: LC34-IW0140-024.0-20231130

Lab Sample ID: 670-31051-51

Date Collected: 11/30/23 12:30
Matrix: Water
Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/06/23 20:28	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/06/23 20:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/06/23 20:28	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/06/23 20:28	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/06/23 20:28	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/06/23 20:28	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/06/23 20:28	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/06/23 20:28	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/06/23 20:28	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/06/23 20:28	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/06/23 20:28	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/06/23 20:28	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/06/23 20:28	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/06/23 20:28	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/06/23 20:28	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/06/23 20:28	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/06/23 20:28	1
Acetone	25	U	50	25	ug/L			12/06/23 20:28	1
Benzene	0.71	U	1.0	0.71	ug/L			12/06/23 20:28	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/06/23 20:28	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/06/23 20:28	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/06/23 20:28	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/06/23 20:28	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/06/23 20:28	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/06/23 20:28	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/06/23 20:28	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/06/23 20:28	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/06/23 20:28	1
cis-1,2-Dichloroethene	**1.7**		1.0	0.53	ug/L			12/06/23 20:28	1

Client Sample ID: LC34-IW0140-024.0-20231130

Lab Sample ID: 670-31051-51

Date Collected: 11/30/23 12:30

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/06/23 20:28	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/06/23 20:28	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/06/23 20:28	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/06/23 20:28	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/06/23 20:28	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/06/23 20:28	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/06/23 20:28	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/06/23 20:28	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/06/23 20:28	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/06/23 20:28	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/06/23 20:28	1
Styrene	0.61	U	1.0	0.61	ug/L			12/06/23 20:28	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/06/23 20:28	1
Toluene	0.72	U	1.0	0.72	ug/L			12/06/23 20:28	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/06/23 20:28	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/06/23 20:28	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/06/23 20:28	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/06/23 20:28	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/06/23 20:28	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/06/23 20:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/06/23 20:28*	*1*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*12/06/23 20:28*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/06/23 20:28*	*1*

Client Sample ID: LC34-IW0139-018.0-20231130

Lab Sample ID: 670-31051-52

Date Collected: 11/30/23 12:40

Matrix: Water

Date Received: 12/01/23 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/06/23 20:47	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/06/23 20:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/06/23 20:47	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/06/23 20:47	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/06/23 20:47	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/06/23 20:47	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/06/23 20:47	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/06/23 20:47	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/06/23 20:47	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/06/23 20:47	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/06/23 20:47	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/06/23 20:47	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/06/23 20:47	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/06/23 20:47	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/06/23 20:47	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/06/23 20:47	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/06/23 20:47	1
Acetone	25	U	50	25	ug/L			12/06/23 20:47	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0139-018.0-20231130
Date Collected: 11/30/23 12:40
Date Received: 12/01/23 08:00

Lab Sample ID: 670-31051-52
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			12/06/23 20:47	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/06/23 20:47	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/06/23 20:47	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/06/23 20:47	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/06/23 20:47	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/06/23 20:47	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/06/23 20:47	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/06/23 20:47	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/06/23 20:47	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/06/23 20:47	1
cis-1,2-Dichloroethene	**0.67**	**I**	1.0	0.53	ug/L			12/06/23 20:47	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/06/23 20:47	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/06/23 20:47	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/06/23 20:47	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/06/23 20:47	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/06/23 20:47	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/06/23 20:47	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/06/23 20:47	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/06/23 20:47	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/06/23 20:47	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/06/23 20:47	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/06/23 20:47	1
Styrene	0.61	U	1.0	0.61	ug/L			12/06/23 20:47	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/06/23 20:47	1
Toluene	0.72	U	1.0	0.72	ug/L			12/06/23 20:47	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/06/23 20:47	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/06/23 20:47	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/06/23 20:47	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/06/23 20:47	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/06/23 20:47	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/06/23 20:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/06/23 20:47*	*1*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*12/06/23 20:47*	*1*
Dibromofluoromethane (Surr)	*110*		*53 - 146*		*12/06/23 20:47*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
		TOL	BFB	DBFM						
Lab Sample ID	Client Sample ID	(40-146)	(41-142)	(53-146)						
670-31051-1	LC34-IW0136-024.0-20231128	101	101	110						
670-31051-1 MS	LC34-IW0136-024.0-20231128	99	102	105						
670-31051-1 MSD	LC34-IW0136-024.0-20231128	97	105	104						
670-31051-2	LC34-IW0133-018.0-20231128	101	101	108						
670-31051-3	LC34-IW0125-018.0-20231128	100	101	107						
670-31051-4 - DL	LC34-IW0177-018.5-20231128	102	101	111						
670-31051-5 - DL	LC34-IW0170-22.0-20231128	100	99	108						
670-31051-5 - DL	LC34-IW0170-22.0-20231128	99	95	100						
670-31051-6	LC34-IW0132-018.0 -20231128	99	100	108						
670-31051-7	LC34-IW0171-032.5-20231128	100	98	104						
670-31051-8	LC34-IW0131-018.0-20231128	98	100	106						
670-31051-9	LC34-IW0129-018.0-20231128	99	101	108						
670-31051-10 - DL	LC34-IW0169-032.5-20231128	99	100	109						
670-31051-10 - DL	LC34-IW0169-032.5-20231128	100	101	108						
670-31051-11	LC34-IW0130-024.0-20231128	102	101	110						
670-31051-12	LC34-IW0168-022.0 -20231128	99	94	106						
670-31051-13	LC34-IW0178-018.5-20231128	98	95	108						
670-31051-14	LC34-IW0108-024.0-20231128	102	95	109						
670-31051-15	LC34-IW0172-022.0-20231128	99	90	109						
670-31051-16	LC34-IW0124-018.0-20231128	101	93	107						
670-31051-16 DU	LC34-IW0124-018.0-20231128	101	92	107						
670-31051-17	LC34-IW0173-032.5-20231128	101	93	107						
670-31051-17 MS	LC34-IW0173-032.5-20231128	97	92	101						
670-31051-18	LC34-IW0128-018.0-20231128	98	96	108						
670-31051-19	LC34-IW0127-024.0-20231128	101	95	107						
670-31051-20	LC34-IW0175-032.5-20231128	102	91	106						
670-31051-21	LC34-IW0142-024.0-20231128	100	92	108						
670-31051-22	LC34-IW0174-018.5-20231128	100	95	109						
670-31051-22	LC34-IW0174-018.5-20231128	98	96	100						
670-31051-23	LC34-IW0057I-025.5-20231129	100	96	101						
670-31051-24	LC34-IW0188-018.5-20231129	101	90	107						
670-31051-24 - DL	LC34-IW0188-018.5-20231129	99	96	100						
670-31051-25	LC34-IW0057S-007.3-20231129	99	93	108						
670-31051-26	LC34-IW0181-022.0-20231129	102	95	107						
670-31051-27	LC34-IW0147-024.0-20231129	102	94	108						
670-31051-28	LC34-IW0146-018.0-20231129	98	93	108						
670-31051-29	LC34-IW0182-032.5-20231129	103	94	107						
670-31051-30	LC34-IW0183-022.0-20231129	97	91	109						
670-31051-31	LC34-IW0144-018.0-20231129	102	91	107						
670-31051-32 - DL	LC34-IW0184-032.5-20231129	99	97	100						
670-31051-32 MS	LC34-IW0184-032.5-20231129	101	97	98						
670-31051-32 MSD	LC34-IW0184-032.5-20231129	100	98	96						
670-31051-33	LC34-IW0145-031.5-20231129	99	95	101						
670-31051-34 - DL	LC34-IW0180-032.5-20231129	101	97	100						
670-31051-35	LC34-IW0143-024.0-20231129	100	97	100						
670-31051-36 - DL	LC34-IW0179-022.0-20231129	100	94	101						
670-31051-36	LC34-IW0179-022.0-20231129	101	100	109						
670-31051-37	LC34-IW0123-024.0-20231129	98	97	99						
670-31051-38 - DL	LC34-IW0185-018.5-20231129	101	94	102						

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(40-146)	(41-142)	(53-146)
670-31051-39 - DL	LC34-IW0176-018.5-20231129	97	96	97
670-31051-40 - DL	LC34-IW0186-018.5-20231129	97	96	99
670-31051-41 - DL	LC34-IW0135-024.0-20231129	99	97	99
670-31051-42 - DL	LC34-IW0187-018.5-20231129	100	96	106
670-31051-43 - DL	LC34-IW0134-024.0-20231129	96	94	108
670-31051-43 - DL	LC34-IW0134-024.0-20231129	103	99	112
670-31051-44	LC34-IW0141-024.0 -20231130	100	101	110
670-31051-44 MS	LC34-IW0141-024.0 -20231130	97	103	101
670-31051-44 MSD	LC34-IW0141-024.0 -20231130	98	105	103
670-31051-45	LC34-IW0126-024.0 -20231130	100	100	107
670-31051-46	LC34-SW1004-000.5-20231130	99	99	109
670-31051-47	LC34-IW0137-024.0-20231130	99	99	107
670-31051-48	LC34-SW1001-000.5 -20231130	98	101	105
670-31051-49	LC34-SW1002-000.5 -20231130	101	102	111
670-31051-50	LC34-IW0138-031.5 -20231130	100	102	108
670-31051-51	LC34-IW0140-024.0-20231130	99	98	108
670-31051-52	LC34-IW0139-018.0-20231130	100	99	110
670-31108-D-1 DU	Duplicate	101	94	107
670-31108-D-2 MS	Matrix Spike	98	93	99
670-31129-A-34 MS	Matrix Spike	98	102	106
670-31129-A-34 MSD	Matrix Spike Duplicate	99	103	102
LCS 670-65936/5	Lab Control Sample	98	102	101
LCS 670-65972/4	Lab Control Sample	97	94	100
LCS 670-66030/5	Lab Control Sample	102	96	98
LCS 670-66108/4	Lab Control Sample	100	95	104
LCS 670-66248/4	Lab Control Sample	98	103	102
LCS 670-66443/4	Lab Control Sample	100	101	104
MB 670-65936/9	Method Blank	102	100	106
MB 670-65972/7	Method Blank	98	94	107
MB 670-66030/8	Method Blank	100	99	99
MB 670-66108/7	Method Blank	99	92	106
MB 670-66248/7	Method Blank	98	101	107
MB 670-66443/8	Method Blank	100	100	108

Surrogate Legend

TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-65936/9
Matrix: Water
Analysis Batch: 65936

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 15:28	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 15:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 15:28	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 15:28	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 15:28	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 15:28	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 15:28	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 15:28	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 15:28	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 15:28	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 15:28	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 15:28	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 15:28	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 15:28	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 15:28	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 15:28	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 15:28	1
Acetone	25	U	50	25	ug/L			12/04/23 15:28	1
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 15:28	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 15:28	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 15:28	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 15:28	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 15:28	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 15:28	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 15:28	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 15:28	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 15:28	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 15:28	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/04/23 15:28	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 15:28	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 15:28	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 15:28	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/04/23 15:28	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 15:28	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 15:28	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 15:28	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 15:28	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 15:28	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 15:28	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 15:28	1
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 15:28	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 15:28	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 15:28	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 15:28	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 15:28	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 15:28	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 15:28	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/04/23 15:28	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-65936/9
Matrix: Water
Analysis Batch: 65936

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 15:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*12/04/23 15:28*	*1*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*12/04/23 15:28*	*1*
Toluene-d8 (Surr)	*102*		*40 - 146*		*12/04/23 15:28*	*1*

Lab Sample ID: LCS 670-65936/5
Matrix: Water
Analysis Batch: 65936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.9		ug/L		105	57 - 148
1,1,2,2-Tetrachloroethane	20.0	19.3		ug/L		96	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	21.1		ug/L		105	47 - 173
1,1,2-Trichloroethane	20.0	19.5		ug/L		98	57 - 141
1,1-Dichloroethane	20.0	21.9		ug/L		109	57 - 142
1,1-Dichloroethene	20.0	21.1		ug/L		106	47 - 139
1,2,4-Trichlorobenzene	20.0	24.6		ug/L		123	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	19.6		ug/L		98	48 - 150
1,2-Dibromoethane (EDB)	20.0	18.8		ug/L		94	57 - 140
1,2-Dichlorobenzene	20.0	21.0		ug/L		105	63 - 131
1,2-Dichloroethane	20.0	19.9		ug/L		99	50 - 156
1,2-Dichloropropane	20.0	21.3		ug/L		107	61 - 133
1,3-Dichlorobenzene	20.0	21.7		ug/L		109	66 - 129
1,4-Dichlorobenzene	20.0	20.5		ug/L		102	65 - 133
2-Butanone (MEK)	200	179		ug/L		90	10 - 180
2-Hexanone	200	212		ug/L		106	12 - 180
4-Methyl-2-pentanone	200	211		ug/L		105	19 - 180
Acetone	200	195		ug/L		97	10 - 180
Benzene	20.0	20.4		ug/L		102	56 - 136
Bromodichloromethane	20.0	20.8		ug/L		104	58 - 135
Bromoform	20.0	21.0		ug/L		105	46 - 148
Bromomethane	20.0	16.8		ug/L		84	10 - 173
Carbon disulfide	20.0	19.0		ug/L		95	43 - 153
Carbon tetrachloride	20.0	22.3		ug/L		112	54 - 156
Chlorobenzene	20.0	20.3		ug/L		102	51 - 139
Chloroethane	20.0	16.2		ug/L		81	27 - 180
Chloroform	20.0	20.1		ug/L		101	58 - 139
Chloromethane	20.0	18.5		ug/L		92	33 - 154
cis-1,2-Dichloroethene	20.0	22.9		ug/L		115	56 - 128
cis-1,3-Dichloropropene	20.0	20.0		ug/L		100	64 - 128
Cyclohexane	20.0	22.9		ug/L		114	14 - 151
Dibromochloromethane	20.0	20.9		ug/L		105	50 - 140
Dichlorodifluoromethane	20.0	15.2		ug/L		76	10 - 180
Ethylbenzene	20.0	20.0		ug/L		100	63 - 133
Isopropylbenzene	20.0	21.3		ug/L		107	60 - 132
m,p-Xylenes	20.0	21.0		ug/L		105	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-65936/5
Matrix: Water
Analysis Batch: 65936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	40.6		ug/L		101	70 - 130
Methyl tert-butyl ether	20.0	20.2		ug/L		101	51 - 145
Methylene Chloride	20.0	21.6		ug/L		108	43 - 142
o-Xylene	20.0	20.6		ug/L		103	61 - 129
Styrene	20.0	21.0		ug/L		105	59 - 136
Tetrachloroethene	20.0	22.3		ug/L		112	60 - 147
Toluene	20.0	20.0		ug/L		100	64 - 131
trans-1,2-Dichloroethene	20.0	21.2		ug/L		106	54 - 134
trans-1,3-Dichloropropene	20.0	20.2		ug/L		101	65 - 149
Trichloroethene	20.0	20.5		ug/L		102	62 - 135
Trichlorofluoromethane	20.0	16.9		ug/L		85	56 - 155
Vinyl chloride	20.0	20.4		ug/L		102	20 - 167
Xylenes, Total	40.0	41.6		ug/L		104	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: 670-31051-1 MS
Matrix: Water
Analysis Batch: 65936

Client Sample ID: LC34-IW0136-024.0-20231128
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	22.2		ug/L		111	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	19.7		ug/L		98	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	20.5		ug/L		103	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	21.0		ug/L		105	57 - 141
1,1-Dichloroethane	0.62	U	20.0	21.9		ug/L		110	57 - 142
1,1-Dichloroethene	0.94	U	20.0	20.8		ug/L		104	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	23.9		ug/L		119	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	21.4		ug/L		107	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	20.0		ug/L		100	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	20.6		ug/L		103	63 - 131
1,2-Dichloroethane	0.63	U	20.0	21.0		ug/L		105	50 - 156
1,2-Dichloropropane	0.80	U	20.0	22.4		ug/L		112	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	21.0		ug/L		105	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	19.4		ug/L		97	65 - 133
2-Butanone (MEK)	4.5	U	200	196		ug/L		98	10 - 180
2-Hexanone	2.5	U	200	228		ug/L		114	12 - 180
4-Methyl-2-pentanone	5.0	U	200	229		ug/L		115	19 - 180
Acetone	25	U	200	198		ug/L		99	10 - 180
Benzene	0.71	U	20.0	21.4		ug/L		107	56 - 136
Bromodichloromethane	0.52	U	20.0	21.4		ug/L		107	58 - 135
Bromoform	0.75	U	20.0	21.3		ug/L		106	46 - 148
Bromomethane	0.95	U	20.0	15.4		ug/L		77	10 - 173
Carbon disulfide	2.5	U	20.0	19.1		ug/L		95	43 - 153
Carbon tetrachloride	0.94	U	20.0	23.4		ug/L		117	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-31051-1 MS
Matrix: Water
Analysis Batch: 65936

Client Sample ID: LC34-IW0136-024.0-20231128
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	20.5		ug/L		102	51 - 139
Chloroethane	0.98	U	20.0	16.4		ug/L		82	27 - 180
Chloroform	0.80	U	20.0	21.6		ug/L		108	59 - 139
Chloromethane	0.82	U	20.0	18.9		ug/L		95	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	23.1		ug/L		116	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	20.5		ug/L		103	64 - 128
Cyclohexane	0.93	U	20.0	21.9		ug/L		110	14 - 141
Dibromochloromethane	0.50	U	20.0	22.0		ug/L		110	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	15.0		ug/L		75	10 - 180
Ethylbenzene	0.69	U	20.0	19.8		ug/L		99	63 - 133
Isopropylbenzene	0.67	U	20.0	20.7		ug/L		103	60 - 132
m,p-Xylenes	1.3	U	20.0	20.5		ug/L		103	64 - 133
Methyl acetate	0.95	U	40.0	41.2		ug/L		103	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	20.5		ug/L		102	50 - 150
Methylene Chloride	5.0	U	20.0	20.7		ug/L		103	43 - 142
o-Xylene	0.53	U	20.0	20.9		ug/L		104	61 - 129
Styrene	0.61	U	20.0	20.1		ug/L		101	59 - 136
Tetrachloroethene	0.76	U	20.0	22.7		ug/L		114	60 - 147
Toluene	0.72	U	20.0	20.7		ug/L		104	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	21.1		ug/L		106	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	20.4		ug/L		102	65 - 149
Trichloroethene	0.89	U	20.0	20.7		ug/L		104	62 - 135
Trichlorofluoromethane	0.94	U	20.0	17.0		ug/L		85	56 - 155
Vinyl chloride	0.71	U	20.0	20.9		ug/L		105	20 - 167
Xylenes, Total	1.3	U	40.0	41.4		ug/L		104	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*105*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: 670-31051-1 MSD
Matrix: Water
Analysis Batch: 65936

Client Sample ID: LC34-IW0136-024.0-20231128
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	22.5		ug/L		112	57 - 148	1	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	20.7		ug/L		104	60 - 139	5	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	20.2		ug/L		101	50 - 150	2	30
1,1,2-Trichloroethane	0.76	U	20.0	20.3		ug/L		102	57 - 141	3	16
1,1-Dichloroethane	0.62	U	20.0	23.0		ug/L		115	57 - 142	5	24
1,1-Dichloroethene	0.94	U	20.0	22.0		ug/L		110	49 - 139	5	16
1,2,4-Trichlorobenzene	0.70	U	20.0	24.3		ug/L		121	52 - 159	2	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	20.4		ug/L		102	48 - 150	5	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	20.7		ug/L		103	50 - 150	3	16
1,2-Dichlorobenzene	0.73	U	20.0	21.6		ug/L		108	63 - 131	5	25
1,2-Dichloroethane	0.63	U	20.0	20.9		ug/L		104	50 - 156	1	18
1,2-Dichloropropane	0.80	U	20.0	22.5		ug/L		113	61 - 133	1	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-31051-1 MSD
Matrix: Water
Analysis Batch: 65936

Client Sample ID: LC34-IW0136-024.0-20231128
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U	20.0	21.5		ug/L		107	66 - 129	2	23
1,4-Dichlorobenzene	0.76	U	20.0	19.7		ug/L		99	65 - 133	1	23
2-Butanone (MEK)	4.5	U	200	190		ug/L		95	10 - 180	3	29
2-Hexanone	2.5	U	200	226		ug/L		113	12 - 180	1	28
4-Methyl-2-pentanone	5.0	U	200	222		ug/L		111	19 - 180	3	24
Acetone	25	U	200	192		ug/L		96	10 - 180	3	19
Benzene	0.71	U	20.0	21.7		ug/L		109	56 - 136	1	14
Bromodichloromethane	0.52	U	20.0	21.0		ug/L		105	58 - 135	2	19
Bromoform	0.75	U	20.0	21.8		ug/L		109	46 - 148	2	18
Bromomethane	0.95	U	20.0	17.4		ug/L		87	10 - 173	12	29
Carbon disulfide	2.5	U	20.0	20.3		ug/L		102	43 - 153	6	26
Carbon tetrachloride	0.94	U	20.0	23.3		ug/L		116	54 - 156	0	27
Chlorobenzene	0.72	U	20.0	21.2		ug/L		106	51 - 139	3	13
Chloroethane	0.98	U	20.0	15.7		ug/L		79	27 - 180	5	22
Chloroform	0.80	U	20.0	21.0		ug/L		105	59 - 139	3	17
Chloromethane	0.82	U	20.0	19.7		ug/L		99	33 - 154	4	31
cis-1,2-Dichloroethene	0.53	U	20.0	24.2		ug/L		121	56 - 128	4	17
cis-1,3-Dichloropropene	0.59	U	20.0	20.3		ug/L		101	64 - 128	1	20
Cyclohexane	0.93	U	20.0	21.7		ug/L		109	14 - 141	1	30
Dibromochloromethane	0.50	U	20.0	21.7		ug/L		109	50 - 150	1	18
Dichlorodifluoromethane	0.74	U	20.0	15.5		ug/L		78	10 - 180	4	26
Ethylbenzene	0.69	U	20.0	20.8		ug/L		104	63 - 133	5	18
Isopropylbenzene	0.67	U	20.0	21.7		ug/L		109	60 - 132	5	23
m,p-Xylenes	1.3	U	20.0	21.3		ug/L		107	64 - 133	4	18
Methyl acetate	0.95	U	40.0	41.7		ug/L		104	50 - 150	1	30
Methyl tert-butyl ether	0.60	U	20.0	19.7		ug/L		98	50 - 150	4	22
Methylene Chloride	5.0	U	20.0	22.9		ug/L		115	43 - 142	10	23
o-Xylene	0.53	U	20.0	21.7		ug/L		109	61 - 129	4	16
Styrene	0.61	U	20.0	21.0		ug/L		105	59 - 136	4	32
Tetrachloroethene	0.76	U	20.0	23.5		ug/L		118	60 - 147	3	21
Toluene	0.72	U	20.0	20.9		ug/L		105	64 - 131	1	16
trans-1,2-Dichloroethene	0.73	U	20.0	22.7		ug/L		113	54 - 134	7	20
trans-1,3-Dichloropropene	0.73	U	20.0	20.6		ug/L		103	65 - 149	1	17
Trichloroethene	0.89	U	20.0	21.3		ug/L		107	62 - 135	3	20
Trichlorofluoromethane	0.94	U	20.0	17.6		ug/L		88	56 - 155	4	22
Vinyl chloride	0.71	U	20.0	22.1		ug/L		111	20 - 167	6	24
Xylenes, Total	1.3	U	40.0	43.0		ug/L		108	50 - 150	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*
Dibromofluoromethane (Surr)	*104*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-65972/7
Matrix: Water
Analysis Batch: 65972

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/04/23 18:01	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/04/23 18:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/04/23 18:01	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/04/23 18:01	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/04/23 18:01	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/04/23 18:01	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/04/23 18:01	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/04/23 18:01	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/04/23 18:01	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/04/23 18:01	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/04/23 18:01	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/04/23 18:01	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/04/23 18:01	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/04/23 18:01	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/04/23 18:01	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/04/23 18:01	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/04/23 18:01	1
Acetone	25	U	50	25	ug/L			12/04/23 18:01	1
Benzene	0.71	U	1.0	0.71	ug/L			12/04/23 18:01	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/04/23 18:01	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/04/23 18:01	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/04/23 18:01	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/04/23 18:01	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/04/23 18:01	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/04/23 18:01	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/04/23 18:01	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/04/23 18:01	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/04/23 18:01	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/04/23 18:01	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/04/23 18:01	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/04/23 18:01	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/04/23 18:01	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/04/23 18:01	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/04/23 18:01	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/04/23 18:01	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/04/23 18:01	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/04/23 18:01	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/04/23 18:01	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/04/23 18:01	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/04/23 18:01	1
Styrene	0.61	U	1.0	0.61	ug/L			12/04/23 18:01	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/04/23 18:01	1
Toluene	0.72	U	1.0	0.72	ug/L			12/04/23 18:01	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/04/23 18:01	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/04/23 18:01	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/04/23 18:01	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/04/23 18:01	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/04/23 18:01	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-65972/7
Matrix: Water
Analysis Batch: 65972

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/04/23 18:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*		*12/04/23 18:01*	*1*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*12/04/23 18:01*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*12/04/23 18:01*	*1*

Lab Sample ID: LCS 670-65972/4
Matrix: Water
Analysis Batch: 65972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.0		ug/L		100	57 - 148
1,1,2,2-Tetrachloroethane	20.0	24.4		ug/L		122	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	19.3		ug/L		96	47 - 173
1,1,2-Trichloroethane	20.0	21.0		ug/L		105	57 - 141
1,1-Dichloroethane	20.0	19.4		ug/L		97	57 - 142
1,1-Dichloroethene	20.0	18.1		ug/L		91	47 - 139
1,2,4-Trichlorobenzene	20.0	19.3		ug/L		96	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	19.2		ug/L		96	48 - 150
1,2-Dibromoethane (EDB)	20.0	19.3		ug/L		96	57 - 140
1,2-Dichlorobenzene	20.0	20.5		ug/L		103	63 - 131
1,2-Dichloroethane	20.0	21.6		ug/L		108	50 - 156
1,2-Dichloropropane	20.0	18.8		ug/L		94	61 - 133
1,3-Dichlorobenzene	20.0	20.1		ug/L		100	66 - 129
1,4-Dichlorobenzene	20.0	21.1		ug/L		105	65 - 133
2-Butanone (MEK)	200	179		ug/L		89	10 - 180
2-Hexanone	200	181		ug/L		91	12 - 180
4-Methyl-2-pentanone	200	184		ug/L		92	19 - 180
Acetone	200	184		ug/L		92	10 - 180
Benzene	20.0	19.3		ug/L		97	56 - 136
Bromodichloromethane	20.0	19.9		ug/L		99	58 - 135
Bromoform	20.0	20.0		ug/L		100	46 - 148
Bromomethane	20.0	17.8		ug/L		89	10 - 173
Carbon disulfide	20.0	17.3		ug/L		86	43 - 153
Carbon tetrachloride	20.0	19.4		ug/L		97	54 - 156
Chlorobenzene	20.0	20.1		ug/L		101	51 - 139
Chloroethane	20.0	24.4		ug/L		122	27 - 180
Chloroform	20.0	21.5		ug/L		108	58 - 139
Chloromethane	20.0	15.5		ug/L		78	33 - 154
cis-1,2-Dichloroethene	20.0	19.2		ug/L		96	56 - 128
cis-1,3-Dichloropropene	20.0	18.1		ug/L		90	64 - 128
Cyclohexane	20.0	17.0		ug/L		85	14 - 151
Dibromochloromethane	20.0	19.7		ug/L		98	50 - 140
Dichlorodifluoromethane	20.0	38.3	J3	ug/L		191	10 - 180
Ethylbenzene	20.0	19.0		ug/L		95	63 - 133
Isopropylbenzene	20.0	20.2		ug/L		101	60 - 132
m,p-Xylenes	20.0	19.3		ug/L		96	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-65972/4
Matrix: Water
Analysis Batch: 65972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	34.9		ug/L		87	70 - 130
Methyl tert-butyl ether	20.0	18.1		ug/L		91	51 - 145
Methylene Chloride	20.0	21.2		ug/L		106	43 - 142
o-Xylene	20.0	18.6		ug/L		93	61 - 129
Styrene	20.0	18.0		ug/L		90	59 - 136
Tetrachloroethene	20.0	19.2		ug/L		96	60 - 147
Toluene	20.0	19.0		ug/L		95	64 - 131
trans-1,2-Dichloroethene	20.0	19.4		ug/L		97	54 - 134
trans-1,3-Dichloropropene	20.0	19.4		ug/L		97	65 - 149
Trichloroethene	20.0	18.3		ug/L		92	62 - 135
Trichlorofluoromethane	20.0	23.9		ug/L		120	56 - 155
Vinyl chloride	20.0	18.9		ug/L		95	20 - 167
Xylenes, Total	40.0	37.9		ug/L		95	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*
Dibromofluoromethane (Surr)	*100*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Lab Sample ID: 670-31051-17 MS
Matrix: Water
Analysis Batch: 65972

Client Sample ID: LC34-IW0173-032.5-20231128
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	21.9		ug/L		110	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	26.2		ug/L		131	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	21.3		ug/L		107	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	22.2		ug/L		111	57 - 141
1,1-Dichloroethane	0.62	U	20.0	20.4		ug/L		102	57 - 142
1,1-Dichloroethene	0.94	U	20.0	19.7		ug/L		99	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	19.6		ug/L		98	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	20.2		ug/L		101	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	20.2		ug/L		101	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	21.6		ug/L		108	63 - 131
1,2-Dichloroethane	0.63	U	20.0	22.0		ug/L		110	50 - 156
1,2-Dichloropropane	0.80	U	20.0	18.9		ug/L		95	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	21.0		ug/L		105	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	22.0		ug/L		110	65 - 133
2-Butanone (MEK)	4.5	U	200	192		ug/L		96	10 - 180
2-Hexanone	2.5	U	200	201		ug/L		101	12 - 180
4-Methyl-2-pentanone	5.0	U	200	201		ug/L		101	19 - 180
Acetone	25	U	200	197		ug/L		98	10 - 180
Benzene	0.71	U	20.0	20.8		ug/L		104	56 - 136
Bromodichloromethane	0.52	U	20.0	20.4		ug/L		102	58 - 135
Bromoform	0.75	U	20.0	20.9		ug/L		104	46 - 148
Bromomethane	0.95	U	20.0	19.5		ug/L		98	10 - 173
Carbon disulfide	2.5	U	20.0	18.4		ug/L		92	43 - 153
Carbon tetrachloride	0.94	U	20.0	20.7		ug/L		103	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-31051-17 MS
Matrix: Water
Analysis Batch: 65972

Client Sample ID: LC34-IW0173-032.5-20231128
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	21.0		ug/L		105	51 - 139
Chloroethane	0.98	U	20.0	25.7		ug/L		129	27 - 180
Chloroform	0.80	U	20.0	22.2		ug/L		111	59 - 139
Chloromethane	0.82	U	20.0	16.7		ug/L		84	33 - 154
cis-1,2-Dichloroethene	1.8		20.0	22.3		ug/L		102	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	18.5		ug/L		93	64 - 128
Cyclohexane	0.93	U	20.0	18.8		ug/L		94	14 - 141
Dibromochloromethane	0.50	U	20.0	21.1		ug/L		106	50 - 150
Dichlorodifluoromethane	0.74	U J3	20.0	44.6	J3	ug/L		223	10 - 180
Ethylbenzene	0.69	U	20.0	20.8		ug/L		104	63 - 133
Isopropylbenzene	0.67	U	20.0	21.6		ug/L		108	60 - 132
m,p-Xylenes	1.3	U	20.0	20.4		ug/L		102	64 - 133
Methyl acetate	0.95	U	40.0	35.2		ug/L		88	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	18.8		ug/L		94	50 - 150
Methylene Chloride	5.0	U	20.0	20.0		ug/L		100	43 - 142
o-Xylene	0.53	U	20.0	19.5		ug/L		98	61 - 129
Styrene	0.61	U	20.0	19.0		ug/L		95	59 - 136
Tetrachloroethene	0.76	U	20.0	21.2		ug/L		106	60 - 147
Toluene	0.72	U	20.0	20.5		ug/L		103	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	19.9		ug/L		100	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	20.0		ug/L		100	65 - 149
Trichloroethene	0.89	U	20.0	19.8		ug/L		99	62 - 135
Trichlorofluoromethane	0.94	U	20.0	27.6		ug/L		138	56 - 155
Vinyl chloride	10		20.0	28.4		ug/L		92	20 - 167
Xylenes, Total	1.3	U	40.0	39.9		ug/L		100	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Lab Sample ID: 670-31051-16 DU
Matrix: Water
Analysis Batch: 65972

Client Sample ID: LC34-IW0124-018.0-20231128
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	0.80	U	ug/L		NC	30
1,1,2,2-Tetrachloroethane	0.54	U	0.54	U	ug/L		NC	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	0.73	U	ug/L		NC	30
1,1,2-Trichloroethane	0.76	U	0.76	U	ug/L		NC	30
1,1-Dichloroethane	0.62	U	0.62	U	ug/L		NC	30
1,1-Dichloroethene	0.94	U	0.94	U	ug/L		NC	30
1,2,4-Trichlorobenzene	0.70	U	0.70	U	ug/L		NC	30
1,2-Dibromo-3-Chloropropane	0.96	U	0.96	U	ug/L		NC	30
1,2-Dibromoethane (EDB)	0.78	U	0.78	U	ug/L		NC	30
1,2-Dichlorobenzene	0.73	U	0.73	U	ug/L		NC	30
1,2-Dichloroethane	0.63	U	0.63	U	ug/L		NC	30
1,2-Dichloropropane	0.80	U	0.80	U	ug/L		NC	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-31051-16 DU
Matrix: Water
Analysis Batch: 65972

Client Sample ID: LC34-IW0124-018.0-20231128
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U		0.77	U	ug/L				NC	30
1,4-Dichlorobenzene	0.76	U		0.76	U	ug/L				NC	30
2-Butanone (MEK)	4.5	U		4.5	U	ug/L				NC	30
2-Hexanone	2.5	U		2.5	U	ug/L				NC	30
4-Methyl-2-pentanone	5.0	U		5.0	U	ug/L				NC	30
Acetone	25	U		25	U	ug/L				NC	30
Benzene	0.71	U		0.71	U	ug/L				NC	30
Bromodichloromethane	0.52	U		0.52	U	ug/L				NC	30
Bromoform	0.75	U		0.75	U	ug/L				NC	30
Bromomethane	0.95	U		0.95	U	ug/L				NC	30
Carbon disulfide	2.5	U		2.5	U	ug/L				NC	30
Carbon tetrachloride	0.94	U		0.94	U	ug/L				NC	30
Chlorobenzene	0.72	U		0.72	U	ug/L				NC	30
Chloroethane	0.98	U		0.98	U	ug/L				NC	30
Chloroform	0.80	U		0.80	U	ug/L				NC	30
Chloromethane	0.82	U		0.82	U	ug/L				NC	30
cis-1,2-Dichloroethene	0.53	U		0.53	U	ug/L				NC	30
cis-1,3-Dichloropropene	0.59	U		0.59	U	ug/L				NC	30
Cyclohexane	0.93	U		0.93	U	ug/L				NC	30
Dibromochloromethane	0.50	U		0.50	U	ug/L				NC	30
Dichlorodifluoromethane	0.74	U J3		0.74	U J3	ug/L				NC	30
Ethylbenzene	0.69	U		0.69	U	ug/L				NC	30
Isopropylbenzene	0.67	U		0.67	U	ug/L				NC	30
m,p-Xylenes	1.3	U		1.3	U	ug/L				NC	30
Methyl acetate	0.95	U		0.95	U	ug/L				NC	30
Methyl tert-butyl ether	0.60	U		0.60	U	ug/L				NC	30
Methylene Chloride	5.0	U		5.0	U	ug/L				NC	30
o-Xylene	0.53	U		0.53	U	ug/L				NC	30
Styrene	0.61	U		0.61	U	ug/L				NC	30
Tetrachloroethene	0.76	U		0.76	U	ug/L				NC	30
Toluene	0.72	U		0.72	U	ug/L				NC	30
trans-1,2-Dichloroethene	0.73	U		0.73	U	ug/L				NC	20
trans-1,3-Dichloropropene	0.73	U		0.73	U	ug/L				NC	30
Trichloroethene	0.89	U		0.89	U	ug/L				NC	30
Trichlorofluoromethane	0.94	U		0.94	U	ug/L				NC	30
Vinyl chloride	0.71	U		0.71	U	ug/L				NC	30
Xylenes, Total	1.3	U		1.3	U	ug/L				NC	30

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*41 - 142*
Dibromofluoromethane (Surr)	*107*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-66030/8
Matrix: Water
Analysis Batch: 66030

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/05/23 10:33	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/05/23 10:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/05/23 10:33	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/05/23 10:33	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/05/23 10:33	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/05/23 10:33	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/05/23 10:33	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/05/23 10:33	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/05/23 10:33	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/05/23 10:33	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/05/23 10:33	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/05/23 10:33	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/05/23 10:33	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/05/23 10:33	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/05/23 10:33	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/05/23 10:33	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/05/23 10:33	1
Acetone	25	U	50	25	ug/L			12/05/23 10:33	1
Benzene	0.71	U	1.0	0.71	ug/L			12/05/23 10:33	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/05/23 10:33	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/05/23 10:33	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/05/23 10:33	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/05/23 10:33	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/05/23 10:33	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/05/23 10:33	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/05/23 10:33	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/05/23 10:33	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/05/23 10:33	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/05/23 10:33	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/05/23 10:33	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/05/23 10:33	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/05/23 10:33	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/05/23 10:33	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/05/23 10:33	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/05/23 10:33	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/05/23 10:33	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/05/23 10:33	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/05/23 10:33	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/05/23 10:33	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/05/23 10:33	1
Styrene	0.61	U	1.0	0.61	ug/L			12/05/23 10:33	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/05/23 10:33	1
Toluene	0.72	U	1.0	0.72	ug/L			12/05/23 10:33	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/05/23 10:33	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/05/23 10:33	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/05/23 10:33	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/05/23 10:33	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/05/23 10:33	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-66030/8
Matrix: Water
Analysis Batch: 66030

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/05/23 10:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*12/05/23 10:33*	*1*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*12/05/23 10:33*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/05/23 10:33*	*1*

Lab Sample ID: LCS 670-66030/5
Matrix: Water
Analysis Batch: 66030

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	16.6		ug/L		83	57 - 148
1,1,2,2-Tetrachloroethane	20.0	17.3		ug/L		87	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	15.5		ug/L		77	47 - 173
1,1,2-Trichloroethane	20.0	18.3		ug/L		92	57 - 141
1,1-Dichloroethane	20.0	16.8		ug/L		84	57 - 142
1,1-Dichloroethene	20.0	15.8		ug/L		79	47 - 139
1,2,4-Trichlorobenzene	20.0	16.1		ug/L		80	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	13.8		ug/L		69	48 - 150
1,2-Dibromoethane (EDB)	20.0	15.8		ug/L		79	57 - 140
1,2-Dichlorobenzene	20.0	17.4		ug/L		87	63 - 131
1,2-Dichloroethane	20.0	15.1		ug/L		76	50 - 156
1,2-Dichloropropane	20.0	17.3		ug/L		87	61 - 133
1,3-Dichlorobenzene	20.0	17.2		ug/L		86	66 - 129
1,4-Dichlorobenzene	20.0	17.6		ug/L		88	65 - 133
2-Butanone (MEK)	200	145		ug/L		73	10 - 180
2-Hexanone	200	154		ug/L		77	12 - 180
4-Methyl-2-pentanone	200	134		ug/L		67	19 - 180
Acetone	200	102		ug/L		51	10 - 180
Benzene	20.0	17.6		ug/L		88	56 - 136
Bromodichloromethane	20.0	18.0		ug/L		90	58 - 135
Bromoform	20.0	15.2		ug/L		76	46 - 148
Bromomethane	20.0	28.3		ug/L		142	10 - 173
Carbon disulfide	20.0	13.5		ug/L		67	43 - 153
Carbon tetrachloride	20.0	16.0		ug/L		80	54 - 156
Chlorobenzene	20.0	18.1		ug/L		90	51 - 139
Chloroethane	20.0	70.7	J3	ug/L		354	27 - 180
Chloroform	20.0	17.1		ug/L		86	58 - 139
Chloromethane	20.0	19.8		ug/L		99	33 - 154
cis-1,2-Dichloroethene	20.0	15.7		ug/L		78	56 - 128
cis-1,3-Dichloropropene	20.0	16.4		ug/L		82	64 - 128
Cyclohexane	20.0	15.1		ug/L		76	14 - 151
Dibromochloromethane	20.0	17.0		ug/L		85	50 - 140
Dichlorodifluoromethane	20.0	19.1		ug/L		95	10 - 180
Ethylbenzene	20.0	17.7		ug/L		88	63 - 133
Isopropylbenzene	20.0	17.2		ug/L		86	60 - 132
m,p-Xylenes	20.0	16.7		ug/L		84	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-66030/5
Matrix: Water
Analysis Batch: 66030

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	30.2		ug/L		75	70 - 130
Methyl tert-butyl ether	20.0	15.6		ug/L		78	51 - 145
Methylene Chloride	20.0	17.5		ug/L		87	43 - 142
o-Xylene	20.0	16.5		ug/L		83	61 - 129
Styrene	20.0	16.6		ug/L		83	59 - 136
Tetrachloroethene	20.0	14.1		ug/L		71	60 - 147
Toluene	20.0	17.1		ug/L		85	64 - 131
trans-1,2-Dichloroethene	20.0	16.6		ug/L		83	54 - 134
trans-1,3-Dichloropropene	20.0	17.6		ug/L		88	65 - 149
Trichloroethene	20.0	15.7		ug/L		79	62 - 135
Trichlorofluoromethane	20.0	24.3		ug/L		121	56 - 155
Vinyl chloride	20.0	20.8		ug/L		104	20 - 167
Xylenes, Total	40.0	33.2		ug/L		83	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*41 - 142*
Dibromofluoromethane (Surr)	*98*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Lab Sample ID: 670-31051-32 MS
Matrix: Water
Analysis Batch: 66030

Client Sample ID: LC34-IW0184-032.5-20231129
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	40	U	1000	869		ug/L		87	57 - 148
1,1,2,2-Tetrachloroethane	27	U	1000	918		ug/L		92	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	1000	746		ug/L		75	50 - 150
1,1,2-Trichloroethane	38	U	1000	916		ug/L		92	57 - 141
1,1-Dichloroethane	31	U	1000	849		ug/L		85	57 - 142
1,1-Dichloroethene	47	U	1000	823		ug/L		82	49 - 139
1,2,4-Trichlorobenzene	35	U	1000	791		ug/L		79	52 - 159
1,2-Dibromo-3-Chloropropane	48	U	1000	714		ug/L		71	48 - 150
1,2-Dibromoethane (EDB)	39	U	1000	816		ug/L		82	50 - 150
1,2-Dichlorobenzene	37	U	1000	873		ug/L		87	63 - 131
1,2-Dichloroethane	32	U	1000	750		ug/L		75	50 - 156
1,2-Dichloropropane	40	U	1000	879		ug/L		88	61 - 133
1,3-Dichlorobenzene	39	U	1000	862		ug/L		86	66 - 129
1,4-Dichlorobenzene	38	U	1000	869		ug/L		87	65 - 133
2-Butanone (MEK)	230	U	10000	7990		ug/L		80	10 - 180
2-Hexanone	130	U	10000	8200		ug/L		82	12 - 180
4-Methyl-2-pentanone	250	U	10000	7190		ug/L		72	19 - 180
Acetone	1300	U	10000	5300		ug/L		53	10 - 180
Benzene	36	U	1000	893		ug/L		89	56 - 136
Bromodichloromethane	26	U	1000	896		ug/L		90	58 - 135
Bromoform	38	U	1000	785		ug/L		78	46 - 148
Bromomethane	48	U	1000	1550		ug/L		155	10 - 173
Carbon disulfide	130	U	1000	682		ug/L		68	43 - 153
Carbon tetrachloride	47	U	1000	844		ug/L		84	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-31051-32 MS
Matrix: Water
Analysis Batch: 66030

Client Sample ID: LC34-IW0184-032.5-20231129
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	36	U	1000	906		ug/L		91	51 - 139
Chloroethane	49	U J3	1000	3550	J3	ug/L		355	27 - 180
Chloroform	40	U	1000	873		ug/L		87	59 - 139
Chloromethane	41	U	1000	1060		ug/L		106	33 - 154
cis-1,2-Dichloroethene	1100		1000	1940		ug/L		83	56 - 128
cis-1,3-Dichloropropene	30	U	1000	803		ug/L		80	64 - 128
Cyclohexane	47	U	1000	735		ug/L		74	14 - 141
Dibromochloromethane	25	U	1000	863		ug/L		86	50 - 150
Dichlorodifluoromethane	37	U	1000	975		ug/L		98	10 - 180
Ethylbenzene	35	U	1000	921		ug/L		92	63 - 133
Isopropylbenzene	34	U	1000	889		ug/L		89	60 - 132
m,p-Xylenes	65	U	1000	870		ug/L		87	64 - 133
Methyl acetate	48	U	2000	1610		ug/L		80	50 - 150
Methyl tert-butyl ether	30	U	1000	783		ug/L		78	50 - 150
Methylene Chloride	250	U	1000	872		ug/L		87	43 - 142
o-Xylene	27	U	1000	841		ug/L		84	61 - 129
Styrene	31	U	1000	837		ug/L		84	59 - 136
Tetrachloroethene	38	U	1000	728		ug/L		73	60 - 147
Toluene	36	U	1000	867		ug/L		87	64 - 131
trans-1,2-Dichloroethene	37	U	1000	859		ug/L		86	54 - 134
trans-1,3-Dichloropropene	37	U	1000	903		ug/L		90	65 - 149
Trichloroethene	45	U	1000	810		ug/L		81	62 - 135
Trichlorofluoromethane	47	U	1000	1290		ug/L		129	56 - 155
Vinyl chloride	720		1000	1910		ug/L		119	20 - 167
Xylenes, Total	65	U	2000	1710		ug/L		86	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*41 - 142*
Dibromofluoromethane (Surr)	*98*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Lab Sample ID: 670-31051-32 MSD
Matrix: Water
Analysis Batch: 66030

Client Sample ID: LC34-IW0184-032.5-20231129
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	40	U	1000	841		ug/L		84	57 - 148	3	25
1,1,2,2-Tetrachloroethane	27	U	1000	873		ug/L		87	60 - 139	5	17
1,1,2-Trichloro-1,2,2-trifluoroethane	37	U	1000	722		ug/L		72	50 - 150	3	30
1,1,2-Trichloroethane	38	U	1000	901		ug/L		90	57 - 141	2	16
1,1-Dichloroethane	31	U	1000	822		ug/L		82	57 - 142	3	24
1,1-Dichloroethene	47	U	1000	807		ug/L		81	49 - 139	2	16
1,2,4-Trichlorobenzene	35	U	1000	798		ug/L		80	52 - 159	1	24
1,2-Dibromo-3-Chloropropane	48	U	1000	684		ug/L		68	48 - 150	4	21
1,2-Dibromoethane (EDB)	39	U	1000	772		ug/L		77	50 - 150	6	16
1,2-Dichlorobenzene	37	U	1000	888		ug/L		89	63 - 131	2	25
1,2-Dichloroethane	32	U	1000	745		ug/L		74	50 - 156	1	18
1,2-Dichloropropane	40	U	1000	851		ug/L		85	61 - 133	3	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-31051-32 MSD
Matrix: Water
Analysis Batch: 66030

Client Sample ID: LC34-IW0184-032.5-20231129
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	39	U	1000	886		ug/L		89	66 - 129	3	23
1,4-Dichlorobenzene	38	U	1000	863		ug/L		86	65 - 133	1	23
2-Butanone (MEK)	230	U	10000	7050		ug/L		71	10 - 180	12	29
2-Hexanone	130	U	10000	7260		ug/L		73	12 - 180	12	28
4-Methyl-2-pentanone	250	U	10000	6470		ug/L		65	19 - 180	10	24
Acetone	1300	U	10000	4760		ug/L		48	10 - 180	11	19
Benzene	36	U	1000	891		ug/L		89	56 - 136	0	14
Bromodichloromethane	26	U	1000	896		ug/L		90	58 - 135	0	19
Bromoform	38	U	1000	772		ug/L		77	46 - 148	2	18
Bromomethane	48	U	1000	1520		ug/L		152	10 - 173	1	29
Carbon disulfide	130	U	1000	706		ug/L		71	43 - 153	3	26
Carbon tetrachloride	47	U	1000	799		ug/L		80	54 - 156	5	27
Chlorobenzene	36	U	1000	886		ug/L		89	51 - 139	2	13
Chloroethane	49	U J3	1000	3820	J3	ug/L		382	27 - 180	7	22
Chloroform	40	U	1000	896		ug/L		90	59 - 139	3	17
Chloromethane	41	U	1000	1030		ug/L		103	33 - 154	3	31
cis-1,2-Dichloroethene	1100		1000	1890		ug/L		78	56 - 128	3	17
cis-1,3-Dichloropropene	30	U	1000	785		ug/L		78	64 - 128	2	20
Cyclohexane	47	U	1000	719		ug/L		72	14 - 141	2	30
Dibromochloromethane	25	U	1000	828		ug/L		83	50 - 150	4	18
Dichlorodifluoromethane	37	U	1000	932		ug/L		93	10 - 180	4	26
Ethylbenzene	35	U	1000	908		ug/L		91	63 - 133	1	18
Isopropylbenzene	34	U	1000	905		ug/L		91	60 - 132	2	23
m,p-Xylenes	65	U	1000	844		ug/L		84	64 - 133	3	18
Methyl acetate	48	U	2000	1470		ug/L		73	50 - 150	9	30
Methyl tert-butyl ether	30	U	1000	746		ug/L		75	50 - 150	5	22
Methylene Chloride	250	U	1000	831		ug/L		83	43 - 142	5	23
o-Xylene	27	U	1000	823		ug/L		82	61 - 129	2	16
Styrene	31	U	1000	839		ug/L		84	59 - 136	0	32
Tetrachloroethene	38	U	1000	702		ug/L		70	60 - 147	4	21
Toluene	36	U	1000	852		ug/L		85	64 - 131	2	16
trans-1,2-Dichloroethene	37	U	1000	852		ug/L		85	54 - 134	1	20
trans-1,3-Dichloropropene	37	U	1000	883		ug/L		88	65 - 149	2	17
Trichloroethene	45	U	1000	791		ug/L		79	62 - 135	2	20
Trichlorofluoromethane	47	U	1000	1270		ug/L		127	56 - 155	2	22
Vinyl chloride	720		1000	1890		ug/L		117	20 - 167	1	24
Xylenes, Total	65	U	2000	1670		ug/L		83	50 - 150	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*
Dibromofluoromethane (Surr)	*96*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-66108/7
Matrix: Water
Analysis Batch: 66108

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/05/23 15:35	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/05/23 15:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/05/23 15:35	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/05/23 15:35	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/05/23 15:35	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/05/23 15:35	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/05/23 15:35	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/05/23 15:35	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/05/23 15:35	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/05/23 15:35	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/05/23 15:35	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/05/23 15:35	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/05/23 15:35	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/05/23 15:35	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/05/23 15:35	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/05/23 15:35	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/05/23 15:35	1
Acetone	25	U	50	25	ug/L			12/05/23 15:35	1
Benzene	0.71	U	1.0	0.71	ug/L			12/05/23 15:35	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/05/23 15:35	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/05/23 15:35	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/05/23 15:35	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/05/23 15:35	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/05/23 15:35	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/05/23 15:35	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/05/23 15:35	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/05/23 15:35	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/05/23 15:35	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/05/23 15:35	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/05/23 15:35	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/05/23 15:35	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/05/23 15:35	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/05/23 15:35	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/05/23 15:35	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/05/23 15:35	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/05/23 15:35	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/05/23 15:35	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/05/23 15:35	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/05/23 15:35	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/05/23 15:35	1
Styrene	0.61	U	1.0	0.61	ug/L			12/05/23 15:35	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/05/23 15:35	1
Toluene	0.72	U	1.0	0.72	ug/L			12/05/23 15:35	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/05/23 15:35	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/05/23 15:35	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/05/23 15:35	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/05/23 15:35	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/05/23 15:35	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-66108/7
Matrix: Water
Analysis Batch: 66108

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/05/23 15:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*41 - 142*		*12/05/23 15:35*	*1*
Dibromofluoromethane (Surr)	*106*		*53 - 146*		*12/05/23 15:35*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*12/05/23 15:35*	*1*

Lab Sample ID: LCS 670-66108/4
Matrix: Water
Analysis Batch: 66108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	5.00	4.58		ug/L		92	57 - 148
1,1,2,2-Tetrachloroethane	5.00	5.04		ug/L		101	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	4.21		ug/L		84	47 - 173
1,1,2-Trichloroethane	5.00	4.62		ug/L		92	57 - 141
1,1-Dichloroethane	5.00	4.32		ug/L		86	57 - 142
1,1-Dichloroethene	5.00	3.98		ug/L		80	47 - 139
1,2,4-Trichlorobenzene	5.00	4.24		ug/L		85	52 - 159
1,2-Dibromo-3-Chloropropane	5.00	3.83	I	ug/L		77	48 - 150
1,2-Dibromoethane (EDB)	5.00	4.38	I	ug/L		88	57 - 140
1,2-Dichlorobenzene	5.00	4.59		ug/L		92	63 - 131
1,2-Dichloroethane	5.00	4.67		ug/L		93	50 - 156
1,2-Dichloropropane	5.00	4.15		ug/L		83	61 - 133
1,3-Dichlorobenzene	5.00	4.44		ug/L		89	66 - 129
1,4-Dichlorobenzene	5.00	4.64		ug/L		93	65 - 133
2-Butanone (MEK)	50.0	37.1		ug/L		74	10 - 180
2-Hexanone	50.0	34.2		ug/L		68	12 - 180
4-Methyl-2-pentanone	50.0	36.9		ug/L		74	19 - 180
Acetone	50.0	38.8	I	ug/L		78	10 - 180
Benzene	5.00	4.32		ug/L		86	56 - 136
Bromodichloromethane	5.00	4.46		ug/L		89	58 - 135
Bromoform	5.00	4.06		ug/L		81	46 - 148
Bromomethane	5.00	3.70		ug/L		74	10 - 173
Carbon disulfide	5.00	3.72	I	ug/L		74	43 - 153
Carbon tetrachloride	5.00	4.20		ug/L		84	54 - 156
Chlorobenzene	5.00	4.35		ug/L		87	51 - 139
Chloroethane	5.00	4.34		ug/L		87	27 - 180
Chloroform	5.00	4.89	I	ug/L		98	58 - 139
Chloromethane	5.00	3.43		ug/L		69	33 - 154
cis-1,2-Dichloroethene	5.00	4.47		ug/L		89	56 - 128
cis-1,3-Dichloropropene	5.00	3.81		ug/L		76	64 - 128
Cyclohexane	5.00	3.25	I	ug/L		65	14 - 151
Dibromochloromethane	5.00	4.27		ug/L		85	50 - 140
Dichlorodifluoromethane	5.00	6.97		ug/L		139	10 - 180
Ethylbenzene	5.00	4.14		ug/L		83	63 - 133
Isopropylbenzene	5.00	4.13		ug/L		83	60 - 132
m,p-Xylenes	5.00	3.95		ug/L		79	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-66108/4
Matrix: Water
Analysis Batch: 66108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	10.0	6.97	I	ug/L		70	70 - 130
Methyl tert-butyl ether	5.00	3.82		ug/L		76	51 - 145
Methylene Chloride	5.00	5.0	U	ug/L		89	43 - 142
o-Xylene	5.00	3.63		ug/L		73	61 - 129
Styrene	5.00	3.50		ug/L		70	59 - 136
Tetrachloroethene	5.00	4.48		ug/L		90	60 - 147
Toluene	5.00	4.23		ug/L		85	64 - 131
trans-1,2-Dichloroethene	5.00	4.37		ug/L		87	54 - 134
trans-1,3-Dichloropropene	5.00	4.11		ug/L		82	65 - 149
Trichloroethene	5.00	4.25		ug/L		85	62 - 135
Trichlorofluoromethane	5.00	5.29		ug/L		106	56 - 155
Vinyl chloride	5.00	4.32		ug/L		86	20 - 167
Xylenes, Total	10.0	7.58		ug/L		76	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*41 - 142*
Dibromofluoromethane (Surr)	*104*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-31108-D-2 MS
Matrix: Water
Analysis Batch: 66108

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	21.9		ug/L		110	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	25.2		ug/L		126	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	20.8		ug/L		104	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	22.7		ug/L		114	57 - 141
1,1-Dichloroethane	0.62	U	20.0	20.6		ug/L		103	57 - 142
1,1-Dichloroethene	0.94	U	20.0	19.5		ug/L		98	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	19.6		ug/L		98	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	18.9		ug/L		94	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	21.1		ug/L		105	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	21.1		ug/L		106	63 - 131
1,2-Dichloroethane	0.63	U	20.0	22.9		ug/L		114	50 - 156
1,2-Dichloropropane	0.80	U	20.0	19.8		ug/L		99	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	20.2		ug/L		101	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	21.5		ug/L		108	65 - 133
2-Butanone (MEK)	4.5	U	200	202		ug/L		101	10 - 180
2-Hexanone	2.5	U	200	207		ug/L		103	12 - 180
4-Methyl-2-pentanone	5.0	U	200	206		ug/L		103	19 - 180
Acetone	25	U	200	215		ug/L		107	10 - 180
Benzene	0.71	U	20.0	21.1		ug/L		105	56 - 136
Bromodichloromethane	1.9		20.0	23.2		ug/L		106	58 - 135
Bromoform	0.75	U	20.0	20.6		ug/L		103	46 - 148
Bromomethane	0.95	U	20.0	26.6		ug/L		133	10 - 173
Carbon disulfide	2.5	U	20.0	17.1		ug/L		86	43 - 153
Carbon tetrachloride	0.94	U	20.0	21.2		ug/L		106	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-31108-D-2 MS
Matrix: Water
Analysis Batch: 66108

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	21.4		ug/L		107	51 - 139
Chloroethane	0.98	U J3	20.0	50.4	L J3	ug/L		252	27 - 180
Chloroform	8.7		20.0	31.6		ug/L		115	59 - 139
Chloromethane	0.82	U	20.0	24.7		ug/L		123	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	20.6		ug/L		103	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	19.3		ug/L		97	64 - 128
Cyclohexane	0.93	U	20.0	18.7		ug/L		94	14 - 141
Dibromochloromethane	0.89	I	20.0	22.4		ug/L		108	50 - 150
Dichlorodifluoromethane	0.74	U J3	20.0	63.1	L J3	ug/L		316	10 - 180
Ethylbenzene	0.69	U	20.0	21.5		ug/L		107	63 - 133
Isopropylbenzene	0.67	U	20.0	21.4		ug/L		107	60 - 132
m,p-Xylenes	1.3	U	20.0	21.4		ug/L		107	64 - 133
Methyl acetate	0.95	U	40.0	39.7		ug/L		99	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	18.8		ug/L		94	50 - 150
Methylene Chloride	5.0	U	20.0	20.2		ug/L		101	43 - 142
o-Xylene	0.53	U	20.0	20.2		ug/L		101	61 - 129
Styrene	0.61	U	20.0	19.8		ug/L		99	59 - 136
Tetrachloroethene	0.76	U	20.0	21.5		ug/L		108	60 - 147
Toluene	0.72	U	20.0	21.0		ug/L		105	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	20.5		ug/L		102	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	20.9		ug/L		104	65 - 149
Trichloroethene	0.89	U	20.0	20.7		ug/L		103	62 - 135
Trichlorofluoromethane	0.94	U J3	20.0	33.0	J3	ug/L		165	56 - 155
Vinyl chloride	0.71	U	20.0	31.3		ug/L		156	20 - 167
Xylenes, Total	1.3	U	40.0	41.6		ug/L		104	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: 670-31108-D-1 DU
Matrix: Water
Analysis Batch: 66108

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	0.80	U	ug/L		NC	30
1,1,2,2-Tetrachloroethane	0.54	U	0.54	U	ug/L		NC	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	0.73	U	ug/L		NC	30
1,1,2-Trichloroethane	0.76	U	0.76	U	ug/L		NC	30
1,1-Dichloroethane	0.62	U	0.62	U	ug/L		NC	30
1,1-Dichloroethene	0.94	U	0.94	U	ug/L		NC	30
1,2,4-Trichlorobenzene	0.70	U	0.70	U	ug/L		NC	30
1,2-Dibromo-3-Chloropropane	0.96	U	0.96	U	ug/L		NC	30
1,2-Dibromoethane (EDB)	0.78	U	0.78	U	ug/L		NC	30
1,2-Dichlorobenzene	0.73	U	0.73	U	ug/L		NC	30
1,2-Dichloroethane	0.63	U	0.63	U	ug/L		NC	30
1,2-Dichloropropane	0.80	U	0.80	U	ug/L		NC	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-31108-D-1 DU
Matrix: Water
Analysis Batch: 66108

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U		0.77	U	ug/L				NC	30
1,4-Dichlorobenzene	0.76	U		0.76	U	ug/L				NC	30
2-Butanone (MEK)	4.5	U		4.5	U	ug/L				NC	30
2-Hexanone	2.5	U		2.5	U	ug/L				NC	30
4-Methyl-2-pentanone	5.0	U		5.0	U	ug/L				NC	30
Acetone	25	U		25	U	ug/L				NC	30
Benzene	0.71	U		0.71	U	ug/L				NC	30
Bromodichloromethane	1.8			1.84		ug/L				1	30
Bromoform	0.75	U		0.75	U	ug/L				NC	30
Bromomethane	0.95	U		0.95	U	ug/L				NC	30
Carbon disulfide	2.5	U		2.5	U	ug/L				NC	30
Carbon tetrachloride	0.94	U		0.94	U	ug/L				NC	30
Chlorobenzene	0.72	U		0.72	U	ug/L				NC	30
Chloroethane	0.98	U		0.98	U	ug/L				NC	30
Chloroform	8.1			8.06		ug/L				0.1	30
Chloromethane	0.82	U		0.82	U	ug/L				NC	30
cis-1,2-Dichloroethene	0.53	U		0.53	U	ug/L				NC	30
cis-1,3-Dichloropropene	0.59	U		0.59	U	ug/L				NC	30
Cyclohexane	0.93	U		0.93	U	ug/L				NC	30
Dibromochloromethane	0.86	I		0.854	I	ug/L				0.8	30
Dichlorodifluoromethane	0.74	U		0.74	U	ug/L				NC	30
Ethylbenzene	0.69	U		0.69	U	ug/L				NC	30
Isopropylbenzene	0.67	U		0.67	U	ug/L				NC	30
m,p-Xylenes	1.3	U		1.3	U	ug/L				NC	30
Methyl acetate	0.95	U		0.95	U	ug/L				NC	30
Methyl tert-butyl ether	0.60	U		0.60	U	ug/L				NC	30
Methylene Chloride	5.0	U		5.0	U	ug/L				NC	30
o-Xylene	0.53	U		0.53	U	ug/L				NC	30
Styrene	0.61	U		0.61	U	ug/L				NC	30
Tetrachloroethene	0.76	U		0.76	U	ug/L				NC	30
Toluene	0.72	U		0.72	U	ug/L				NC	30
trans-1,2-Dichloroethene	0.73	U		0.73	U	ug/L				NC	20
trans-1,3-Dichloropropene	0.73	U		0.73	U	ug/L				NC	30
Trichloroethene	0.89	U		0.89	U	ug/L				NC	30
Trichlorofluoromethane	0.94	U		0.94	U	ug/L				NC	30
Vinyl chloride	0.71	U		0.71	U	ug/L				NC	30
Xylenes, Total	1.3	U		1.3	U	ug/L				NC	30

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*41 - 142*
Dibromofluoromethane (Surr)	*107*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-66248/7
Matrix: Water
Analysis Batch: 66248

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			12/06/23 11:20	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			12/06/23 11:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			12/06/23 11:20	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			12/06/23 11:20	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			12/06/23 11:20	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			12/06/23 11:20	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			12/06/23 11:20	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			12/06/23 11:20	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			12/06/23 11:20	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			12/06/23 11:20	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			12/06/23 11:20	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			12/06/23 11:20	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			12/06/23 11:20	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			12/06/23 11:20	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			12/06/23 11:20	1
2-Hexanone	2.5	U	20	2.5	ug/L			12/06/23 11:20	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			12/06/23 11:20	1
Acetone	25	U	50	25	ug/L			12/06/23 11:20	1
Benzene	0.71	U	1.0	0.71	ug/L			12/06/23 11:20	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			12/06/23 11:20	1
Bromoform	0.75	U	1.0	0.75	ug/L			12/06/23 11:20	1
Bromomethane	0.95	U	2.0	0.95	ug/L			12/06/23 11:20	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			12/06/23 11:20	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			12/06/23 11:20	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			12/06/23 11:20	1
Chloroethane	0.98	U	2.0	0.98	ug/L			12/06/23 11:20	1
Chloroform	0.80	U	5.0	0.80	ug/L			12/06/23 11:20	1
Chloromethane	0.82	U	2.0	0.82	ug/L			12/06/23 11:20	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			12/06/23 11:20	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			12/06/23 11:20	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			12/06/23 11:20	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			12/06/23 11:20	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			12/06/23 11:20	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			12/06/23 11:20	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			12/06/23 11:20	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			12/06/23 11:20	1
Methyl acetate	0.95	U	10	0.95	ug/L			12/06/23 11:20	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			12/06/23 11:20	1
Methylene Chloride	5.0	U	10	5.0	ug/L			12/06/23 11:20	1
o-Xylene	0.53	U	1.0	0.53	ug/L			12/06/23 11:20	1
Styrene	0.61	U	1.0	0.61	ug/L			12/06/23 11:20	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			12/06/23 11:20	1
Toluene	0.72	U	1.0	0.72	ug/L			12/06/23 11:20	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			12/06/23 11:20	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			12/06/23 11:20	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			12/06/23 11:20	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			12/06/23 11:20	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/06/23 11:20	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-66248/7
Matrix: Water
Analysis Batch: 66248

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			12/06/23 11:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*12/06/23 11:20*	*1*
Dibromofluoromethane (Surr)	*107*		*53 - 146*		*12/06/23 11:20*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*12/06/23 11:20*	*1*

Lab Sample ID: LCS 670-66248/4
Matrix: Water
Analysis Batch: 66248

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.4		ug/L		102	57 - 148
1,1,2,2-Tetrachloroethane	20.0	19.5		ug/L		98	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	21.2		ug/L		106	47 - 173
1,1,2-Trichloroethane	20.0	20.7		ug/L		103	57 - 141
1,1-Dichloroethane	20.0	21.5		ug/L		108	57 - 142
1,1-Dichloroethene	20.0	20.3		ug/L		101	47 - 139
1,2,4-Trichlorobenzene	20.0	25.2		ug/L		126	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	19.8		ug/L		99	48 - 150
1,2-Dibromoethane (EDB)	20.0	20.0		ug/L		100	57 - 140
1,2-Dichlorobenzene	20.0	20.7		ug/L		103	63 - 131
1,2-Dichloroethane	20.0	19.6		ug/L		98	50 - 156
1,2-Dichloropropane	20.0	21.0		ug/L		105	61 - 133
1,3-Dichlorobenzene	20.0	21.0		ug/L		105	66 - 129
1,4-Dichlorobenzene	20.0	19.4		ug/L		97	65 - 133
2-Butanone (MEK)	200	202		ug/L		101	10 - 180
2-Hexanone	200	223		ug/L		111	12 - 180
4-Methyl-2-pentanone	200	219		ug/L		110	19 - 180
Acetone	200	209		ug/L		105	10 - 180
Benzene	20.0	20.0		ug/L		100	56 - 136
Bromodichloromethane	20.0	20.3		ug/L		101	58 - 135
Bromoform	20.0	21.7		ug/L		108	46 - 148
Bromomethane	20.0	12.9		ug/L		65	10 - 173
Carbon disulfide	20.0	16.5		ug/L		82	43 - 153
Carbon tetrachloride	20.0	21.8		ug/L		109	54 - 156
Chlorobenzene	20.0	19.9		ug/L		99	51 - 139
Chloroethane	20.0	13.1		ug/L		65	27 - 180
Chloroform	20.0	20.4		ug/L		102	58 - 139
Chloromethane	20.0	15.8		ug/L		79	33 - 154
cis-1,2-Dichloroethene	20.0	21.7		ug/L		109	56 - 128
cis-1,3-Dichloropropene	20.0	20.0		ug/L		100	64 - 128
Cyclohexane	20.0	20.3		ug/L		101	14 - 151
Dibromochloromethane	20.0	21.5		ug/L		108	50 - 140
Dichlorodifluoromethane	20.0	14.9		ug/L		74	10 - 180
Ethylbenzene	20.0	19.6		ug/L		98	63 - 133
Isopropylbenzene	20.0	20.3		ug/L		101	60 - 132
m,p-Xylenes	20.0	20.3		ug/L		101	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-66248/4
Matrix: Water
Analysis Batch: 66248

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	42.9		ug/L		107	70 - 130
Methyl tert-butyl ether	20.0	21.3		ug/L		107	51 - 145
Methylene Chloride	20.0	21.5		ug/L		107	43 - 142
o-Xylene	20.0	20.4		ug/L		102	61 - 129
Styrene	20.0	20.5		ug/L		102	59 - 136
Tetrachloroethene	20.0	22.5		ug/L		112	60 - 147
Toluene	20.0	19.5		ug/L		97	64 - 131
trans-1,2-Dichloroethene	20.0	21.4		ug/L		107	54 - 134
trans-1,3-Dichloropropene	20.0	20.5		ug/L		103	65 - 149
Trichloroethene	20.0	20.1		ug/L		101	62 - 135
Trichlorofluoromethane	20.0	16.1		ug/L		80	56 - 155
Vinyl chloride	20.0	19.3		ug/L		96	20 - 167
Xylenes, Total	40.0	40.7		ug/L		102	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: 670-31051-44 MS
Matrix: Water
Analysis Batch: 66248

Client Sample ID: LC34-IW0141-024.0 -20231130
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	21.3		ug/L		107	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	21.2		ug/L		106	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	20.1		ug/L		101	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	21.6		ug/L		108	57 - 141
1,1-Dichloroethane	0.62	U	20.0	22.0		ug/L		110	57 - 142
1,1-Dichloroethene	0.94	U	20.0	20.1		ug/L		101	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	22.7		ug/L		114	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	21.9		ug/L		110	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	21.0		ug/L		105	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	20.9		ug/L		104	63 - 131
1,2-Dichloroethane	0.63	U	20.0	19.6		ug/L		98	50 - 156
1,2-Dichloropropane	0.80	U	20.0	21.8		ug/L		109	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	20.2		ug/L		101	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	19.1		ug/L		95	65 - 133
2-Butanone (MEK)	4.5	U	200	225		ug/L		112	10 - 180
2-Hexanone	2.5	U	200	253		ug/L		127	12 - 180
4-Methyl-2-pentanone	5.0	U	200	245		ug/L		123	19 - 180
Acetone	25	U	200	226		ug/L		113	10 - 180
Benzene	0.71	U	20.0	21.0		ug/L		105	56 - 136
Bromodichloromethane	0.52	U	20.0	21.0		ug/L		105	58 - 135
Bromoform	0.75	U	20.0	22.6		ug/L		113	46 - 148
Bromomethane	0.95	U	20.0	14.4		ug/L		72	10 - 173
Carbon disulfide	2.5	U	20.0	17.7		ug/L		88	43 - 153
Carbon tetrachloride	0.94	U	20.0	22.5		ug/L		112	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-31051-44 MS
Matrix: Water
Analysis Batch: 66248

Client Sample ID: LC34-IW0141-024.0 -20231130
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	20.4		ug/L		102	51 - 139
Chloroethane	0.98	U	20.0	14.8		ug/L		74	27 - 180
Chloroform	0.80	U	20.0	21.0		ug/L		105	59 - 139
Chloromethane	0.82	U	20.0	18.1		ug/L		91	33 - 154
cis-1,2-Dichloroethene	1.2		20.0	23.4		ug/L		111	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	20.8		ug/L		104	64 - 128
Cyclohexane	0.93	U	20.0	20.4		ug/L		102	14 - 141
Dibromochloromethane	0.50	U	20.0	22.2		ug/L		111	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	14.1		ug/L		70	10 - 180
Ethylbenzene	0.69	U	20.0	20.5		ug/L		102	63 - 133
Isopropylbenzene	0.67	U	20.0	20.5		ug/L		103	60 - 132
m,p-Xylenes	1.3	U	20.0	20.4		ug/L		102	64 - 133
Methyl acetate	0.95	U	40.0	47.3		ug/L		118	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	21.2		ug/L		106	50 - 150
Methylene Chloride	5.0	U	20.0	21.6		ug/L		108	43 - 142
o-Xylene	0.53	U	20.0	20.6		ug/L		103	61 - 129
Styrene	0.61	U	20.0	21.0		ug/L		105	59 - 136
Tetrachloroethene	0.76	U	20.0	22.0		ug/L		110	60 - 147
Toluene	0.72	U	20.0	20.4		ug/L		102	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	21.2		ug/L		106	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	21.1		ug/L		106	65 - 149
Trichloroethene	0.89	U	20.0	20.7		ug/L		103	62 - 135
Trichlorofluoromethane	0.94	U	20.0	16.6		ug/L		83	56 - 155
Vinyl chloride	0.71	U	20.0	20.6		ug/L		103	20 - 167
Xylenes, Total	1.3	U	40.0	41.0		ug/L		103	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*
Dibromofluoromethane (Surr)	*101*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Lab Sample ID: 670-31051-44 MSD
Matrix: Water
Analysis Batch: 66248

Client Sample ID: LC34-IW0141-024.0 -20231130
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	20.2		ug/L		101	57 - 148	5	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	20.0		ug/L		100	60 - 139	6	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	19.3		ug/L		97	50 - 150	4	30
1,1,2-Trichloroethane	0.76	U	20.0	20.7		ug/L		104	57 - 141	4	16
1,1-Dichloroethane	0.62	U	20.0	20.8		ug/L		104	57 - 142	5	24
1,1-Dichloroethene	0.94	U	20.0	19.5		ug/L		98	49 - 139	3	16
1,2,4-Trichlorobenzene	0.70	U	20.0	25.0		ug/L		125	52 - 159	9	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	21.6		ug/L		108	48 - 150	2	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	20.4		ug/L		102	50 - 150	3	16
1,2-Dichlorobenzene	0.73	U	20.0	21.1		ug/L		105	63 - 131	1	25
1,2-Dichloroethane	0.63	U	20.0	20.0		ug/L		100	50 - 156	2	18
1,2-Dichloropropane	0.80	U	20.0	21.6		ug/L		108	61 - 133	1	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-31051-44 MSD
Matrix: Water
Analysis Batch: 66248

Client Sample ID: LC34-IW0141-024.0 -20231130
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U	20.0	20.6		ug/L		103	66 - 129	2	23
1,4-Dichlorobenzene	0.76	U	20.0	19.1		ug/L		96	65 - 133	0	23
2-Butanone (MEK)	4.5	U	200	201		ug/L		101	10 - 180	11	29
2-Hexanone	2.5	U	200	234		ug/L		117	12 - 180	8	28
4-Methyl-2-pentanone	5.0	U	200	227		ug/L		114	19 - 180	8	24
Acetone	25	U	200	202		ug/L		101	10 - 180	11	19
Benzene	0.71	U	20.0	20.3		ug/L		101	56 - 136	4	14
Bromodichloromethane	0.52	U	20.0	20.2		ug/L		101	58 - 135	4	19
Bromoform	0.75	U	20.0	22.2		ug/L		111	46 - 148	2	18
Bromomethane	0.95	U	20.0	12.9		ug/L		65	10 - 173	11	29
Carbon disulfide	2.5	U	20.0	16.3		ug/L		82	43 - 153	8	26
Carbon tetrachloride	0.94	U	20.0	21.2		ug/L		106	54 - 156	6	27
Chlorobenzene	0.72	U	20.0	19.6		ug/L		98	51 - 139	4	13
Chloroethane	0.98	U	20.0	15.0		ug/L		75	27 - 180	2	22
Chloroform	0.80	U	20.0	20.3		ug/L		101	59 - 139	4	17
Chloromethane	0.82	U	20.0	16.8		ug/L		84	33 - 154	8	31
cis-1,2-Dichloroethene	1.2		20.0	22.7		ug/L		108	56 - 128	3	17
cis-1,3-Dichloropropene	0.59	U	20.0	19.5		ug/L		98	64 - 128	6	20
Cyclohexane	0.93	U	20.0	19.7		ug/L		98	14 - 141	4	30
Dibromochloromethane	0.50	U	20.0	21.4		ug/L		107	50 - 150	4	18
Dichlorodifluoromethane	0.74	U	20.0	12.5		ug/L		63	10 - 180	12	26
Ethylbenzene	0.69	U	20.0	20.0		ug/L		100	63 - 133	2	18
Isopropylbenzene	0.67	U	20.0	20.7		ug/L		103	60 - 132	1	23
m,p-Xylenes	1.3	U	20.0	19.7		ug/L		98	64 - 133	3	18
Methyl acetate	0.95	U	40.0	43.0		ug/L		108	50 - 150	10	30
Methyl tert-butyl ether	0.60	U	20.0	21.2		ug/L		106	50 - 150	0	22
Methylene Chloride	5.0	U	20.0	20.6		ug/L		103	43 - 142	5	23
o-Xylene	0.53	U	20.0	20.4		ug/L		102	61 - 129	1	16
Styrene	0.61	U	20.0	20.3		ug/L		102	59 - 136	3	32
Tetrachloroethene	0.76	U	20.0	22.5		ug/L		112	60 - 147	2	21
Toluene	0.72	U	20.0	19.6		ug/L		98	64 - 131	4	16
trans-1,2-Dichloroethene	0.73	U	20.0	19.4		ug/L		97	54 - 134	9	20
trans-1,3-Dichloropropene	0.73	U	20.0	20.9		ug/L		104	65 - 149	1	17
Trichloroethene	0.89	U	20.0	20.5		ug/L		103	62 - 135	1	20
Trichlorofluoromethane	0.94	U	20.0	15.9		ug/L		80	56 - 155	4	22
Vinyl chloride	0.71	U	20.0	19.6		ug/L		98	20 - 167	5	24
Xylenes, Total	1.3	U	40.0	40.1		ug/L		100	50 - 150	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*
Dibromofluoromethane (Surr)	*103*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-66443/8
Matrix: Water
Analysis Batch: 66443

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.71	U	1.0	0.71	ug/L			12/07/23 11:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*12/07/23 11:31*	*1*
Dibromofluoromethane (Surr)	*108*		*53 - 146*		*12/07/23 11:31*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*12/07/23 11:31*	*1*

Lab Sample ID: LCS 670-66443/4
Matrix: Water
Analysis Batch: 66443

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Vinyl chloride			20.0	19.4		ug/L		97	20 - 167		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*
Dibromofluoromethane (Surr)	*104*		*53 - 146*
Toluene-d8 (Surr)	*100*		*40 - 146*

Lab Sample ID: 670-31129-A-34 MS
Matrix: Water
Analysis Batch: 66443

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Vinyl chloride	0.71	U	20.0	23.1		ug/L		116	20 - 167		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*106*		*53 - 146*
Toluene-d8 (Surr)	*98*		*40 - 146*

Lab Sample ID: 670-31129-A-34 MSD
Matrix: Water
Analysis Batch: 66443

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Vinyl chloride	0.71	U	20.0	24.8		ug/L		124	20 - 167	7	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*
Dibromofluoromethane (Surr)	*102*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

GC/MS VOA

Analysis Batch: 65936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-31051-1	LC34-IW0136-024.0-20231128	Total/NA	Water	8260D	
670-31051-2	LC34-IW0133-018.0-20231128	Total/NA	Water	8260D	
670-31051-3	LC34-IW0125-018.0-20231128	Total/NA	Water	8260D	
670-31051-4 - DL	LC34-IW0177-018.5-20231128	Total/NA	Water	8260D	
670-31051-5 - DL	LC34-IW0170-22.0-20231128	Total/NA	Water	8260D	
670-31051-6	LC34-IW0132-018.0 -20231128	Total/NA	Water	8260D	
670-31051-7	LC34-IW0171-032.5-20231128	Total/NA	Water	8260D	
670-31051-8	LC34-IW0131-018.0-20231128	Total/NA	Water	8260D	
670-31051-9	LC34-IW0129-018.0-20231128	Total/NA	Water	8260D	
670-31051-10 - DL	LC34-IW0169-032.5-20231128	Total/NA	Water	8260D	
670-31051-11	LC34-IW0130-024.0-20231128	Total/NA	Water	8260D	
MB 670-65936/9	Method Blank	Total/NA	Water	8260D	
LCS 670-65936/5	Lab Control Sample	Total/NA	Water	8260D	
670-31051-1 MS	LC34-IW0136-024.0-20231128	Total/NA	Water	8260D	
670-31051-1 MSD	LC34-IW0136-024.0-20231128	Total/NA	Water	8260D	

Analysis Batch: 65972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-31051-12	LC34-IW0168-022.0 -20231128	Total/NA	Water	8260D	
670-31051-13	LC34-IW0178-018.5-20231128	Total/NA	Water	8260D	
670-31051-14	LC34-IW0108-024.0-20231128	Total/NA	Water	8260D	
670-31051-15	LC34-IW0172-022.0-20231128	Total/NA	Water	8260D	
670-31051-16	LC34-IW0124-018.0-20231128	Total/NA	Water	8260D	
670-31051-17	LC34-IW0173-032.5-20231128	Total/NA	Water	8260D	
670-31051-18	LC34-IW0128-018.0-20231128	Total/NA	Water	8260D	
670-31051-19	LC34-IW0127-024.0-20231128	Total/NA	Water	8260D	
670-31051-20	LC34-IW0175-032.5-20231128	Total/NA	Water	8260D	
670-31051-21	LC34-IW0142-024.0-20231128	Total/NA	Water	8260D	
670-31051-22	LC34-IW0174-018.5-20231128	Total/NA	Water	8260D	
670-31051-24	LC34-IW0188-018.5-20231129	Total/NA	Water	8260D	
670-31051-25	LC34-IW0057S-007.3-20231129	Total/NA	Water	8260D	
670-31051-26	LC34-IW0181-022.0-20231129	Total/NA	Water	8260D	
670-31051-27	LC34-IW0147-024.0-20231129	Total/NA	Water	8260D	
670-31051-28	LC34-IW0146-018.0-20231129	Total/NA	Water	8260D	
670-31051-29	LC34-IW0182-032.5-20231129	Total/NA	Water	8260D	
670-31051-30	LC34-IW0183-022.0-20231129	Total/NA	Water	8260D	
670-31051-31	LC34-IW0144-018.0-20231129	Total/NA	Water	8260D	
MB 670-65972/7	Method Blank	Total/NA	Water	8260D	
LCS 670-65972/4	Lab Control Sample	Total/NA	Water	8260D	
670-31051-17 MS	LC34-IW0173-032.5-20231128	Total/NA	Water	8260D	
670-31051-16 DU	LC34-IW0124-018.0-20231128	Total/NA	Water	8260D	

Analysis Batch: 66030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-31051-5 - DL	LC34-IW0170-22.0-20231128	Total/NA	Water	8260D	
670-31051-22	LC34-IW0174-018.5-20231128	Total/NA	Water	8260D	
670-31051-23	LC34-IW0057I-025.5-20231129	Total/NA	Water	8260D	
670-31051-24 - DL	LC34-IW0188-018.5-20231129	Total/NA	Water	8260D	
670-31051-32 - DL	LC34-IW0184-032.5-20231129	Total/NA	Water	8260D	
670-31051-33	LC34-IW0145-031.5-20231129	Total/NA	Water	8260D	
670-31051-34 - DL	LC34-IW0180-032.5-20231129	Total/NA	Water	8260D	

GC/MS VOA (Continued)

Analysis Batch: 66030 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-31051-35	LC34-IW0143-024.0-20231129	Total/NA	Water	8260D	
670-31051-36 - DL	LC34-IW0179-022.0-20231129	Total/NA	Water	8260D	
670-31051-37	LC34-IW0123-024.0-20231129	Total/NA	Water	8260D	
670-31051-38 - DL	LC34-IW0185-018.5-20231129	Total/NA	Water	8260D	
670-31051-39 - DL	LC34-IW0176-018.5-20231129	Total/NA	Water	8260D	
670-31051-40 - DL	LC34-IW0186-018.5-20231129	Total/NA	Water	8260D	
670-31051-41 - DL	LC34-IW0135-024.0-20231129	Total/NA	Water	8260D	
MB 670-66030/8	Method Blank	Total/NA	Water	8260D	
LCS 670-66030/5	Lab Control Sample	Total/NA	Water	8260D	
670-31051-32 MS	LC34-IW0184-032.5-20231129	Total/NA	Water	8260D	
670-31051-32 MSD	LC34-IW0184-032.5-20231129	Total/NA	Water	8260D	

Analysis Batch: 66108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-31051-10 - DL	LC34-IW0169-032.5-20231128	Total/NA	Water	8260D	
670-31051-42 - DL	LC34-IW0187-018.5-20231129	Total/NA	Water	8260D	
670-31051-43 - DL	LC34-IW0134-024.0-20231129	Total/NA	Water	8260D	
MB 670-66108/7	Method Blank	Total/NA	Water	8260D	
LCS 670-66108/4	Lab Control Sample	Total/NA	Water	8260D	
670-31108-D-2 MS	Matrix Spike	Total/NA	Water	8260D	
670-31108-D-1 DU	Duplicate	Total/NA	Water	8260D	

Analysis Batch: 66248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-31051-36	LC34-IW0179-022.0-20231129	Total/NA	Water	8260D	
670-31051-44	LC34-IW0141-024.0 -20231130	Total/NA	Water	8260D	
670-31051-45	LC34-IW0126-024.0 -20231130	Total/NA	Water	8260D	
670-31051-46	LC34-SW1004-000.5-20231130	Total/NA	Water	8260D	
670-31051-47	LC34-IW0137-024.0-20231130	Total/NA	Water	8260D	
670-31051-48	LC34-SW1001-000.5 -20231130	Total/NA	Water	8260D	
670-31051-49	LC34-SW1002-000.5 -20231130	Total/NA	Water	8260D	
670-31051-50	LC34-IW0138-031.5 -20231130	Total/NA	Water	8260D	
670-31051-51	LC34-IW0140-024.0-20231130	Total/NA	Water	8260D	
670-31051-52	LC34-IW0139-018.0-20231130	Total/NA	Water	8260D	
MB 670-66248/7	Method Blank	Total/NA	Water	8260D	
LCS 670-66248/4	Lab Control Sample	Total/NA	Water	8260D	
670-31051-44 MS	LC34-IW0141-024.0 -20231130	Total/NA	Water	8260D	
670-31051-44 MSD	LC34-IW0141-024.0 -20231130	Total/NA	Water	8260D	

Analysis Batch: 66443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-31051-43 - DL	LC34-IW0134-024.0-20231129	Total/NA	Water	8260D	
MB 670-66443/8	Method Blank	Total/NA	Water	8260D	
LCS 670-66443/4	Lab Control Sample	Total/NA	Water	8260D	
670-31129-A-34 MS	Matrix Spike	Total/NA	Water	8260D	
670-31129-A-34 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0136-024.0-20231128
Lab Sample ID: 670-31051-1
Date Collected: 11/28/23 09:05
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65936	AAM	EET ORL	12/04/23 16:04

Client Sample ID: LC34-IW0133-018.0-20231128
Lab Sample ID: 670-31051-2
Date Collected: 11/28/23 09:10
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65936	AAM	EET ORL	12/04/23 17:42

Client Sample ID: LC34-IW0125-018.0-20231128
Lab Sample ID: 670-31051-3
Date Collected: 11/28/23 09:40
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65936	AAM	EET ORL	12/04/23 18:00

Client Sample ID: LC34-IW0177-018.5-20231128
Lab Sample ID: 670-31051-4
Date Collected: 11/28/23 09:40
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	65936	AAM	EET ORL	12/04/23 23:06

Client Sample ID: LC34-IW0170-22.0-20231128
Lab Sample ID: 670-31051-5
Date Collected: 11/28/23 10:10
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	66030	KG	EET ORL	12/05/23 17:51
Total/NA	Analysis	8260D	DL	10	65936	AAM	EET ORL	12/04/23 23:28

Client Sample ID: LC34-IW0132-018.0 -20231128
Lab Sample ID: 670-31051-6
Date Collected: 11/28/23 10:10
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65936	AAM	EET ORL	12/04/23 18:18

Client Sample ID: LC34-IW0171-032.5-20231128
Lab Sample ID: 670-31051-7
Date Collected: 11/28/23 10:35
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65936	AAM	EET ORL	12/04/23 18:50

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0131-018.0-20231128
Lab Sample ID: 670-31051-8
Date Collected: 11/28/23 10:40
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65936	AAM	EET ORL	12/04/23 19:09

Client Sample ID: LC34-IW0129-018.0-20231128
Lab Sample ID: 670-31051-9
Date Collected: 11/28/23 11:05
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65936	AAM	EET ORL	12/04/23 19:46

Client Sample ID: LC34-IW0169-032.5-20231128
Lab Sample ID: 670-31051-10
Date Collected: 11/28/23 11:10
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	65936	AAM	EET ORL	12/05/23 00:09
Total/NA	Analysis	8260D	DL	5	66108	T1Y	EET ORL	12/05/23 17:42

Client Sample ID: LC34-IW0130-024.0-20231128
Lab Sample ID: 670-31051-11
Date Collected: 11/28/23 11:25
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65936	AAM	EET ORL	12/04/23 20:04

Client Sample ID: LC34-IW0168-022.0 -20231128
Lab Sample ID: 670-31051-12
Date Collected: 11/28/23 11:35
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		100	65972	K1P	EET ORL	12/04/23 19:47

Client Sample ID: LC34-IW0178-018.5-20231128
Lab Sample ID: 670-31051-13
Date Collected: 11/28/23 12:07
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	65972	K1P	EET ORL	12/04/23 20:07

Client Sample ID: LC34-IW0108-024.0-20231128
Lab Sample ID: 670-31051-14
Date Collected: 11/28/23 12:10
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65972	K1P	EET ORL	12/04/23 20:25

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0172-022.0-20231128
Lab Sample ID: 670-31051-15
Date Collected: 11/28/23 12:40
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	65972	K1P	EET ORL	12/04/23 20:45

Client Sample ID: LC34-IW0124-018.0-20231128
Lab Sample ID: 670-31051-16
Date Collected: 11/28/23 12:45
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65972	K1P	EET ORL	12/04/23 18:18

Client Sample ID: LC34-IW0173-032.5-20231128
Lab Sample ID: 670-31051-17
Date Collected: 11/28/23 13:03
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65972	K1P	EET ORL	12/04/23 18:54

Client Sample ID: LC34-IW0128-018.0-20231128
Lab Sample ID: 670-31051-18
Date Collected: 11/28/23 13:10
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65972	K1P	EET ORL	12/04/23 21:02

Client Sample ID: LC34-IW0127-024.0-20231128
Lab Sample ID: 670-31051-19
Date Collected: 11/28/23 13:35
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65972	K1P	EET ORL	12/04/23 21:20

Client Sample ID: LC34-IW0175-032.5-20231128
Lab Sample ID: 670-31051-20
Date Collected: 11/28/23 13:35
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65972	K1P	EET ORL	12/04/23 21:38

Client Sample ID: LC34-IW0142-024.0-20231128
Lab Sample ID: 670-31051-21
Date Collected: 11/28/23 14:00
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65972	K1P	EET ORL	12/04/23 21:55

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0174-018.5-20231128
Lab Sample ID: 670-31051-22
Date Collected: 11/28/23 14:00
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	66030	KG	EET ORL	12/05/23 14:52
Total/NA	Analysis	8260D		5	65972	K1P	EET ORL	12/04/23 22:16

Client Sample ID: LC34-IW0057I-025.5-20231129
Lab Sample ID: 670-31051-23
Date Collected: 11/29/23 09:15
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	66030	KG	EET ORL	12/05/23 15:10

Client Sample ID: LC34-IW0188-018.5-20231129
Lab Sample ID: 670-31051-24
Date Collected: 11/29/23 09:25
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	66030	KG	EET ORL	12/05/23 17:10
Total/NA	Analysis	8260D		50	65972	K1P	EET ORL	12/04/23 22:56

Client Sample ID: LC34-IW0057S-007.3-20231129
Lab Sample ID: 670-31051-25
Date Collected: 11/29/23 09:35
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65972	K1P	EET ORL	12/04/23 23:14

Client Sample ID: LC34-IW0181-022.0-20231129
Lab Sample ID: 670-31051-26
Date Collected: 11/29/23 09:57
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		5	65972	K1P	EET ORL	12/04/23 23:34

Client Sample ID: LC34-IW0147-024.0-20231129
Lab Sample ID: 670-31051-27
Date Collected: 11/29/23 10:00
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65972	K1P	EET ORL	12/04/23 23:52

Client Sample ID: LC34-IW0146-018.0-20231129
Lab Sample ID: 670-31051-28
Date Collected: 11/29/23 10:20
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65972	K1P	EET ORL	12/05/23 00:09

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0182-032.5-20231129
Lab Sample ID: 670-31051-29
Date Collected: 11/29/23 10:20
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		25	65972	K1P	EET ORL	12/05/23 00:29

Client Sample ID: LC34-IW0183-022.0-20231129
Lab Sample ID: 670-31051-30
Date Collected: 11/29/23 10:45
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65972	K1P	EET ORL	12/05/23 00:47

Client Sample ID: LC34-IW0144-018.0-20231129
Lab Sample ID: 670-31051-31
Date Collected: 11/29/23 10:55
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	65972	K1P	EET ORL	12/05/23 01:05

Client Sample ID: LC34-IW0184-032.5-20231129
Lab Sample ID: 670-31051-32
Date Collected: 11/29/23 11:10
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	50	66030	KG	EET ORL	12/05/23 11:21

Client Sample ID: LC34-IW0145-031.5-20231129
Lab Sample ID: 670-31051-33
Date Collected: 11/29/23 11:20
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	66030	KG	EET ORL	12/05/23 15:27

Client Sample ID: LC34-IW0180-032.5-20231129
Lab Sample ID: 670-31051-34
Date Collected: 11/29/23 11:40
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	66030	KG	EET ORL	12/05/23 18:11

Client Sample ID: LC34-IW0143-024.0-20231129
Lab Sample ID: 670-31051-35
Date Collected: 11/29/23 12:05
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	66030	KG	EET ORL	12/05/23 12:31

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0179-022.0-20231129
Lab Sample ID: 670-31051-36
Date Collected: 11/29/23 12:07
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	66030	KG	EET ORL	12/05/23 16:49
Total/NA	Analysis	8260D		1	66248	AAM	EET ORL	12/06/23 17:04

Client Sample ID: LC34-IW0123-024.0-20231129
Lab Sample ID: 670-31051-37
Date Collected: 11/29/23 12:30
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	66030	KG	EET ORL	12/05/23 12:49

Client Sample ID: LC34-IW0185-018.5-20231129
Lab Sample ID: 670-31051-38
Date Collected: 11/29/23 12:50
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	66030	KG	EET ORL	12/05/23 17:30

Client Sample ID: LC34-IW0176-018.5-20231129
Lab Sample ID: 670-31051-39
Date Collected: 11/29/23 13:00
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2	66030	KG	EET ORL	12/05/23 16:08

Client Sample ID: LC34-IW0186-018.5-20231129
Lab Sample ID: 670-31051-40
Date Collected: 11/29/23 13:20
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	66030	KG	EET ORL	12/05/23 16:29

Client Sample ID: LC34-IW0135-024.0-20231129
Lab Sample ID: 670-31051-41
Date Collected: 11/29/23 13:45
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2	66030	KG	EET ORL	12/05/23 15:48

Client Sample ID: LC34-IW0187-018.5-20231129
Lab Sample ID: 670-31051-42
Date Collected: 11/29/23 14:00
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	66108	T1Y	EET ORL	12/05/23 18:02

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Client Sample ID: LC34-IW0134-024.0-20231129
Lab Sample ID: 670-31051-43
Date Collected: 11/29/23 14:15
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	50	66443	AAM	EET ORL	12/07/23 14:20
Total/NA	Analysis	8260D	DL	25	66108	T1Y	EET ORL	12/05/23 18:22

Client Sample ID: LC34-IW0141-024.0 -20231130
Lab Sample ID: 670-31051-44
Date Collected: 11/30/23 10:15
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	66248	AAM	EET ORL	12/06/23 12:28

Client Sample ID: LC34-IW0126-024.0 -20231130
Lab Sample ID: 670-31051-45
Date Collected: 11/30/23 10:50
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	66248	AAM	EET ORL	12/06/23 17:39

Client Sample ID: LC34-SW1004-000.5-20231130
Lab Sample ID: 670-31051-46
Date Collected: 11/30/23 11:10
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	66248	AAM	EET ORL	12/06/23 17:57

Client Sample ID: LC34-IW0137-024.0-20231130
Lab Sample ID: 670-31051-47
Date Collected: 11/30/23 11:23
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	66248	AAM	EET ORL	12/06/23 18:34

Client Sample ID: LC34-SW1001-000.5 -20231130
Lab Sample ID: 670-31051-48
Date Collected: 11/30/23 11:30
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	66248	AAM	EET ORL	12/06/23 18:52

Client Sample ID: LC34-SW1002-000.5 -20231130
Lab Sample ID: 670-31051-49
Date Collected: 11/30/23 11:50
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	66248	AAM	EET ORL	12/06/23 19:29

Lab Chronicle

Client: Tetra Tech, Inc.
Job ID: 670-31051-1
Project/Site: NASA KSC LC34

Client Sample ID: LC34-IW0138-031.5 -20231130
Lab Sample ID: 670-31051-50
Date Collected: 11/30/23 11:55
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	66248	AAM	EET ORL	12/06/23 19:47

Client Sample ID: LC34-IW0140-024.0-20231130
Lab Sample ID: 670-31051-51
Date Collected: 11/30/23 12:30
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	66248	AAM	EET ORL	12/06/23 20:28

Client Sample ID: LC34-IW0139-018.0-20231130
Lab Sample ID: 670-31051-52
Date Collected: 11/30/23 12:40
Matrix: Water
Date Received: 12/01/23 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	66248	AAM	EET ORL	12/06/23 20:47

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-31051-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-31051-1	LC34-IW0136-024.0-20231128	Water	11/28/23 09:05	12/01/23 08:00
670-31051-2	LC34-IW0133-018.0-20231128	Water	11/28/23 09:10	12/01/23 08:00
670-31051-3	LC34-IW0125-018.0-20231128	Water	11/28/23 09:40	12/01/23 08:00
670-31051-4	LC34-IW0177-018.5-20231128	Water	11/28/23 09:40	12/01/23 08:00
670-31051-5	LC34-IW0170-22.0-20231128	Water	11/28/23 10:10	12/01/23 08:00
670-31051-6	LC34-IW0132-018.0 -20231128	Water	11/28/23 10:10	12/01/23 08:00
670-31051-7	LC34-IW0171-032.5-20231128	Water	11/28/23 10:35	12/01/23 08:00
670-31051-8	LC34-IW0131-018.0-20231128	Water	11/28/23 10:40	12/01/23 08:00
670-31051-9	LC34-IW0129-018.0-20231128	Water	11/28/23 11:05	12/01/23 08:00
670-31051-10	LC34-IW0169-032.5-20231128	Water	11/28/23 11:10	12/01/23 08:00
670-31051-11	LC34-IW0130-024.0-20231128	Water	11/28/23 11:25	12/01/23 08:00
670-31051-12	LC34-IW0168-022.0 -20231128	Water	11/28/23 11:35	12/01/23 08:00
670-31051-13	LC34-IW0178-018.5-20231128	Water	11/28/23 12:07	12/01/23 08:00
670-31051-14	LC34-IW0108-024.0-20231128	Water	11/28/23 12:10	12/01/23 08:00
670-31051-15	LC34-IW0172-022.0-20231128	Water	11/28/23 12:40	12/01/23 08:00
670-31051-16	LC34-IW0124-018.0-20231128	Water	11/28/23 12:45	12/01/23 08:00
670-31051-17	LC34-IW0173-032.5-20231128	Water	11/28/23 13:03	12/01/23 08:00
670-31051-18	LC34-IW0128-018.0-20231128	Water	11/28/23 13:10	12/01/23 08:00
670-31051-19	LC34-IW0127-024.0-20231128	Water	11/28/23 13:35	12/01/23 08:00
670-31051-20	LC34-IW0175-032.5-20231128	Water	11/28/23 13:35	12/01/23 08:00
670-31051-21	LC34-IW0142-024.0-20231128	Water	11/28/23 14:00	12/01/23 08:00
670-31051-22	LC34-IW0174-018.5-20231128	Water	11/28/23 14:00	12/01/23 08:00
670-31051-23	LC34-IW0057I-025.5-20231129	Water	11/29/23 09:15	12/01/23 08:00
670-31051-24	LC34-IW0188-018.5-20231129	Water	11/29/23 09:25	12/01/23 08:00
670-31051-25	LC34-IW0057S-007.3-20231129	Water	11/29/23 09:35	12/01/23 08:00
670-31051-26	LC34-IW0181-022.0-20231129	Water	11/29/23 09:57	12/01/23 08:00
670-31051-27	LC34-IW0147-024.0-20231129	Water	11/29/23 10:00	12/01/23 08:00
670-31051-28	LC34-IW0146-018.0-20231129	Water	11/29/23 10:20	12/01/23 08:00
670-31051-29	LC34-IW0182-032.5-20231129	Water	11/29/23 10:20	12/01/23 08:00
670-31051-30	LC34-IW0183-022.0-20231129	Water	11/29/23 10:45	12/01/23 08:00
670-31051-31	LC34-IW0144-018.0-20231129	Water	11/29/23 10:55	12/01/23 08:00
670-31051-32	LC34-IW0184-032.5-20231129	Water	11/29/23 11:10	12/01/23 08:00
670-31051-33	LC34-IW0145-031.5-20231129	Water	11/29/23 11:20	12/01/23 08:00
670-31051-34	LC34-IW0180-032.5-20231129	Water	11/29/23 11:40	12/01/23 08:00
670-31051-35	LC34-IW0143-024.0-20231129	Water	11/29/23 12:05	12/01/23 08:00
670-31051-36	LC34-IW0179-022.0-20231129	Water	11/29/23 12:07	12/01/23 08:00
670-31051-37	LC34-IW0123-024.0-20231129	Water	11/29/23 12:30	12/01/23 08:00
670-31051-38	LC34-IW0185-018.5-20231129	Water	11/29/23 12:50	12/01/23 08:00
670-31051-39	LC34-IW0176-018.5-20231129	Water	11/29/23 13:00	12/01/23 08:00
670-31051-40	LC34-IW0186-018.5-20231129	Water	11/29/23 13:20	12/01/23 08:00
670-31051-41	LC34-IW0135-024.0-20231129	Water	11/29/23 13:45	12/01/23 08:00
670-31051-42	LC34-IW0187-018.5-20231129	Water	11/29/23 14:00	12/01/23 08:00
670-31051-43	LC34-IW0134-024.0-20231129	Water	11/29/23 14:15	12/01/23 08:00
670-31051-44	LC34-IW0141-024.0 -20231130	Water	11/30/23 10:15	12/01/23 08:00
670-31051-45	LC34-IW0126-024.0 -20231130	Water	11/30/23 10:50	12/01/23 08:00
670-31051-46	LC34-SW1004-000.5-20231130	Water	11/30/23 11:10	12/01/23 08:00
670-31051-47	LC34-IW0137-024.0-20231130	Water	11/30/23 11:23	12/01/23 08:00
670-31051-48	LC34-SW1001-000.5 -20231130	Water	11/30/23 11:30	12/01/23 08:00
670-31051-49	LC34-SW1002-000.5 -20231130	Water	11/30/23 11:50	12/01/23 08:00
670-31051-50	LC34-IW0138-031.5 -20231130	Water	11/30/23 11:55	12/01/23 08:00
670-31051-51	LC34-IW0140-024.0-20231130	Water	11/30/23 12:30	12/01/23 08:00
670-31051-52	LC34-IW0139-018.0-20231130	Water	11/30/23 12:40	12/01/23 08:00

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3824 | PAGE 1 OF 4

PROJECT NO: 112G08985	FACILITY: KSC-LC34	PROJECT MANAGER Mark Sonnet	PHONE NUMBER (412) 921-8622	LABORATORY NAME AND CONTACT: Eurofins — Kaitlin Walnicki
SAMPLERS (SIGNATURE) - Chuck Serden; - Natalie Volk		FIELD OPERATIONS LEADER Chuck Serden	PHONE NUMBER (321) 591-7580	ADDRESS 481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER		CITY, STATE Altamonte Springs, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G G
PRESERVATIVE USED: HCl/4°C 4°C
TYPE OF ANALYSIS: 8260D - (MCD) NASA LC34 Custom List; 8260D - (MCD) NASA LC34 Custom List

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS			COMMENTS
11/28	0905	LC34-IW0136-024.0-20231128	136	20	28	GW	G	4	X	X	
	0910	LC34-IW0133-018.0-20231128	133	13	23						
	0940	LC34-IW0125-018.0-20231128	125	13	23						
	0940	LC34-IW0177-018.5-20231128	177	16	21						
	1010	LC34-IW0170-022.0-20231128	170	17	27						
	1010	LC34-IW0132-018.0-20231128	132	13	23						
	1035	LC34-IW0171-032.5-20231128	171	30	35						
	1040	LC34-IW0131-018.0-20231128	131	13	23						
	1105	LC34-IW0129-018.0-20231128	129	13	23						
	1110	LC34-IW0169-032.5-20231128	169	30	35						
	1125	LC34-IW0130-024.0-20231128	130	20	28						
	1135	LC34-IW0168-022.0-20231128	168	17	27						
11/28	1207	LC34-IW0178-018.5-20231128	178	16	21	GW	G	4	X	X	

670-31051 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	11/30/23	1400	1. RECEIVED BY MC	12/1/23	8:00
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 0.7/0.9 0.5/0.7

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Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3825 | PAGE 2 OF 4

PROJECT NO: 112G08985	FACILITY: KSC-LC34	PROJECT MANAGER Mark Jonnet	PHONE NUMBER (412) 921-8622	LABORATORY NAME AND CONTACT: Eurofins — Kaitlin Dylnicki
SAMPLERS (SIGNATURE) - Chuck Serden; - Natalie Volk		FIELD OPERATIONS LEADER Chuck Serden	PHONE NUMBER (321)591-7580	ADDRESS 481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER		CITY, STATE Altamonte Springs, FL

STANDARD TAT ☒
RUSH TAT ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)		COMMENTS
									G	G	
									HCl/4°C	4°C	
									8260D - (MOD) NASA LC34 Custom List	8260D - (MOD) NASA LC34 Custom List	
11/28	1210	LC34-IW0108-024.0-20231128	108	20	28	GW	G	4	X	X	
	1240	LC34-IW0172-022.0-20231128	172	17	27						
	1245	LC34-IW0124-018.0-20231128	124	13	23						
	1303	LC34-IW0173-032.5-20231128	173	30	35						
	1310	LC34-IW0128-018.0-20231128	128	13	23						
	1335	LC34-IW0127-024.0-20231128	127	20	28						
	1335	LC34-IW0175-032.5-20231128	175	30	35						
	1400	LC34-IW0142-024.0-20231128	142	20	28						
11/28	1400	LC34-IW0174-018.5-20231128	174	16	21						
11/29	0915	LC34-IW0057I-025.5-20231129	57I	23	26						
	0925	LC34-IW0188-018.5-20231129	188	16	21						
	0935	LC34-IW0057S-007.3-20231129	57S	3.5	11						
11/29	0957	LC34-IW0181-022.0-20231129	181	17	27	GW	G	4	X	X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	11/30/23	1400	1. RECEIVED BY MC	12/1/23	9:00
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 0.7/0.9 0.5/0.7

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

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Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3826 | PAGE 3 OF 4

PROJECT NO: 112G089185	FACILITY: KSC-LC34	PROJECT MANAGER Mark Sonner	PHONE NUMBER (412) 921-8622	LABORATORY NAME AND CONTACT: Eurofins — Kaitlin Dylnick
SAMPLERS (SIGNATURE) - Chuck Sorden; - Natalie Volk		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER		CITY, STATE Altamonte Springs, FL

STANDARD TAT ☒
RUSH TAT ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)										COMMENTS
									G	G									
									HCl/4°C	4°C									
									TYPE OF ANALYSIS: 8260D-(MOD) NASA LC34 Custom List	8260D-(MOD) NASA LC34 Custom List									
11/29	1000	LC34-IW0147-024.0-20231129	147	20	28	GW	G	4	X	X									
	1020	LC34-IW0146-018.0-20231129	146	13	23														
	1620	LC34-IW0182-032.5-20231129	182	30	35														
	1045	LC34-IW0183-022.0-20231129	183	17	27														
	1055	LC34-IW0144-018.0-20231129	144	13	23														
	1110	LC34-IW0184-032.5-20231129	184	30	35														
	1120	LC34-IW0145-031.5-20231129	145	29	34														
	1140	LC34-IW0180-032.5-20231129	180	30	35														
	1205	LC34-IW0143-024.0-20231129	143	20	28														
	1207	LC34-IW0179-022.0-20231129	179	17	27														
	1230	LC34-IW0123-024.0-20231129	123	20	28														
	1250	LC34-IW0185-018.5-20231129	185	16	21														
11/29	1300	LC34-IW0176-018.5-20231129	176	16	21	GW	G	4	X	X									

1. RELINQUISHED BY	DATE 11/30/23	TIME 1400	1. RECEIVED BY MC	DATE 12/1/23	TIME 8:00
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS 0.7/0.9 0.5/0.7 596

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Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3827 | PAGE 4 OF 4

PROJECT NO: 112G08985	FACILITY: KSC-LC34	PROJECT MANAGER Mark Jonnet	PHONE NUMBER (412) 921-8622	LABORATORY NAME AND CONTACT: Eurofins — Kaitlin Dylnicki
SAMPLERS (SIGNATURE) – Chuck Sorden; – Natalie Volle		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 481 Newburyport Ave.
		CARRIER/WAYBILL NUMBER		CITY, STATE Altamonte Springs, FL

STANDARD TAT ☒ RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G G

PRESERVATIVE USED: HCl/4°C 4°C

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: 8260D-(MOD) NASA LC34 Custom List	8260D-(MOD) NASA LC34 Custom List	COMMENTS
11/29	1320	LC34-IW0186-018.5-20231129	186	16	21	GW	G	4	X	X	
↓	1345	LC34-IW0135-024.0-20231129	135	20	28	↓	↓	↓	↓	↓	
	1400	LC34-IW0187-018.5-20231129	187	16	21						
11/29	1415	LC34-IW0134-024.0-20231129	134	20	28						
11/30	1015	LC34-IW0141-024.0-20231130 (30 cs)	141	20	28						
↓	1050	LC34-IW0126-024.0-20231130	126	20	28	GW					
	1110	LC34-SW1004-000.5-20231130	SW1004	0.0	0.5	SW					
	1124 (1123 cs)	LC34-~~SW1001~~ IW0137-024.0-20231130	137	20	28	GW					
	1130	LC34-SW1001-000.5-20231130	SW1001	0.0	0.5	SW					
	1150	LC34-SW1002-000.5-20231130	SW1002	0.0	0.5	SW					
	1155	LC34-IW0138-031.5-20231130	138	29	34	GW					
↓	1230	LC34-IW0140-024.0-20231130	140	20	28	↓	↓	↓	↓	↓	
11/30	240	LC34-IW0139-018.0-20231130	139	13	23	GW	G	4	X	X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	11/30/23	1400	1. RECEIVED BY MC	12/1/23	8:00
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS: 0.7/0.9 0.5/0.7

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-31051-1

Login Number: 31051
List Number: 1
Creator: Clerisier, Meline

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC LC34

JOB NUMBER

670-34898-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

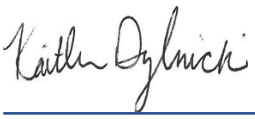
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization



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Revision 1

Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
Client: Tetra Tech
Client PM: Mark Jonnet
Project: NASA KSC LC34
Project Number: 112G08985
670-34898-1

REVISION

The report being provided is a revision of the original report sent on 3/1/2024. The report (revision 1) is being revised due to update of sample ID to match chain of custody. LC34-IW0178-018.5-20240215 (670-34898-17)

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 2/16/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.5°C.

GC/MS VOA
Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: LC34-IW0180-032.5-20240214 (670-34898-1), LC34-IW0184-032.5-20240214 (670-34898-3), LC34-IW0186-018.5-20240214 (670-34898-5), LC34-IW0182-032.5-20240214 (670-34898-6), LC34-IW0170-022.0-20240214 (670-34898-11), LC34-IW0188-018.5-20240215 (670-34898-13), LC34-IW0187-018.5-20240215 (670-34898-14), LC34-IW0168-022.0-20240215 (670-34898-15), LC34-IW0169-032.5-20240215 (670-34898-16), LC34-IW0178-018.5-20240215 (670-34898-17), LC34-IW0172-022.0-20240215 (670-34898-18) and LC34-IW0177-018.5-20240215 (670-34898-20). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-76767 recovered above the upper control limit for 2-Butanone (MEK), 2-Hexanone, 4-Methyl-2-pentanone, Acetone, Chloromethane, Dichlorodifluoromethane and Methyl acetate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: CCVIS 670-76767/3.

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 670-76767 recovered outside control limits for the following analytes: Acetone and Dichlorodifluoromethane. Samples were ND for these analytes; data reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 670-77094 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: LC34-IW0176-018.5-20240215 (670-34898-21). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 670-77094 recovered above the upper control limit for Cyclohexane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 670-77094/3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Client Sample ID: LC34-IW0180-032.5-20240214 — Lab Sample ID: 670-34898-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	500		25	13	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	710		25	18	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-IW0179-022.0-20240214 — Lab Sample ID: 670-34898-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	10		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	19		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0184-032.5-20240214 — Lab Sample ID: 670-34898-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	770		25	13	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	600		25	18	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-IW0183-022.0-20240214 — Lab Sample ID: 670-34898-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4.1		1.0	0.53	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0186-018.5-20240214 — Lab Sample ID: 670-34898-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	650		10	5.3	ug/L	10		8260D	Total/NA
Vinyl chloride - DL	250		10	7.1	ug/L	10		8260D	Total/NA

Client Sample ID: LC34-IW0182-032.5-20240214 — Lab Sample ID: 670-34898-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	1500		25	13	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	920		25	18	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-IW0181-022.0-20240214 — Lab Sample ID: 670-34898-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	19		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	46		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0185-018.5-20240214 — Lab Sample ID: 670-34898-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	61		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	64		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0175-032.5-20240214 — Lab Sample ID: 670-34898-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	7.2		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	1.1		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0174-022.0-20240214 — Lab Sample ID: 670-34898-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	91		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	27		1.0	0.71	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Client Sample ID: LC34-IW0170-022.0-20240214 — Lab Sample ID: 670-34898-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	340		5.0	2.7	ug/L	5		8260D	Total/NA
trans-1,2-Dichloroethene - DL	3.8	I	5.0	3.7	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	55		5.0	3.6	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0171-032.5-20240214 — Lab Sample ID: 670-34898-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4.0		1.0	0.53	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	0.81	I	1.0	0.73	ug/L	1		8260D	Total/NA
Vinyl chloride	11		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: LC34-IW0188-018.5-20240215 — Lab Sample ID: 670-34898-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	47		25	13	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	1100		25	18	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-IW0187-018.5-20240215 — Lab Sample ID: 670-34898-14

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	290		25	13	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	570		25	18	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-IW0168-022.0-20240215 — Lab Sample ID: 670-34898-15

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	360		5.0	2.7	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	180		5.0	3.6	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0169-032.5-20240215 — Lab Sample ID: 670-34898-16

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	210		5.0	2.7	ug/L	5		8260D	Total/NA
trans-1,2-Dichloroethene - DL	6.1		5.0	3.7	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	61		5.0	3.6	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0178-018.5-20240215 — Lab Sample ID: 670-34898-17

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	940		25	13	ug/L	25		8260D	Total/NA
Vinyl chloride - DL	550		25	18	ug/L	25		8260D	Total/NA

Client Sample ID: LC34-IW0172-022.0-20240215 — Lab Sample ID: 670-34898-18

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	400		5.0	2.7	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	15		5.0	3.6	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0173-032.5-20240215 — Lab Sample ID: 670-34898-19

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.4		1.0	0.53	ug/L	1		8260D	Total/NA
Vinyl chloride	3.7		1.0	0.71	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Client Sample ID: LC34-IW0177-018.5-20240215 — Lab Sample ID: 670-34898-20

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	360		5.0	2.7	ug/L	5		8260D	Total/NA
Vinyl chloride - DL	17		5.0	3.6	ug/L	5		8260D	Total/NA

Client Sample ID: LC34-IW0176-018.5-20240215 — Lab Sample ID: 670-34898-21

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	140		2.0	1.1	ug/L	2		8260D	Total/NA
Vinyl chloride - DL	27		2.0	1.4	ug/L	2		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Client Sample ID: LC34-IW0180-032.5-20240214

Date Collected: 02/14/24 11:05
Date Received: 02/16/24 08:00

Lab Sample ID: 670-34898-1

Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			02/19/24 17:26	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			02/19/24 17:26	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			02/19/24 17:26	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			02/19/24 17:26	25
1,1-Dichloroethane	16	U	25	16	ug/L			02/19/24 17:26	25
1,1-Dichloroethene	24	U	25	24	ug/L			02/19/24 17:26	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			02/19/24 17:26	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			02/19/24 17:26	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			02/19/24 17:26	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			02/19/24 17:26	25
1,2-Dichloroethane	16	U	25	16	ug/L			02/19/24 17:26	25
1,2-Dichloropropane	20	U	25	20	ug/L			02/19/24 17:26	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			02/19/24 17:26	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			02/19/24 17:26	25
2-Butanone (MEK)	110	U	250	110	ug/L			02/19/24 17:26	25
2-Hexanone	63	U	500	63	ug/L			02/19/24 17:26	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			02/19/24 17:26	25
Acetone	630	U J3	1300	630	ug/L			02/19/24 17:26	25
Benzene	18	U	25	18	ug/L			02/19/24 17:26	25
Bromodichloromethane	13	U	25	13	ug/L			02/19/24 17:26	25
Bromoform	19	U	25	19	ug/L			02/19/24 17:26	25
Bromomethane	24	U	50	24	ug/L			02/19/24 17:26	25
Carbon disulfide	63	U	130	63	ug/L			02/19/24 17:26	25
Carbon tetrachloride	24	U	25	24	ug/L			02/19/24 17:26	25
Chlorobenzene	18	U	25	18	ug/L			02/19/24 17:26	25
Chloroethane	25	U	50	25	ug/L			02/19/24 17:26	25
Chloroform	20	U	130	20	ug/L			02/19/24 17:26	25
Chloromethane	21	U	50	21	ug/L			02/19/24 17:26	25
cis-1,2-Dichloroethene	**500**		25	13	ug/L			02/19/24 17:26	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			02/19/24 17:26	25
Cyclohexane	23	U	130	23	ug/L			02/19/24 17:26	25
Dibromochloromethane	13	U	25	13	ug/L			02/19/24 17:26	25
Dichlorodifluoromethane	19	U J3	25	19	ug/L			02/19/24 17:26	25
Ethylbenzene	17	U	25	17	ug/L			02/19/24 17:26	25
Isopropylbenzene	17	U	50	17	ug/L			02/19/24 17:26	25
m,p-Xylenes	33	U	50	33	ug/L			02/19/24 17:26	25
Methyl acetate	24	U	250	24	ug/L			02/19/24 17:26	25
Methyl tert-butyl ether	15	U	50	15	ug/L			02/19/24 17:26	25
Methylene Chloride	130	U	250	130	ug/L			02/19/24 17:26	25
o-Xylene	13	U	25	13	ug/L			02/19/24 17:26	25
Styrene	15	U	25	15	ug/L			02/19/24 17:26	25
Tetrachloroethene	19	U	25	19	ug/L			02/19/24 17:26	25
Toluene	18	U	25	18	ug/L			02/19/24 17:26	25
trans-1,2-Dichloroethene	18	U	25	18	ug/L			02/19/24 17:26	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			02/19/24 17:26	25
Trichloroethene	22	U	25	22	ug/L			02/19/24 17:26	25
Trichlorofluoromethane	24	U	25	24	ug/L			02/19/24 17:26	25
Vinyl chloride	**710**		25	18	ug/L			02/19/24 17:26	25
Xylenes, Total	33	U	50	33	ug/L			02/19/24 17:26	25

Client Sample ID: LC34-IW0180-032.5-20240214

Lab Sample ID: 670-34898-1

Date Collected: 02/14/24 11:05

Matrix: Water

Date Received: 02/16/24 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*02/19/24 17:26*	*25*
Dibromofluoromethane (Surr)	*96*		*53 - 146*		*02/19/24 17:26*	*25*
Toluene-d8 (Surr)	*97*		*40 - 146*		*02/19/24 17:26*	*25*

Client Sample ID: LC34-IW0179-022.0-20240214

Lab Sample ID: 670-34898-2

Date Collected: 02/14/24 11:23

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			02/19/24 13:25	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			02/19/24 13:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			02/19/24 13:25	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			02/19/24 13:25	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			02/19/24 13:25	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			02/19/24 13:25	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			02/19/24 13:25	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			02/19/24 13:25	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			02/19/24 13:25	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			02/19/24 13:25	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			02/19/24 13:25	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			02/19/24 13:25	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			02/19/24 13:25	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			02/19/24 13:25	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			02/19/24 13:25	1
2-Hexanone	2.5	U	20	2.5	ug/L			02/19/24 13:25	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			02/19/24 13:25	1
Acetone	25	U J3	50	25	ug/L			02/19/24 13:25	1
Benzene	0.71	U	1.0	0.71	ug/L			02/19/24 13:25	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			02/19/24 13:25	1
Bromoform	0.75	U	1.0	0.75	ug/L			02/19/24 13:25	1
Bromomethane	0.95	U	2.0	0.95	ug/L			02/19/24 13:25	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			02/19/24 13:25	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			02/19/24 13:25	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			02/19/24 13:25	1
Chloroethane	0.98	U	2.0	0.98	ug/L			02/19/24 13:25	1
Chloroform	0.80	U	5.0	0.80	ug/L			02/19/24 13:25	1
Chloromethane	0.82	U	2.0	0.82	ug/L			02/19/24 13:25	1
cis-1,2-Dichloroethene	**10**		1.0	0.53	ug/L			02/19/24 13:25	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			02/19/24 13:25	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			02/19/24 13:25	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			02/19/24 13:25	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			02/19/24 13:25	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			02/19/24 13:25	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			02/19/24 13:25	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			02/19/24 13:25	1
Methyl acetate	0.95	U	10	0.95	ug/L			02/19/24 13:25	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			02/19/24 13:25	1
Methylene Chloride	5.0	U	10	5.0	ug/L			02/19/24 13:25	1
o-Xylene	0.53	U	1.0	0.53	ug/L			02/19/24 13:25	1

Client Sample ID: LC34-IW0179-022.0-20240214

Lab Sample ID: 670-34898-2

Date Collected: 02/14/24 11:23

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			02/19/24 13:25	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			02/19/24 13:25	1
Toluene	0.72	U	1.0	0.72	ug/L			02/19/24 13:25	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			02/19/24 13:25	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			02/19/24 13:25	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			02/19/24 13:25	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			02/19/24 13:25	1
Vinyl chloride	**19**		1.0	0.71	ug/L			02/19/24 13:25	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			02/19/24 13:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*02/19/24 13:25*	*1*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*02/19/24 13:25*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*02/19/24 13:25*	*1*

Client Sample ID: LC34-IW0184-032.5-20240214

Lab Sample ID: 670-34898-3

Date Collected: 02/14/24 11:47

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			02/19/24 17:46	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			02/19/24 17:46	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			02/19/24 17:46	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			02/19/24 17:46	25
1,1-Dichloroethane	16	U	25	16	ug/L			02/19/24 17:46	25
1,1-Dichloroethene	24	U	25	24	ug/L			02/19/24 17:46	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			02/19/24 17:46	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			02/19/24 17:46	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			02/19/24 17:46	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			02/19/24 17:46	25
1,2-Dichloroethane	16	U	25	16	ug/L			02/19/24 17:46	25
1,2-Dichloropropane	20	U	25	20	ug/L			02/19/24 17:46	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			02/19/24 17:46	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			02/19/24 17:46	25
2-Butanone (MEK)	110	U	250	110	ug/L			02/19/24 17:46	25
2-Hexanone	63	U	500	63	ug/L			02/19/24 17:46	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			02/19/24 17:46	25
Acetone	630	U J3	1300	630	ug/L			02/19/24 17:46	25
Benzene	18	U	25	18	ug/L			02/19/24 17:46	25
Bromodichloromethane	13	U	25	13	ug/L			02/19/24 17:46	25
Bromoform	19	U	25	19	ug/L			02/19/24 17:46	25
Bromomethane	24	U	50	24	ug/L			02/19/24 17:46	25
Carbon disulfide	63	U	130	63	ug/L			02/19/24 17:46	25
Carbon tetrachloride	24	U	25	24	ug/L			02/19/24 17:46	25
Chlorobenzene	18	U	25	18	ug/L			02/19/24 17:46	25
Chloroethane	25	U	50	25	ug/L			02/19/24 17:46	25
Chloroform	20	U	130	20	ug/L			02/19/24 17:46	25
Chloromethane	21	U	50	21	ug/L			02/19/24 17:46	25
cis-1,2-Dichloroethene	**770**		25	13	ug/L			02/19/24 17:46	25

Client Sample ID: LC34-IW0184-032.5-20240214

Lab Sample ID: 670-34898-3

Date Collected: 02/14/24 11:47

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	15	U	25	15	ug/L			02/19/24 17:46	25
Cyclohexane	23	U	130	23	ug/L			02/19/24 17:46	25
Dibromochloromethane	13	U	25	13	ug/L			02/19/24 17:46	25
Dichlorodifluoromethane	19	U J3	25	19	ug/L			02/19/24 17:46	25
Ethylbenzene	17	U	25	17	ug/L			02/19/24 17:46	25
Isopropylbenzene	17	U	50	17	ug/L			02/19/24 17:46	25
m,p-Xylenes	33	U	50	33	ug/L			02/19/24 17:46	25
Methyl acetate	24	U	250	24	ug/L			02/19/24 17:46	25
Methyl tert-butyl ether	15	U	50	15	ug/L			02/19/24 17:46	25
Methylene Chloride	130	U	250	130	ug/L			02/19/24 17:46	25
o-Xylene	13	U	25	13	ug/L			02/19/24 17:46	25
Styrene	15	U	25	15	ug/L			02/19/24 17:46	25
Tetrachloroethene	19	U	25	19	ug/L			02/19/24 17:46	25
Toluene	18	U	25	18	ug/L			02/19/24 17:46	25
trans-1,2-Dichloroethene	18	U	25	18	ug/L			02/19/24 17:46	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			02/19/24 17:46	25
Trichloroethene	22	U	25	22	ug/L			02/19/24 17:46	25
Trichlorofluoromethane	24	U	25	24	ug/L			02/19/24 17:46	25
Vinyl chloride	**600**		25	18	ug/L			02/19/24 17:46	25
Xylenes, Total	33	U	50	33	ug/L			02/19/24 17:46	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*02/19/24 17:46*	*25*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*02/19/24 17:46*	*25*
Toluene-d8 (Surr)	*98*		*40 - 146*		*02/19/24 17:46*	*25*

Client Sample ID: LC34-IW0183-022.0-20240214

Lab Sample ID: 670-34898-4

Date Collected: 02/14/24 12:06

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			02/19/24 14:36	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			02/19/24 14:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			02/19/24 14:36	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			02/19/24 14:36	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			02/19/24 14:36	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			02/19/24 14:36	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			02/19/24 14:36	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			02/19/24 14:36	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			02/19/24 14:36	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			02/19/24 14:36	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			02/19/24 14:36	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			02/19/24 14:36	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			02/19/24 14:36	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			02/19/24 14:36	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			02/19/24 14:36	1
2-Hexanone	2.5	U	20	2.5	ug/L			02/19/24 14:36	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			02/19/24 14:36	1
Acetone	25	U J3	50	25	ug/L			02/19/24 14:36	1

Client Sample ID: LC34-IW0183-022.0-20240214

Lab Sample ID: 670-34898-4

Date Collected: 02/14/24 12:06

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			02/19/24 14:36	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			02/19/24 14:36	1
Bromoform	0.75	U	1.0	0.75	ug/L			02/19/24 14:36	1
Bromomethane	0.95	U	2.0	0.95	ug/L			02/19/24 14:36	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			02/19/24 14:36	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			02/19/24 14:36	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			02/19/24 14:36	1
Chloroethane	0.98	U	2.0	0.98	ug/L			02/19/24 14:36	1
Chloroform	0.80	U	5.0	0.80	ug/L			02/19/24 14:36	1
Chloromethane	0.82	U	2.0	0.82	ug/L			02/19/24 14:36	1
cis-1,2-Dichloroethene	**4.1**		1.0	0.53	ug/L			02/19/24 14:36	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			02/19/24 14:36	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			02/19/24 14:36	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			02/19/24 14:36	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			02/19/24 14:36	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			02/19/24 14:36	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			02/19/24 14:36	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			02/19/24 14:36	1
Methyl acetate	0.95	U	10	0.95	ug/L			02/19/24 14:36	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			02/19/24 14:36	1
Methylene Chloride	5.0	U	10	5.0	ug/L			02/19/24 14:36	1
o-Xylene	0.53	U	1.0	0.53	ug/L			02/19/24 14:36	1
Styrene	0.61	U	1.0	0.61	ug/L			02/19/24 14:36	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			02/19/24 14:36	1
Toluene	0.72	U	1.0	0.72	ug/L			02/19/24 14:36	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			02/19/24 14:36	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			02/19/24 14:36	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			02/19/24 14:36	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			02/19/24 14:36	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			02/19/24 14:36	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			02/19/24 14:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*02/19/24 14:36*	*1*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*02/19/24 14:36*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*02/19/24 14:36*	*1*

Client Sample ID: LC34-IW0186-018.5-20240214

Lab Sample ID: 670-34898-5

Date Collected: 02/14/24 12:27

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.0	U	10	8.0	ug/L			02/19/24 19:06	10
1,1,2,2-Tetrachloroethane	5.4	U	10	5.4	ug/L			02/19/24 19:06	10
1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U	20	7.3	ug/L			02/19/24 19:06	10
1,1,2-Trichloroethane	7.6	U	20	7.6	ug/L			02/19/24 19:06	10
1,1-Dichloroethane	6.2	U	10	6.2	ug/L			02/19/24 19:06	10
1,1-Dichloroethene	9.4	U	10	9.4	ug/L			02/19/24 19:06	10
1,2,4-Trichlorobenzene	7.0	U	20	7.0	ug/L			02/19/24 19:06	10

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Client Sample ID: LC34-IW0186-018.5-20240214
Date Collected: 02/14/24 12:27
Date Received: 02/16/24 08:00

Lab Sample ID: 670-34898-5
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	9.6	U	100	9.6	ug/L			02/19/24 19:06	10
1,2-Dibromoethane (EDB)	7.8	U	120	7.8	ug/L			02/19/24 19:06	10
1,2-Dichlorobenzene	7.3	U	10	7.3	ug/L			02/19/24 19:06	10
1,2-Dichloroethane	6.3	U	10	6.3	ug/L			02/19/24 19:06	10
1,2-Dichloropropane	8.0	U	10	8.0	ug/L			02/19/24 19:06	10
1,3-Dichlorobenzene	7.7	U	10	7.7	ug/L			02/19/24 19:06	10
1,4-Dichlorobenzene	7.6	U	10	7.6	ug/L			02/19/24 19:06	10
2-Butanone (MEK)	45	U	100	45	ug/L			02/19/24 19:06	10
2-Hexanone	25	U	200	25	ug/L			02/19/24 19:06	10
4-Methyl-2-pentanone	50	U	200	50	ug/L			02/19/24 19:06	10
Acetone	250	U J3	500	250	ug/L			02/19/24 19:06	10
Benzene	7.1	U	10	7.1	ug/L			02/19/24 19:06	10
Bromodichloromethane	5.2	U	10	5.2	ug/L			02/19/24 19:06	10
Bromoform	7.5	U	10	7.5	ug/L			02/19/24 19:06	10
Bromomethane	9.5	U	20	9.5	ug/L			02/19/24 19:06	10
Carbon disulfide	25	U	50	25	ug/L			02/19/24 19:06	10
Carbon tetrachloride	9.4	U	10	9.4	ug/L			02/19/24 19:06	10
Chlorobenzene	7.2	U	10	7.2	ug/L			02/19/24 19:06	10
Chloroethane	9.8	U	20	9.8	ug/L			02/19/24 19:06	10
Chloroform	8.0	U	50	8.0	ug/L			02/19/24 19:06	10
Chloromethane	8.2	U	20	8.2	ug/L			02/19/24 19:06	10
cis-1,2-Dichloroethene	**650**		10	5.3	ug/L			02/19/24 19:06	10
cis-1,3-Dichloropropene	5.9	U	10	5.9	ug/L			02/19/24 19:06	10
Cyclohexane	9.3	U	50	9.3	ug/L			02/19/24 19:06	10
Dibromochloromethane	5.0	U	10	5.0	ug/L			02/19/24 19:06	10
Dichlorodifluoromethane	7.4	U J3	10	7.4	ug/L			02/19/24 19:06	10
Ethylbenzene	6.9	U	10	6.9	ug/L			02/19/24 19:06	10
Isopropylbenzene	6.7	U	20	6.7	ug/L			02/19/24 19:06	10
m,p-Xylenes	13	U	20	13	ug/L			02/19/24 19:06	10
Methyl acetate	9.5	U	100	9.5	ug/L			02/19/24 19:06	10
Methyl tert-butyl ether	6.0	U	20	6.0	ug/L			02/19/24 19:06	10
Methylene Chloride	50	U	100	50	ug/L			02/19/24 19:06	10
o-Xylene	5.3	U	10	5.3	ug/L			02/19/24 19:06	10
Styrene	6.1	U	10	6.1	ug/L			02/19/24 19:06	10
Tetrachloroethene	7.6	U	10	7.6	ug/L			02/19/24 19:06	10
Toluene	7.2	U	10	7.2	ug/L			02/19/24 19:06	10
trans-1,2-Dichloroethene	7.3	U	10	7.3	ug/L			02/19/24 19:06	10
trans-1,3-Dichloropropene	7.3	U	10	7.3	ug/L			02/19/24 19:06	10
Trichloroethene	8.9	U	10	8.9	ug/L			02/19/24 19:06	10
Trichlorofluoromethane	9.4	U	10	9.4	ug/L			02/19/24 19:06	10
Vinyl chloride	**250**		10	7.1	ug/L			02/19/24 19:06	10
Xylenes, Total	13	U	20	13	ug/L			02/19/24 19:06	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*02/19/24 19:06*	*10*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*02/19/24 19:06*	*10*
Toluene-d8 (Surr)	*96*		*40 - 146*		*02/19/24 19:06*	*10*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Client Sample ID: LC34-IW0182-032.5-20240214
Date Collected: 02/14/24 12:52
Date Received: 02/16/24 08:00

Lab Sample ID: 670-34898-6
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			02/19/24 19:27	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			02/19/24 19:27	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			02/19/24 19:27	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			02/19/24 19:27	25
1,1-Dichloroethane	16	U	25	16	ug/L			02/19/24 19:27	25
1,1-Dichloroethene	24	U	25	24	ug/L			02/19/24 19:27	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			02/19/24 19:27	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			02/19/24 19:27	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			02/19/24 19:27	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			02/19/24 19:27	25
1,2-Dichloroethane	16	U	25	16	ug/L			02/19/24 19:27	25
1,2-Dichloropropane	20	U	25	20	ug/L			02/19/24 19:27	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			02/19/24 19:27	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			02/19/24 19:27	25
2-Butanone (MEK)	110	U	250	110	ug/L			02/19/24 19:27	25
2-Hexanone	63	U	500	63	ug/L			02/19/24 19:27	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			02/19/24 19:27	25
Acetone	630	U J3	1300	630	ug/L			02/19/24 19:27	25
Benzene	18	U	25	18	ug/L			02/19/24 19:27	25
Bromodichloromethane	13	U	25	13	ug/L			02/19/24 19:27	25
Bromoform	19	U	25	19	ug/L			02/19/24 19:27	25
Bromomethane	24	U	50	24	ug/L			02/19/24 19:27	25
Carbon disulfide	63	U	130	63	ug/L			02/19/24 19:27	25
Carbon tetrachloride	24	U	25	24	ug/L			02/19/24 19:27	25
Chlorobenzene	18	U	25	18	ug/L			02/19/24 19:27	25
Chloroethane	25	U	50	25	ug/L			02/19/24 19:27	25
Chloroform	20	U	130	20	ug/L			02/19/24 19:27	25
Chloromethane	21	U	50	21	ug/L			02/19/24 19:27	25
cis-1,2-Dichloroethene	**1500**		25	13	ug/L			02/19/24 19:27	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			02/19/24 19:27	25
Cyclohexane	23	U	130	23	ug/L			02/19/24 19:27	25
Dibromochloromethane	13	U	25	13	ug/L			02/19/24 19:27	25
Dichlorodifluoromethane	19	U J3	25	19	ug/L			02/19/24 19:27	25
Ethylbenzene	17	U	25	17	ug/L			02/19/24 19:27	25
Isopropylbenzene	17	U	50	17	ug/L			02/19/24 19:27	25
m,p-Xylenes	33	U	50	33	ug/L			02/19/24 19:27	25
Methyl acetate	24	U	250	24	ug/L			02/19/24 19:27	25
Methyl tert-butyl ether	15	U	50	15	ug/L			02/19/24 19:27	25
Methylene Chloride	130	U	250	130	ug/L			02/19/24 19:27	25
o-Xylene	13	U	25	13	ug/L			02/19/24 19:27	25
Styrene	15	U	25	15	ug/L			02/19/24 19:27	25
Tetrachloroethene	19	U	25	19	ug/L			02/19/24 19:27	25
Toluene	18	U	25	18	ug/L			02/19/24 19:27	25
trans-1,2-Dichloroethene	18	U	25	18	ug/L			02/19/24 19:27	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			02/19/24 19:27	25
Trichloroethene	22	U	25	22	ug/L			02/19/24 19:27	25
Trichlorofluoromethane	24	U	25	24	ug/L			02/19/24 19:27	25
Vinyl chloride	**920**		25	18	ug/L			02/19/24 19:27	25
Xylenes, Total	33	U	50	33	ug/L			02/19/24 19:27	25

Client Sample ID: LC34-IW0182-032.5-20240214

Lab Sample ID: 670-34898-6

Date Collected: 02/14/24 12:52

Matrix: Water

Date Received: 02/16/24 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*02/19/24 19:27*	*25*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*02/19/24 19:27*	*25*
Toluene-d8 (Surr)	*99*		*40 - 146*		*02/19/24 19:27*	*25*

Client Sample ID: LC34-IW0181-022.0-20240214

Lab Sample ID: 670-34898-7

Date Collected: 02/14/24 13:09

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			02/19/24 14:54	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			02/19/24 14:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			02/19/24 14:54	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			02/19/24 14:54	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			02/19/24 14:54	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			02/19/24 14:54	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			02/19/24 14:54	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			02/19/24 14:54	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			02/19/24 14:54	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			02/19/24 14:54	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			02/19/24 14:54	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			02/19/24 14:54	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			02/19/24 14:54	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			02/19/24 14:54	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			02/19/24 14:54	1
2-Hexanone	2.5	U	20	2.5	ug/L			02/19/24 14:54	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			02/19/24 14:54	1
Acetone	25	U J3	50	25	ug/L			02/19/24 14:54	1
Benzene	0.71	U	1.0	0.71	ug/L			02/19/24 14:54	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			02/19/24 14:54	1
Bromoform	0.75	U	1.0	0.75	ug/L			02/19/24 14:54	1
Bromomethane	0.95	U	2.0	0.95	ug/L			02/19/24 14:54	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			02/19/24 14:54	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			02/19/24 14:54	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			02/19/24 14:54	1
Chloroethane	0.98	U	2.0	0.98	ug/L			02/19/24 14:54	1
Chloroform	0.80	U	5.0	0.80	ug/L			02/19/24 14:54	1
Chloromethane	0.82	U	2.0	0.82	ug/L			02/19/24 14:54	1
cis-1,2-Dichloroethene	**19**		1.0	0.53	ug/L			02/19/24 14:54	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			02/19/24 14:54	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			02/19/24 14:54	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			02/19/24 14:54	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			02/19/24 14:54	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			02/19/24 14:54	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			02/19/24 14:54	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			02/19/24 14:54	1
Methyl acetate	0.95	U	10	0.95	ug/L			02/19/24 14:54	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			02/19/24 14:54	1
Methylene Chloride	5.0	U	10	5.0	ug/L			02/19/24 14:54	1
o-Xylene	0.53	U	1.0	0.53	ug/L			02/19/24 14:54	1

Client Sample ID: LC34-IW0181-022.0-20240214

Lab Sample ID: 670-34898-7

Date Collected: 02/14/24 13:09

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			02/19/24 14:54	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			02/19/24 14:54	1
Toluene	0.72	U	1.0	0.72	ug/L			02/19/24 14:54	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			02/19/24 14:54	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			02/19/24 14:54	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			02/19/24 14:54	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			02/19/24 14:54	1
Vinyl chloride	**46**		1.0	0.71	ug/L			02/19/24 14:54	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			02/19/24 14:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*02/19/24 14:54*	*1*
Dibromofluoromethane (Surr)	*97*		*53 - 146*		*02/19/24 14:54*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*02/19/24 14:54*	*1*

Client Sample ID: LC34-IW0185-018.5-20240214

Lab Sample ID: 670-34898-8

Date Collected: 02/14/24 13:31

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			02/19/24 15:12	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			02/19/24 15:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			02/19/24 15:12	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			02/19/24 15:12	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			02/19/24 15:12	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			02/19/24 15:12	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			02/19/24 15:12	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			02/19/24 15:12	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			02/19/24 15:12	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			02/19/24 15:12	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			02/19/24 15:12	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			02/19/24 15:12	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			02/19/24 15:12	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			02/19/24 15:12	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			02/19/24 15:12	1
2-Hexanone	2.5	U	20	2.5	ug/L			02/19/24 15:12	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			02/19/24 15:12	1
Acetone	25	U J3	50	25	ug/L			02/19/24 15:12	1
Benzene	0.71	U	1.0	0.71	ug/L			02/19/24 15:12	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			02/19/24 15:12	1
Bromoform	0.75	U	1.0	0.75	ug/L			02/19/24 15:12	1
Bromomethane	0.95	U	2.0	0.95	ug/L			02/19/24 15:12	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			02/19/24 15:12	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			02/19/24 15:12	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			02/19/24 15:12	1
Chloroethane	0.98	U	2.0	0.98	ug/L			02/19/24 15:12	1
Chloroform	0.80	U	5.0	0.80	ug/L			02/19/24 15:12	1
Chloromethane	0.82	U	2.0	0.82	ug/L			02/19/24 15:12	1
cis-1,2-Dichloroethene	**61**		1.0	0.53	ug/L			02/19/24 15:12	1

Client Sample ID: LC34-IW0185-018.5-20240214

Lab Sample ID: 670-34898-8

Date Collected: 02/14/24 13:31

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			02/19/24 15:12	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			02/19/24 15:12	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			02/19/24 15:12	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			02/19/24 15:12	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			02/19/24 15:12	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			02/19/24 15:12	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			02/19/24 15:12	1
Methyl acetate	0.95	U	10	0.95	ug/L			02/19/24 15:12	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			02/19/24 15:12	1
Methylene Chloride	5.0	U	10	5.0	ug/L			02/19/24 15:12	1
o-Xylene	0.53	U	1.0	0.53	ug/L			02/19/24 15:12	1
Styrene	0.61	U	1.0	0.61	ug/L			02/19/24 15:12	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			02/19/24 15:12	1
Toluene	0.72	U	1.0	0.72	ug/L			02/19/24 15:12	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			02/19/24 15:12	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			02/19/24 15:12	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			02/19/24 15:12	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			02/19/24 15:12	1
Vinyl chloride	**64**		1.0	0.71	ug/L			02/19/24 15:12	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			02/19/24 15:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*02/19/24 15:12*	*1*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*02/19/24 15:12*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*02/19/24 15:12*	*1*

Client Sample ID: LC34-IW0175-032.5-20240214

Lab Sample ID: 670-34898-9

Date Collected: 02/14/24 13:55

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			02/19/24 15:30	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			02/19/24 15:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			02/19/24 15:30	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			02/19/24 15:30	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			02/19/24 15:30	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			02/19/24 15:30	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			02/19/24 15:30	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			02/19/24 15:30	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			02/19/24 15:30	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			02/19/24 15:30	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			02/19/24 15:30	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			02/19/24 15:30	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			02/19/24 15:30	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			02/19/24 15:30	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			02/19/24 15:30	1
2-Hexanone	2.5	U	20	2.5	ug/L			02/19/24 15:30	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			02/19/24 15:30	1
Acetone	25	U J3	50	25	ug/L			02/19/24 15:30	1

Client Sample ID: LC34-IW0175-032.5-20240214

Lab Sample ID: 670-34898-9
Matrix: Water
Date Collected: 02/14/24 13:55
Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			02/19/24 15:30	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			02/19/24 15:30	1
Bromoform	0.75	U	1.0	0.75	ug/L			02/19/24 15:30	1
Bromomethane	0.95	U	2.0	0.95	ug/L			02/19/24 15:30	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			02/19/24 15:30	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			02/19/24 15:30	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			02/19/24 15:30	1
Chloroethane	0.98	U	2.0	0.98	ug/L			02/19/24 15:30	1
Chloroform	0.80	U	5.0	0.80	ug/L			02/19/24 15:30	1
Chloromethane	0.82	U	2.0	0.82	ug/L			02/19/24 15:30	1
cis-1,2-Dichloroethene	**7.2**		1.0	0.53	ug/L			02/19/24 15:30	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			02/19/24 15:30	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			02/19/24 15:30	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			02/19/24 15:30	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			02/19/24 15:30	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			02/19/24 15:30	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			02/19/24 15:30	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			02/19/24 15:30	1
Methyl acetate	0.95	U	10	0.95	ug/L			02/19/24 15:30	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			02/19/24 15:30	1
Methylene Chloride	5.0	U	10	5.0	ug/L			02/19/24 15:30	1
o-Xylene	0.53	U	1.0	0.53	ug/L			02/19/24 15:30	1
Styrene	0.61	U	1.0	0.61	ug/L			02/19/24 15:30	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			02/19/24 15:30	1
Toluene	0.72	U	1.0	0.72	ug/L			02/19/24 15:30	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			02/19/24 15:30	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			02/19/24 15:30	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			02/19/24 15:30	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			02/19/24 15:30	1
Vinyl chloride	**1.1**		1.0	0.71	ug/L			02/19/24 15:30	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			02/19/24 15:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*02/19/24 15:30*	*1*
Dibromofluoromethane (Surr)	*97*		*53 - 146*		*02/19/24 15:30*	*1*
Toluene-d8 (Surr)	*97*		*40 - 146*		*02/19/24 15:30*	*1*

Client Sample ID: LC34-IW0174-022.0-20240214

Lab Sample ID: 670-34898-10
Matrix: Water
Date Collected: 02/14/24 14:11
Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			02/19/24 15:48	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			02/19/24 15:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			02/19/24 15:48	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			02/19/24 15:48	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			02/19/24 15:48	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			02/19/24 15:48	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			02/19/24 15:48	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Client Sample ID: LC34-IW0174-022.0-20240214
Date Collected: 02/14/24 14:11
Date Received: 02/16/24 08:00

Lab Sample ID: 670-34898-10
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			02/19/24 15:48	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			02/19/24 15:48	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			02/19/24 15:48	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			02/19/24 15:48	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			02/19/24 15:48	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			02/19/24 15:48	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			02/19/24 15:48	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			02/19/24 15:48	1
2-Hexanone	2.5	U	20	2.5	ug/L			02/19/24 15:48	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			02/19/24 15:48	1
Acetone	25	U J3	50	25	ug/L			02/19/24 15:48	1
Benzene	0.71	U	1.0	0.71	ug/L			02/19/24 15:48	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			02/19/24 15:48	1
Bromoform	0.75	U	1.0	0.75	ug/L			02/19/24 15:48	1
Bromomethane	0.95	U	2.0	0.95	ug/L			02/19/24 15:48	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			02/19/24 15:48	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			02/19/24 15:48	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			02/19/24 15:48	1
Chloroethane	0.98	U	2.0	0.98	ug/L			02/19/24 15:48	1
Chloroform	0.80	U	5.0	0.80	ug/L			02/19/24 15:48	1
Chloromethane	0.82	U	2.0	0.82	ug/L			02/19/24 15:48	1
cis-1,2-Dichloroethene	**91**		1.0	0.53	ug/L			02/19/24 15:48	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			02/19/24 15:48	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			02/19/24 15:48	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			02/19/24 15:48	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			02/19/24 15:48	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			02/19/24 15:48	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			02/19/24 15:48	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			02/19/24 15:48	1
Methyl acetate	0.95	U	10	0.95	ug/L			02/19/24 15:48	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			02/19/24 15:48	1
Methylene Chloride	5.0	U	10	5.0	ug/L			02/19/24 15:48	1
o-Xylene	0.53	U	1.0	0.53	ug/L			02/19/24 15:48	1
Styrene	0.61	U	1.0	0.61	ug/L			02/19/24 15:48	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			02/19/24 15:48	1
Toluene	0.72	U	1.0	0.72	ug/L			02/19/24 15:48	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			02/19/24 15:48	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			02/19/24 15:48	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			02/19/24 15:48	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			02/19/24 15:48	1
Vinyl chloride	**27**		1.0	0.71	ug/L			02/19/24 15:48	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			02/19/24 15:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*02/19/24 15:48*	*1*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*02/19/24 15:48*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*02/19/24 15:48*	*1*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Client Sample ID: LC34-IW0170-022.0-20240214
Date Collected: 02/14/24 14:33
Date Received: 02/16/24 08:00

Lab Sample ID: 670-34898-11
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			02/19/24 20:49	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			02/19/24 20:49	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			02/19/24 20:49	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			02/19/24 20:49	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			02/19/24 20:49	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			02/19/24 20:49	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			02/19/24 20:49	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			02/19/24 20:49	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			02/19/24 20:49	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			02/19/24 20:49	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			02/19/24 20:49	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			02/19/24 20:49	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			02/19/24 20:49	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			02/19/24 20:49	5
2-Butanone (MEK)	23	U	50	23	ug/L			02/19/24 20:49	5
2-Hexanone	13	U	100	13	ug/L			02/19/24 20:49	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			02/19/24 20:49	5
Acetone	130	U J3	250	130	ug/L			02/19/24 20:49	5
Benzene	3.6	U	5.0	3.6	ug/L			02/19/24 20:49	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			02/19/24 20:49	5
Bromoform	3.8	U	5.0	3.8	ug/L			02/19/24 20:49	5
Bromomethane	4.8	U	10	4.8	ug/L			02/19/24 20:49	5
Carbon disulfide	13	U	25	13	ug/L			02/19/24 20:49	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			02/19/24 20:49	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			02/19/24 20:49	5
Chloroethane	4.9	U	10	4.9	ug/L			02/19/24 20:49	5
Chloroform	4.0	U	25	4.0	ug/L			02/19/24 20:49	5
Chloromethane	4.1	U	10	4.1	ug/L			02/19/24 20:49	5
cis-1,2-Dichloroethene	**340**		5.0	2.7	ug/L			02/19/24 20:49	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			02/19/24 20:49	5
Cyclohexane	4.7	U	25	4.7	ug/L			02/19/24 20:49	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			02/19/24 20:49	5
Dichlorodifluoromethane	3.7	U J3	5.0	3.7	ug/L			02/19/24 20:49	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			02/19/24 20:49	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			02/19/24 20:49	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			02/19/24 20:49	5
Methyl acetate	4.8	U	50	4.8	ug/L			02/19/24 20:49	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			02/19/24 20:49	5
Methylene Chloride	25	U	50	25	ug/L			02/19/24 20:49	5
o-Xylene	2.7	U	5.0	2.7	ug/L			02/19/24 20:49	5
Styrene	3.1	U	5.0	3.1	ug/L			02/19/24 20:49	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			02/19/24 20:49	5
Toluene	3.6	U	5.0	3.6	ug/L			02/19/24 20:49	5
trans-1,2-Dichloroethene	**3.8**	**I**	5.0	3.7	ug/L			02/19/24 20:49	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			02/19/24 20:49	5
Trichloroethene	4.5	U	5.0	4.5	ug/L			02/19/24 20:49	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			02/19/24 20:49	5
Vinyl chloride	**55**		5.0	3.6	ug/L			02/19/24 20:49	5
Xylenes, Total	6.5	U	10	6.5	ug/L			02/19/24 20:49	5

Client Sample ID: LC34-IW0170-022.0-20240214

Lab Sample ID: 670-34898-11

Date Collected: 02/14/24 14:33

Matrix: Water

Date Received: 02/16/24 08:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*02/19/24 20:49*	*5*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*02/19/24 20:49*	*5*
Toluene-d8 (Surr)	*96*		*40 - 146*		*02/19/24 20:49*	*5*

Client Sample ID: LC34-IW0171-032.5-20240214

Lab Sample ID: 670-34898-12

Date Collected: 02/14/24 14:54

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			02/19/24 16:06	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			02/19/24 16:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			02/19/24 16:06	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			02/19/24 16:06	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			02/19/24 16:06	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			02/19/24 16:06	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			02/19/24 16:06	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			02/19/24 16:06	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			02/19/24 16:06	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			02/19/24 16:06	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			02/19/24 16:06	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			02/19/24 16:06	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			02/19/24 16:06	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			02/19/24 16:06	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			02/19/24 16:06	1
2-Hexanone	2.5	U	20	2.5	ug/L			02/19/24 16:06	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			02/19/24 16:06	1
Acetone	25	U J3	50	25	ug/L			02/19/24 16:06	1
Benzene	0.71	U	1.0	0.71	ug/L			02/19/24 16:06	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			02/19/24 16:06	1
Bromoform	0.75	U	1.0	0.75	ug/L			02/19/24 16:06	1
Bromomethane	0.95	U	2.0	0.95	ug/L			02/19/24 16:06	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			02/19/24 16:06	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			02/19/24 16:06	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			02/19/24 16:06	1
Chloroethane	0.98	U	2.0	0.98	ug/L			02/19/24 16:06	1
Chloroform	0.80	U	5.0	0.80	ug/L			02/19/24 16:06	1
Chloromethane	0.82	U	2.0	0.82	ug/L			02/19/24 16:06	1
cis-1,2-Dichloroethene	**4.0**		1.0	0.53	ug/L			02/19/24 16:06	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			02/19/24 16:06	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			02/19/24 16:06	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			02/19/24 16:06	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			02/19/24 16:06	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			02/19/24 16:06	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			02/19/24 16:06	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			02/19/24 16:06	1
Methyl acetate	0.95	U	10	0.95	ug/L			02/19/24 16:06	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			02/19/24 16:06	1
Methylene Chloride	5.0	U	10	5.0	ug/L			02/19/24 16:06	1
o-Xylene	0.53	U	1.0	0.53	ug/L			02/19/24 16:06	1

Client Sample ID: LC34-IW0171-032.5-20240214

Lab Sample ID: 670-34898-12

Date Collected: 02/14/24 14:54

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.61	U	1.0	0.61	ug/L			02/19/24 16:06	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			02/19/24 16:06	1
Toluene	0.72	U	1.0	0.72	ug/L			02/19/24 16:06	1
trans-1,2-Dichloroethene	**0.81**	**I**	1.0	0.73	ug/L			02/19/24 16:06	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			02/19/24 16:06	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			02/19/24 16:06	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			02/19/24 16:06	1
Vinyl chloride	**11**		1.0	0.71	ug/L			02/19/24 16:06	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			02/19/24 16:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*02/19/24 16:06*	*1*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*02/19/24 16:06*	*1*
Toluene-d8 (Surr)	*98*		*40 - 146*		*02/19/24 16:06*	*1*

Client Sample ID: LC34-IW0188-018.5-20240215

Lab Sample ID: 670-34898-13

Date Collected: 02/15/24 09:07

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			02/19/24 18:28	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			02/19/24 18:28	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			02/19/24 18:28	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			02/19/24 18:28	25
1,1-Dichloroethane	16	U	25	16	ug/L			02/19/24 18:28	25
1,1-Dichloroethene	24	U	25	24	ug/L			02/19/24 18:28	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			02/19/24 18:28	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			02/19/24 18:28	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			02/19/24 18:28	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			02/19/24 18:28	25
1,2-Dichloroethane	16	U	25	16	ug/L			02/19/24 18:28	25
1,2-Dichloropropane	20	U	25	20	ug/L			02/19/24 18:28	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			02/19/24 18:28	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			02/19/24 18:28	25
2-Butanone (MEK)	110	U	250	110	ug/L			02/19/24 18:28	25
2-Hexanone	63	U	500	63	ug/L			02/19/24 18:28	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			02/19/24 18:28	25
Acetone	630	U J3	1300	630	ug/L			02/19/24 18:28	25
Benzene	18	U	25	18	ug/L			02/19/24 18:28	25
Bromodichloromethane	13	U	25	13	ug/L			02/19/24 18:28	25
Bromoform	19	U	25	19	ug/L			02/19/24 18:28	25
Bromomethane	24	U	50	24	ug/L			02/19/24 18:28	25
Carbon disulfide	63	U	130	63	ug/L			02/19/24 18:28	25
Carbon tetrachloride	24	U	25	24	ug/L			02/19/24 18:28	25
Chlorobenzene	18	U	25	18	ug/L			02/19/24 18:28	25
Chloroethane	25	U	50	25	ug/L			02/19/24 18:28	25
Chloroform	20	U	130	20	ug/L			02/19/24 18:28	25
Chloromethane	21	U	50	21	ug/L			02/19/24 18:28	25
cis-1,2-Dichloroethene	**47**		25	13	ug/L			02/19/24 18:28	25

Client Sample ID: LC34-IW0188-018.5-20240215

Lab Sample ID: 670-34898-13

Date Collected: 02/15/24 09:07

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	15	U	25	15	ug/L			02/19/24 18:28	25
Cyclohexane	23	U	130	23	ug/L			02/19/24 18:28	25
Dibromochloromethane	13	U	25	13	ug/L			02/19/24 18:28	25
Dichlorodifluoromethane	19	U J3	25	19	ug/L			02/19/24 18:28	25
Ethylbenzene	17	U	25	17	ug/L			02/19/24 18:28	25
Isopropylbenzene	17	U	50	17	ug/L			02/19/24 18:28	25
m,p-Xylenes	33	U	50	33	ug/L			02/19/24 18:28	25
Methyl acetate	24	U	250	24	ug/L			02/19/24 18:28	25
Methyl tert-butyl ether	15	U	50	15	ug/L			02/19/24 18:28	25
Methylene Chloride	130	U	250	130	ug/L			02/19/24 18:28	25
o-Xylene	13	U	25	13	ug/L			02/19/24 18:28	25
Styrene	15	U	25	15	ug/L			02/19/24 18:28	25
Tetrachloroethene	19	U	25	19	ug/L			02/19/24 18:28	25
Toluene	18	U	25	18	ug/L			02/19/24 18:28	25
trans-1,2-Dichloroethene	18	U	25	18	ug/L			02/19/24 18:28	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			02/19/24 18:28	25
Trichloroethene	22	U	25	22	ug/L			02/19/24 18:28	25
Trichlorofluoromethane	24	U	25	24	ug/L			02/19/24 18:28	25
Vinyl chloride	**1100**		25	18	ug/L			02/19/24 18:28	25
Xylenes, Total	33	U	50	33	ug/L			02/19/24 18:28	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*02/19/24 18:28*	*25*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*02/19/24 18:28*	*25*
Toluene-d8 (Surr)	*96*		*40 - 146*		*02/19/24 18:28*	*25*

Client Sample ID: LC34-IW0187-018.5-20240215

Lab Sample ID: 670-34898-14

Date Collected: 02/15/24 09:35

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			02/19/24 17:05	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			02/19/24 17:05	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			02/19/24 17:05	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			02/19/24 17:05	25
1,1-Dichloroethane	16	U	25	16	ug/L			02/19/24 17:05	25
1,1-Dichloroethene	24	U	25	24	ug/L			02/19/24 17:05	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			02/19/24 17:05	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			02/19/24 17:05	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			02/19/24 17:05	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			02/19/24 17:05	25
1,2-Dichloroethane	16	U	25	16	ug/L			02/19/24 17:05	25
1,2-Dichloropropane	20	U	25	20	ug/L			02/19/24 17:05	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			02/19/24 17:05	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			02/19/24 17:05	25
2-Butanone (MEK)	110	U	250	110	ug/L			02/19/24 17:05	25
2-Hexanone	63	U	500	63	ug/L			02/19/24 17:05	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			02/19/24 17:05	25
Acetone	630	U J3	1300	630	ug/L			02/19/24 17:05	25

Client Sample ID: LC34-IW0187-018.5-20240215

Lab Sample ID: 670-34898-14

Date Collected: 02/15/24 09:35

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	18	U	25	18	ug/L			02/19/24 17:05	25
Bromodichloromethane	13	U	25	13	ug/L			02/19/24 17:05	25
Bromoform	19	U	25	19	ug/L			02/19/24 17:05	25
Bromomethane	24	U	50	24	ug/L			02/19/24 17:05	25
Carbon disulfide	63	U	130	63	ug/L			02/19/24 17:05	25
Carbon tetrachloride	24	U	25	24	ug/L			02/19/24 17:05	25
Chlorobenzene	18	U	25	18	ug/L			02/19/24 17:05	25
Chloroethane	25	U	50	25	ug/L			02/19/24 17:05	25
Chloroform	20	U	130	20	ug/L			02/19/24 17:05	25
Chloromethane	21	U	50	21	ug/L			02/19/24 17:05	25
cis-1,2-Dichloroethene	**290**		25	13	ug/L			02/19/24 17:05	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			02/19/24 17:05	25
Cyclohexane	23	U	130	23	ug/L			02/19/24 17:05	25
Dibromochloromethane	13	U	25	13	ug/L			02/19/24 17:05	25
Dichlorodifluoromethane	19	U J3	25	19	ug/L			02/19/24 17:05	25
Ethylbenzene	17	U	25	17	ug/L			02/19/24 17:05	25
Isopropylbenzene	17	U	50	17	ug/L			02/19/24 17:05	25
m,p-Xylenes	33	U	50	33	ug/L			02/19/24 17:05	25
Methyl acetate	24	U	250	24	ug/L			02/19/24 17:05	25
Methyl tert-butyl ether	15	U	50	15	ug/L			02/19/24 17:05	25
Methylene Chloride	130	U	250	130	ug/L			02/19/24 17:05	25
o-Xylene	13	U	25	13	ug/L			02/19/24 17:05	25
Styrene	15	U	25	15	ug/L			02/19/24 17:05	25
Tetrachloroethene	19	U	25	19	ug/L			02/19/24 17:05	25
Toluene	18	U	25	18	ug/L			02/19/24 17:05	25
trans-1,2-Dichloroethene	18	U	25	18	ug/L			02/19/24 17:05	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			02/19/24 17:05	25
Trichloroethene	22	U	25	22	ug/L			02/19/24 17:05	25
Trichlorofluoromethane	24	U	25	24	ug/L			02/19/24 17:05	25
Vinyl chloride	**570**		25	18	ug/L			02/19/24 17:05	25
Xylenes, Total	33	U	50	33	ug/L			02/19/24 17:05	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*02/19/24 17:05*	*25*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*02/19/24 17:05*	*25*
Toluene-d8 (Surr)	*97*		*40 - 146*		*02/19/24 17:05*	*25*

Client Sample ID: LC34-IW0168-022.0-20240215

Lab Sample ID: 670-34898-15

Date Collected: 02/15/24 10:07

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			02/19/24 18:07	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			02/19/24 18:07	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			02/19/24 18:07	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			02/19/24 18:07	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			02/19/24 18:07	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			02/19/24 18:07	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			02/19/24 18:07	5

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Client Sample ID: LC34-IW0168-022.0-20240215
Date Collected: 02/15/24 10:07
Date Received: 02/16/24 08:00

Lab Sample ID: 670-34898-15
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			02/19/24 18:07	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			02/19/24 18:07	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			02/19/24 18:07	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			02/19/24 18:07	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			02/19/24 18:07	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			02/19/24 18:07	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			02/19/24 18:07	5
2-Butanone (MEK)	23	U	50	23	ug/L			02/19/24 18:07	5
2-Hexanone	13	U	100	13	ug/L			02/19/24 18:07	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			02/19/24 18:07	5
Acetone	130	U J3	250	130	ug/L			02/19/24 18:07	5
Benzene	3.6	U	5.0	3.6	ug/L			02/19/24 18:07	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			02/19/24 18:07	5
Bromoform	3.8	U	5.0	3.8	ug/L			02/19/24 18:07	5
Bromomethane	4.8	U	10	4.8	ug/L			02/19/24 18:07	5
Carbon disulfide	13	U	25	13	ug/L			02/19/24 18:07	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			02/19/24 18:07	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			02/19/24 18:07	5
Chloroethane	4.9	U	10	4.9	ug/L			02/19/24 18:07	5
Chloroform	4.0	U	25	4.0	ug/L			02/19/24 18:07	5
Chloromethane	4.1	U	10	4.1	ug/L			02/19/24 18:07	5
cis-1,2-Dichloroethene	**360**		5.0	2.7	ug/L			02/19/24 18:07	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			02/19/24 18:07	5
Cyclohexane	4.7	U	25	4.7	ug/L			02/19/24 18:07	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			02/19/24 18:07	5
Dichlorodifluoromethane	3.7	U J3	5.0	3.7	ug/L			02/19/24 18:07	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			02/19/24 18:07	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			02/19/24 18:07	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			02/19/24 18:07	5
Methyl acetate	4.8	U	50	4.8	ug/L			02/19/24 18:07	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			02/19/24 18:07	5
Methylene Chloride	25	U	50	25	ug/L			02/19/24 18:07	5
o-Xylene	2.7	U	5.0	2.7	ug/L			02/19/24 18:07	5
Styrene	3.1	U	5.0	3.1	ug/L			02/19/24 18:07	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			02/19/24 18:07	5
Toluene	3.6	U	5.0	3.6	ug/L			02/19/24 18:07	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			02/19/24 18:07	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			02/19/24 18:07	5
Trichloroethene	4.5	U	5.0	4.5	ug/L			02/19/24 18:07	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			02/19/24 18:07	5
Vinyl chloride	**180**		5.0	3.6	ug/L			02/19/24 18:07	5
Xylenes, Total	6.5	U	10	6.5	ug/L			02/19/24 18:07	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*		*02/19/24 18:07*	*5*
Dibromofluoromethane (Surr)	*100*		*53 - 146*		*02/19/24 18:07*	*5*
Toluene-d8 (Surr)	*98*		*40 - 146*		*02/19/24 18:07*	*5*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Client Sample ID: LC34-IW0169-032.5-20240215
Date Collected: 02/15/24 10:23
Date Received: 02/16/24 08:00

Lab Sample ID: 670-34898-16
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			02/19/24 19:48	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			02/19/24 19:48	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			02/19/24 19:48	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			02/19/24 19:48	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			02/19/24 19:48	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			02/19/24 19:48	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			02/19/24 19:48	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			02/19/24 19:48	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			02/19/24 19:48	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			02/19/24 19:48	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			02/19/24 19:48	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			02/19/24 19:48	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			02/19/24 19:48	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			02/19/24 19:48	5
2-Butanone (MEK)	23	U	50	23	ug/L			02/19/24 19:48	5
2-Hexanone	13	U	100	13	ug/L			02/19/24 19:48	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			02/19/24 19:48	5
Acetone	130	U J3	250	130	ug/L			02/19/24 19:48	5
Benzene	3.6	U	5.0	3.6	ug/L			02/19/24 19:48	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			02/19/24 19:48	5
Bromoform	3.8	U	5.0	3.8	ug/L			02/19/24 19:48	5
Bromomethane	4.8	U	10	4.8	ug/L			02/19/24 19:48	5
Carbon disulfide	13	U	25	13	ug/L			02/19/24 19:48	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			02/19/24 19:48	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			02/19/24 19:48	5
Chloroethane	4.9	U	10	4.9	ug/L			02/19/24 19:48	5
Chloroform	4.0	U	25	4.0	ug/L			02/19/24 19:48	5
Chloromethane	4.1	U	10	4.1	ug/L			02/19/24 19:48	5
cis-1,2-Dichloroethene	**210**		5.0	2.7	ug/L			02/19/24 19:48	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			02/19/24 19:48	5
Cyclohexane	4.7	U	25	4.7	ug/L			02/19/24 19:48	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			02/19/24 19:48	5
Dichlorodifluoromethane	3.7	U J3	5.0	3.7	ug/L			02/19/24 19:48	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			02/19/24 19:48	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			02/19/24 19:48	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			02/19/24 19:48	5
Methyl acetate	4.8	U	50	4.8	ug/L			02/19/24 19:48	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			02/19/24 19:48	5
Methylene Chloride	25	U	50	25	ug/L			02/19/24 19:48	5
o-Xylene	2.7	U	5.0	2.7	ug/L			02/19/24 19:48	5
Styrene	3.1	U	5.0	3.1	ug/L			02/19/24 19:48	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			02/19/24 19:48	5
Toluene	3.6	U	5.0	3.6	ug/L			02/19/24 19:48	5
trans-1,2-Dichloroethene	**6.1**		5.0	3.7	ug/L			02/19/24 19:48	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			02/19/24 19:48	5
Trichloroethene	4.5	U	5.0	4.5	ug/L			02/19/24 19:48	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			02/19/24 19:48	5
Vinyl chloride	**61**		5.0	3.6	ug/L			02/19/24 19:48	5
Xylenes, Total	6.5	U	10	6.5	ug/L			02/19/24 19:48	5

Client Sample ID: LC34-IW0169-032.5-20240215

Lab Sample ID: 670-34898-16

Date Collected: 02/15/24 10:23

Matrix: Water

Date Received: 02/16/24 08:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*02/19/24 19:48*	*5*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*02/19/24 19:48*	*5*
Toluene-d8 (Surr)	*96*		*40 - 146*		*02/19/24 19:48*	*5*

Client Sample ID: LC34-IW0178-018.5-20240215

Lab Sample ID: 670-34898-17

Date Collected: 02/15/24 10:45

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20	U	25	20	ug/L			02/19/24 16:44	25
1,1,2,2-Tetrachloroethane	14	U	25	14	ug/L			02/19/24 16:44	25
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	50	18	ug/L			02/19/24 16:44	25
1,1,2-Trichloroethane	19	U	50	19	ug/L			02/19/24 16:44	25
1,1-Dichloroethane	16	U	25	16	ug/L			02/19/24 16:44	25
1,1-Dichloroethene	24	U	25	24	ug/L			02/19/24 16:44	25
1,2,4-Trichlorobenzene	18	U	50	18	ug/L			02/19/24 16:44	25
1,2-Dibromo-3-Chloropropane	24	U	250	24	ug/L			02/19/24 16:44	25
1,2-Dibromoethane (EDB)	20	U	300	20	ug/L			02/19/24 16:44	25
1,2-Dichlorobenzene	18	U	25	18	ug/L			02/19/24 16:44	25
1,2-Dichloroethane	16	U	25	16	ug/L			02/19/24 16:44	25
1,2-Dichloropropane	20	U	25	20	ug/L			02/19/24 16:44	25
1,3-Dichlorobenzene	19	U	25	19	ug/L			02/19/24 16:44	25
1,4-Dichlorobenzene	19	U	25	19	ug/L			02/19/24 16:44	25
2-Butanone (MEK)	110	U	250	110	ug/L			02/19/24 16:44	25
2-Hexanone	63	U	500	63	ug/L			02/19/24 16:44	25
4-Methyl-2-pentanone	130	U	500	130	ug/L			02/19/24 16:44	25
Acetone	630	U J3	1300	630	ug/L			02/19/24 16:44	25
Benzene	18	U	25	18	ug/L			02/19/24 16:44	25
Bromodichloromethane	13	U	25	13	ug/L			02/19/24 16:44	25
Bromoform	19	U	25	19	ug/L			02/19/24 16:44	25
Bromomethane	24	U	50	24	ug/L			02/19/24 16:44	25
Carbon disulfide	63	U	130	63	ug/L			02/19/24 16:44	25
Carbon tetrachloride	24	U	25	24	ug/L			02/19/24 16:44	25
Chlorobenzene	18	U	25	18	ug/L			02/19/24 16:44	25
Chloroethane	25	U	50	25	ug/L			02/19/24 16:44	25
Chloroform	20	U	130	20	ug/L			02/19/24 16:44	25
Chloromethane	21	U	50	21	ug/L			02/19/24 16:44	25
cis-1,2-Dichloroethene	**940**		25	13	ug/L			02/19/24 16:44	25
cis-1,3-Dichloropropene	15	U	25	15	ug/L			02/19/24 16:44	25
Cyclohexane	23	U	130	23	ug/L			02/19/24 16:44	25
Dibromochloromethane	13	U	25	13	ug/L			02/19/24 16:44	25
Dichlorodifluoromethane	19	U J3	25	19	ug/L			02/19/24 16:44	25
Ethylbenzene	17	U	25	17	ug/L			02/19/24 16:44	25
Isopropylbenzene	17	U	50	17	ug/L			02/19/24 16:44	25
m,p-Xylenes	33	U	50	33	ug/L			02/19/24 16:44	25
Methyl acetate	24	U	250	24	ug/L			02/19/24 16:44	25
Methyl tert-butyl ether	15	U	50	15	ug/L			02/19/24 16:44	25
Methylene Chloride	130	U	250	130	ug/L			02/19/24 16:44	25
o-Xylene	13	U	25	13	ug/L			02/19/24 16:44	25

Client Sample ID: LC34-IW0178-018.5-20240215

Lab Sample ID: 670-34898-17

Date Collected: 02/15/24 10:45

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	15	U	25	15	ug/L			02/19/24 16:44	25
Tetrachloroethene	19	U	25	19	ug/L			02/19/24 16:44	25
Toluene	18	U	25	18	ug/L			02/19/24 16:44	25
trans-1,2-Dichloroethene	18	U	25	18	ug/L			02/19/24 16:44	25
trans-1,3-Dichloropropene	18	U	25	18	ug/L			02/19/24 16:44	25
Trichloroethene	22	U	25	22	ug/L			02/19/24 16:44	25
Trichlorofluoromethane	24	U	25	24	ug/L			02/19/24 16:44	25
Vinyl chloride	**550**		25	18	ug/L			02/19/24 16:44	25
Xylenes, Total	33	U	50	33	ug/L			02/19/24 16:44	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*41 - 142*		*02/19/24 16:44*	*25*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*02/19/24 16:44*	*25*
Toluene-d8 (Surr)	*96*		*40 - 146*		*02/19/24 16:44*	*25*

Client Sample ID: LC34-IW0172-022.0-20240215

Lab Sample ID: 670-34898-18

Date Collected: 02/15/24 11:04

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			02/19/24 20:08	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			02/19/24 20:08	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			02/19/24 20:08	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			02/19/24 20:08	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			02/19/24 20:08	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			02/19/24 20:08	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			02/19/24 20:08	5
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			02/19/24 20:08	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			02/19/24 20:08	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			02/19/24 20:08	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			02/19/24 20:08	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			02/19/24 20:08	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			02/19/24 20:08	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			02/19/24 20:08	5
2-Butanone (MEK)	23	U	50	23	ug/L			02/19/24 20:08	5
2-Hexanone	13	U	100	13	ug/L			02/19/24 20:08	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			02/19/24 20:08	5
Acetone	130	U J3	250	130	ug/L			02/19/24 20:08	5
Benzene	3.6	U	5.0	3.6	ug/L			02/19/24 20:08	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			02/19/24 20:08	5
Bromoform	3.8	U	5.0	3.8	ug/L			02/19/24 20:08	5
Bromomethane	4.8	U	10	4.8	ug/L			02/19/24 20:08	5
Carbon disulfide	13	U	25	13	ug/L			02/19/24 20:08	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			02/19/24 20:08	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			02/19/24 20:08	5
Chloroethane	4.9	U	10	4.9	ug/L			02/19/24 20:08	5
Chloroform	4.0	U	25	4.0	ug/L			02/19/24 20:08	5
Chloromethane	4.1	U	10	4.1	ug/L			02/19/24 20:08	5
cis-1,2-Dichloroethene	**400**		5.0	2.7	ug/L			02/19/24 20:08	5

Client Sample ID: LC34-IW0172-022.0-20240215

Lab Sample ID: 670-34898-18

Date Collected: 02/15/24 11:04

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			02/19/24 20:08	5
Cyclohexane	4.7	U	25	4.7	ug/L			02/19/24 20:08	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			02/19/24 20:08	5
Dichlorodifluoromethane	3.7	U J3	5.0	3.7	ug/L			02/19/24 20:08	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			02/19/24 20:08	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			02/19/24 20:08	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			02/19/24 20:08	5
Methyl acetate	4.8	U	50	4.8	ug/L			02/19/24 20:08	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			02/19/24 20:08	5
Methylene Chloride	25	U	50	25	ug/L			02/19/24 20:08	5
o-Xylene	2.7	U	5.0	2.7	ug/L			02/19/24 20:08	5
Styrene	3.1	U	5.0	3.1	ug/L			02/19/24 20:08	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			02/19/24 20:08	5
Toluene	3.6	U	5.0	3.6	ug/L			02/19/24 20:08	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			02/19/24 20:08	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			02/19/24 20:08	5
Trichloroethene	4.5	U	5.0	4.5	ug/L			02/19/24 20:08	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			02/19/24 20:08	5
Vinyl chloride	**15**		5.0	3.6	ug/L			02/19/24 20:08	5
Xylenes, Total	6.5	U	10	6.5	ug/L			02/19/24 20:08	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*02/19/24 20:08*	*5*
Dibromofluoromethane (Surr)	*96*		*53 - 146*		*02/19/24 20:08*	*5*
Toluene-d8 (Surr)	*97*		*40 - 146*		*02/19/24 20:08*	*5*

Client Sample ID: LC34-IW0173-032.5-20240215

Lab Sample ID: 670-34898-19

Date Collected: 02/15/24 11:21

Matrix: Water

Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			02/19/24 16:23	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			02/19/24 16:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			02/19/24 16:23	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			02/19/24 16:23	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			02/19/24 16:23	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			02/19/24 16:23	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			02/19/24 16:23	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			02/19/24 16:23	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			02/19/24 16:23	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			02/19/24 16:23	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			02/19/24 16:23	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			02/19/24 16:23	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			02/19/24 16:23	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			02/19/24 16:23	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			02/19/24 16:23	1
2-Hexanone	2.5	U	20	2.5	ug/L			02/19/24 16:23	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			02/19/24 16:23	1
Acetone	25	U J3	50	25	ug/L			02/19/24 16:23	1

Client Sample ID: LC34-IW0173-032.5-20240215

Lab Sample ID: 670-34898-19

Date Collected: 02/15/24 11:21
Matrix: Water
Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.71	U	1.0	0.71	ug/L			02/19/24 16:23	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			02/19/24 16:23	1
Bromoform	0.75	U	1.0	0.75	ug/L			02/19/24 16:23	1
Bromomethane	0.95	U	2.0	0.95	ug/L			02/19/24 16:23	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			02/19/24 16:23	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			02/19/24 16:23	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			02/19/24 16:23	1
Chloroethane	0.98	U	2.0	0.98	ug/L			02/19/24 16:23	1
Chloroform	0.80	U	5.0	0.80	ug/L			02/19/24 16:23	1
Chloromethane	0.82	U	2.0	0.82	ug/L			02/19/24 16:23	1
cis-1,2-Dichloroethene	**1.4**		1.0	0.53	ug/L			02/19/24 16:23	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			02/19/24 16:23	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			02/19/24 16:23	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			02/19/24 16:23	1
Dichlorodifluoromethane	0.74	U J3	1.0	0.74	ug/L			02/19/24 16:23	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			02/19/24 16:23	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			02/19/24 16:23	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			02/19/24 16:23	1
Methyl acetate	0.95	U	10	0.95	ug/L			02/19/24 16:23	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			02/19/24 16:23	1
Methylene Chloride	5.0	U	10	5.0	ug/L			02/19/24 16:23	1
o-Xylene	0.53	U	1.0	0.53	ug/L			02/19/24 16:23	1
Styrene	0.61	U	1.0	0.61	ug/L			02/19/24 16:23	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			02/19/24 16:23	1
Toluene	0.72	U	1.0	0.72	ug/L			02/19/24 16:23	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			02/19/24 16:23	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			02/19/24 16:23	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			02/19/24 16:23	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			02/19/24 16:23	1
Vinyl chloride	**3.7**		1.0	0.71	ug/L			02/19/24 16:23	1
Xylenes, Total	1.3	U	2.0	1.3	ug/L			02/19/24 16:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*		*02/19/24 16:23*	*1*
Dibromofluoromethane (Surr)	*97*		*53 - 146*		*02/19/24 16:23*	*1*
Toluene-d8 (Surr)	*96*		*40 - 146*		*02/19/24 16:23*	*1*

Client Sample ID: LC34-IW0177-018.5-20240215

Lab Sample ID: 670-34898-20

Date Collected: 02/15/24 11:41
Matrix: Water
Date Received: 02/16/24 08:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0	U	5.0	4.0	ug/L			02/19/24 20:29	5
1,1,2,2-Tetrachloroethane	2.7	U	5.0	2.7	ug/L			02/19/24 20:29	5
1,1,2-Trichloro-1,2,2-trifluoroethane	3.7	U	10	3.7	ug/L			02/19/24 20:29	5
1,1,2-Trichloroethane	3.8	U	10	3.8	ug/L			02/19/24 20:29	5
1,1-Dichloroethane	3.1	U	5.0	3.1	ug/L			02/19/24 20:29	5
1,1-Dichloroethene	4.7	U	5.0	4.7	ug/L			02/19/24 20:29	5
1,2,4-Trichlorobenzene	3.5	U	10	3.5	ug/L			02/19/24 20:29	5

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Client Sample ID: LC34-IW0177-018.5-20240215
Date Collected: 02/15/24 11:41
Date Received: 02/16/24 08:00

Lab Sample ID: 670-34898-20
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	4.8	U	50	4.8	ug/L			02/19/24 20:29	5
1,2-Dibromoethane (EDB)	3.9	U	60	3.9	ug/L			02/19/24 20:29	5
1,2-Dichlorobenzene	3.7	U	5.0	3.7	ug/L			02/19/24 20:29	5
1,2-Dichloroethane	3.2	U	5.0	3.2	ug/L			02/19/24 20:29	5
1,2-Dichloropropane	4.0	U	5.0	4.0	ug/L			02/19/24 20:29	5
1,3-Dichlorobenzene	3.9	U	5.0	3.9	ug/L			02/19/24 20:29	5
1,4-Dichlorobenzene	3.8	U	5.0	3.8	ug/L			02/19/24 20:29	5
2-Butanone (MEK)	23	U	50	23	ug/L			02/19/24 20:29	5
2-Hexanone	13	U	100	13	ug/L			02/19/24 20:29	5
4-Methyl-2-pentanone	25	U	100	25	ug/L			02/19/24 20:29	5
Acetone	130	U J3	250	130	ug/L			02/19/24 20:29	5
Benzene	3.6	U	5.0	3.6	ug/L			02/19/24 20:29	5
Bromodichloromethane	2.6	U	5.0	2.6	ug/L			02/19/24 20:29	5
Bromoform	3.8	U	5.0	3.8	ug/L			02/19/24 20:29	5
Bromomethane	4.8	U	10	4.8	ug/L			02/19/24 20:29	5
Carbon disulfide	13	U	25	13	ug/L			02/19/24 20:29	5
Carbon tetrachloride	4.7	U	5.0	4.7	ug/L			02/19/24 20:29	5
Chlorobenzene	3.6	U	5.0	3.6	ug/L			02/19/24 20:29	5
Chloroethane	4.9	U	10	4.9	ug/L			02/19/24 20:29	5
Chloroform	4.0	U	25	4.0	ug/L			02/19/24 20:29	5
Chloromethane	4.1	U	10	4.1	ug/L			02/19/24 20:29	5
cis-1,2-Dichloroethene	**360**		5.0	2.7	ug/L			02/19/24 20:29	5
cis-1,3-Dichloropropene	3.0	U	5.0	3.0	ug/L			02/19/24 20:29	5
Cyclohexane	4.7	U	25	4.7	ug/L			02/19/24 20:29	5
Dibromochloromethane	2.5	U	5.0	2.5	ug/L			02/19/24 20:29	5
Dichlorodifluoromethane	3.7	U J3	5.0	3.7	ug/L			02/19/24 20:29	5
Ethylbenzene	3.5	U	5.0	3.5	ug/L			02/19/24 20:29	5
Isopropylbenzene	3.4	U	10	3.4	ug/L			02/19/24 20:29	5
m,p-Xylenes	6.5	U	10	6.5	ug/L			02/19/24 20:29	5
Methyl acetate	4.8	U	50	4.8	ug/L			02/19/24 20:29	5
Methyl tert-butyl ether	3.0	U	10	3.0	ug/L			02/19/24 20:29	5
Methylene Chloride	25	U	50	25	ug/L			02/19/24 20:29	5
o-Xylene	2.7	U	5.0	2.7	ug/L			02/19/24 20:29	5
Styrene	3.1	U	5.0	3.1	ug/L			02/19/24 20:29	5
Tetrachloroethene	3.8	U	5.0	3.8	ug/L			02/19/24 20:29	5
Toluene	3.6	U	5.0	3.6	ug/L			02/19/24 20:29	5
trans-1,2-Dichloroethene	3.7	U	5.0	3.7	ug/L			02/19/24 20:29	5
trans-1,3-Dichloropropene	3.7	U	5.0	3.7	ug/L			02/19/24 20:29	5
Trichloroethene	4.5	U	5.0	4.5	ug/L			02/19/24 20:29	5
Trichlorofluoromethane	4.7	U	5.0	4.7	ug/L			02/19/24 20:29	5
Vinyl chloride	**17**		5.0	3.6	ug/L			02/19/24 20:29	5
Xylenes, Total	6.5	U	10	6.5	ug/L			02/19/24 20:29	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*		*02/19/24 20:29*	*5*
Dibromofluoromethane (Surr)	*97*		*53 - 146*		*02/19/24 20:29*	*5*
Toluene-d8 (Surr)	*97*		*40 - 146*		*02/19/24 20:29*	*5*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Client Sample ID: LC34-IW0176-018.5-20240215
Date Collected: 02/15/24 12:02
Date Received: 02/16/24 08:00

Lab Sample ID: 670-34898-21
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.6	U	2.0	1.6	ug/L			02/21/24 12:58	2
1,1,2,2-Tetrachloroethane	1.1	U	2.0	1.1	ug/L			02/21/24 12:58	2
1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	U	4.0	1.5	ug/L			02/21/24 12:58	2
1,1,2-Trichloroethane	1.5	U	4.0	1.5	ug/L			02/21/24 12:58	2
1,1-Dichloroethane	1.2	U	2.0	1.2	ug/L			02/21/24 12:58	2
1,1-Dichloroethene	1.9	U	2.0	1.9	ug/L			02/21/24 12:58	2
1,2,4-Trichlorobenzene	1.4	U	4.0	1.4	ug/L			02/21/24 12:58	2
1,2-Dibromo-3-Chloropropane	1.9	U	20	1.9	ug/L			02/21/24 12:58	2
1,2-Dibromoethane (EDB)	1.6	U	24	1.6	ug/L			02/21/24 12:58	2
1,2-Dichlorobenzene	1.5	U	2.0	1.5	ug/L			02/21/24 12:58	2
1,2-Dichloroethane	1.3	U	2.0	1.3	ug/L			02/21/24 12:58	2
1,2-Dichloropropane	1.6	U	2.0	1.6	ug/L			02/21/24 12:58	2
1,3-Dichlorobenzene	1.5	U	2.0	1.5	ug/L			02/21/24 12:58	2
1,4-Dichlorobenzene	1.5	U	2.0	1.5	ug/L			02/21/24 12:58	2
2-Butanone (MEK)	9.0	U	20	9.0	ug/L			02/21/24 12:58	2
2-Hexanone	5.0	U	40	5.0	ug/L			02/21/24 12:58	2
4-Methyl-2-pentanone	10	U	40	10	ug/L			02/21/24 12:58	2
Acetone	50	U	100	50	ug/L			02/21/24 12:58	2
Benzene	1.4	U	2.0	1.4	ug/L			02/21/24 12:58	2
Bromodichloromethane	1.0	U	2.0	1.0	ug/L			02/21/24 12:58	2
Bromoform	1.5	U	2.0	1.5	ug/L			02/21/24 12:58	2
Bromomethane	1.9	U	4.0	1.9	ug/L			02/21/24 12:58	2
Carbon disulfide	5.0	U	10	5.0	ug/L			02/21/24 12:58	2
Carbon tetrachloride	1.9	U	2.0	1.9	ug/L			02/21/24 12:58	2
Chlorobenzene	1.4	U	2.0	1.4	ug/L			02/21/24 12:58	2
Chloroethane	2.0	U	4.0	2.0	ug/L			02/21/24 12:58	2
Chloroform	1.6	U	10	1.6	ug/L			02/21/24 12:58	2
Chloromethane	1.6	U	4.0	1.6	ug/L			02/21/24 12:58	2
cis-1,2-Dichloroethene	**140**		2.0	1.1	ug/L			02/21/24 12:58	2
cis-1,3-Dichloropropene	1.2	U	2.0	1.2	ug/L			02/21/24 12:58	2
Cyclohexane	1.9	U	10	1.9	ug/L			02/21/24 12:58	2
Dibromochloromethane	1.0	U	2.0	1.0	ug/L			02/21/24 12:58	2
Dichlorodifluoromethane	1.5	U	2.0	1.5	ug/L			02/21/24 12:58	2
Ethylbenzene	1.4	U	2.0	1.4	ug/L			02/21/24 12:58	2
Isopropylbenzene	1.3	U	4.0	1.3	ug/L			02/21/24 12:58	2
m,p-Xylenes	2.6	U	4.0	2.6	ug/L			02/21/24 12:58	2
Methyl acetate	1.9	U	20	1.9	ug/L			02/21/24 12:58	2
Methyl tert-butyl ether	1.2	U	4.0	1.2	ug/L			02/21/24 12:58	2
Methylene Chloride	10	U	20	10	ug/L			02/21/24 12:58	2
o-Xylene	1.1	U	2.0	1.1	ug/L			02/21/24 12:58	2
Styrene	1.2	U	2.0	1.2	ug/L			02/21/24 12:58	2
Tetrachloroethene	1.5	U	2.0	1.5	ug/L			02/21/24 12:58	2
Toluene	1.4	U	2.0	1.4	ug/L			02/21/24 12:58	2
trans-1,2-Dichloroethene	1.5	U	2.0	1.5	ug/L			02/21/24 12:58	2
trans-1,3-Dichloropropene	1.5	U	2.0	1.5	ug/L			02/21/24 12:58	2
Trichloroethene	1.8	U	2.0	1.8	ug/L			02/21/24 12:58	2
Trichlorofluoromethane	1.9	U	2.0	1.9	ug/L			02/21/24 12:58	2
Vinyl chloride	**27**		2.0	1.4	ug/L			02/21/24 12:58	2
Xylenes, Total	2.6	U	4.0	2.6	ug/L			02/21/24 12:58	2

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Client Sample ID: LC34-IW0176-018.5-20240215
Date Collected: 02/15/24 12:02
Date Received: 02/16/24 08:00

Lab Sample ID: 670-34898-21
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		41 - 142		02/21/24 12:58	2
Dibromofluoromethane (Surr)	94		53 - 146		02/21/24 12:58	2
Toluene-d8 (Surr)	97		40 - 146		02/21/24 12:58	2

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
660-134603-E-8 MS	Matrix Spike	102	95	97
660-134603-E-8 MSD	Matrix Spike Duplicate	101	94	96
670-34898-1 - DL	LC34-IW0180-032.5-20240214	98	96	97
670-34898-2	LC34-IW0179-022.0-20240214	100	98	99
670-34898-3 - DL	LC34-IW0184-032.5-20240214	101	98	98
670-34898-4	LC34-IW0183-022.0-20240214	98	98	98
670-34898-5 - DL	LC34-IW0186-018.5-20240214	98	98	96
670-34898-6 - DL	LC34-IW0182-032.5-20240214	100	100	99
670-34898-7	LC34-IW0181-022.0-20240214	100	97	99
670-34898-8	LC34-IW0185-018.5-20240214	99	99	98
670-34898-9	LC34-IW0175-032.5-20240214	101	97	97
670-34898-10	LC34-IW0174-022.0-20240214	101	98	98
670-34898-11 - DL	LC34-IW0170-022.0-20240214	100	98	96
670-34898-12	LC34-IW0171-032.5-20240214	99	98	98
670-34898-13 - DL	LC34-IW0188-018.5-20240215	99	98	96
670-34898-14 - DL	LC34-IW0187-018.5-20240215	100	98	97
670-34898-15 - DL	LC34-IW0168-022.0-20240215	102	100	98
670-34898-16 - DL	LC34-IW0169-032.5-20240215	98	98	96
670-34898-17 - DL	LC34-IW0178-018.5-20240215	98	98	96
670-34898-18 - DL	LC34-IW0172-022.0-20240215	101	96	97
670-34898-19	LC34-IW0173-032.5-20240215	101	97	96
670-34898-20 - DL	LC34-IW0177-018.5-20240215	99	97	97
670-34898-21 - DL	LC34-IW0176-018.5-20240215	106	94	97
670-34898-D-2 DU	670-34898-D-2 DU	101	99	97
LCS 670-76767/1003	Lab Control Sample	101	97	101
LCS 670-77094/4	Lab Control Sample	102	94	99
LCSD 670-76767/4	Lab Control Sample Dup	99	97	101
MB 670-76767/7	Method Blank	100	98	99
MB 670-77094/7	Method Blank	104	95	97

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-76767/7
Matrix: Water
Analysis Batch: 76767

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			02/19/24 11:42	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			02/19/24 11:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			02/19/24 11:42	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			02/19/24 11:42	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			02/19/24 11:42	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			02/19/24 11:42	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			02/19/24 11:42	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			02/19/24 11:42	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			02/19/24 11:42	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			02/19/24 11:42	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			02/19/24 11:42	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			02/19/24 11:42	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			02/19/24 11:42	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			02/19/24 11:42	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			02/19/24 11:42	1
2-Hexanone	2.5	U	20	2.5	ug/L			02/19/24 11:42	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			02/19/24 11:42	1
Acetone	25	U	50	25	ug/L			02/19/24 11:42	1
Benzene	0.71	U	1.0	0.71	ug/L			02/19/24 11:42	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			02/19/24 11:42	1
Bromoform	0.75	U	1.0	0.75	ug/L			02/19/24 11:42	1
Bromomethane	0.95	U	2.0	0.95	ug/L			02/19/24 11:42	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			02/19/24 11:42	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			02/19/24 11:42	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			02/19/24 11:42	1
Chloroethane	0.98	U	2.0	0.98	ug/L			02/19/24 11:42	1
Chloroform	0.80	U	5.0	0.80	ug/L			02/19/24 11:42	1
Chloromethane	0.82	U	2.0	0.82	ug/L			02/19/24 11:42	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			02/19/24 11:42	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			02/19/24 11:42	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			02/19/24 11:42	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			02/19/24 11:42	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			02/19/24 11:42	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			02/19/24 11:42	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			02/19/24 11:42	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			02/19/24 11:42	1
Methyl acetate	0.95	U	10	0.95	ug/L			02/19/24 11:42	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			02/19/24 11:42	1
Methylene Chloride	5.0	U	10	5.0	ug/L			02/19/24 11:42	1
o-Xylene	0.53	U	1.0	0.53	ug/L			02/19/24 11:42	1
Styrene	0.61	U	1.0	0.61	ug/L			02/19/24 11:42	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			02/19/24 11:42	1
Toluene	0.72	U	1.0	0.72	ug/L			02/19/24 11:42	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			02/19/24 11:42	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			02/19/24 11:42	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			02/19/24 11:42	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			02/19/24 11:42	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			02/19/24 11:42	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-76767/7
Matrix: Water
Analysis Batch: 76767

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			02/19/24 11:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*41 - 142*		*02/19/24 11:42*	*1*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*02/19/24 11:42*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*02/19/24 11:42*	*1*

Lab Sample ID: LCS 670-76767/1003
Matrix: Water
Analysis Batch: 76767

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	20.6		ug/L		103	57 - 148
1,1,2,2-Tetrachloroethane	20.0	22.6		ug/L		113	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	20.8		ug/L		104	47 - 173
1,1,2-Trichloroethane	20.0	21.3		ug/L		107	57 - 141
1,1-Dichloroethane	20.0	21.3		ug/L		106	57 - 142
1,1-Dichloroethene	20.0	20.5		ug/L		103	47 - 139
1,2,4-Trichlorobenzene	20.0	20.1		ug/L		100	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	23.3		ug/L		117	48 - 150
1,2-Dibromoethane (EDB)	20.0	21.1		ug/L		105	57 - 140
1,2-Dichlorobenzene	20.0	21.1		ug/L		105	63 - 131
1,2-Dichloroethane	20.0	17.8		ug/L		89	50 - 156
1,2-Dichloropropane	20.0	20.8		ug/L		104	61 - 133
1,3-Dichlorobenzene	20.0	20.8		ug/L		104	66 - 129
1,4-Dichlorobenzene	20.0	18.3		ug/L		92	65 - 133
2-Butanone (MEK)	200	272		ug/L		136	10 - 180
2-Hexanone	200	253		ug/L		126	12 - 180
4-Methyl-2-pentanone	200	247		ug/L		123	19 - 180
Acetone	200	270		ug/L		135	10 - 180
Benzene	20.0	21.0		ug/L		105	56 - 136
Bromodichloromethane	20.0	20.4		ug/L		102	58 - 135
Bromoform	20.0	22.0		ug/L		110	46 - 148
Bromomethane	20.0	17.3		ug/L		87	10 - 173
Carbon disulfide	20.0	20.9		ug/L		105	43 - 153
Carbon tetrachloride	20.0	22.5		ug/L		113	54 - 156
Chlorobenzene	20.0	21.6		ug/L		108	51 - 139
Chloroethane	20.0	20.2		ug/L		101	27 - 180
Chloroform	20.0	22.0		ug/L		110	58 - 139
Chloromethane	20.0	28.1		ug/L		140	33 - 154
cis-1,2-Dichloroethene	20.0	20.4		ug/L		102	56 - 128
cis-1,3-Dichloropropene	20.0	22.9		ug/L		115	64 - 128
Cyclohexane	20.0	21.3		ug/L		107	14 - 151
Dibromochloromethane	20.0	20.5		ug/L		103	50 - 140
Dichlorodifluoromethane	20.0	28.9		ug/L		145	10 - 180
Ethylbenzene	20.0	20.9		ug/L		105	63 - 133
Isopropylbenzene	20.0	21.1		ug/L		105	60 - 132
m,p-Xylenes	20.0	18.5		ug/L		93	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-76767/1003
Matrix: Water
Analysis Batch: 76767

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	48.3		ug/L		121	70 - 130
Methyl tert-butyl ether	20.0	22.2		ug/L		111	51 - 145
Methylene Chloride	20.0	19.8		ug/L		99	43 - 142
o-Xylene	20.0	20.9		ug/L		104	61 - 129
Styrene	20.0	20.6		ug/L		103	59 - 136
Tetrachloroethene	20.0	20.8		ug/L		104	60 - 147
Toluene	20.0	19.6		ug/L		98	64 - 131
trans-1,2-Dichloroethene	20.0	21.0		ug/L		105	54 - 134
trans-1,3-Dichloropropene	20.0	21.0		ug/L		105	65 - 149
Trichloroethene	20.0	21.4		ug/L		107	62 - 135
Trichlorofluoromethane	20.0	18.4		ug/L		92	56 - 155
Vinyl chloride	20.0	23.7		ug/L		118	20 - 167
Xylenes, Total	40.0	39.4		ug/L		99	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*
Dibromofluoromethane (Surr)	*97*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Lab Sample ID: LCSD 670-76767/4
Matrix: Water
Analysis Batch: 76767

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	20.0	23.2		ug/L		116	57 - 148	12	25
1,1,2,2-Tetrachloroethane	20.0	22.9		ug/L		115	60 - 139	1	17
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	22.8		ug/L		114	47 - 173	9	30
1,1,2-Trichloroethane	20.0	23.3		ug/L		116	57 - 141	9	16
1,1-Dichloroethane	20.0	23.9		ug/L		120	57 - 142	12	24
1,1-Dichloroethene	20.0	22.4		ug/L		112	47 - 139	9	16
1,2,4-Trichlorobenzene	20.0	22.0		ug/L		110	52 - 159	9	24
1,2-Dibromo-3-Chloropropane	20.0	22.2		ug/L		111	48 - 150	5	21
1,2-Dibromoethane (EDB)	20.0	23.0		ug/L		115	57 - 140	9	16
1,2-Dichlorobenzene	20.0	23.0		ug/L		115	63 - 131	9	25
1,2-Dichloroethane	20.0	20.2		ug/L		101	50 - 156	13	18
1,2-Dichloropropane	20.0	22.9		ug/L		114	61 - 133	10	26
1,3-Dichlorobenzene	20.0	23.1		ug/L		116	66 - 129	11	23
1,4-Dichlorobenzene	20.0	20.0		ug/L		100	65 - 133	9	23
2-Butanone (MEK)	200	237		ug/L		118	10 - 180	14	29
2-Hexanone	200	217		ug/L		109	12 - 180	15	28
4-Methyl-2-pentanone	200	212		ug/L		106	19 - 180	15	24
Acetone	200	214	J3	ug/L		107	10 - 180	23	19
Benzene	20.0	23.7		ug/L		119	56 - 136	12	14
Bromodichloromethane	20.0	22.2		ug/L		111	58 - 135	8	19
Bromoform	20.0	23.1		ug/L		116	46 - 148	5	18
Bromomethane	20.0	17.7		ug/L		88	10 - 173	2	29
Carbon disulfide	20.0	22.4		ug/L		112	43 - 153	7	26
Carbon tetrachloride	20.0	23.9		ug/L		119	54 - 156	6	27

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 670-76767/4
Matrix: Water
Analysis Batch: 76767

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chlorobenzene			20.0	23.7		ug/L		119	51 - 139	9	13
Chloroethane			20.0	19.1		ug/L		95	27 - 180	6	22
Chloroform			20.0	24.2		ug/L		121	58 - 139	9	17
Chloromethane			20.0	22.8		ug/L		114	33 - 154	21	31
cis-1,2-Dichloroethene			20.0	22.9		ug/L		114	56 - 128	11	17
cis-1,3-Dichloropropene			20.0	23.0		ug/L		115	64 - 128	0	20
Cyclohexane			20.0	24.1		ug/L		121	14 - 151	12	30
Dibromochloromethane			20.0	23.1		ug/L		116	50 - 140	12	18
Dichlorodifluoromethane			20.0	19.5	J3	ug/L		97	10 - 180	39	26
Ethylbenzene			20.0	23.5		ug/L		118	63 - 133	12	18
Isopropylbenzene			20.0	23.7		ug/L		118	60 - 132	12	23
m,p-Xylenes			20.0	20.6		ug/L		103	64 - 133	11	18
Methyl acetate			40.0	49.7		ug/L		124	70 - 130	3	30
Methyl tert-butyl ether			20.0	24.2		ug/L		121	51 - 145	9	22
Methylene Chloride			20.0	21.5		ug/L		108	43 - 142	8	23
o-Xylene			20.0	22.8		ug/L		114	61 - 129	9	16
Styrene			20.0	22.9		ug/L		115	59 - 136	11	32
Tetrachloroethene			20.0	22.9		ug/L		115	60 - 147	10	21
Toluene			20.0	21.6		ug/L		108	64 - 131	9	16
trans-1,2-Dichloroethene			20.0	23.2		ug/L		116	54 - 134	10	20
trans-1,3-Dichloropropene			20.0	23.5		ug/L		118	65 - 149	11	17
Trichloroethene			20.0	24.1		ug/L		120	62 - 135	12	20
Trichlorofluoromethane			20.0	17.8		ug/L		89	56 - 155	3	22
Vinyl chloride			20.0	22.2		ug/L		111	20 - 167	6	24
Xylenes, Total			40.0	43.4		ug/L		109	50 - 150	10	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*41 - 142*
Dibromofluoromethane (Surr)	*97*		*53 - 146*
Toluene-d8 (Surr)	*101*		*40 - 146*

Lab Sample ID: 670-34898-D-2 DU
Matrix: Water
Analysis Batch: 76767

Client Sample ID: 670-34898-D-2 DU
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
1,1,1-Trichloroethane	0.000			0.80	U	ug/L				NC	30
1,1,2,2-Tetrachloroethane	0.000			0.54	U	ug/L				NC	30
1,1,2-Trichloro-1,2,2-trifluoroethane	0.000			0.73	U	ug/L				NC	30
1,1,2-Trichloroethane	0.000			0.76	U	ug/L				NC	30
1,1-Dichloroethane	0.000			0.62	U	ug/L				NC	30
1,1-Dichloroethene	0.000			0.94	U	ug/L				NC	30
1,2,4-Trichlorobenzene	0.000			0.70	U	ug/L				NC	30
1,2-Dibromo-3-Chloropropane	0.000			0.96	U	ug/L				NC	30
1,2-Dibromoethane (EDB)	0.000			0.78	U	ug/L				NC	30
1,2-Dichlorobenzene	0.000			0.73	U	ug/L				NC	30
1,2-Dichloroethane	0.000			0.63	U	ug/L				NC	30
1,2-Dichloropropane	0.000			0.80	U	ug/L				NC	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-34898-D-2 DU
Matrix: Water
Analysis Batch: 76767

Client Sample ID: 670-34898-D-2 DU
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
1,3-Dichlorobenzene	0.000			0.77	U	ug/L				NC	30
1,4-Dichlorobenzene	0.000			0.76	U	ug/L				NC	30
2-Butanone (MEK)	0.000			4.5	U	ug/L				NC	30
2-Hexanone	0.000			2.5	U	ug/L				NC	30
4-Methyl-2-pentanone	0.000			5.0	U	ug/L				NC	30
Acetone	0.000			25	U J3	ug/L				NC	30
Benzene	0.000			0.71	U	ug/L				NC	30
Bromodichloromethane	0.000			0.52	U	ug/L				NC	30
Bromoform	0.000			0.75	U	ug/L				NC	30
Bromomethane	0.000			0.95	U	ug/L				NC	30
Carbon disulfide	0.000			2.5	U	ug/L				NC	30
Carbon tetrachloride	0.000			0.94	U	ug/L				NC	30
Chlorobenzene	0.000			0.72	U	ug/L				NC	30
Chloroethane	0.000			0.98	U	ug/L				NC	30
Chloroform	0.000			0.80	U	ug/L				NC	30
Chloromethane	0.000			0.82	U	ug/L				NC	30
cis-1,2-Dichloroethene	9.65			10.5		ug/L				9	30
cis-1,3-Dichloropropene	0.000			0.59	U	ug/L				NC	30
Cyclohexane	0.000			0.93	U	ug/L				NC	30
Dibromochloromethane	0.000			0.50	U	ug/L				NC	30
Dichlorodifluoromethane	0.000			0.74	U J3	ug/L				NC	30
Ethylbenzene	0.000			0.69	U	ug/L				NC	30
Isopropylbenzene	0.000			0.67	U	ug/L				NC	30
m,p-Xylenes	0.000			1.3	U	ug/L				NC	30
Methyl acetate	0.000			0.95	U	ug/L				NC	30
Methyl tert-butyl ether	0.000			0.60	U	ug/L				NC	30
Methylene Chloride	0.000			5.0	U	ug/L				NC	30
o-Xylene	0.000			0.53	U	ug/L				NC	30
Styrene	0.000			0.61	U	ug/L				NC	30
Tetrachloroethene	0.000			0.76	U	ug/L				NC	30
Toluene	0.000			0.72	U	ug/L				NC	30
trans-1,2-Dichloroethene	0.000			0.73	U	ug/L				NC	20
trans-1,3-Dichloropropene	0.000			0.73	U	ug/L				NC	30
Trichloroethene	0.000			0.89	U	ug/L				NC	30
Trichlorofluoromethane	0.000			0.94	U	ug/L				NC	30
Vinyl chloride	16.2			16.0		ug/L				1	30
Xylenes, Total	0.000			1.3	U	ug/L				NC	30

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-77094/7
Matrix: Water
Analysis Batch: 77094

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.80	U	1.0	0.80	ug/L			02/21/24 11:15	1
1,1,2,2-Tetrachloroethane	0.54	U	1.0	0.54	ug/L			02/21/24 11:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	2.0	0.73	ug/L			02/21/24 11:15	1
1,1,2-Trichloroethane	0.76	U	2.0	0.76	ug/L			02/21/24 11:15	1
1,1-Dichloroethane	0.62	U	1.0	0.62	ug/L			02/21/24 11:15	1
1,1-Dichloroethene	0.94	U	1.0	0.94	ug/L			02/21/24 11:15	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			02/21/24 11:15	1
1,2-Dibromo-3-Chloropropane	0.96	U	10	0.96	ug/L			02/21/24 11:15	1
1,2-Dibromoethane (EDB)	0.78	U	12	0.78	ug/L			02/21/24 11:15	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			02/21/24 11:15	1
1,2-Dichloroethane	0.63	U	1.0	0.63	ug/L			02/21/24 11:15	1
1,2-Dichloropropane	0.80	U	1.0	0.80	ug/L			02/21/24 11:15	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			02/21/24 11:15	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			02/21/24 11:15	1
2-Butanone (MEK)	4.5	U	10	4.5	ug/L			02/21/24 11:15	1
2-Hexanone	2.5	U	20	2.5	ug/L			02/21/24 11:15	1
4-Methyl-2-pentanone	5.0	U	20	5.0	ug/L			02/21/24 11:15	1
Acetone	25	U	50	25	ug/L			02/21/24 11:15	1
Benzene	0.71	U	1.0	0.71	ug/L			02/21/24 11:15	1
Bromodichloromethane	0.52	U	1.0	0.52	ug/L			02/21/24 11:15	1
Bromoform	0.75	U	1.0	0.75	ug/L			02/21/24 11:15	1
Bromomethane	0.95	U	2.0	0.95	ug/L			02/21/24 11:15	1
Carbon disulfide	2.5	U	5.0	2.5	ug/L			02/21/24 11:15	1
Carbon tetrachloride	0.94	U	1.0	0.94	ug/L			02/21/24 11:15	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			02/21/24 11:15	1
Chloroethane	0.98	U	2.0	0.98	ug/L			02/21/24 11:15	1
Chloroform	0.80	U	5.0	0.80	ug/L			02/21/24 11:15	1
Chloromethane	0.82	U	2.0	0.82	ug/L			02/21/24 11:15	1
cis-1,2-Dichloroethene	0.53	U	1.0	0.53	ug/L			02/21/24 11:15	1
cis-1,3-Dichloropropene	0.59	U	1.0	0.59	ug/L			02/21/24 11:15	1
Cyclohexane	0.93	U	5.0	0.93	ug/L			02/21/24 11:15	1
Dibromochloromethane	0.50	U	1.0	0.50	ug/L			02/21/24 11:15	1
Dichlorodifluoromethane	0.74	U	1.0	0.74	ug/L			02/21/24 11:15	1
Ethylbenzene	0.69	U	1.0	0.69	ug/L			02/21/24 11:15	1
Isopropylbenzene	0.67	U	2.0	0.67	ug/L			02/21/24 11:15	1
m,p-Xylenes	1.3	U	2.0	1.3	ug/L			02/21/24 11:15	1
Methyl acetate	0.95	U	10	0.95	ug/L			02/21/24 11:15	1
Methyl tert-butyl ether	0.60	U	2.0	0.60	ug/L			02/21/24 11:15	1
Methylene Chloride	5.0	U	10	5.0	ug/L			02/21/24 11:15	1
o-Xylene	0.53	U	1.0	0.53	ug/L			02/21/24 11:15	1
Styrene	0.61	U	1.0	0.61	ug/L			02/21/24 11:15	1
Tetrachloroethene	0.76	U	1.0	0.76	ug/L			02/21/24 11:15	1
Toluene	0.72	U	1.0	0.72	ug/L			02/21/24 11:15	1
trans-1,2-Dichloroethene	0.73	U	1.0	0.73	ug/L			02/21/24 11:15	1
trans-1,3-Dichloropropene	0.73	U	1.0	0.73	ug/L			02/21/24 11:15	1
Trichloroethene	0.89	U	1.0	0.89	ug/L			02/21/24 11:15	1
Trichlorofluoromethane	0.94	U	1.0	0.94	ug/L			02/21/24 11:15	1
Vinyl chloride	0.71	U	1.0	0.71	ug/L			02/21/24 11:15	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 670-77094/7
Matrix: Water
Analysis Batch: 77094

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.3	U	2.0	1.3	ug/L			02/21/24 11:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*41 - 142*		*02/21/24 11:15*	*1*
Dibromofluoromethane (Surr)	*95*		*53 - 146*		*02/21/24 11:15*	*1*
Toluene-d8 (Surr)	*97*		*40 - 146*		*02/21/24 11:15*	*1*

Lab Sample ID: LCS 670-77094/4
Matrix: Water
Analysis Batch: 77094

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	20.0	19.6		ug/L		98	57 - 148
1,1,2,2-Tetrachloroethane	20.0	20.6		ug/L		103	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	21.6		ug/L		108	47 - 173
1,1,2-Trichloroethane	20.0	21.6		ug/L		108	57 - 141
1,1-Dichloroethane	20.0	22.4		ug/L		112	57 - 142
1,1-Dichloroethene	20.0	21.5		ug/L		108	47 - 139
1,2,4-Trichlorobenzene	20.0	22.9		ug/L		114	52 - 159
1,2-Dibromo-3-Chloropropane	20.0	17.8		ug/L		89	48 - 150
1,2-Dibromoethane (EDB)	20.0	19.2		ug/L		96	57 - 140
1,2-Dichlorobenzene	20.0	21.2		ug/L		106	63 - 131
1,2-Dichloroethane	20.0	18.3		ug/L		91	50 - 156
1,2-Dichloropropane	20.0	21.8		ug/L		109	61 - 133
1,3-Dichlorobenzene	20.0	21.7		ug/L		109	66 - 129
1,4-Dichlorobenzene	20.0	21.2		ug/L		106	65 - 133
2-Butanone (MEK)	200	175		ug/L		88	10 - 180
2-Hexanone	200	178		ug/L		89	12 - 180
4-Methyl-2-pentanone	200	188		ug/L		94	19 - 180
Acetone	200	179		ug/L		89	10 - 180
Benzene	20.0	21.7		ug/L		108	56 - 136
Bromodichloromethane	20.0	19.8		ug/L		99	58 - 135
Bromoform	20.0	18.3		ug/L		92	46 - 148
Bromomethane	20.0	18.0		ug/L		90	10 - 173
Carbon disulfide	20.0	22.3		ug/L		111	43 - 153
Carbon tetrachloride	20.0	20.6		ug/L		103	54 - 156
Chlorobenzene	20.0	21.1		ug/L		105	51 - 139
Chloroethane	20.0	22.7		ug/L		113	27 - 180
Chloroform	20.0	18.6		ug/L		93	58 - 139
Chloromethane	20.0	16.3		ug/L		82	33 - 154
cis-1,2-Dichloroethene	20.0	20.3		ug/L		102	56 - 128
cis-1,3-Dichloropropene	20.0	19.9		ug/L		100	64 - 128
Cyclohexane	20.0	26.8		ug/L		134	14 - 151
Dibromochloromethane	20.0	19.0		ug/L		95	50 - 140
Dichlorodifluoromethane	20.0	11.8		ug/L		59	10 - 180
Ethylbenzene	20.0	21.4		ug/L		107	63 - 133
Isopropylbenzene	20.0	22.8		ug/L		114	60 - 132
m,p-Xylenes	20.0	21.6		ug/L		108	64 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 670-77094/4
Matrix: Water
Analysis Batch: 77094

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl acetate	40.0	43.1		ug/L		108	70 - 130
Methyl tert-butyl ether	20.0	19.5		ug/L		97	51 - 145
Methylene Chloride	20.0	18.5		ug/L		92	43 - 142
o-Xylene	20.0	20.5		ug/L		103	61 - 129
Styrene	20.0	21.4		ug/L		107	59 - 136
Tetrachloroethene	20.0	21.4		ug/L		107	60 - 147
Toluene	20.0	21.8		ug/L		109	64 - 131
trans-1,2-Dichloroethene	20.0	21.8		ug/L		109	54 - 134
trans-1,3-Dichloropropene	20.0	19.5		ug/L		98	65 - 149
Trichloroethene	20.0	20.6		ug/L		103	62 - 135
Trichlorofluoromethane	20.0	19.1		ug/L		96	56 - 155
Vinyl chloride	20.0	21.5		ug/L		108	20 - 167
Xylenes, Total	40.0	42.1		ug/L		105	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*94*		*53 - 146*
Toluene-d8 (Surr)	*99*		*40 - 146*

Lab Sample ID: 660-134603-E-8 MS
Matrix: Water
Analysis Batch: 77094

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.80	U	20.0	20.5		ug/L		102	57 - 148
1,1,2,2-Tetrachloroethane	0.54	U	20.0	22.1		ug/L		110	60 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	23.6		ug/L		118	50 - 150
1,1,2-Trichloroethane	0.76	U	20.0	21.3		ug/L		106	57 - 141
1,1-Dichloroethane	0.62	U	20.0	22.6		ug/L		113	57 - 142
1,1-Dichloroethene	0.94	U	20.0	22.9		ug/L		115	49 - 139
1,2,4-Trichlorobenzene	0.70	U	20.0	21.7		ug/L		109	52 - 159
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	19.5		ug/L		97	48 - 150
1,2-Dibromoethane (EDB)	0.78	U	20.0	19.7		ug/L		98	50 - 150
1,2-Dichlorobenzene	0.73	U	20.0	20.9		ug/L		105	63 - 131
1,2-Dichloroethane	0.63	U	20.0	17.9		ug/L		90	50 - 156
1,2-Dichloropropane	0.80	U	20.0	22.0		ug/L		110	61 - 133
1,3-Dichlorobenzene	0.77	U	20.0	21.4		ug/L		107	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	20.8		ug/L		104	65 - 133
2-Butanone (MEK)	4.5	U	200	193		ug/L		97	10 - 180
2-Hexanone	2.5	U	200	197		ug/L		99	12 - 180
4-Methyl-2-pentanone	5.0	U	200	202		ug/L		101	19 - 180
Acetone	25	U	200	193		ug/L		97	10 - 180
Benzene	0.71	U	20.0	22.2		ug/L		111	56 - 136
Bromodichloromethane	0.52	U	20.0	19.5		ug/L		97	58 - 135
Bromoform	0.75	U	20.0	18.5		ug/L		93	46 - 148
Bromomethane	0.95	U	20.0	17.8		ug/L		89	10 - 173
Carbon disulfide	2.5	U	20.0	23.9		ug/L		119	43 - 153
Carbon tetrachloride	0.94	U	20.0	22.4		ug/L		112	54 - 156

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-134603-E-8 MS
Matrix: Water
Analysis Batch: 77094

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzene	0.72	U	20.0	21.4		ug/L		107	51 - 139
Chloroethane	0.98	U	20.0	23.2		ug/L		116	27 - 180
Chloroform	0.80	U	20.0	18.6		ug/L		93	59 - 139
Chloromethane	0.82	U	20.0	17.8		ug/L		89	33 - 154
cis-1,2-Dichloroethene	0.53	U	20.0	20.8		ug/L		104	56 - 128
cis-1,3-Dichloropropene	0.59	U	20.0	19.9		ug/L		100	64 - 128
Cyclohexane	0.93	U J3	20.0	28.5	J3	ug/L		142	14 - 141
Dibromochloromethane	0.50	U	20.0	19.2		ug/L		96	50 - 150
Dichlorodifluoromethane	0.74	U	20.0	12.8		ug/L		64	10 - 180
Ethylbenzene	0.69	U	20.0	22.7		ug/L		114	63 - 133
Isopropylbenzene	0.67	U	20.0	23.6		ug/L		118	60 - 132
m,p-Xylenes	1.3	U	20.0	22.0		ug/L		110	64 - 133
Methyl acetate	0.95	U	40.0	45.1		ug/L		113	50 - 150
Methyl tert-butyl ether	0.60	U	20.0	19.5		ug/L		97	50 - 150
Methylene Chloride	5.0	U	20.0	19.6		ug/L		98	43 - 142
o-Xylene	0.53	U	20.0	20.9		ug/L		105	61 - 129
Styrene	0.61	U	20.0	21.7		ug/L		108	59 - 136
Tetrachloroethene	0.76	U	20.0	22.2		ug/L		111	60 - 147
Toluene	0.72	U	20.0	21.9		ug/L		109	64 - 131
trans-1,2-Dichloroethene	0.73	U	20.0	22.1		ug/L		110	54 - 134
trans-1,3-Dichloropropene	0.73	U	20.0	19.5		ug/L		97	65 - 149
Trichloroethene	0.89	U	20.0	21.1		ug/L		105	62 - 135
Trichlorofluoromethane	0.94	U	20.0	20.5		ug/L		102	56 - 155
Vinyl chloride	0.71	U	20.0	23.1		ug/L		115	20 - 167
Xylenes, Total	1.3	U	40.0	42.9		ug/L		107	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*41 - 142*
Dibromofluoromethane (Surr)	*95*		*53 - 146*
Toluene-d8 (Surr)	*97*		*40 - 146*

Lab Sample ID: 660-134603-E-8 MSD
Matrix: Water
Analysis Batch: 77094

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.80	U	20.0	20.5		ug/L		102	57 - 148	0	25
1,1,2,2-Tetrachloroethane	0.54	U	20.0	22.6		ug/L		113	60 - 139	2	17
1,1,2-Trichloro-1,2,2-trifluoroethane	0.73	U	20.0	23.2		ug/L		116	50 - 150	2	30
1,1,2-Trichloroethane	0.76	U	20.0	21.6		ug/L		108	57 - 141	2	16
1,1-Dichloroethane	0.62	U	20.0	23.2		ug/L		116	57 - 142	2	24
1,1-Dichloroethene	0.94	U	20.0	23.3		ug/L		116	49 - 139	1	16
1,2,4-Trichlorobenzene	0.70	U	20.0	23.1		ug/L		116	52 - 159	6	24
1,2-Dibromo-3-Chloropropane	0.96	U	20.0	19.3		ug/L		97	48 - 150	1	21
1,2-Dibromoethane (EDB)	0.78	U	20.0	19.8		ug/L		99	50 - 150	1	16
1,2-Dichlorobenzene	0.73	U	20.0	21.3		ug/L		107	63 - 131	2	25
1,2-Dichloroethane	0.63	U	20.0	18.4		ug/L		92	50 - 156	3	18
1,2-Dichloropropane	0.80	U	20.0	22.4		ug/L		112	61 - 133	2	26

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 660-134603-E-8 MSD
Matrix: Water
Analysis Batch: 77094

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	0.77	U	20.0	21.6		ug/L		108	66 - 129	1	23
1,4-Dichlorobenzene	0.76	U	20.0	20.9		ug/L		104	65 - 133	0	23
2-Butanone (MEK)	4.5	U	200	200		ug/L		100	10 - 180	3	29
2-Hexanone	2.5	U	200	202		ug/L		101	12 - 180	2	28
4-Methyl-2-pentanone	5.0	U	200	208		ug/L		104	19 - 180	3	24
Acetone	25	U	200	202		ug/L		101	10 - 180	4	19
Benzene	0.71	U	20.0	22.7		ug/L		113	56 - 136	2	14
Bromodichloromethane	0.52	U	20.0	19.8		ug/L		99	58 - 135	2	19
Bromoform	0.75	U	20.0	18.9		ug/L		94	46 - 148	2	18
Bromomethane	0.95	U	20.0	18.1		ug/L		91	10 - 173	2	29
Carbon disulfide	2.5	U	20.0	24.4		ug/L		122	43 - 153	2	26
Carbon tetrachloride	0.94	U	20.0	22.9		ug/L		114	54 - 156	2	27
Chlorobenzene	0.72	U	20.0	21.5		ug/L		108	51 - 139	0	13
Chloroethane	0.98	U	20.0	23.5		ug/L		118	27 - 180	2	22
Chloroform	0.80	U	20.0	19.2		ug/L		96	59 - 139	3	17
Chloromethane	0.82	U	20.0	18.1		ug/L		91	33 - 154	2	31
cis-1,2-Dichloroethene	0.53	U	20.0	21.2		ug/L		106	56 - 128	2	17
cis-1,3-Dichloropropene	0.59	U	20.0	20.4		ug/L		102	64 - 128	2	20
Cyclohexane	0.93	U J3	20.0	29.4	J3	ug/L		147	14 - 141	3	30
Dibromochloromethane	0.50	U	20.0	19.6		ug/L		98	50 - 150	2	18
Dichlorodifluoromethane	0.74	U	20.0	12.5		ug/L		63	10 - 180	2	26
Ethylbenzene	0.69	U	20.0	22.2		ug/L		111	63 - 133	2	18
Isopropylbenzene	0.67	U	20.0	23.1		ug/L		116	60 - 132	2	23
m,p-Xylenes	1.3	U	20.0	22.1		ug/L		111	64 - 133	0	18
Methyl acetate	0.95	U	40.0	44.9		ug/L		112	50 - 150	0	30
Methyl tert-butyl ether	0.60	U	20.0	19.8		ug/L		99	50 - 150	2	22
Methylene Chloride	5.0	U	20.0	19.8		ug/L		99	43 - 142	1	23
o-Xylene	0.53	U	20.0	21.3		ug/L		107	61 - 129	2	16
Styrene	0.61	U	20.0	21.9		ug/L		110	59 - 136	1	32
Tetrachloroethene	0.76	U	20.0	22.3		ug/L		112	60 - 147	1	21
Toluene	0.72	U	20.0	22.6		ug/L		113	64 - 131	3	16
trans-1,2-Dichloroethene	0.73	U	20.0	22.1		ug/L		110	54 - 134	0	20
trans-1,3-Dichloropropene	0.73	U	20.0	20.3		ug/L		102	65 - 149	4	17
Trichloroethene	0.89	U	20.0	21.3		ug/L		107	62 - 135	1	20
Trichlorofluoromethane	0.94	U	20.0	20.3		ug/L		102	56 - 155	1	22
Vinyl chloride	0.71	U	20.0	23.6		ug/L		118	20 - 167	2	24
Xylenes, Total	1.3	U	40.0	43.4		ug/L		109	50 - 150	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*
Dibromofluoromethane (Surr)	*94*		*53 - 146*
Toluene-d8 (Surr)	*96*		*40 - 146*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

GC/MS VOA

Analysis Batch: 76767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-34898-1 - DL	LC34-IW0180-032.5-20240214	Total/NA	Water	8260D	
670-34898-2	LC34-IW0179-022.0-20240214	Total/NA	Water	8260D	
670-34898-3 - DL	LC34-IW0184-032.5-20240214	Total/NA	Water	8260D	
670-34898-4	LC34-IW0183-022.0-20240214	Total/NA	Water	8260D	
670-34898-5 - DL	LC34-IW0186-018.5-20240214	Total/NA	Water	8260D	
670-34898-6 - DL	LC34-IW0182-032.5-20240214	Total/NA	Water	8260D	
670-34898-7	LC34-IW0181-022.0-20240214	Total/NA	Water	8260D	
670-34898-8	LC34-IW0185-018.5-20240214	Total/NA	Water	8260D	
670-34898-9	LC34-IW0175-032.5-20240214	Total/NA	Water	8260D	
670-34898-10	LC34-IW0174-022.0-20240214	Total/NA	Water	8260D	
670-34898-11 - DL	LC34-IW0170-022.0-20240214	Total/NA	Water	8260D	
670-34898-12	LC34-IW0171-032.5-20240214	Total/NA	Water	8260D	
670-34898-13 - DL	LC34-IW0188-018.5-20240215	Total/NA	Water	8260D	
670-34898-14 - DL	LC34-IW0187-018.5-20240215	Total/NA	Water	8260D	
670-34898-15 - DL	LC34-IW0168-022.0-20240215	Total/NA	Water	8260D	
670-34898-16 - DL	LC34-IW0169-032.5-20240215	Total/NA	Water	8260D	
670-34898-17 - DL	LC34-IW0178-018.5-20240215	Total/NA	Water	8260D	
670-34898-18 - DL	LC34-IW0172-022.0-20240215	Total/NA	Water	8260D	
670-34898-19	LC34-IW0173-032.5-20240215	Total/NA	Water	8260D	
670-34898-20 - DL	LC34-IW0177-018.5-20240215	Total/NA	Water	8260D	
MB 670-76767/7	Method Blank	Total/NA	Water	8260D	
LCS 670-76767/1003	Lab Control Sample	Total/NA	Water	8260D	
LCSD 670-76767/4	Lab Control Sample Dup	Total/NA	Water	8260D	
670-34898-D-2 DU	670-34898-D-2 DU	Total/NA	Water	8260D	

Analysis Batch: 77094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-34898-21 - DL	LC34-IW0176-018.5-20240215	Total/NA	Water	8260D	
MB 670-77094/7	Method Blank	Total/NA	Water	8260D	
LCS 670-77094/4	Lab Control Sample	Total/NA	Water	8260D	
660-134603-E-8 MS	Matrix Spike	Total/NA	Water	8260D	
660-134603-E-8 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Client Sample ID: LC34-IW0180-032.5-20240214
Lab Sample ID: 670-34898-1
Date Collected: 02/14/24 11:05
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	76767	P1K	EET ORL	02/19/24 17:26

Client Sample ID: LC34-IW0179-022.0-20240214
Lab Sample ID: 670-34898-2
Date Collected: 02/14/24 11:23
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	76767	P1K	EET ORL	02/19/24 13:25

Client Sample ID: LC34-IW0184-032.5-20240214
Lab Sample ID: 670-34898-3
Date Collected: 02/14/24 11:47
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	76767	P1K	EET ORL	02/19/24 17:46

Client Sample ID: LC34-IW0183-022.0-20240214
Lab Sample ID: 670-34898-4
Date Collected: 02/14/24 12:06
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	76767	P1K	EET ORL	02/19/24 14:36

Client Sample ID: LC34-IW0186-018.5-20240214
Lab Sample ID: 670-34898-5
Date Collected: 02/14/24 12:27
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	10	76767	P1K	EET ORL	02/19/24 19:06

Client Sample ID: LC34-IW0182-032.5-20240214
Lab Sample ID: 670-34898-6
Date Collected: 02/14/24 12:52
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	76767	P1K	EET ORL	02/19/24 19:27

Client Sample ID: LC34-IW0181-022.0-20240214
Lab Sample ID: 670-34898-7
Date Collected: 02/14/24 13:09
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	76767	P1K	EET ORL	02/19/24 14:54

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Client Sample ID: LC34-IW0185-018.5-20240214
Lab Sample ID: 670-34898-8
Date Collected: 02/14/24 13:31
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	76767	P1K	EET ORL	02/19/24 15:12

Client Sample ID: LC34-IW0175-032.5-20240214
Lab Sample ID: 670-34898-9
Date Collected: 02/14/24 13:55
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	76767	P1K	EET ORL	02/19/24 15:30

Client Sample ID: LC34-IW0174-022.0-20240214
Lab Sample ID: 670-34898-10
Date Collected: 02/14/24 14:11
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	76767	P1K	EET ORL	02/19/24 15:48

Client Sample ID: LC34-IW0170-022.0-20240214
Lab Sample ID: 670-34898-11
Date Collected: 02/14/24 14:33
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	76767	P1K	EET ORL	02/19/24 20:49

Client Sample ID: LC34-IW0171-032.5-20240214
Lab Sample ID: 670-34898-12
Date Collected: 02/14/24 14:54
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	76767	P1K	EET ORL	02/19/24 16:06

Client Sample ID: LC34-IW0188-018.5-20240215
Lab Sample ID: 670-34898-13
Date Collected: 02/15/24 09:07
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	76767	P1K	EET ORL	02/19/24 18:28

Client Sample ID: LC34-IW0187-018.5-20240215
Lab Sample ID: 670-34898-14
Date Collected: 02/15/24 09:35
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	76767	P1K	EET ORL	02/19/24 17:05

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Client Sample ID: LC34-IW0168-022.0-20240215
Lab Sample ID: 670-34898-15
Date Collected: 02/15/24 10:07
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	76767	P1K	EET ORL	02/19/24 18:07

Client Sample ID: LC34-IW0169-032.5-20240215
Lab Sample ID: 670-34898-16
Date Collected: 02/15/24 10:23
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	76767	P1K	EET ORL	02/19/24 19:48

Client Sample ID: LC34-IW0178-018.5-20240215
Lab Sample ID: 670-34898-17
Date Collected: 02/15/24 10:45
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	25	76767	P1K	EET ORL	02/19/24 16:44

Client Sample ID: LC34-IW0172-022.0-20240215
Lab Sample ID: 670-34898-18
Date Collected: 02/15/24 11:04
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	76767	P1K	EET ORL	02/19/24 20:08

Client Sample ID: LC34-IW0173-032.5-20240215
Lab Sample ID: 670-34898-19
Date Collected: 02/15/24 11:21
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	76767	P1K	EET ORL	02/19/24 16:23

Client Sample ID: LC34-IW0177-018.5-20240215
Lab Sample ID: 670-34898-20
Date Collected: 02/15/24 11:41
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	5	76767	P1K	EET ORL	02/19/24 20:29

Client Sample ID: LC34-IW0176-018.5-20240215
Lab Sample ID: 670-34898-21
Date Collected: 02/15/24 12:02
Matrix: Water
Date Received: 02/16/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	DL	2	77094	AAM	EET ORL	02/21/24 12:58

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Laboratory: Eurofins Orlando

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

Method Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
5030C	Purge and Trap	SW846	EET ORL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC LC34

Job ID: 670-34898-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-34898-1	LC34-IW0180-032.5-20240214	Water	02/14/24 11:05	02/16/24 08:00
670-34898-2	LC34-IW0179-022.0-20240214	Water	02/14/24 11:23	02/16/24 08:00
670-34898-3	LC34-IW0184-032.5-20240214	Water	02/14/24 11:47	02/16/24 08:00
670-34898-4	LC34-IW0183-022.0-20240214	Water	02/14/24 12:06	02/16/24 08:00
670-34898-5	LC34-IW0186-018.5-20240214	Water	02/14/24 12:27	02/16/24 08:00
670-34898-6	LC34-IW0182-032.5-20240214	Water	02/14/24 12:52	02/16/24 08:00
670-34898-7	LC34-IW0181-022.0-20240214	Water	02/14/24 13:09	02/16/24 08:00
670-34898-8	LC34-IW0185-018.5-20240214	Water	02/14/24 13:31	02/16/24 08:00
670-34898-9	LC34-IW0175-032.5-20240214	Water	02/14/24 13:55	02/16/24 08:00
670-34898-10	LC34-IW0174-022.0-20240214	Water	02/14/24 14:11	02/16/24 08:00
670-34898-11	LC34-IW0170-022.0-20240214	Water	02/14/24 14:33	02/16/24 08:00
670-34898-12	LC34-IW0171-032.5-20240214	Water	02/14/24 14:54	02/16/24 08:00
670-34898-13	LC34-IW0188-018.5-20240215	Water	02/15/24 09:07	02/16/24 08:00
670-34898-14	LC34-IW0187-018.5-20240215	Water	02/15/24 09:35	02/16/24 08:00
670-34898-15	LC34-IW0168-022.0-20240215	Water	02/15/24 10:07	02/16/24 08:00
670-34898-16	LC34-IW0169-032.5-20240215	Water	02/15/24 10:23	02/16/24 08:00
670-34898-17	LC34-IW0178-018.5-20240215	Water	02/15/24 10:45	02/16/24 08:00
670-34898-18	LC34-IW0172-022.0-20240215	Water	02/15/24 11:04	02/16/24 08:00
670-34898-19	LC34-IW0173-032.5-20240215	Water	02/15/24 11:21	02/16/24 08:00
670-34898-20	LC34-IW0177-018.5-20240215	Water	02/15/24 11:41	02/16/24 08:00
670-34898-21	LC34-IW0176-018.5-20240215	Water	02/15/24 12:02	02/16/24 08:00

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 3613 | PAGE 1 OF 2

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G08985	NASA KSC	Mark Jonnet	(412) 921-8622	Eurofins, Kaitlin Dylnicki

SAMPLERS (SIGNATURE)	FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
[signature] - Natalie Fabbri [signature] - Natalie Volk	Chuck Sorden	(321) 591-7580	481 Newburyport Ave
	CARRIER/WAYBILL NUMBER: 67001156		CITY, STATE: Altamonte Springs, FL

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G, G
PRESERVATIVE USED: HCl/4°C, 4°C

TYPE OF ANALYSIS: 8260D(MOD) NASA LC34 Custom; 8260D(MOD) NASA LC34 Custom

DATE YEAR 2024	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	8260D(MOD) NASA LC34 Custom	8260D(MOD) NASA LC34 Custom							COMMENTS
2/14	1105	LC34-1W0180-032.5-20240214		30	35	GW	G	4	2	2							
2/14	1123	LC34-1W0179-022.0-20240214		17	27	GW	G	4	2	2							
2/14	1147	LC34-1W0184-032.5-20240214		30	35	GW	G	4	2	2							
2/14	1206	LC34-1W0183-022.0-20240214		17	27	GW	G	4	2	2							
2/14	1227	LC34-1W0186-018.5-20240214		16	21	GW	G	4	2	2							
2/14	1252	LC34-1W0182-032.5-20240214		30	35	GW	G	4	2	2							
2/14	1309	LC34-1W0181-022.0-20240214		17	27	GW	G	4	2	2							
2/14	1331	LC34-1W0185-018.5-20240214		16	21	GW	G	4	2	2							
2/14	1355	LC34-1W0175-032.5-20240214		30	35	GW	G	4	2	2							
2/14	1411	LC34-1W0174-022.0-20240214		17	27	GW	G	4	2	2							
2/14	1433	LC34-1W0170-022.0-20240214		17	27	GW	G	4	2	2							
2/14	1454	LC34-1W0171-032.5-20240214		30	35	GW	G	4	2	2							
2/15	0907	LC34-1W0188-018.5-20240215		16	21	GW	G	4	2	2							

670-34898-01 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY [signature]	2-15-24	1500	1. RECEIVED BY		
2. RELINQUISHED BY			2. RECEIVED BY		
3. RELINQUISHED BY			3. RECEIVED BY [signature]	2/16/24	800

COMMENTS: 0.5/0.5 596

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TINUS-001

3/8/2024 (Rev. 1)

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 3614 | PAGE 2 OF 2

PROJECT NO: 112G08985	FACILITY: NASA KSC	PROJECT MANAGER Mark Jonnet	PHONE NUMBER (412) 921-8622	LABORATORY NAME AND CONTACT: Eurofins, Kaitlin Dylnicki
SAMPLERS (SIGNATURE) Natalie Fabbri - Natalie Fabbri; Natalie Volk - Natalie Volk		FIELD OPERATIONS LEADER Chuck Sorden	PHONE NUMBER (321) 591-7580	ADDRESS 481 Newburyport Ave
		CARRIER/WAYBILL NUMBER 67001156		CITY, STATE Altamonte Springs, FL

STANDARD TAT ☑
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE (YEAR 2024)	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)		PRESERVATIVE USED		TYPE OF ANALYSIS: 8260D (MOD) NASA LC34 Custom	TYPE OF ANALYSIS: 8260D (MOD) NASA LC34 Custom	COMMENTS
									G	G	HCl/4°C	4°C			
12/15	0935	LC34-IW0187-018.5-20240215		16	21	GW	G	4	2	2					
12/15	1007	LC34-IW0168-022.0-20240215		17	27	GW	G	4	2	2					
12/15	1023	LC34-IW0169-032.5-20240215		30	35	GW	G	4	2	2					
12/15	1045	LC34-IW0178-018.5-20240215		16	21	GW	G	4	2	2					
12/15	1104	LC34-IW0172-022.0-20240215		17	27	GW	G	4	2	2					
12/15	1121	LC34-IW0173-032.5-20240215		30	35	GW	G	4	2	2					
12/15	1141	LC34-IW0177-018.5-20240215		16	21	GW	G	4	2	2					
12/15	1202	LC34-IW0176-018.5-20240215		16	21	GW	G	4	2	2					

670-34898-02 Chain of Custody

1. RELINQUISHED BY	DATE 2-15-24	TIME 1500	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE 2/16/24	TIME 800

COMMENTS 0.5/0.5 596

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (RETAINED BY SENDER) PINK (FILE COPY)

3/8/2024 (Rev. 1)
FORM NO. TtNUS-001

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-34898-1

Login Number: 34898
List Number: 1
Creator: Bittle, David W

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX D

HCS VOLUME AND MASS RECOVERY
(PROVIDED IN ELECTRONIC VERSION ONLY)

Appendix D - HCS Volume and Mass Recovery Summary

Date	TCE (µg/L)	cDCE (µg/L)	tDCE (µg/L)	VC (µg/L)	Total VOCs (µg/L)	Total Volume Recovered (gal)	VOC Mass Recovered (lb)	Total VOC Mass Recovered (lb)
12/21/09	NA	NA	NA	NA	317,020	217,856	576	576
1/18/10	180,000	40,000	10,000	10,000	240,000	241,552	4	580
1/19/10	280,000	37,000	10,000	10,000	337,000	243,932	88	668
1/20/10	300,000	41,000	10,000	10,000	361,000	279,080	150	818
1/21/10	250,000	32,000	10,000	10,000	302,000	329,062	117	935
1/22/10	270,000	34,000	10,000	10,000	324,000	379,482	98	1,033
1/23/10	280,000	40,000	10,000	10,000	340,000	420,631	100	1,133
1/24/10	30,000	40,000	10,000	10,000	90,000	463,282	23	1,156
1/25/10	191,000	41,100	340	6,530	238,970	496,921	67	1,223
1/26/10	186,000	41,600	680	6,250	234,530	533,056	71	1,294
1/27/10	193,000	44,000	376	5,880	243,256	572,313	79	1,373
2/5/10	195,000	37,400	290	5,330	238,020	618,289	93	1,466
2/6/10	200,000	36,900	284	5,300	242,484	651,054	6	1,472
2/7/10	194,000	38,000	850	6,550	239,400	691,788	60	1,532
2/8/10	192,000	40,800	340	6,290	239,430	727,821	81	1,613
2/11/10	188,000	34,100	1,700	5,630	229,430	766,742	76	1,689
2/17/10	185,000	33,400	850	5,350	224,600	832,715	158	1,847
2/18/10	191,000	34,600	850	5,650	232,100	876,533	84	1,931
2/19/10	178,000	32,300	1,700	5,770	217,770	909,310	61	1,992
2/20/10	176,000	32,000	1,700	5,820	215,520	948,062	70	2,062
2/21/10	169,000	28,400	1,700	5,540	204,640	983,917	63	2,125
2/25/10	160,000	34,500	680	6,260	201,440	1,026,259	72	2,197
2/26/10	159,000	39,300	680	5,090	204,070	1,064,269	64	2,261
2/27/10	159,000	37,100	680	6,090	202,870	1,093,415	49	2,310
2/28/10	154,000	36,200	680	6,510	197,390	1,133,604	68	2,378
3/1/10	156,000	38,100	680	6,250	201,030	1,155,545	36	2,414

Appendix D - HCS Volume and Mass Recovery Summary

Date	TCE (µg/L)	cDCE (µg/L)	tDCE (µg/L)	VC (µg/L)	Total VOCs (µg/L)	Total Volume Recovered (gal)	VOC Mass Recovered (lb)	Total VOC Mass Recovered (lb)
3/10/10	164,000	40,100	340	6,460	210,900	1,221,872	114	2,528
3/11/10	166,000	36,500	232	5,190	207,922	1,243,642	38	2,566
3/12/10	160,000	39,200	340	6,470	206,010	1,290,222	80	2,646
3/13/10	83,700	19,300	340	3,300	106,640	1,309,805	26	2,672
3/14/10	79,400	19,200	340	3,050	101,990	1,354,210	38	2,710
3/18/10	151,000	35,800	850	6,270	193,920	1,372,005	22	2,732
3/19/10	148,000	37,300	850	5,890	192,040	1,408,903	60	2,792
3/20/10	153,000	41,500	850	5,980	201,330	1,465,194	92	2,884
3/21/10	157,000	44,700	850	7,630	210,180	1,484,341	33	2,917
3/22/10	144,000	41,100	850	6,010	191,960	1,526,613	71	2,988
3/23/10	129,000	40,200	850	5,340	175,390	1,544,296	27	3,015
3/24/10	137,000	40,900	340	5,320	183,560	1,593,934	74	3,089
3/25/10	123,000	38,200	340	5,100	166,640	1,643,244	72	3,161
3/31/10	124,000	37,000	680	4,780	166,460	1,904,722	363	3,524
4/7/10	132,000	34,400	340	5,090	171,830	2,210,866	432	3,956
4/14/10	119,000	31,000	680	4,190	154,870	2,490,998	381	4,337
5/5/10	128,000	34,200	3,400	4,060	169,660	2,701,027	284	4,621
5/13/10	124,000	34,000	680	3,670	162,350	3,063,129	502	5,123
5/19/10	113,000	33,700	200	3,540	150,440	3,353,491	378	5,501
5/26/10	116,000	26,900	680	3,370	146,950	3,669,054	391	5,892
6/2/10	105,000	26,400	680	3,480	135,560	4,035,865	432	6,324
6/16/10	94,500	21,000	680	2,750	118,930	4,229,775	206	6,530
6/23/10	96,900	23,200	340	4,660	125,100	4,305,389	77	6,607
7/1/10	103,000	26,300	680	2,600	132,580	4,494,327	203	6,810
7/7/10	107,000	27,600	680	3,040	138,320	4,805,920	352	7,162
8/11/10	130,000	12,600	850	1,080	144,530	5,025,055	258	7,420

Appendix D - HCS Volume and Mass Recovery Summary

Date	TCE (µg/L)	cDCE (µg/L)	tDCE (µg/L)	VC (µg/L)	Total VOCs (µg/L)	Total Volume Recovered (gal)	VOC Mass Recovered (lb)	Total VOC Mass Recovered (lb)
8/18/10	115,000	13,500	680	560	129,740	5,262,660	272	7,692
8/25/10	156,000	14,000	850	1,680	172,530	5,493,826	291	7,983
9/1/10	127,000	15,800	440	911	144,151	5,716,649	294	8,277
9/8/10	96,700	12,900	340	765	110,705	5,943,878	242	8,519
9/15/10	98,400	21,000	170	2,800	122,370	6,099,598	151	8,670
9/22/10	92,500	23,300	340	2,260	118,400	6,423,806	325	8,995
10/27/10	87,400	17,900	700	2,810	108,810	7,156,312	694	9,689
11/22/10	83,900	24,300	350	1,830	110,380	8,358,987	1099	10,788
12/29/10	69,800	16,700	350	2,290	89,140	9,263,486	752	11,540
1/26/11	68,700	14,200	350	1,910	85,160	10,476,772	882	12,422
2/21/11	69,900	18,400	180	981	89,461	11,540,001	774	13,196
3/10/11	67,100	16,800	700	1,600	86,200	12,249,769	519	13,715
4/14/11	71,600	18,600	180	1,490	91,870	13,689,983	1069	14,784
5/18/11	65,000	14,600	350	1,500	81,450	15,255,460	1132	15,916
6/8/11	63,800	15,500	350	1,430	81,080	16,231,905	661	16,577
7/15/11	57,900	14,400	700	1,460	74,460	17,847,362	1047	17,624
8/10/11	59,500	15,300	180	1,360	76,340	18,530,288	430	18,054
9/14/11	59,000	12,800	350	1,330	73,480	19,966,621	897	18,951
10/10/11	54,400	12,300	350	1,180	68,230	21,227,891	745	19,696
11/10/11	51,200	10,800	700	863	63,563	22,564,484	734	20,430
12/15/11	65,000	8,030	350	220	73,600	24,130,105	895	21,325
1/20/12	63,000	11,000	350	1,340	75,690	25,503,046	855	22,180
2/2/12	61,000	9,740	101	964	71,805	26,136,005	389	22,569
3/1/12	59,800	9,670	87	1,100	70,657	27,308,762	696	23,265
4/4/12	65,100	9,080	350	1,180	75,710	28,981,254	1021	24,286
5/17/12	60,000	9,240	108	1,080	70,428	31,129,989	1309	25,595

Appendix D - HCS Volume and Mass Recovery Summary

Date	TCE (µg/L)	cDCE (µg/L)	tDCE (µg/L)	VC (µg/L)	Total VOCs (µg/L)	Total Volume Recovered (gal)	VOC Mass Recovered (lb)	Total VOC Mass Recovered (lb)
6/14/12	54,000	8,140	180	727	63,047	32,534,469	781	26,376
7/26/12	50,800	6,980	180	763	58,723	34,531,500	1014	27,390
9/14/12	53,500	8,150	350	563	62,563	36,131,052	809	28,199
10/5/12	54,200	7,620	46	856	62,722	37,166,262	540	28,739
11/26/12	44,200	6,020	86	611	50,917	39,616,362	1161	29,900
1/29/13	45,600	7,820	116	939	54,475	42,608,831	1314	31,214
3/11/13	39,500	6,900	100	880	47,380	44,625,535	857	32,071
5/8/13	38,300	7,310	102	577	46,289	47,534,164	1135	33,206
5/30/13	39,100	6,260	73	602	46,035	48,647,590	429	33,635
6/26/13	35,100	5,620	67	695	41,482	49,747,278	401	34,036
9/27/13	41,600	6,200	46	718	48,564	53,554,155	1429	35,465
12/31/13	26,700	5,050	92	579	32,421	57,713,664	1404	36,869
4/3/14	45,000	6,570	170	5,510	57,250	61,633,676	1466	38,335
6/26/14	29,500	6,350	115	913	36,878	65,168,232	1386	39,721
9/30/14	31,600	4,350	170	365	36,485	69,313,690	1268	40,989
12/30/14	31,800	4,370	170	339	36,679	73,266,210	1206	42,195
2/10/15	31,800	4,370	170	339	36,679	74,779,415	462	42,657
5/27/15	11,300	420	3,800	19,200	34,720	74,779,415	0	42,657
6/3/15	20,700	400	2,100	47,700	70,900	74,785,458	3	42,660
6/4/15	26,000	570	2,300	50,200	79,070	74,798,570	8	42,668
6/5/15	28,800	680	2,400	59,700	91,580	74,837,496	28	42,696
6/6/15	28,600	620	2,200	53,400	84,820	74,903,992	49	42,745
6/7/15	16,000	434	1,930	34,364	52,728	75,011,941	62	42,807
6/8/15	14,300	337	1,470	39,007	55,114	75,071,559	26	42,833
6/9/15	57	2	6	159	223	75,123,105	12	42,845
6/10/15	14,100	52	1,400	38,752	54,304	75,211,628	20	42,865

Appendix D - HCS Volume and Mass Recovery Summary

Date	TCE (µg/L)	cDCE (µg/L)	tDCE (µg/L)	VC (µg/L)	Total VOCs (µg/L)	Total Volume Recovered (gal)	VOC Mass Recovered (lb)	Total VOC Mass Recovered (lb)
6/11/15	14,900	325	1,850	40,275	57,350	75,286,100	35	42,900
6/14/15	15,300	325	2,110	39,035	56,770	75,467,415	86	42,986
6/18/15	12,900	331	1,580	35,811	50,622	75,795,443	147	43,133
6/25/15	12,300	293	1,520	29,013	43,126	76,371,248	225	43,358
7/13/15	8,880	223	925	28,928	38,956	76,961,970	202	43,560
8/13/15	10,500	236	1,030	29,666	41,432	79,323,000	792	44,352
9/10/15	10,100	234	1,040	32,174	43,548	81,345,000	716	45,068
9/30/15	8,280	154	808	29,542	38,784	82,808,000	502	45,570
12/14/15	10,100	182	1,210	32,592	44,084	88,401,111	1932	47,502
3/4/16	9,040	148	1,110	28,698	38,996	93,000,225	1593	49,095
6/22/16	16,200	6,740	118	904	23,962	99,737,909	1768	50,863
9/22/16	16,300	7,120	119	814	24,353	107,355,607	1534	52,397
12/16/16	17,700	6,170	98	706	24,674	114,664,390	1494	53,891
3/15/17	17,000	6,510	122	833	24,465	122,003,577	1503	55,394
5/4/17	7,660	8,010	143	1,050	16,863	125,872,275	667	56,061
9/20/17	16,700	4,340	66	720	21,826	132,775,303	1113	57,174
12/13/17	15,900	4,250	75	504	20,729	140,128,487	1304	58,478
3/19/18	16,100	3,730	77	551	20,458	150,036,067	1701	60,179
6/28/18	13,500	3,350	65	499	17,414	160,481,465	1649	61,828
9/20/18	15,300	3,930	44	536	19,810	169,178,387	1350	63,178
1/18/19	13,300	3,500	72	470	17,342	182,303,518	2033	65,211
3/1/19	15,600	3,990	74	684	20,348	187,169,485	764	65,975
3/29/19	15,600	3,990	74	684	20,348	190,050,139	489	66,464
6/12/19	10,300	2,940	44	476	13,760	196,805,791	1147	67,611
9/30/19	31,400	4,230	44	446	36,120	207,056,535	1280	68,891
12/17/19	20,100	3,010	55	463	23,628	213,936,309	1780	70,671

Appendix D - HCS Volume and Mass Recovery Summary

Date	TCE (µg/L)	cDCE (µg/L)	tDCE (µg/L)	VC (µg/L)	Total VOCs (µg/L)	Total Volume Recovered (gal)	VOC Mass Recovered (lb)	Total VOC Mass Recovered (lb)
3/26/20	13,300	2,160	44	236	15,740	222,643,055	2451	73,121
6/26/20	10,700	2,380	44	236	13,360	231,332,404	447	73,568
9/25/20	16,200	2,360	47	241	18,848	238,855,049	985	74,553
12/4/20	45,000	3,650	55	477	49,182	245,328,188	1031	75,585
3/25/21	12,100	2,450	67	476	15,093	252,354,702	3070	78,654
6/28/21	22,500	2,830	55	462	25,847	260,891,390	1511	80,165
10/4/21	17,000	3,000	180	430	20,610	268,991,399	1724	81,890
1/10/22	19,000	3,400	180	630	23,210	277,999,241	1549	83,439
3/24/22	12,000	3,900	73	360	16,333	284,876,150	1272	84,711
4/21/22	17,000	4,300	150	470	21,920	287,336,731	385	85,096
6/30/22	10,000	3,700	73	320	14,093	291,965,586	822	85,918
10/6/22	8,700	3,200	73	330	12,303	301,264,136	1090	87,008
12/15/22	10,000	2,700	95	350	13,145	305,938,156	481	87,489
3/31/23	12,000	3,900	190	400	16,490	313,673,241	829	88,318
6/23/23	30,000	6,700	120	610	37,430	321,366,629	1110	89,428
9/26/23	9,600	2,800	34	290	12,724	329,811,136	2554	91,982
12/21/23	24,000	3,800	150	290	28,240	336,947,505	790	92,772
4/4/24	25,000	5,100	370	360	30,830	345,498,990	2052	94,823

Note:
Laboratory data qualifiers not shown.

gal = gallon
lb = pound
TCE = trichloroethene
cDCE = cis-1,2-dichloroethene
tDCE = trans-1,2-dichloroethene
VC = vinyl chloride
VOCs = volatile organic compounds
µg/L = microgram per liter
NA = not available

APPENDIX E

HS 6 PHASE TWO EXPANSION PERMITS AND FORMS
(PROVIDED IN ELECTRONIC VERSION ONLY)

KSC RECORD OF ENVIRONMENTAL CONSIDERATION

Avoid Verbal Orders

TO: SI-E2/Deda Johansen **DATE: 09/09/2022**

FROM: SI-E3/Environmental Management Branch

SUBJECT: KSC Record of Environmental Consideration (REC) **REC #: 11953**

1. PROJECT INFORMATION

Project Title: Air Sparging Interim Measure Expansion at Launch Complex 34 (LC34)

Project Lead: Deda Johansen, SI-E2, 321-508-2289

Project No.: ENV 1634A_03-03-2021 (REV A)

Project Description:

09/08/2022: Update for second expansion of the existing air sparge system.

Original Project Description: The purpose of the interim measure is to install 76 air sparge wells (ASWs) in an area northeast of the Blockhouse to treat contaminated groundwater at the Launch Complex 34 (LC34) site, located at Cape Canaveral Space Force Station. This will be an expansion of the existing Hot Spot 6 air sparging treatment system, and will use the compressor trailer already installed at the site (located under Van Shelter 22004). Subsurface piping will connect the ASWs to the existing compressor trailer. Trenching will be required to install subsurface piping, and will be routed to avoid impact to historical features. A distribution trailer will be installed to support the 76 ASWs. See Figure 1 for the location of the air sparge expansion and Figure 2 for the proposed layout of the expansion. The ASWs will be completed below grade (no well pads or stick-ups), and will be installed at sufficient distance away from historical features (i.e., Blockhouse, Communications wall) to avoid impact. Additionally, a network of 11 new monitoring wells will be installed in the expansion area (see Figure 3) to monitor performance of the system. The new monitoring wells will be flush-mount with ground surface. An underground compressed air line will also be installed from the existing compressor to the Hydraulic Capture System. The existing fence around the Hydraulic Capture System will be expanded to the east as shown on Figure 2.

Note: A NASA Site Plan has already been approved for this project (Site Plan #21-0007). A 332 has also been submitted (Work Request #30323192) and NASA is working with 45 CES/CEIE on environmental requirements. Based on discussions with NASA Cultural Resources, this project will be included in NASA's Annual Report to SHPO, which will cover Section 106 consultation requirements.

EPB Reviewer: LPH **Facility No.:** LC34, SWMU CC054

2. NEPA DETERMINATIONS

- ☑ **a. Categorical Exclusions per 14 CFR Part 1216.304(d)**
- ☐ **b. Environmental Assessment (EA) Required**
- ☐ **c. Environmental Impact Statement (EIS) Required**
- ☐ **d. Existing FONSI or ROD**
- ☐ **e. Centerwide EIS**
- ☐ **f. AF Project on KSC/813**
- ☑ **g. NASA Project on CCAFS/813**

3. ENVIRONMENTAL REQUIREMENTS

a. Non-Permit Requirements	☑ **YES**	☐ **NO**
b. Permit Requirements	☑ **YES**	☐ **NO**

**********ORIGINAL REC 11319 ISSUED 03/05/2021**********

**********REC UPDATED 09/09/2022 Updated POC information, added BO statement**********

2.a.1. CATEGORICAL EXCLUSION (CATEX): This project is categorically excluded (CATEX) from further NEPA review as defined in 14 CFR 1216.304(d)(2)(i) Routine maintenance, minor construction or rehabilitation, minor demolition, minor modification, minor repair, and continuing or altered operations at, or of, existing NASA or NASA-funded or -approved facilities and equipment, such as buildings, roads, grounds, utilities, communication systems, and ground support systems, such as space tracking and data systems. For additional information, please contact Don Dankert of the NASA Environmental Management Branch (SI-E3, 321-861-1196).

Avoid Verbal Orders

TO: SI-E2/Deda Johansen **DATE: 09/09/2022**

FROM: SI-E3/Environmental Management Branch

SUBJECT: KSC Record of Environmental Consideration (REC) **REC #: 11953**

2.g.1. NASA PROJECT ON AF PROPERTY: This project is located on CCAFS property. Coordination with the 45th CES/CEIE is required prior to any construction activity at this facility. AF Form 813 must be completed for project review by the Air Force. Contact Taylor Janise (853-6638, 45 CES/CEIE) if clarification is required.
NOTE: A 332 has been submitted for this project and NASA is coordinating with 45 CES/CEIE.

3.a.1. SOLID WASTE MANAGEMENT UNIT (SWMU): This project includes work within the boundary of SWMU #C054, "Launch Complex 34". A SWMU designation means a site has had historical operations with the potential to impact the environment. This area is being investigated by the NASA Remediation Group under Remediation Project Manager (RPM) Deda Johansen (SI-E2, 321-508-2289) of the Environmental Assurance Branch. A Land Use Control Implementation Plan (LUCIP) has been prepared for the SWMU. These controls are necessary to prohibit residential exposure to groundwater present at the site.

All workers involved in subsurface/dewatering work must be notified (HAZCOM) of the potential for contamination present and it is recommended that an Industrial Hygienist be consulted for determination of required personal protective equipment (PPE). Handle potentially contaminated soils or groundwater in accordance with site work plan. Utilize PPE as required by Health and Safety Plan.

3.a.2. HAZARDOUS/NON-HAZARDOUS WASTE: All hazardous and non-hazardous wastes generated during the interim measure must be properly containerized, stored, labeled, manifested, shipped, and disposed of in full regulatory compliance. Hazardous wastes generated by this activity must be manifested, shipped, and disposed of under either the remediation contractor's or NASA's Environmental Protection Agency (EPA) identification number. The contractor shall maintain copies of waste management records and manifests onsite and make them available for review by NASA upon request. The onsite hazardous waste site environmental coordinator/point of contact shall have formal RCRA training and provide proof of training as identified in 40 CFR 262.17 and subpart M. Please contact NASA Environmental Assurance Branch at 861-0863 if assistance is required.

If wastes are managed, controlled and disposed of using the NASA EPA identification number, the KSC Waste Management requirements outlined in KNPR 8500.1 must be followed. A Process Waste Questionnaire (PWQ), KSC Form 26-551 along with any supporting documentation (SDS, product formulation, lab analyses) must be submitted to the NEMCON Waste Management Office for each waste stream generated. That office will then generate a Technical Response Package (TRP) which will give direction on proper handling, storage, and disposal of the waste stream. Please contact NEMCON Waste Management Services at 867-8642 if assistance is required.

The remediation contractor is responsible for any spills, releases, or other environmental contamination that occurs as a result of the proposed activities. A KSC Pollution Incident Report (PIR) Form (KSC Form 21-555) must be completed and submitted to the NASA Environmental Assurance Branch within three (3) calendar days of the incident.

3.a.3. ARCHAEOLOGICAL: LC34 is part of the Cape Canaveral National Historic Landmark District (8Br216). Per Tom Penders, Space Force Cultural Resources Manager (CRM), the entire area has been surveyed and there are no issues for the project to proceed, however if any archaeological material (e.g., artifacts and/or cultural features or human remains) is found, work must stop immediately and the SLD 45 CRM is to be contacted at 321-307-0075 or at thomas.penders@spaceforce.mil. Materials and remains will need to be identified per NAGPRA (Native American Graves Protection and Repatriation Act). For more information please contact Katherine Zeringue (SI-E3) at 867-8454.

3.a.4. PROTECTED SPECIES: This project has the potential to affect the protected gopher tortoise. Measures must be taken to minimize impacts to their habitat. A biological survey will be required to identify potential impacts prior to disturbances. Please contact Russ Lowers (NEM-022, 321-759-6022), 14 days prior to beginning work to schedule a biological survey. A biological survey of vegetated areas to be impacted will be required to identify potential impacts to habitat and wetlands prior to disturbances.

Avoid Verbal Orders

TO: SI-E2/Deda Johansen **DATE: 09/09/2022**

FROM: SI-E3/Environmental Management Branch

SUBJECT: KSC Record of Environmental Consideration (REC) **REC #: 11953**

Update 09/09/2022: Abide by the Reasonable and Prudent Measures necessary to minimize incidental take as required by the Biological Opinion (BO) for the NASA Air Sparging System at Cape Canaveral Space Force Station, dated 06/22/2022 (FWS Log#: 04E1000-2021-F-1498 / 2022-0050398). Terms and Conditions as detailed in the BO must also be complied with in order to carry out the Reasonable and Prudent Measures.

3.a.5. CONCRETE WASHOUT: Water used to rinse out concrete trucks and other equipment used for concrete work must not be allowed to discharge to surface waters. Concrete washout water shall be diverted to a settling pond where suspended material will settle out and the water can percolate into the ground. Contact Doug Durham (SI-E2, 867-8429) with any question on this requirement.
Remove and dispose of hardened concrete waste consistent with your handling of other construction wastes. After drying/settling, the residue may be disposed of at the Diverted Aggregate Reclamation and Collection Yard (DARCY); and the ground restored. Clean, unstained, unpainted concrete residue is accepted at the DARCY without any sampling and analysis. Contact Alexander Garcia (SI-E2, 867-8448) with any questions on this requirement.

3.b.1. EXCAVATION PERMIT: A KSC Excavation Permit will be required for any digging proposed by this project. Please contact the Utility Locate/Excavation Permit Request Customer Helpline at 867-2406 or go to website at http://epr.ksc.nasa.gov/Home/ for an underground utility scan and dig permit. NOTE: If a trench or pit is to be left open all day or overnight, the trench/pit must be checked for trapped animals at the beginning and end of each work shift. If an animal is observed trapped, contact Russ Lowers (NEM-022, 321-759-6022) or the Duty Office (861-5050, email KSC-BOSS-DutyOffice@mail.nasa.gov) to arrange removal/release. Do not handle the animal(s).

3.b.2. AIR EMISSIONS: NASA/KSC has Remedial Activities listed on the Title V Air Permit as an insignificant activity. The proposed groundwater remediation system would be considered insignificant if the Remediation system/unit/activity would not emit or have the potential to emit (PTE):

a. 500 pounds per year or more of lead and lead components expressed as lead;
b. 1,000 pounds per year or more of any hazardous air pollutant;
c. 2,500 pounds per year or more of total hazardous air pollutants; or
d. 5.0 tons per year or more of any other regulated pollutant, Per Rule 62-213.430(6), F.A.C.
If the above criteria cannot be met, a construction permit would be required. Contact the Environmental Assurance Branch (Zach Hall, SI-E2, 867-5178) if you have any questions.

3.b.3. DEWATERING: Construction dewatering is exempted from permitting under conditions of Rule 40C-2.051 (7) providing the conditions of exemption are met including: limiting withdrawal methods, limiting withdrawal to less than 300,000 gpd and limiting withdrawal to 30 days. Additional limitations are placed on discharge of produced water to prevent harm to the environment. If conditions of the exemption cannot be met, a construction dewatering general permit is required from SJRWMD using Form 40C-2.900(12). No dewatering may begin until 10 days after submittal of the complete form. If the dewatering activity does not qualify for a general permit by rule under Rule 40C-2.042(9), F.A.C., you must complete and submit a SJRWMD application for an individual Consumptive Use Permit pursuant to Rule 40C-2.041, F.A.C. Approval of the application must be obtained before starting the dewatering activity. If produced water discharge will reach surface waters, an FDEP permit may be required under Rule 62-621.300-2. Contact Doug Durham (SI-E2, 867-8429) with questions related to these requirements.

3.b.4. FDEP NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION ACTIVITY PERMIT: This project may require an NPDES Phase II construction permit. If 1 acre or more of land will be disturbed, a NPDES Construction Activity Permit from the Florida Department of Environmental Protection (FDEP) is required under F.A.C. 62-621.300(4), Notice of Intent to Use Generic Permit for Stormwater Discharge from Large (If over 5 Acres) and Small (1 Acre To 5 Acres) Construction Activities http://www.dep.state.fl.us/water/stormwater/npdes/forms/cgp_noi.pdf.

Avoid Verbal Orders

TO: SI-E2/Deda Johansen **DATE: 09/09/2022**

FROM: SI-E3/Environmental Management Branch

SUBJECT: KSC Record of Environmental Consideration (REC) **REC #: 11953**

This includes construction activity which will disturb less than one acre of land area that is part of a larger common plan of development that will ultimately disturb equal to or greater than one acre of land. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site. A condition of this permit is to provide a Stormwater Pollution Prevention Plan (SWPPP) detailing erosion and turbidity controls for the site. Information on completing the permit application and development of the SWPPP can be obtained by contacting Doug Durham (SI-E2, 867-8429).

3.b.5. WATER WELL: Installation or abandonment of a water well requires use of a licensed contractor, a KSC dig permit, and registration of the well with St. Johns River Water Management District (SJRWMD). Dependent on water use, wells may require a Florida Department of Health (FDOH) operating permit. Contact Doug Durham (SI-E2, 867-8429) for details.

No other environmental issues were identified based upon the information provided in the KSC Environmental Checklist. This Record of Environmental Consideration (REC) does not relinquish the project lead from obtaining and complying with any other internal NASA permits or directives necessary to ensure all organizations potentially impacted by this project are notified and concur with the proposed project.

Due to potential changes in regulations, permit requirements and environmental conditions, statements in this REC are valid for 6 months, and subject to review after this period. It is the responsibility of the project lead to submit current project information for a REC update prior to project commencement if REC is older than 6 months; and also to notify the Environmental Management Branch (SI-E3) if the scope of the project changes at any time after the REC is issued.

E. Johansen/SI-E2
cc:
M. Jonnet/Tetra Tech
K. Zeringue/SI-E3
T. Janise/45 CES/CEIE
Z. Hall/SI-E2
D. Durham/SI-E2
S. Legare/NEM-022
G. Carter/NEM-022
T. Penders/45 CES/CEIE
R. Lowers/NEM-022

4. Upon evaluation of the subject project, the above determinations have been made and identified. Contact t Environmental Management Branch (SI-E3) at 861-1196 for re-evaluation should there be any modifications to the scope of work.



09/09/2022 10:17

James Brooks **Date**

EXCAVATION PERMIT

BASE CIVIL ENGINEERING WORK CLEARANCE REQUEST

(See Instructions on Reverse)

DATE PREPARED: 20220720

1. Clearance is requested to proceed with work at: Launch Complex 34 - Air Sparging Interim Measure Expansion

on Work Order No. 30484165, Contract No. 80KSC019F0067, involving excavation or utility disturbance per attached sketch. This area ☐ has ☒ has not been staked or clearly marked.

2. TYPE OF FACILITY/WORK INVOLVED

☐ A. PAVEMENTS	☐ D. FIRE DETECTION & PROTECTION SYSTEMS			☐ G. AIRCRAFT OR VEHICULAR TRAFFIC FLOW
☐ B. DRAINAGE SYSTEMS	☐ E. UTILITY	☐ OVERHEAD	☐ UNDERGROUND	☐ H. SECURITY
☐ C. RAILROAD TRACKS	☐ F. COMM	☐ OVERHEAD	☐ UNDERGROUND	☐ I. OTHER

3. DATE CLEARANCE REQUIRED	4. DATE OF CLEARANCE	
20220805		

5. SIGNATURE OF REQUESTING OFFICIAL	6. TELEPHONE NO.	7. ORGANIZATION
Mark Jonnet Digitally signed by Mark Jonnet Date: 2022.07.20 15:55:08 -04'00'	(412) 921-8622	Tetra Tech (Contractor)

ORGANIZATION		REMARKS *(Use Reverse for additional comments)*	REVIEWER'S NAME AND INITIALS
8. BASE CIVIL ENGINEERING	A. ELECTRICAL DISTRIBUTION	Locate Refed Dig	Click to sign
	B. STEAM DISTRIBUTION		Click to sign
	C. WATER DISTRIBUTION		Click to sign
	D. POL DISTRIBUTION		Click to sign
	E. SEWER DISTRIBUTION		Click to sign
	F. ENVIRONMENTAL	See Attached Email	Heather Goslin - Click to sign
	G. PAVEMENTS/ GROUNDS	No Issues	Click to sign
	H. FIRE PROTECTION	No Issues	Click to sign
	I. ZONE IRP	See Attached Email	Christopher Adkison Click to sign
	J. OTHER *(Specify)* Real Property	Submit 1354	Click to sign
9. SECURITY POLICE		Concurs	Click to sign
10. SAFETY		Barricade work area and ensure compliance with 29 CFR (OSHA)	HAGEN.SCOTT.A.1100481550 Digitally signed by HAGEN.SCOTT.A.1100481550 Date: 2022.07.25 08:34:29 -04'00'
11. COMMUNICATIONS		Call for Comm locates 853-2141	Click to sign
12. ~~BASE OPERATIONS~~ Siting		NR	Click to sign 7-26-22
13. CABLE TV			Click to sign
14. COMMERCIAL UTILITY COMPANY ☐ TELEPHONE ☐ GAS ☐ ELECTRIC			Click to sign

15. OTHER *(Specify)*: 30486692

16. REQUESTED CLEARANCE ☒ APPROVED ☐ DISAPPROVED

17. TYPED NAME AND SIGNATURE OF APPROVING OFFICER *(Chief of Operations Flight or Chief of Engineering Flight)*: ROBERT D. SAMSEL, DAFC Click to sign

17a. DATE SIGNED: 8/2/22

AF IMT 103, 19940801, V3

PREVIOUS EDITIONS ARE OBSOLETE.

INSTRUCTIONS

The BCE work clearance request is used for any work (contract or in-house) that may disrupt aircraft or vehicular traffic flow, base utility services, protection provided by fire and intrusion alarm system, or routine activities of the installation. This form is used to coordinate the required work with key base activities and keep customer inconvenience to a minimum. It is also used to identify potentially hazardous work conditions in an attempt to prevent accidents. The work clearance request is processed just prior to the start of work. If delays are encountered and the conditions at the job site change (or may have changed) this work clearance request must be reprocessed.

18. REMARKS. *(This section must describe specific precautionary measure to be taken before and during work accomplishment. Specific comments concerning the approved method of excavation, hand or powered equipment, should be included.)*

Install 192 air sparge wells (ASWs) in the area northeast and north of the Blockhouse to treat impacted groundwater associated with the Launch Complex 34 groundwater plume (see Figures 1 & 2 in AF332). This will be an expansion of the existing Hot Spot 6 air sparging treatment system already in place, and will use the compressor trailer already installed at the site. The ASWs will be completed below grade (no well pads or stick-ups), and will be installed at sufficient distance away from historical features (i.e., Blockhouse, Communications wall) to avoid impact. Subsurface piping will connect the ASWs to the existing compressor trailer located under Van Shelter 22004. Trenching will be required to install subsurface piping, and will be routed to avoid impact to historical features. Two distribution trailers will be installed to support the ASWs. Additionally, a network of 21 new monitoring wells will be installed in the expansion area (see Figure 3 in AF332) to monitor performance of the system. The new monitoring wells will be flush-mount with ground surface.

Note: NASA is working with 45 CES/CEIE on environmental requirements identified in the AF 332. NASA Cultural Resources will document this project in NASA's Annual Report to SHPO to cover Section 106 consultation requirements.

AF FORM 103 ATTACHMENT

WORK ORDER NUMBER: _____

HAND DIG ONLY: YES NO **LOCATORS INITIALS:** _____
Sean O'Brien

OPERATIONAL RESTRICTIONS:
Hand dig within 24 inches in all directions of locator markings. Contact Utility Locator if marks have faded or are disturbed in any manner. Customer shall mark or coordinate with the locator, a white paint border around the area to excavate. Do not excavate outside of the area marked with this border.

CUSTOMER MUST COORDINATE WITH:

COMM. LOCATES
(CALL 321.853.2141) _____

GAS LINE LOCATES CONTACT:
Sunshine State One Call @ 811 or 1-800-432-4770
Locate Ticket Number

NATURAL RESOURCES SURVEY:
Customer must coordinate with the Air Force Natural Resources (45 CES/CEIE-C) office at least 3 weeks prior to mobilization unless as emergency. Contact numbers: 321.853.6822, 321.794.5268 or 321.853.0964 (to determine if any wildlife or habitat needs to be protected. 45th CES/CEIE-C
APPROVED: Megan Nicely See Attached Email Megan Nicely

Notify CLOIS Locator for remarking of utilities if required.
SEAN O'BRIEN (CLOIS LOCATOR SERVICES)
321-853-5525 (Office)
321-609-8322 (Cell)
321-853-5211 (Cape Support)

REPORT ALL UTILITY BREAKS TO CAPE SUPPORT IMMEDIATELY.

CRITICAL DAY NOTICE

Contractor SHALL contact Cape Support, 321.853.5211, each day prior to commencing any digging or excavation work.

Work Order/Dig Permit number will be required for permission to proceed.

Request locator service only within 45 days of the estimated start of the excavation operation.

Maintain marks per locator instructions or request remarking by the locator. (Locator response may require a 72 hour notice)

Notify the Duty Office or permit administrator when excavation operations have been completed.

CUSTOMER PRINTED NAME	CUSTOMER SIGNATURE	DATE

SWO SWO, 103, Site Plan, TTSK 1064

07/11/2022

BASE CIVIL ENGINEER WORK REQUEST

(See Reverse for Instructions)

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 3 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to the Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project 0704-0188, Washington DC 20503. Please DO NOT RETURN your form to either of these addresses. Send your completed form to HQ AFESC/DEMG.

SECTION I - TO BE COMPLETED BY REQUESTER

1. FROM *(Organization)*	2. OFFICE SYMBOL	3. DATE OF REQUEST	4. WORK REQUEST NO. *(For BCE Use)*
Tetra Tech (Contractor)		07/11/2022	30484165

5. NAME AND PHONE NO. OF REQUESTER	6. REQUIRED COMPLETION DATE	7. BUILDING, FACILITY OR STREET ADDRESS WHERE WORK IS TO BE ACCOMPLISHED
Mark Jonnet (Tetra Tech), 412-921-8622	12/31/2022	Launch Complex 34

8. DESCRIPTION OF WORK TO BE ACCOMPLISHED *(Include Sketch or Plan, when appropriate)*

Install 192 air sparge wells (ASWs) in the area northeast and north of the Blockhouse to treat impacted groundwater associated with the Launch Complex 34 groundwater plume (see Figures 1 & 2 attached). This will be an expansion of the existing Hot Spot 6 air sparging treatment system already in place, and will use the compressor trailer already installed at the site. The ASWs will be completed below grade (no well pads or stick-ups), and will be installed at sufficient distance away from historical features (i.e., Blockhouse, Communications wall) to avoid impact. Subsurface piping will connect the ASWs to the existing compressor trailer located under Van Shelter 22004. Trenching will be required to install subsurface piping, and will be routed to avoid impact to historical features. Two distribution trailers will be installed to support the ASWs. Additionally, a network of 21 new monitoring wells will be installed in the expansion area (see Figure 3 attached) to monitor performance of the system. The new monitoring wells will be flush-mount with ground surface. 103

9. BRIEF JUSTIFICATION FOR WORK TO BE ACCOMPLISHED *(Not required for maintenance and repair)*

Regulatory commitment for corrective action at Solid Waste Management Unit, which is being performed under the Kennedy Space Center (KSC) Resource Conservation and Recovery Act (RCRA) permit.

10. DONATED RESOURCES

KREMPJ00

☑ FUNDS	☐ LABOR	☐ MATERIAL	☐ CONTRACT BY REQUESTER	☐ NONE

11. NAME OF REQUESTER	12. GRADE OF REQUESTER	13. SIGNATURE OF REQUESTER *(See Reverse of Form)*
Edith Johansen, SI-E2	GS-13	Edith Johansen Digitally signed by Edith Johansen Date: 2022.07.11 15:08:29 -04'00'

14. COORDINATION

SECTION II - FOR BASE CIVIL ENGINEER USE

15. WORK ORDER *(Place an "X" in the appropriate box.)*

☐ IN-SERVICE	☐ SELF-HELP	☐ CONTRACT	☐ SABER

16. DIRECT SCHEDULED WORK *(Place an "X" in the appropriate box.)*

☐ EMERGENCY	☐ URGENT	☐ ROUTINE	☐ SELF-HELP	☐ M/C

17. SELF-HELP *(Place an "X" in the appropriate box.)*

☐ BRIEFING REQUIRED	☐ ADEQUATE COORDINATION	☐ INSPECTION REQUIRED

SECTION III - COMPLETE ONLY IF WORK IS TO BE ACCOMPLISHED BY WORK ORDER

18. WORK CLASS	19. PRIORITY	20. ESTIMATED HOURS	21. ESTIMATED FUNDED COST	22. ESTIMATED TOTAL COST

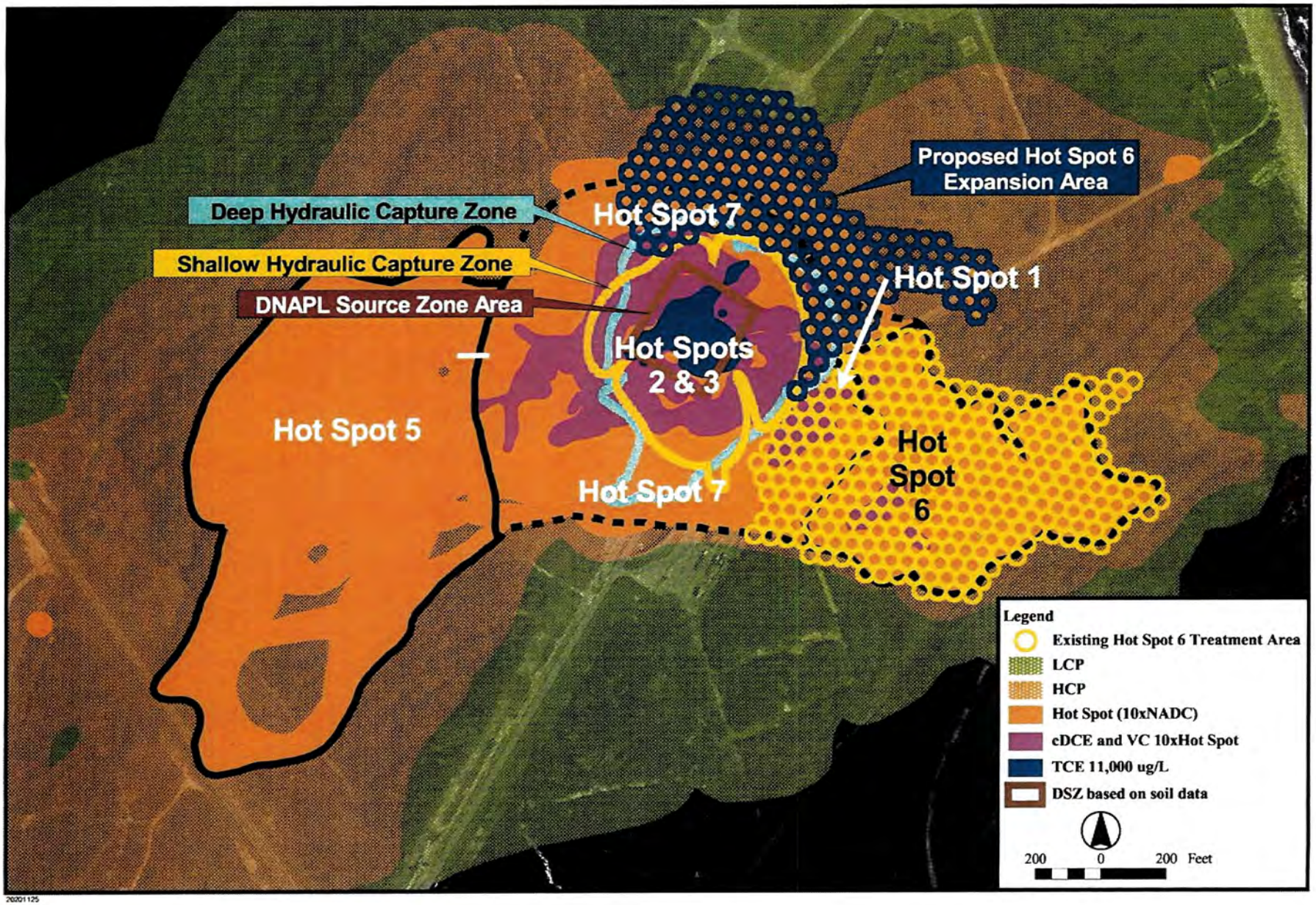
☐ 23. THERE IS NO NEED FOR AN ENVIRONMENTAL ASSESSMENT (AFR 19-2)	☐ 24. A WRITTEN ASSESSMENT IS BEING/HAS BEEN PROCESSED	☐ 25. APPROVED	☐ 26. DISAPPROVED

27. REMARKS

SECTION IV - APPROVING AUTHORITY

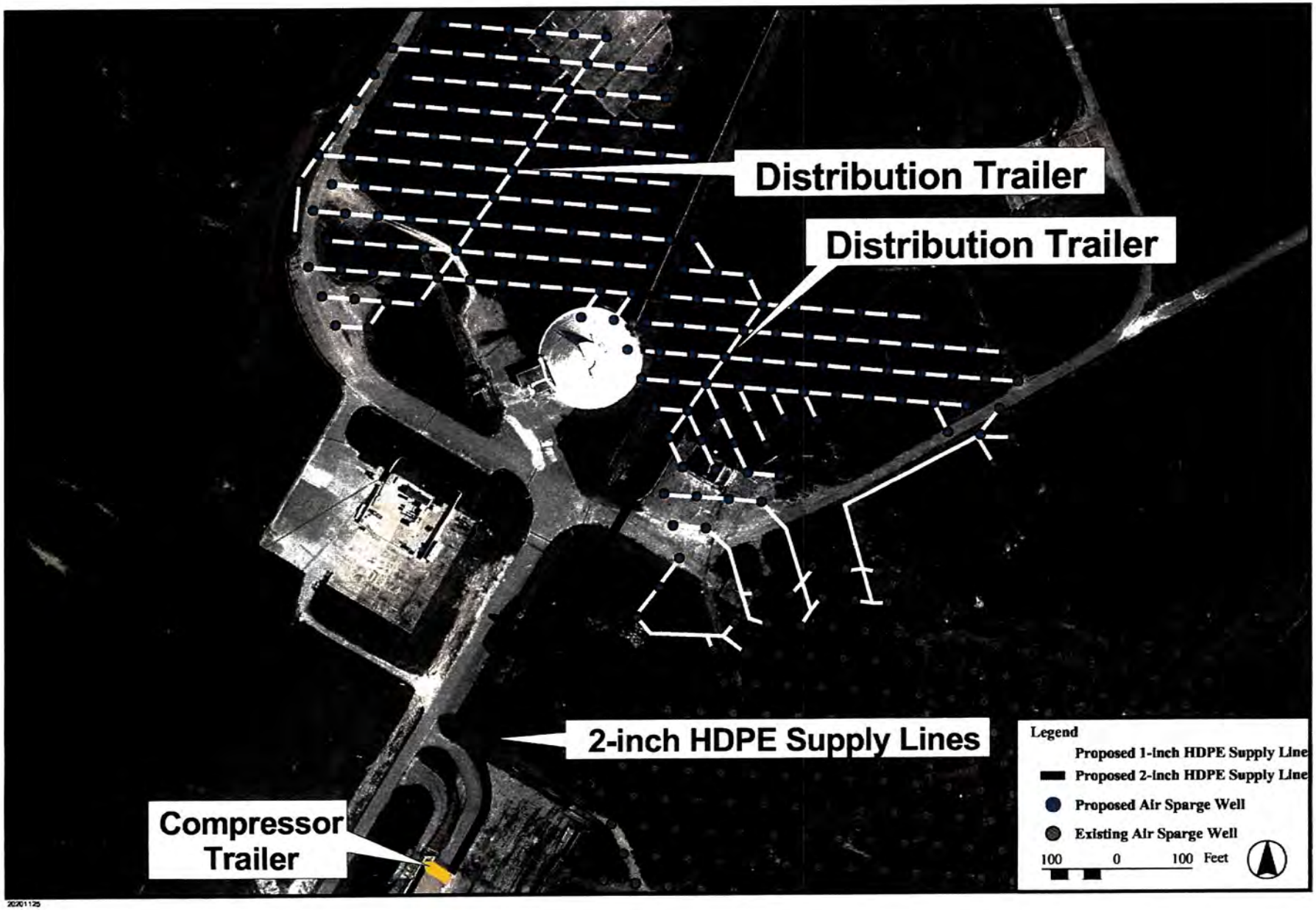
28. NAME AND GRADE *(Please Type or Print)*	29. SIGNATURE	30. DATE

FIGURE 1 HOT SPOT LOCATION MAP
SWMU CC054, LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION, FLORIDA



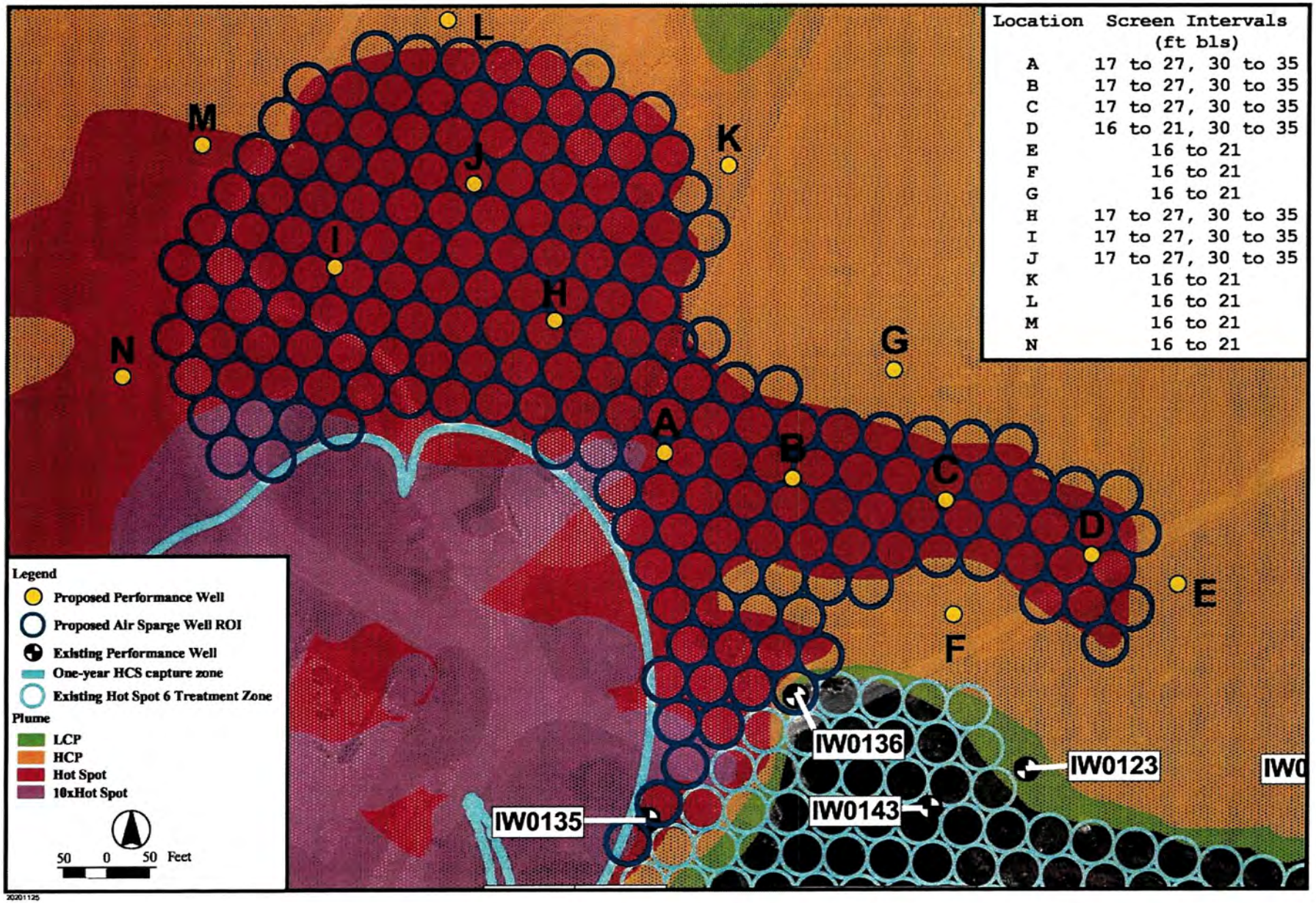
20201125

FIGURE 2 HOT SPOT 6 EXPANSION - PHASE TWO - TRENCHING LAYOUT
SWMU CC054, LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION, FLORIDA



20201125

FIGURE 3 HOT SPOT 6 EXPANSION - PHASE TWO - PROPOSED MONITORING WELL LOCATION MAP
SWMU CC054, LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION, FLORIDA



Location	Screen Intervals (ft bls)
A	17 to 27, 30 to 35
B	17 to 27, 30 to 35
C	17 to 27, 30 to 35
D	16 to 21, 30 to 35
E	16 to 21
F	16 to 21
G	16 to 21
H	17 to 27, 30 to 35
I	17 to 27, 30 to 35
J	17 to 27, 30 to 35
K	16 to 21
L	16 to 21
M	16 to 21
N	16 to 21

JENKINS, THOMAS L CTR USSF AFSPC CLOIS/ASRCC

From: Jonnet, Mark <Mark.Jonnet@tetratech.com>
Sent: Monday, July 11, 2022 3:14 PM
To: Cape Canaveral CLOIS Work Management
Cc: JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C; MANDEL, RACHEL N NH-03 USSF SSC 45 CES/CEIE; GOSLIN, HEATHER R NH-03 USSF USSPACECOM 45 CES/CEIE; Johansen, Edith M. (KSC-SIE20); CHAMBERS, ANGY L NH-03 USSF SSC 45 CES/CEIE
Subject: [Non-DoD Source] RE: 103 request FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332
Attachments: AF 332_20220711_LC34-AS_IM.pdf

Categories: PRINT 332

Attached is an updated AF 332, please let me know if any additional information is needed.

From: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Sent: Monday, July 11, 2022 1:44 PM
To: CHAMBERS, ANGY L NH-03 USSF SSC 45 CES/CEIE <angy.chambers@spaceforce.mil>; Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Cc: JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C <taylor.janise.1@spaceforce.mil>; MANDEL, RACHEL N NH-03 USSF SSC 45 CES/CEIE <rachel.mandel.2@spaceforce.mil>; GOSLIN, HEATHER R NH-03 USSF USSPACECOM 45 CES/CEIE <heather.goslin.1@usspacecom.mil>; Jonnet, Mark <Mark.Jonnet@tetratech.com>; Johansen, Edith M. (KSC-SIE20) <edith.m.johansen@nasa.gov>
Subject: RE: 103 request FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

A new one would make it easier, just so they have all the information

Scott Hermanson
CLOIS EDC / Work Management
RD120A
476-4357

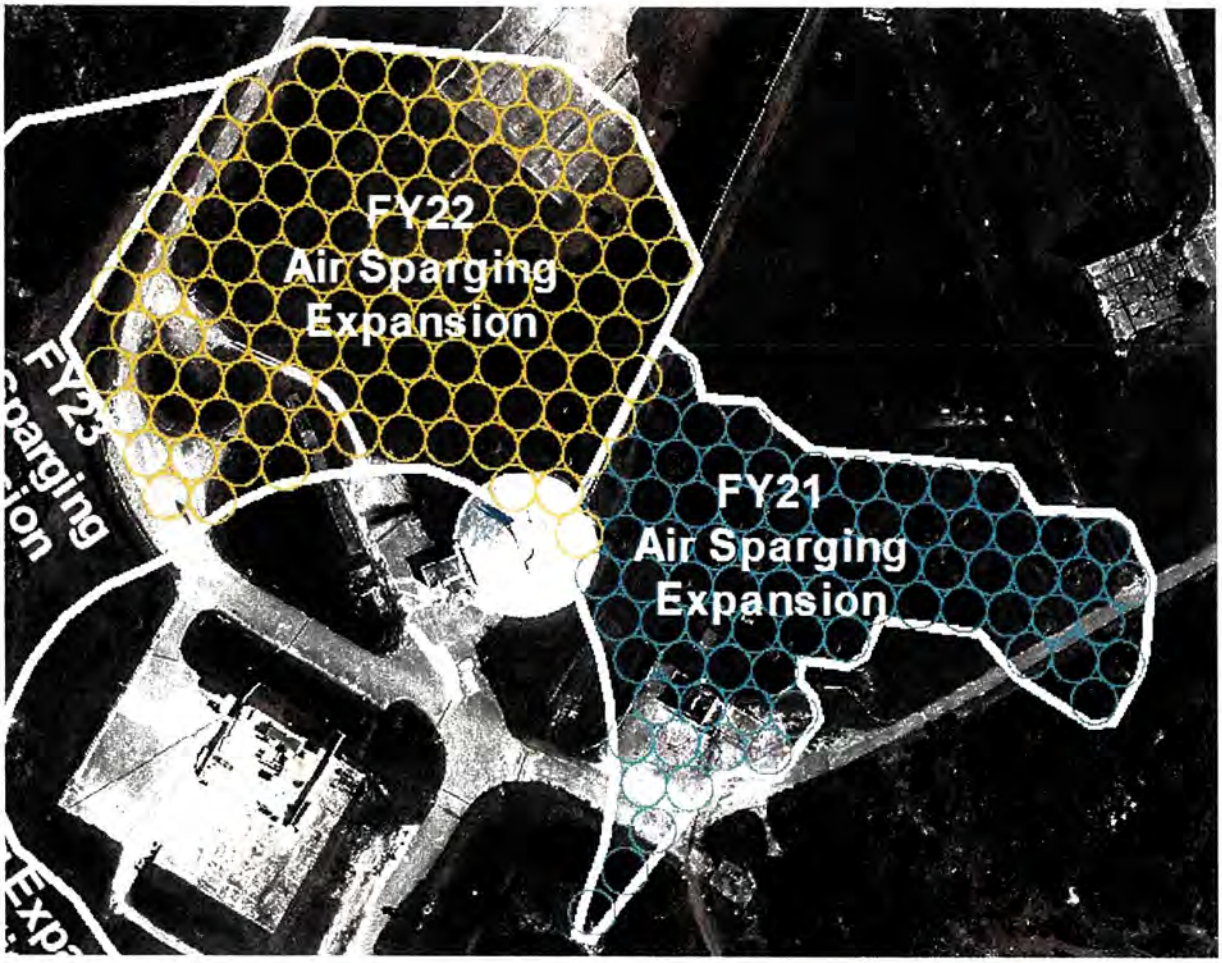
From: CHAMBERS, ANGY L NH-03 USSF SSC 45 CES/CEIE <angy.chambers@spaceforce.mil>
Sent: Monday, July 11, 2022 11:00 AM
To: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Cc: JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C <taylor.janise.1@spaceforce.mil>; MANDEL, RACHEL N NH-03 USSF SSC 45 CES/CEIE <rachel.mandel.2@spaceforce.mil>; GOSLIN, HEATHER R NH-03 USSF USSPACECOM 45 CES/CEIE <heather.goslin.1@usspacecom.mil>; Mark.jonnet@tetratech.com; Johansen, Deda (KSC-SIE20) <edith.m.johansen@nasa.gov>
Subject: FW: 103 request FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

Scott – I believe this 103 was on an environmental hold. We have since received the required documentation and are ready to sign off, however they want to add some additional area to the 103. I told them I wasn't sure if you would require submittal of a new 103 or not. Please advise. Thanks.

V/r

From: Jonnet, Mark <Mark.Jonnet@tetratech.com>
Sent: Monday, July 11, 2022 10:51 AM
To: CHAMBERS, ANGY L NH-03 USSF SSC 45 CES/CEIE <angy.chambers@spaceforce.mil>
Cc: Johansen, Edith M. (KSC-SIE20) <edith.m.johansen@nasa.gov>
Subject: [Non-DoD Source] RE: 103 request FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

This is the email we discussed on today's meeting. The request for the "FY21 Air Sparging Expansion" shown in cyan below, since the submission of the request we would to include the "FY22 Air Sparging Expansion" area shown in yellow. Please let me know any additional information is needed, thank you.



From: CHAMBERS, ANGY L GS-12 USSF SPOC 45 CES/CEIE <angy.chambers@spaceforce.mil>
Sent: Wednesday, March 24, 2021 11:09 AM
To: Jonnet, Mark <Mark.Jonnet@tetratech.com>; Brooks, James T. (KSC-SIE30) <james.t.brooks-1@nasa.gov>; DANKERT, DONALD J. (KSC-TAA4C) <donald.j.dankert@nasa.gov>
Cc: LONG, EVA M CIV USSF SPOC 45 CES/CEIE <eva.long@spaceforce.mil>; BLAYLOCK, MICHAEL A GS-13 USSF SPOC 45 CES/CEIE <michael.blaylock.4@spaceforce.mil>; MANDEL, RACHEL N GS-11 USSF SPOC 45 CES/CEIE <rachel.mandel.2@spaceforce.mil>
Subject: RE: 103 request FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

James/Mark: I had a teleconference with USFWS yesterday to discuss several projects, one of which was the remediation going on at SLC 34. Due to the recent beach mouse detections at the site, they are requesting

that we formally enter into Section 7 with them on this project. As you know, but James may not, we have been conducting informal consultations each time a new air sparging system is installed. After my discussion with Mark regarding the long-term plan at this site, our office set out several camera buckets to determine the presence of beach mice on the site, which resulted in several detections. As a result of this and the future impacts to scrub-jay habitat, they are requesting that a BA be submitted that covers the long-term actions proposed for this site.

James/Don – Our office does not currently have the time/manpower to write this BA and since this is a NASA site, I am requesting that NASA take the lead on this. Please let me know your thoughts so that we can move forward on this.

Thanks.

v/r

From: LONG, EVA M CIV USSF SPOC 45 CES/CEIE <eva.long@spaceforce.mil>
Sent: Wednesday, March 3, 2021 8:08 AM
To: CHAMBERS, ANGY L GS-12 USSF SPOC 45 CES/CEIE <angy.chambers@spaceforce.mil>; MANDEL, RACHEL N CTR USSF SPOC 45 CES/CEI <rachel.mandel.1.ctr@spaceforce.mil>; BLAYLOCK, MICHAEL A GS-13 USSF SPOC 45 CES/CEIE <michael.blaylock.4@spaceforce.mil>
Cc: MAY, DARREN C CTR USSF SPOC 45 CES/PatrickF2F <darren.may.ctr@spaceforce.mil>; AMOS, GARRY J JR CTR USSF SPOC 45 CES/PatrickF2F <garry.amos.ctr@spaceforce.mil>; GOSLIN, HEATHER R GS-12 USSF USSPACECOM 45 CES/CEIE <heather.goslin.1@usspacecom.mil>
Subject: FW: 103 request FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

Is NASA ready for an AF103 at CX34? How much longer do you think the Sec 7 will take?

From: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Sent: Wednesday, March 3, 2021 8:03 AM
To: LONG, EVA M CIV USSF SPOC 45 CES/CEIE <eva.long@spaceforce.mil>; AMOS, GARRY J JR CTR USSF SPOC 45 CES/PatrickF2F <garry.amos.ctr@spaceforce.mil>; MAY, DARREN C CTR USSF SPOC 45 CES/PatrickF2F <darren.may.ctr@spaceforce.mil>; GOSLIN, HEATHER R GS-12 USSF USSPACECOM 45 CES/CEIE <heather.goslin.1@usspacecom.mil>; JANISE, TAYLOR M GS-07 USSF USSPACECOM 45 CES/CEIE-C <taylor.janise.1@usspacecom.mil>; CUNNINGHAM, KELLY A CTR USSF SPOC 45 CES/ESC <kelly.cunningham.7.ctr@spaceforce.mil>; BLAYLOCK, MICHAEL A GS-13 USSF SPOC 45 CES/CEIE <michael.blaylock.4@spaceforce.mil>; PATEN, JONTA L CTR USSF AFSPC WSI 001/FEMS <jonta.paten.1.ctr@spaceforce.mil>; LORENZ, LOREN M GS-12 USSF AFSPC AFCEC/CZO <loren.lorenz.1@spaceforce.mil>; LANGETT, JOHN M GS-13 USAF AFCEC AFCEC/CZOE <john.langett.1@us.af.mil>; RUSCITTI, ROBERT V GS-11 USSF SPOC 45 SFS/S5SE <robert.ruscitti.1@spaceforce.mil>; LANGLEY, DOMINICA D GS-12 USSF SPOC 45 SFS/S5S <dominica.langley.1@spaceforce.mil>; COX, JAMES A GS-12 USSF SPOC 45 SW/SEG <james.cox.47@spaceforce.mil>; THORNE, BRIAN E TSgt USSF SPOC 45 SW/SEG <brian.thorne.1@spaceforce.mil>; LEECH, TIMOTHY C GS-12 USSF SPOC 45 CES/CENPL <timothy.leech@spaceforce.mil>; MANDEL, RACHEL N CTR USSF SPOC 45 CES/CEI <rachel.mandel.1.ctr@spaceforce.mil>; CREIGHTON, EDWARD W III CTR USSF AFSPC E-LTRS/COMM <edward.creighton.ctr@spaceforce.mil>
Subject: 103 request FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

103 request requires approval

Scott Hermanson
CLOIS EDC / Work Management
RD120A
476-4357

From: Jonnet, Mark <Mark.Jonnet@tetratech.com>
Sent: Wednesday, March 3, 2021 7:34 AM
To: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Subject: [Non-DoD Source] FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

Attached is the AF103 requested below along with the approved AF332. Please let me know if any additional info is needed. Thank you.

From: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Sent: Thursday, January 28, 2021 11:36 AM
To: Jonnet, Mark <Mark.Jonnet@tetratech.com>; Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Cc: Johansen, Edith M. (KSC-SIE20) <edith.m.johansen@nasa.gov>; HERMANSON, SCOTT D CTR USSF AFSPC CLOIS/ASRCC <scott.hermanson.ctr@spaceforce.mil>
Subject: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

John,
The attached 332 has been approved* for coordination, 103 required.

*Please read and comply with all remarks made by reviewers written on 332,
within the comment section and email direction attached to this package.
103 submissions and reviewer contact request can be sent to workmgt@us.af.mil
Real Property, facility, Space Allocation requirements, 1354's etc., will need to be
sent to 45CES.CLOIS.AssetManagement@us.af.mil

Thank you,

Tom Jenkins
CLOIS EDC/WM
R&D, Rm 120A
321-476-4358

From: Jonnet, Mark <Mark.Jonnet@tetratech.com>
Sent: Thursday, January 21, 2021 9:15 AM
To: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Cc: Johansen, Edith M. (KSC-SIE20) <edith.m.johansen@nasa.gov>
Subject: [Non-DoD Source] LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

Attached is the signed AF 332 for the work that is planned to remediate groundwater in the Hot Spot 6 area at LC34, please let me know if you need any additional information for the weekly review meeting. Thank you.

Mark J Jonnet | Project Manager
Direct +1 (412) 921-8622 | Business +1 (412) 921-7090 | Mark.Jonnet@tetratech.com

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Foster Plaza VII, Pittsburgh, PA 15220 | tetratech.com

5	TETRA TECH INSTALL 192 AIR SPARGE WELLS COORDINATION 30484165 103 REQ *Please read and comply to all remarks made by reviewers written on 332, within this section and email direction attached to this package. 103 submissions and reviewer contact request can be sent to workmgt@us.af.mil Real Property, facility, Space Allocation requirements, 1354's etc., will need to be sent to 45CES.CLOIS.AssetManagement@us.af.mil	COMPLEX 34	MARK JONNET	412-921-8622	7/11/2022	CE	COORDINATION 103
						FIRE	No issues
						SAFETY	No issues. JAC
						SITING	NASA site plan may be required. Also coordinate with Space Florida's Pete Eggert for activity near CX-20. T Leech
						IRP	NASA IRP Contractor to perform work. No IRP issues.
						ENVIRO	CATEX A2.3.26. No compliance concerns.
						SECURITY	SF concurs
						ENERGY	No comments.
						CLOIS REAL PROP	Submit DD 1354 for the monitoring wells (21), what kind? Permit to NASA - SPCCAN 02-07-0041, ends 8/31/2027
						CLOIS ENVIRO	No comment.
						COMM	

HERMANSON, SCOTT D CTR USSF AFSPC CLOIS/ASRCC

From: Jonnet, Mark <Mark.Jonnet@tetratech.com>
Sent: Wednesday, July 20, 2022 3:57 PM
To: Cape Canaveral CLOIS Work Management
Cc: JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C; MANDEL, RACHEL N NH-03 USSF SSC 45 CES/CEIE; GOSLIN, HEATHER R NH-03 USSF USSPACECOM 45 CES/CEIE; Johansen, Edith M. (KSC-SIE20); CHAMBERS, ANGY L NH-03 USSF SSC 45 CES/CEIE; HERMANSON, SCOTT D CTR USSF AFSPC CLOIS/ASRCC
Subject: [Non-DoD Source] RE: 30484165 332 INSTALL 192 AIR SPARGE WELLS RE: 103 request FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332
Attachments: AF103_20220720_LC34-AS_IM_Expansion.pdf; 30484165 332 INSTALL 192 AIR SPARGE WELLS.pdf

Attached is the AF103 request along with the AF332 that contains figures referenced in the AF103. Please let me know if any additional information is needed, thank you.

From: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Sent: Wednesday, July 20, 2022 3:12 PM
To: Jonnet, Mark <Mark.Jonnet@tetratech.com>
Cc: JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C <taylor.janise.1@spaceforce.mil>; MANDEL, RACHEL N NH-03 USSF SSC 45 CES/CEIE <rachel.mandel.2@spaceforce.mil>; GOSLIN, HEATHER R NH-03 USSF USSPACECOM 45 CES/CEIE <heather.goslin.1@usspacecom.mil>; Johansen, Edith M. (KSC-SIE20) <edith.m.johansen@nasa.gov>; CHAMBERS, ANGY L NH-03 USSF SSC 45 CES/CEIE angy.chambers@spaceforce.mil; Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>; HERMANSON, SCOTT D CTR USSF AFSPC CLOIS/ASRCC <scott.hermanson.ctr@spaceforce.mil>
Subject: 30484165 332 INSTALL 192 AIR SPARGE WELLS RE: 103 request FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

Mark,
The attached 332 has been designated for coordination, 103, 1064 required. Please note siting comments.

Please read and comply with all remarks made by reviewers written on 332,
within the comment section and email direction attached to this package.
103 submissions and reviewer contact request can be sent to workmgt@us.af.mil
Real Property, facility, Space Allocation requirements, 1354's etc., will need to be sent to 45CES.CLOIS.AssetManagement@us.af.mil

Thank you,

Thomas Jenkins
CLOIS EDC/WM
R&D, Rm 120A
321-476-4358

From: Jonnet, Mark <Mark.Jonnet@tetratech.com>
Sent: Monday, July 11, 2022 3:14 PM
To: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Cc: JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C <taylor.janise.1@spaceforce.mil>; MANDEL, RACHEL N NH-03 USSF SSC 45 CES/CEIE <rachel.mandel.2@spaceforce.mil>; GOSLIN, HEATHER R NH-03 USSF USSPACECOM 45 CES/CEIE

<heather.goslin.1@usspacecom.mil>; Johansen, Edith M. (KSC-SIE20) <edith.m.johansen@nasa.gov>; CHAMBERS, ANGY L NH-03 USSF SSC 45 CES/CEIE <angy.chambers@spaceforce.mil>
Subject: [Non-DoD Source] RE: 103 request FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

Attached is an updated AF 332, please let me know if any additional information is needed.

From: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Sent: Monday, July 11, 2022 1:44 PM
To: CHAMBERS, ANGY L NH-03 USSF SSC 45 CES/CEIE <angy.chambers@spaceforce.mil>; Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Cc: JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C <taylor.janise.1@spaceforce.mil>; MANDEL, RACHEL N NH-03 USSF SSC 45 CES/CEIE <rachel.mandel.2@spaceforce.mil>; GOSLIN, HEATHER R NH-03 USSF USSPACECOM 45 CES/CEIE <heather.goslin.1@usspacecom.mil>; Jonnet, Mark <Mark.Jonnet@tetratech.com>; Johansen, Edith M. (KSC-SIE20) <edith.m.johansen@nasa.gov>
Subject: RE: 103 request FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

A new one would make it easier, just so they have all the information

Scott Hermanson
CLOIS EDC / Work Management
RD120A
476-4357

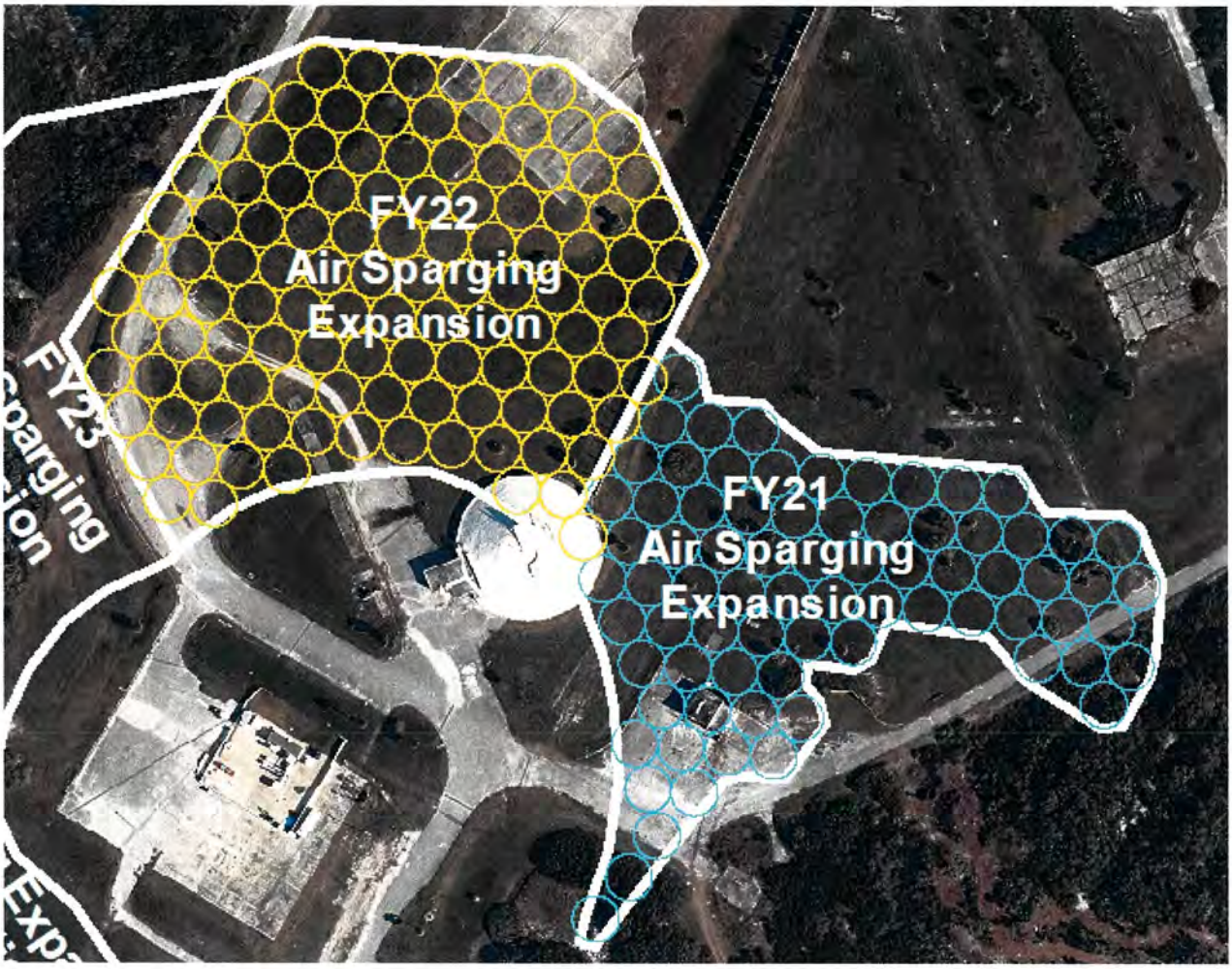
From: CHAMBERS, ANGY L NH-03 USSF SSC 45 CES/CEIE <angy.chambers@spaceforce.mil>
Sent: Monday, July 11, 2022 11:00 AM
To: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Cc: JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C <taylor.janise.1@spaceforce.mil>; MANDEL, RACHEL N NH-03 USSF SSC 45 CES/CEIE <rachel.mandel.2@spaceforce.mil>; GOSLIN, HEATHER R NH-03 USSF USSPACECOM 45 CES/CEIE <heather.goslin.1@usspacecom.mil>; Mark.jonnet@tetratech.com; Johansen, Deda (KSC-SIE20) <edith.m.johansen@nasa.gov>
Subject: FW: 103 request FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

Scott – I believe this 103 was on an environmental hold. We have since received the required documentation and are ready to sign off, however they want to add some additional area to the 103. I told them I wasn't sure if you would require submittal of a new 103 or not. Please advise. Thanks.

V/r

From: Jonnet, Mark <Mark.Jonnet@tetratech.com>
Sent: Monday, July 11, 2022 10:51 AM
To: CHAMBERS, ANGY L NH-03 USSF SSC 45 CES/CEIE <angy.chambers@spaceforce.mil>
Cc: Johansen, Edith M. (KSC-SIE20) <edith.m.johansen@nasa.gov>
Subject: [Non-DoD Source] RE: 103 request FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

This is the email we discussed on today's meeting. The request for the "FY21 Air Sparging Expansion" shown in cyan below, since the submission of the request we would to include the "FY22 Air Sparging Expansion" area shown in yellow. Please let me know any additional information is needed, thank you.



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Cc: LONG, EVA M CIV USSF SPOC 45 CES/CEIE <eva.long@spaceforce.mil>; BLAYLOCK, MICHAEL A GS-13 USSF SPOC 45 CES/CEIE <michael.blaylock.4@spaceforce.mil>; MANDEL, RACHEL N GS-11 USSF SPOC 45 CES/CEIE <rachel.mandel.2@spaceforce.mil>
Subject: RE: 103 request FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

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Cc: MAY, DARREN C CTR USSF SPOC 45 CES/PatrickF2F <darren.may.ctr@spaceforce.mil>; AMOS, GARRY J JR CTR USSF SPOC 45 CES/PatrickF2F <garry.amos.ctr@spaceforce.mil>; GOSLIN, HEATHER R GS-12 USSF USSPACECOM 45 CES/CEIE <heather.goslin.1@usspacecom.mil>
Subject: FW: 103 request FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

Is NASA ready for an AF103 at CX34? How much longer do you think the Sec 7 will take?

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Subject: 103 request FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

103 request requires approval

Scott Hermanson
CLOIS EDC / Work Management
RD120A
476-4357

From: Jonnet, Mark <Mark.Jonnet@tetratech.com>
Sent: Wednesday, March 3, 2021 7:34 AM
To: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>

Subject: [Non-DoD Source] FW: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

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Sent: Thursday, January 28, 2021 11:36 AM
To: Jonnet, Mark <Mark.Jonnet@tetratech.com>; Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Cc: Johansen, Edith M. (KSC-SIE20) <edith.m.johansen@nasa.gov>; HERMANSON, SCOTT D CTR USSF AFSPC CLOIS/ASRCC <scott.hermanson.ctr@spaceforce.mil>
Subject: 30323192 332 INSTALL 76 AIR SPARGE WELLS RE: LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

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*Please read and comply with all remarks made by reviewers written on 332,
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sent to 45CES.CLOIS.AssetManagement@us.af.mil

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Tom Jenkins
CLOIS EDC/WM
R&D, Rm 120A
321-476-4358

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To: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Cc: Johansen, Edith M. (KSC-SIE20) <edith.m.johansen@nasa.gov>
Subject: [Non-DoD Source] LC34 Hot Spot 6 Groundwater Interim Measure Expansion AF 332

Attached is the signed AF 332 for the work that is planned to remediate groundwater in the Hot Spot 6 area at LC34, please let me know if you need any additional information for the weekly review meeting. Thank you.

Mark J Jonnet | Project Manager
Direct +1 (412) 921-8622 | Business +1 (412) 921-7090 | Mark.Jonnet@tetratech.com

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Foster Plaza VII, Pittsburgh, PA 15220 | tetratech.com

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HERMANSON, SCOTT D CTR USSF AFSPC CLOIS/ASRCC

From: WELLS, EDWARD M NH-02 USSF SSC 45 SFS/S5/SP
Sent: Monday, July 25, 2022 8:31 AM
To: Cape Canaveral CLOIS Work Management
Cc: LANGLEY, DOMINICA D NH-03 USSF SSC 45 SFS/S5
Subject: RE: 103 - 30486692 - INSTALL 192 AIR SPARGE WELLS
Signed By: edward.wells.14@us.af.mil

SFS concurs

v/r

Ed Wells

Edward Wells
45 SFS/S5SP
Physical Security
DSN 467-2348 / COMM (321) 853-2348

-----Original Message-----
From: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Sent: Monday, July 25, 2022 7:02 AM
To: GOSLIN, HEATHER R NH-03 USSF USSPACECOM 45 CES/CEIE <heather.goslin.1@usspacecom.mil>; AMOS, GARRY J JR CTR USSF SSC 45 CES/PatrickF2F <garry.amos.ctr@spaceforce.mil>; MAY, DARREN C CTR USSF SSC 45 CES/PatrickF2F <darren.may.ctr@spaceforce.mil>; JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C <taylor.janise.1@spaceforce.mil>; CUNNINGHAM, KELLY A CTR USSF SSC 45 CES/ESC <kelly.cunningham.7.ctr@spaceforce.mil>; BLAYLOCK, MICHAEL A NH-03 USSF HQSF 45 CES/CEIE <michael.blaylock.4@spaceforce.mil>; PATEN, JONTA L CTR USSF AFSPC WSI 001/FEMS <jonta.paten.1.ctr@spaceforce.mil>; LORENZ, LOREN M GS-12 USSF AFMC AFCEC/CZO <loren.lorenz.1@spaceforce.mil>; ADKISON, CHRISTOPHER D GS-12 USSF SSC AFCEC/CZOE <christopher.adkison@spaceforce.mil>; LANGETT, JOHN M GS-13 USAF AFCEC AFCEC/CZOE <john.langett.1@us.af.mil>; COX, JAMES A NH-03 USSF SSC SLD 45/SEG <james.cox.47@spaceforce.mil>; HAGEN, SCOTT A NH-02 USSF SSC SLD 45/SEG <scott.hagen@spaceforce.mil>; WELLS, EDWARD M NH-02 USSF SSC 45 SFS/S5/SP <edward.wells.14@spaceforce.mil>; LANGLEY, DOMINICA D NH-03 USSF SSC 45 SFS/S5 <dominica.langley.1@spaceforce.mil>; LEECH, TIMOTHY C NH-03 USSF SSC 45 CES/CENPL <timothy.leech@spaceforce.mil>; BOATENG, FREDERICK GS-13 USSF SSC 45 CES/CENP <frederick.boateng@spaceforce.mil>; HEYER, ANN M NH-04 USSF SSC 45 CES/CEN <ann.heyer.1@spaceforce.mil>; BAILEY, KELBY W 2d Lt USSF HQSF 45 CES/CEN <kelby.bailey@spaceforce.mil>; NICELY, MEGAN E CTR USSF SSC 45 CES/CEIE-C <megan.nicely.ctr@spaceforce.mil>; CHAMBERS, ANGY L NH-03 USSF SSC 45 CES/CEIE <angy.chambers@spaceforce.mil>; CARSON, MARTHA C NH-03 USSF SSC 45 CES/CEIE <martha.carson@spaceforce.mil>; CREIGHTON, EDWARD W III CTR USSF AFSPC E-LTRS/COMM <edward.creighton.ctr@spaceforce.mil>
Subject: 103 - 30486692 - INSTALL 192 AIR SPARGE WELLS

BASE CIVIL ENGINEERING WORK CLEARANCE REQUEST

(See Instructions on Reverse)

DATE PREPARED: 20220720

1. Clearance is requested to proceed with work at Launch Complex 34 - Air Sparging Interim Measure Expansion

on Work Order No. 30484165, Contract No. 80KSC019F0067, involving excavation or utility disturbance per attached sketch. This area ☐ has ☒ has not been staked or clearly marked.

2. TYPE OF FACILITY/WORK INVOLVED

☐ A. PAVEMENTS	☐ D. FIRE DETECTION & PROTECTION SYSTEMS			☐ G. AIRCRAFT OR VEHICULAR TRAFFIC FLOW
☐ B. DRAINAGE SYSTEMS	☐ E. UTILITY	☐ OVERHEAD	☐ UNDERGROUND	☐ H. SECURITY
☐ C. RAILROAD TRACKS	☐ F. COMM	☐ OVERHEAD	☐ UNDERGROUND	☐ I. OTHER

3. DATE CLEARANCE REQUIRED	4. DATE OF CLEARANCE	
20220805		
5. SIGNATURE OF REQUESTING OFFICIAL Mark Jonnet Digitally signed by Mark Jonnet Date: 2022.07.20 15:55:08 -04'00'	6. TELEPHONE NO. (412) 921-8622	7. ORGANIZATION Tetra Tech (Contractor)

	ORGANIZATION	REMARKS *(Use Reverse for additional comments)*	REVIEWER'S NAME AND INITIALS
8. BASE CIVIL ENGINEERING	A. ELECTRICAL DISTRIBUTION		Click to sign
	B. STEAM DISTRIBUTION		Click to sign
	C. WATER DISTRIBUTION		Click to sign
	D. POL DISTRIBUTION		Click to sign
	E. SEWER DISTRIBUTION		Click to sign
	F. ENVIRONMENTAL		Click to sign
	G. PAVEMENTS/ GROUNDS		Click to sign
	H. FIRE PROTECTION	No issues	PATEN.JONTA.L.1102859258 Digitally signed by PATEN.JONTA.L.1102859258 Date: 2022.07.25 07:08:20 -04'00'
	I. ZONE _____		Click to sign
	J. OTHER *(Specify)*		Click to sign
9. SECURITY POLICE			Click to sign
10. SAFETY			Click to sign
11. COMMUNICATIONS			Click to sign
12. BASE OPERATIONS			Click to sign
13. CABLE TV			Click to sign
14. COMMERCIAL UTILITY COMPANY ☐ TELEPHONE ☐ GAS ☐ ELECTRIC			Click to sign

15. OTHER *(Specify)* _____

16. REQUESTED CLEARANCE ☐ APPROVED ☐ DISAPPROVED

17. TYPED NAME AND SIGNATURE OF APPROVING OFFICER *(Chief of Operations Flight or Chief of Engineering Flight)*	17a. DATE SIGNED
Click to sign	

AF IMT 103, 19940801, V3 PREVIOUS EDITIONS ARE OBSOLETE.

HERMANSON, SCOTT D CTR USSF AFSPC CLOIS/ASRCC

From: ADKISON, CHRISTOPHER D GS-12 USSF SSC AFCEC/CZOE
Sent: Tuesday, July 26, 2022 8:45 AM
To: Cape Canaveral CLOIS Work Management; HERMANSON, SCOTT D CTR USSF AFSPC CLOIS/ASRCC
Subject: RE: 103 - 30486692 - INSTALL 192 AIR SPARGE WELLS
Signed By: christopher.adkison@us.af.mil

Good morning,

The IRP does not have any issues with this 103. A NASA/KSC Environmental Remediation Contractor is performing the work and is familiar with LUCs and hazards present at LC-34.

Please let me know if there are any issues or questions.

Thanks

Christopher Adkison, DAF
Project Manager - IRP
Patrick ISS - AFCEC/CZOE
(321) 853-4289 DSN 467-4289
Mobile: (321) 427-6997

-----Original Message-----
From: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Sent: Monday, July 25, 2022 7:02 AM
To: GOSLIN, HEATHER R NH-03 USSF USSPACECOM 45 CES/CEIE <heather.goslin.1@usspacecom.mil>; AMOS, GARRY J JR CTR USSF SSC 45 CES/PatrickF2F <garry.amos.ctr@spaceforce.mil>; MAY, DARREN C CTR USSF SSC 45 CES/PatrickF2F <darren.may.ctr@spaceforce.mil>; JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C <taylor.janise.1@spaceforce.mil>; CUNNINGHAM, KELLY A CTR USSF SSC 45 CES/ESC <kelly.cunningham.7.ctr@spaceforce.mil>; BLAYLOCK, MICHAEL A NH-03 USSF HQSF 45 CES/CEIE <michael.blaylock.4@spaceforce.mil>; PATEN, JONTA L CTR USSF AFSPC WSI 001/FEMS <jonta.paten.1.ctr@spaceforce.mil>; LORENZ, LOREN M GS-12 USSF AFMC AFCEC/CZO <loren.lorenz.1@spaceforce.mil>; ADKISON, CHRISTOPHER D GS-12 USSF SSC AFCEC/CZOE <christopher.adkison@spaceforce.mil>; LANGETT, JOHN M GS-13 USAF AFCEC AFCEC/CZOE <john.langett.1@us.af.mil>; COX, JAMES A NH-03 USSF SSC SLD 45/SEG <james.cox.47@spaceforce.mil>; HAGEN, SCOTT A NH-02 USSF SSC SLD 45/SEG <scott.hagen@spaceforce.mil>; WELLS, EDWARD M NH-02 USSF SSC 45 SFS/S5/SP <edward.wells.14@spaceforce.mil>; LANGLEY, DOMINICA D NH-03 USSF SSC 45 SFS/S5 <dominica.langley.1@spaceforce.mil>; LEECH, TIMOTHY C NH-03 USSF SSC 45 CES/CENPL <timothy.leech@spaceforce.mil>; BOATENG, FREDERICK GS-13 USSF SSC 45 CES/CENP <frederick.boateng@spaceforce.mil>; HEYER, ANN M NH-04 USSF SSC 45 CES/CEN <ann.heyer.1@spaceforce.mil>; BAILEY, KELBY W 2d Lt USSF HQSF 45 CES/CEN <kelby.bailey@spaceforce.mil>; NICELY, MEGAN E CTR USSF SSC 45 CES/CEIE-C <megan.nicely.ctr@spaceforce.mil>; CHAMBERS, ANGY L

HERMANSON, SCOTT D CTR USSF AFSPC CLOIS/ASRCC

From: NICELY, MEGAN E CTR USSF SSC 45 CES/CEIE-C
Sent: Wednesday, July 27, 2022 8:25 AM
To: Cape Canaveral CLOIS Work Management
Cc: CHAMBERS, ANGY L NH-03 USSF SSC 45 CES/CEIE; CARSON, MARTHA C NH-03 USSF SSC 45 CES/CEIE; JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C; GOSLIN, HEATHER R NH-03 USSF USSPACECOM 45 CES/CEIE
Subject: RE: 103 - 30486692 - INSTALL 192 AIR SPARGE WELLS
Signed By: megan.nicely.ctr@us.af.mil

This one is good to go on my end. The NASA Environmental Contractor will be performing all wildlife surveys. Please ensure compliance with the Biological Opinion for this project.

Thanks,

Megan Nicely
Biologist - U.S. Fish and Wildlife Service
Air Force Partnership Program
Cape Canaveral Space Force Station
Cell: 321-349-4269

-----Original Message-----
From: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Sent: Monday, July 25, 2022 7:02 AM
To: GOSLIN, HEATHER R NH-03 USSF USSPACECOM 45 CES/CEIE <heather.goslin.1@usspacecom.mil>; AMOS, GARRY J JR CTR USSF SSC 45 CES/PatrickF2F <garry.amos.ctr@spaceforce.mil>; MAY, DARREN C CTR USSF SSC 45 CES/PatrickF2F <darren.may.ctr@spaceforce.mil>; JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C <taylor.janise.1@spaceforce.mil>; CUNNINGHAM, KELLY A CTR USSF SSC 45 CES/ESC <kelly.cunningham.7.ctr@spaceforce.mil>; BLAYLOCK, MICHAEL A NH-03 USSF HQSF 45 CES/CEIE <michael.blaylock.4@spaceforce.mil>; PATEN, JONTA L CTR USSF AFSPC WSI 001/FEMS <jonta.paten.1.ctr@spaceforce.mil>; LORENZ, LOREN M GS-12 USSF AFMC AFCEC/CZO <loren.lorenz.1@spaceforce.mil>; ADKISON, CHRISTOPHER D GS-12 USSF SSC AFCEC/CZOE <christopher.adkison@spaceforce.mil>; LANGETT, JOHN M GS-13 USAF AFCEC AFCEC/CZOE <john.langett.1@us.af.mil>; COX, JAMES A NH-03 USSF SSC SLD 45/SEG <james.cox.47@spaceforce.mil>; HAGEN, SCOTT A NH-02 USSF SSC SLD 45/SEG <scott.hagen@spaceforce.mil>; WELLS, EDWARD M NH-02 USSF SSC 45 SFS/S5/SP <edward.wells.14@spaceforce.mil>; LANGLEY, DOMINICA D NH-03 USSF SSC 45 SFS/S5 <dominica.langley.1@spaceforce.mil>; LEECH, TIMOTHY C NH-03 USSF SSC 45 CES/CENPL <timothy.leech@spaceforce.mil>; BOATENG, FREDERICK GS-13 USSF SSC 45 CES/CENP <frederick.boateng@spaceforce.mil>; HEYER, ANN M NH-04 USSF SSC 45 CES/CEN <ann.heyer.1@spaceforce.mil>; BAILEY, KELBY W 2d Lt USSF HQSF 45 CES/CEN <kelby.bailey@spaceforce.mil>; NICELY, MEGAN E CTR USSF SSC 45 CES/CEIE-C <megan.nicely.ctr@spaceforce.mil>; CHAMBERS, ANGY L NH-03 USSF SSC 45 CES/CEIE <angy.chambers@spaceforce.mil>; CARSON, MARTHA C NH-03 USSF SSC 45 CES/CEIE <martha.carson@spaceforce.mil>; CREIGHTON, EDWARD

HERMANSON, SCOTT D CTR USSF AFSPC CLOIS/ASRCC

From: GOSLIN, HEATHER R NH-03 USSF USSPACECOM 45 CES/CEIE
Sent: Friday, July 29, 2022 4:23 PM
To: Cape Canaveral CLOIS Work Management
Cc: JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C
Subject: RE: 103 - 30486692 - INSTALL 192 AIR SPARGE WELLS
Signed By: heather.goslin.1@us.af.mil

Environmental approves:

The NASA Environmental Contractor will be performing all wildlife surveys.
Please ensure compliance with the Biological Opinion for this project.

Heather

-----Original Message-----
From: Cape Canaveral CLOIS Work Management <workmgt@us.af.mil>
Sent: Monday, July 25, 2022 7:02 AM
To: GOSLIN, HEATHER R NH-03 USSF USSPACECOM 45 CES/CEIE <heather.goslin.1@usspacecom.mil>; AMOS, GARRY J JR CTR USSF SSC 45 CES/PatrickF2F <garry.amos.ctr@spaceforce.mil>; MAY, DARREN C CTR USSF SSC 45 CES/PatrickF2F <darren.may.ctr@spaceforce.mil>; JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C <taylor.janise.1@spaceforce.mil>; CUNNINGHAM, KELLY A CTR USSF SSC 45 CES/ESC <kelly.cunningham.7.ctr@spaceforce.mil>; BLAYLOCK, MICHAEL A NH-03 USSF HQSF 45 CES/CEIE <michael.blaylock.4@spaceforce.mil>; PATEN, JONTA L CTR USSF AFSPC WSI 001/FEMS <jonta.paten.1.ctr@spaceforce.mil>; LORENZ, LOREN M GS-12 USSF AFMC AFCEC/CZO <loren.lorenz.1@spaceforce.mil>; ADKISON, CHRISTOPHER D GS-12 USSF SSC AFCEC/CZOE <christopher.adkison@spaceforce.mil>; LANGETT, JOHN M GS-13 USAF AFCEC AFCEC/CZOE <john.langett.1@us.af.mil>; COX, JAMES A NH-03 USSF SSC SLD 45/SEG <james.cox.47@spaceforce.mil>; HAGEN, SCOTT A NH-02 USSF SSC SLD 45/SEG <scott.hagen@spaceforce.mil>; WELLS, EDWARD M NH-02 USSF SSC 45 SFS/S5/SP <edward.wells.14@spaceforce.mil>; LANGLEY, DOMINICA D NH-03 USSF SSC 45 SFS/S5 <dominica.langley.1@spaceforce.mil>; LEECH, TIMOTHY C NH-03 USSF SSC 45 CES/CENPL <timothy.leech@spaceforce.mil>; BOATENG, FREDERICK GS-13 USSF SSC 45 CES/CENP <frederick.boateng@spaceforce.mil>; HEYER, ANN M NH-04 USSF SSC 45 CES/CEN <ann.heyer.1@spaceforce.mil>; BAILEY, KELBY W 2d Lt USSF HQSF 45 CES/CEN <kelby.bailey@spaceforce.mil>; NICELY, MEGAN E CTR USSF SSC 45 CES/CEIE-C <megan.nicely.ctr@spaceforce.mil>; CHAMBERS, ANGY L NH-03 USSF SSC 45 CES/CEIE <angy.chambers@spaceforce.mil>; CARSON, MARTHA C NH-03 USSF SSC 45 CES/CEIE <martha.carson@spaceforce.mil>; CREIGHTON, EDWARD W III CTR USSF AFSPC E-LTRS/COMM <edward.creighton.ctr@spaceforce.mil>
Subject: 103 - 30486692 - INSTALL 192 AIR SPARGE WELLS

103 request requires approval

U.S. FISH AND WILDLIFE BIOLOGICAL OPINION LETTER

Biological Opinion

NASA Air Sparging System at Cape Canaveral Space Force Station

FWS Log #: 04E1000-2021-F-1498 / 2022-0050398

Prepared by:

U.S. Fish and Wildlife Service
Florida Ecological Services Field Office
7915 Baymeadows Way, Suite 200
Jacksonville, FL 32256

20220622

Robert L. Carey
Environmental Review Division Manager
Florida Ecological Services Field Office
Gainesville, Florida

Date

CONSULTATION HISTORY

This section lists key events and correspondence during the course of this consultation. A complete administrative record of this consultation is on file in the Service's Jacksonville Field Office.

20210811 - Informal consultation request sent to Florida Ecological Services Field Office located in Jacksonville, Florida by National Aeronautical Space Agency (NASA).

2021114 - Request for additional information sent to NASA and Cape Canaveral Space Force Station (CCSFS) regarding additional maps and information for Florida scrub jays and Southeastern beach mouse (beach mouse).

20211129 - Consultation changed from informal to formal due to effects on the beach mouse.

20211129 - Additional information on species within Action Area provided.

BIOLOGICAL OPINION

A Biological Opinion (BO) is the document that states the opinion of the U.S. Fish and Wildlife Service (Service) under the Endangered Species Act of 1973, as amended (ESA), as to whether a Federal action is likely to:

- jeopardize the continued existence of species listed as endangered or threatened; or
- result in the destruction or adverse modification of designated critical habitat.

The Federal action addressed in this BO is the National Aeronautics and Space Administration (NASA) proposed the continuation of the Air Sparging System at Cape Canaveral Space Force Station (CCSFS) (Project). This BO considers the effects of the Project on the Southeastern beach mouse (*Peromyscus polionotus niveiventris*). It also includes and summarizes our concurrence for the threatened eastern indigo snake (*Drymarchon corais couperi*) (indigo snake) and threatened Florida scrub-jay (*Aphelocoma coeruluscens*). The Project does not affect designated critical habitat; therefore, this BO does not further address critical habitat.

A BO evaluates the effects of a Federal action along with those resulting from interrelated and interdependent actions, and from non-Federal actions unrelated to the proposed Project (cumulative effects), relative to the status of listed species and the status of designated critical habitat. A Service opinion that concludes a proposed Federal action is *not* likely to jeopardize species and is *not* likely to destroy or adversely modify critical habitat fulfills the Federal agency's responsibilities under §7(a)(2) of the ESA. In this BO, only the jeopardy definition is relevant, because the Project does not affect designated critical habitat. "*Jeopardize the continued existence*" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR §402.02).

This BO uses hierarchical numeric section headings. Primary (level-1) sections are labeled sequentially with a single digit (e.g., 1. PROPOSED PROJECT). Secondary (level-2) sections within each primary section are labeled with two digits (e.g., 1.1. Project Area), and so on for level-3 sections.

1. PROPOSED PROJECT

Launch Complex (LC)-34 at CCSFS is contaminated by volatile compounds used in previous cleaning operations. The area contaminated is estimated to be 330 acres in size (contaminated footprint). Remediation of the groundwater is required under a Resource Conservation and Recovery Act (RCRA) operating permit issued by the state of Florida. Groundwater treatment in this area by air sparging began in 2018, with 300 air sparge wells currently in use. NASA will continue to investigate five-acre portions of the 330-acre area in a phased approach. The proposed Project site encompasses 53.5 acres of the contaminated footprint.

Access to the Proposed Project Area will require vegetation removal outside of currently established roads, mowed road shoulders and additional impervious areas of LC 34. This will

include the cutting and mulching of native and exotic vegetation using forestry-type equipment, and the hand removal or mulching of exotic plant species followed by herbicide applications. Native species will be trimmed or mowed during the life of the proposed project to maintain access to the areas. Trails will be approximately 10 feet wide and spaced approximately 50 feet apart. Components installed within these trails include air sparge wells, airline distribution pipes to each well, and an air supply line from a compressor to a distribution manifold. Air sparge wells will be installed at depths of 30-50 feet, dependent on contamination profiles at each location. Groundwater monitoring wells will be installed in the immediate vicinity of the air sparging wells to monitor the effectiveness of this system and determine when contamination levels have reached acceptable thresholds. Trenches approximately 2 feet in depth will be excavated for the installation of air supply lines from the distribution trailer to the air sparge wells. The air sparging system will have no surface structures other than the distribution trailer, with all air supply lines and air sparge wells buried below surface levels.

When contaminant reduction targets have been reached for all or part of an air sparge system, the airline distribution pipes and air supply lines will be capped and left in place or removed and trenches created from their removal will be backfilled and graded to match the surrounding land profiles. Air sparge wells will remain in place and filled with grout. The distribution trailer will be demobilized and removed from the Proposed Project Area. It is expected that native vegetation growth will continue after the abandonment and ending of biannual maintenance of the access trails.

1.1. Action Area

For purposes of consultation under ESA §7, the action area is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR §402.02). The "Action Area" for this consultation is the 53.5 acres of the overall 330-acre groundwater contamination footprint. The Proposed Action area contains several habitat types including upland hardwood forests (32.3 acres), ruderal-herbaceous (11.5 acres), ruderal-woody (4.9 acres), developed infrastructure (3.0 acres), wetlands (1.3 acres), ruderal-herbaceous/woody mix (0.4 acres) and oak scrub (0.1 acres). See Figure 1.

1.2. Vegetation Clearing and Installation of Air Sparge System and Ground Monitoring Wells

NASA will implement the use of mechanical mulching equipment to establish access paths approximately 10 feet wide and spaced approximately 50 feet apart within the vicinity of LC-34 at CCSFS. Access paths will not be exact lengths and widths due to the presence of wetlands, terrain, and wildlife burrows or habitat that will necessitate the need of deviations. There will be minimal soil disturbance by the use of mulching equipment within the access paths associated with the clearing of vegetation. The establishment of these trails will occur within the 53.5-acre Proposed Project Area of the known 330-acre contamination footprint at LC-34. The vegetation clearing will be conducted in a phased 5-acre approach over a 10-year period. The area expected to be impacted by the creation of these paths and installation of the air sparge system is estimated to be fifty percent of the 53.5-acre Proposed Project Area, approximately 26.75 acres. This approach is expected to mitigate the impacts to known listed wildlife species

occurring within the Proposed Project Area by allowing listed species to displace from the areas of vegetation clearance and within the Proposed Project Area and minimize adverse effects to listed species.

Following the clearing of vegetation within the Proposed Project Area, NASA will install air supply lines and air sparging wells within the established access paths. This will include air sparge wells installed at depths of 30-50 feet, dependent on contamination profiles at each location. Trenches approximately 2 feet in depth will be excavated for the installation of air supply lines from the distribution trailer to the air sparge wells. The air sparging system will have no surface structures other than the distribution trailer, with all air supply lines and air sparge wells buried below surface levels once installation has been completed. An air supply distribution trailer will be installed within the Proposed Project Area, but within previously disturbance or paved areas.

Ground monitoring wells will be installed at the same depth as air sparge wells to monitor contamination levels of associated groundwater.

Access paths will be maintained by removal of vegetation through hand cutting or the use of mulching forestry equipment twice a year for the entirety of the project. Exotic vegetation encountered within the access paths and within 10 feet on either side of them during these maintenance vegetations removals will be treated with herbicide appropriate for the specific species of plants encountered. In areas where the CCSFS is actively managing for Florida scrub-jay habitat, the entire area will be monitored and treated with the appropriate herbicide.

After it has been determined that groundwater remediation has been successful for part or all of an air sparge system, air sparge wells will be left in place, filled with grout, and capped. The air supply lines will be handled in one of two methods: capped and left in place or removed from the ground and disposed of. If the air supply lines are removed from the ground, the resulting removal trenches will be backfilled and graded to match the surrounding land surface. Groundwater monitoring wells will be left in place to assist with continuing monitoring of groundwater contamination. Air distribution trailers will be demobilized and removed from the Proposed Project Area.

1.3. Interrelated and Interdependent Actions

A BO evaluates the effects of a proposed Federal action. For purposes of consultation under ESA §7, the effects of a Federal action on listed species or critical habitat include the direct and indirect effects of the action, plus the effects of interrelated or interdependent actions. “Indirect effects are those that are caused by the proposed action and are later in time, but still are reasonably certain to occur. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration” (50 CFR §402.02).

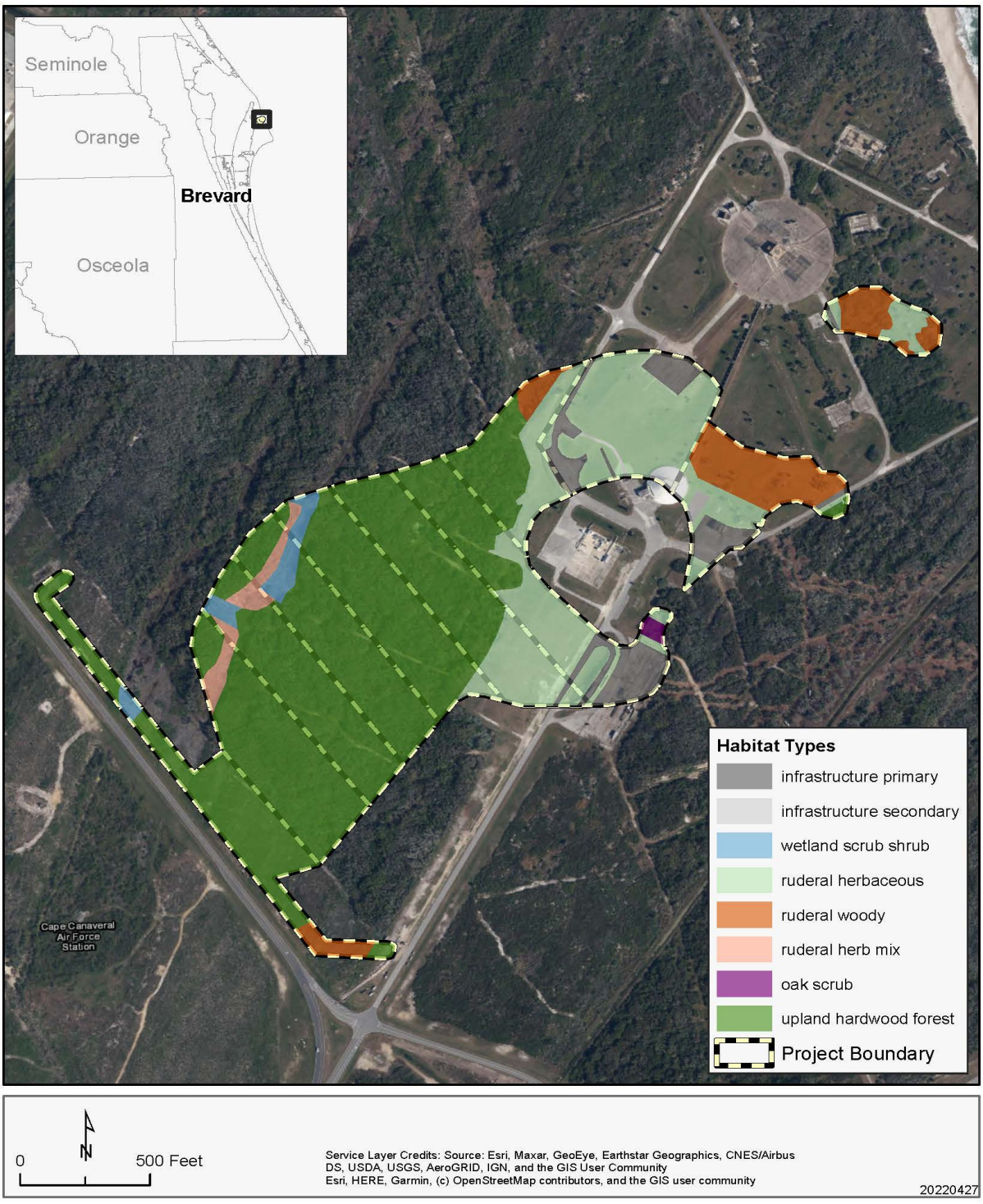
In its request for consultation, NASA did not describe, and the Service is not aware of, any interrelated or interdependent actions to the Project. Therefore, this BO does not further address the topic of interrelated or interdependent actions.

1.4. Conservation and Minimization Measures

During all phases of the 10-year Proposed Action, NASA will implement pre-construction meetings with contractors, superintendents, project managers, and crews working within the Proposed Action Area to educate about the proper procedures when working in the vicinity of federally listed wildlife species. In addition, the *2013 Eastern Indigo Snake Standard Protection Measures* will be implemented during all phases of the Proposed Action. Gopher tortoise (*Gopherus polyphemus*) and small mammal burrow surveys will be implemented prior to and during the Proposed Action to identify, mark, and avoid these burrows. Gopher tortoise burrows will have a 25-foot buffer marked and all components of the sir sparge system will be located at least 25 feet away from identified these burrows. Small mammal burrow surreys will be conducted, and all potential Southeastern beach mouse burrows will be marked and avoided.

Florida scrub-jay nest surveys will be conducted prior to vegetation removal if this phase occurs during the Florida scrub-jay nesting season (March 1 – June 30). If a nest is confirmed through these surveys within the Proposed Action Area, consultation will be reinitiated with the Service, and the work will be rerouted to avoid disturbance of the nest or postponing of the work until chicks have fledged from the nest.

1.5. Figure for Proposed Project



2. SPECIES NOT LIKELY TO BE ADVERSELY AFFECTED BY THE PROPOSED ACTION

NASA determined that the Proposed Project is not likely to adversely affect the Florida scrub-jay and indigo snake. The Service concurs with these determinations, for reasons we explain in this section.

Eastern indigo snake

The Proposed Project Area is within the Florida Ecological Services Field Office Consultation Area for the indigo snake. The Service considers the indigo snake a habitat generalist with a large home range (Layne and Steiner 1996; Service 1999; Bauder et al. 2016). The Project site and surrounding area consists of a mosaic of suitable habitat types, excluding the existing developed and maintained areas. Project activities would convert approximately 26.75 acre of suitable upland forest to accommodate the installation of air sparging wells.

The Service's Geographic Information System database for recorded locations includes sightings of an indigo snake within 0.3 mile of the Project site. Due to the presence of suitable habitat, available refugia, and the absence of significant barriers between the observation point and the Project parcel, we consider indigo snakes reasonably certain to occupy the Project site.

In Bauder et al. (2016), indigo snake radio telemetry data was summarized to provide an estimated mean annual home-range size of 369 ac for males and 121 ac for females. The suitable indigo snake habitat within the Project area consists of 26.75 ac that buffer two existing roadways and are contiguous with suitable habitat outside of the Project area. Based on the size and configuration of the habitat within the Project site, we do not expect the suitable habitat identified above is large enough to support the entirety of a single indigo snake's home range.

The proposed Project would convert approximately 26.75 ac of fragmented indigo snake habitat into cleared habitat. This habitat is likely used intermittently as indigo snakes travel to adjacent habitat. Based on the phased approach of the Project over a long temporal time (10 years), the Project area is not expected to contain an individual's home range in its entirety; thus, the habitat change is not expected to significantly impair an individual snake's ability to feed, breed, or shelter because they would be able shift to adjacent suitable habitat. To diminish the likelihood of adversely affecting indigo snakes on site, if any are present during construction, NASA has agreed that the permit instrument would be conditioned such that all gopher tortoise burrows, active or inactive, will be excavated prior to site manipulation in the vicinity of the burrow. If an indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity. Any permit would also be conditioned such that holes, cavities, and snake refugia other than gopher tortoise burrows will be inspected each morning before planned site manipulation of a particular area, and, if occupied by an indigo snake, no work will commence until the indigo snake has vacated the vicinity of proposed work. Based on the aforementioned reasons, the Service concurs with NASA's determination that the proposed Project may affect but is not likely to adversely affect indigo snakes.

Florida scrub-jay

The Proposed Project Area is within the Florida Ecological Service North Florida Field Office Consultation Area for the Florida scrub-jay and contains a small amount of appropriate habitat, 0.1 acres of oak scrub, for this species. There have been confirmed locations of Florida scrub-jay nests approximately 700 feet southwest and southeast of the Proposed Project Area over the past seven years, but no nests identified within the Proposed Project Area over this time period.

The following conservation measures will be implemented by NASA. Survey for Florida scrub-jay nests prior to the removing vegetation during Florida scrub-jay nesting season (March 1 – June 30). If a nest is located during these surveys, NASA will re-initiate further consultation with the Service and the nest will be avoided and the vegetation clearing activities will suspend until all Florida scrub-jay chicks have fledged from identified nests. Invasive plant species along the western portion of the Proposed Project Area (Phillips Parkway) will be treated with DoD-approved herbicides to reduce the invasion of invasive plant species due to vegetation disturbance. NASA will provide annual reporting to the US Space Force 45 Space Launch Delta Environmental Element staff describing the implementation of the conservation measures previously described. Based on the conservation measures implemented and the of suitable habitat within the Proposed Project Area, the Service concurs with the determination of may affect, not likely to adversely affect the Florida scrub-jay.

This concurrence concludes consultation for the listed species and designated critical habitats named in this section, and these are not further addressed in this BO. The circumstances described in the Reinitiation Notice of this BO that require reinitiating consultation for the Project, except for exceeding the amount or extent of incidental take, also apply to these species and critical habitats.

3. STATUS OF SPECIES

This section summarizes best available data about the biology and current condition of Southeastern beach mouse (*Peromyscus olionotus niveiventris*) throughout its range that are relevant to formulating an opinion about the Project. The Service published its decision to list Southeastern beach mouse as threatened on May, 12, 1989 (52 FR 20598-20602). The current specie's recovery plan was created in 1993 and needs revision and updates based on the most recent 5-year review of the species, and has not currently reached recovery levels (Service 2019).

3.1.Species Description

The SEBM is one of 16 recognized subspecies of old field mice *Peromyscus polionotus* (Hall 1981); it is one of the eight of those subspecies that are called beach mice. The SEBM is a small mouse that reaches an average length of 136 mm with an average body mass of 14.5 g (Stout 1992). Southeastern beach mice have pale, buffy coloration from the back of their head to their tail, and their underparts are white.

3.2. Life History

SEBM are generally nocturnal, semifossorial, and monogamous. The subspecies occupies foredunes (i.e., frontal, primary, and secondary), transitional (i.e., coastal grasslands and coastal strand) dunes, coastal scrub dunes. SEBM also occur in interior scrub and other landward habitats, though the extent to which these areas utilized is unclear. Below is a summary of the various elements of the SEBM life history, including reproduction, survival and mortality, foraging, home range, burrowing behavior, and habitat.

3.2.1. Habitat

Beach mouse habitat includes a heterogeneous mix of interconnected coastal communities on barrier islands. Holler (1992) described beach mouse habitat at the time as including primary and secondary dunes vegetated by sea oats, beach grass (*Panicum amarum*), and blue stem (*Andropogon maritimus*). Contemporary understandings of the geographic distribution of beach mouse habitat are that they inhabit coastal dune, strand, and scrub habitats (where available) that range from being comprised mostly of grasses to mostly shrubs (Sneckenberger 2001, Suazo et al. 2009, Stout et al. 2012, Wilkinson et al. 2012, Breininger et al. 2018). Additionally, the coastal strand and scrub plant communities (e.g., Cape Canaveral area) likely serve as refugia for and sources of individuals that disperse into dune systems after storm events (Stout et al. 2012).

Coastal communities of Florida can be classified into three general zones. These zones, as described by Johnson and Barbour (1990) and used in the draft Species Status Assessment include ***foredunes*** (frontal, primary, and secondary), ***transitional dunes*** (coastal grasslands and strands), and ***coastal scrub dunes***. Additionally, beach mice are known to utilize adjacent or connected landward habitats including ***interior scrub*** (particularly within the Cape Canaveral), ruderal or old-field environments, and mowed roadside edges and rights-of-way.

While the predominance of SEBM occurrence within scrub type habitats is in the coastal scrub dunes, SEBM are known to occur in more interior scrub environments within the Cape Canaveral Complex. The cape feature at Cape Canaveral is unique among SEBM habitats as it includes a broad expanse of upland habitats between the Atlantic coast and the Banana and Indian Rivers. Beyond the Cape Canaveral, SEBM habitat generally occurs in narrow stretches along the shoreline.

3.2.2. Survival and Mortality

The average life span of beach mice in the wild is 9 months to one year (Bird et al. 2016, Oddy 2000, Swilling 2000), although a few individuals have been known to live longer than two years. Studies at CCSFS found the mean longevity of SEBM on across study grids was 113 days with no significant differences between sexes (Oddy 2000). Maximum longevity in this study was 596 days. Swilling and Wooten (2002) found longer persistence times associated with mice dispersing further away from their natal home range.

3.2.3. Foraging

Beach mice are food generalists and feed on a variety of seeds of dune and scrub plants and insects (Moyers 1996, Sneckenberger 2001, Keserauskis 2007). Studies show that the diet of the SEBM varies seasonally and among and within habitats, and fruits, seeds and arthropods that feed on them comprise most of their diet (Keserauskis 2007). In most cases, fruits and seeds that are consumed by beach mice are produced by low growing, prostrate plants, on supple stems easily manipulated by mice, or as the fruits and seeds become available as fallen seeds (Moyers 1996). Beach mice also consume invertebrates, especially during late winter or early spring when seeds are scarce (Ehrhart 1978).

3.2.4. Home Range

Beach mouse home range size varies among subspecies (Service 2010) and may vary seasonally and in relation to density as well as habitat and food resources. Beach mouse home ranges average approximately 1.2 acres (Bird et al. 2016). Swilling and Wooten (2002) found the mean home range for Anastasia beach mice (ABM) (both sexes) was approximately 0.89 acres, whereas using radio telemetry data, Lynn (2000) found home ranges of 1.68 acres and 1.73 acres for males and females respectively; neither study noted significant differences in home range size between males and females.

Blair (1951) found home ranges of beach mice living in the comparatively dense cover of the beach dunes averaged significantly larger in the spring than in the fall. Beach mice tend to inhabit a single home range throughout their lifetime and will often maintain several burrows within their home range (Blair 1951). Extine and Stout (1987, Service 1999) reported movements of the SEBM between the primary dunes and interior scrub on Kennedy Space Center (KSC) and Merritt Island National Wildlife Refuge (MINWR) and concluded that home ranges can overlap and reach high densities within preferred habitats.

3.2.5. Burrows

SEBM is the only member of the genus that excavates its own burrow, which is extensive (Ehrhart 1978, Service 1999). Beach mice are semifossorial and may utilize as many as 20 burrows within their home range (Service 1999). Beach mice will use burrows as a place to rest during the day and between nightly foraging bouts. Burrows are also used for escape from predators, birthing and caring for young.

Burrows generally consist of an entrance tunnel, nest chamber, and escape tunnel (Weber et al. 2013). High predation risk and the harsh coastal environment make selection of quality burrow sites critical for survival of beach mice (Swilling and Wooten 2002). Beach mice have been found to select burrow sites based on a suite of biotic and abiotic features. (Lynn 2000; Sneckenberger 2001).

Bird et al. (2004) found that patch use was affected by the presence of illumination, light type, and distance from light source. In this study, foraging frequency was significantly higher in dark arrays and that more seeds were removed from resource patches as distance from illumination

increased. This is consistent with the observation that beach mice activity decreases in response to increased levels of moonlight due to elevated risk perceptions (Stoddard et al. 2018).

3.3. Numbers, Reproduction, and Distribution

3.3.1. Numbers and Distribution

SEBM are found in coastal habitats of Florida's east coast. The 1989 Final Listing Rule states that the subspecies was known to occur on Canaveral National Seashore (CNS), MINWR, CCSFS, the north and south ends of Orchid Island at Sebastian Inlet area and Fort Pierce Inlet State Park (also known as north Hutchinson Island) on the north side of Ft. Pierce Inlet.

In the SSA, the Service reviewed the extant and historic distribution of the species range wide and grouped the populations into geographic segments: Canaveral North, Canaveral South, Orchid Island/ Hutchinson Island North, Hutchinson Island, Jupiter Island, Jupiter South, Palm Beach, Boynton, and Hillsboro. To assess current condition of the species, the SSA characterizes the amount of habitat within the geographic segments across the range of species. The geographic segments are parsed in eight different resilience units. The Canaveral Complex resilience unit is the most important for the recovery of the species (Service 2019). The Canaveral Complex Unit is a metapopulation and has the most habitat to support the species. The Canaveral Complex has 92% of the total protected habitat, with the most acres of dune habitat, 2,362 acres, and 17,389 landward habitats.

3.3.2. Reproduction

Beach mice have a monogamous mating system (Blair 1951, Smith 1966, Lynn 2000). Mated pairs tend to remain associated in acquiring food and sharing burrows (Blair 1951). Beach mice reach sexual maturity at 55 days of age; however, some mice are capable of breeding earlier (Ehrhart 1978).

Peak breeding season for beach mice appears to occur between November and early January (Blair 1951) and appears to coincide with increased availability of food from the previous growing season (Rave and Holler 1992); although pregnant and lactating SEBM have been observed in all seasons (Stout 1979, Oddy 2000). While the reproductive potential of beach mice is generally high, Blair (1951) reported only 19.5 percent of beach mice within his study survived from January to May in the same year indicating that mortality of adult beach mice is also quite high.

3.4. Conservation Needs

3.4.1. Conservation Needs

There is considerable uncertainty regarding beach mouse use of the scrub and more stable, interior habitats, particularly within the CCSFS. Future research is needed to better define optimal habitat conditions for SEBM in coastal scrub and interior scrub habitats. Habitat

conditions within the interior scrub areas that benefit the threatened Florida Scrub-jay (*Aphelocoma coerulescens*) may also benefit SEBM (Suazo et al. 2009).

3.4.2. Threats

Habitat loss and fragmentation due to destruction associated with residential and commercial development has created disjunct and isolated populations of SEBM along the east coast of Florida. South of the Port Canaveral Entrance Chanel, five inlets between Indian River and Broward Counties create additional barriers to dispersal. Most remaining SEBM habitat occurs on public conservation lands, though some private lands also support areas of natural dune vegetation that could be occupied by beach mice (e.g., St. Lucie Nuclear Power Plant, undeveloped lots, and undeveloped portions of residential and commercial lots). As a result, extant populations of SEBM are geographically and genetically isolated. Within the current landscape configuration, natural dispersal between existing populations is highly unlikely.

Other threats to the species include shoreline armoring to protect coastal to protect coastal properties from erosion, coastal lighting at facilities or residential development, vehicular or foot traffic near developments, and climate change.

4. ENVIRONMENTAL BASELINE

This section is an analysis of the effects of past and ongoing human and natural factors leading to the current status of the Southeastern beach mouse, its habitat, and ecosystem within the Project Area. The environmental baseline is a "snapshot" of the species' health in the Project Area at the time of the consultation and does not include the effects of the Project under review.

4.1. Project Area Numbers, Reproduction, and Distribution

The SEBM is found along the entire reach of immediate coastline and within coastal strand on CCSFS in addition to the KSC and Cape Canaveral National Seashore. Recent surveys using tracking tubes have found this species is present in close proximity too and within the Proposed Project Area (Pers comms Brust, 2021). Based on this information, the Service has enough information to support that the species occurs within SLC-34 and is expected to use the Proposed Project Area for foraging, movement, and burrow construction.

To estimate the number of individuals that may be affected by construction activities, we reviewed home range data and compared it to the acreage that will be disturbed within the Project area. The Proposed Project will impact approximately half of the Project area resulting in 26.75 ac of impact. However, this impact is not confined to 26.75 contiguous acres and will be spread throughout the Project area by the creation of a network of access paths. We estimate a total of 32 – 60 pairs will be affected over the course of the project (10 years) due to the creation of these access paths and habitat alterations. This was obtained by utilizing the low and high estimated home range sizes described in Section 3.2.4 and assuming that these home ranges are utilized by SEBM pairs and not individuals.

4.2. Project Area Conservation Needs

The Proposed Project Area for the air sparging system is located within the SLC-34 footprint and contains ruderal open habitat and coastal strand habitat. Both of these habitat types are used by SEBM for foraging and nesting activities. Previous air sparging systems have been implemented to the east of the Proposed Project Area and SEBM habitat has been altered due to the implementation of these systems.

There is no additional lighting system(s) associated with the air sparging system and no assumed increased risk to SEBM predation.

4.3. Tables and Figures for Environmental Baseline

5. EFFECTS OF THE PROJECT

This section analyzes the direct and indirect effects of the Project on the Southeastern beach mouse, which includes the direct and indirect effects of interrelated and interdependent actions. Direct effects are caused by the Project and occur at the same time and place. Indirect effects are caused by the Project but are later in time and reasonably certain to occur. Our analyses are organized according to the description of the Project in section 1 of this BO.

5.1. Effects of Vegetation Clearing, Installation of Air Sparge System, and Herbicide Vegetation Maintenance

Clearing activities will include heavy equipment to cut and remove vegetation and install air sparge systems and wells within the provided proposed project area. Based on plans for clearing and installation of air sparging systems, the Service expects harm to any individuals present via the destruction of burrows during clearing activities. Using proposed Project area baseline estimates outlined in section 4.1, we expect all SEBM within these areas will be exposed to the effects of habitat conversion and installation of the air sparging systems. There is also a risk that clearing activities and air sparge system installation activities within the proposed Project area may adversely affect the SEBM that may be using the area as a movement corridor or foraging area.

Clearing and air sparge installation activities could collapse burrows within the propose Project area. The scale of the Project area is a small amount of the geographic segment of the Canaveral Complex Unit. SEBM occupies approximately 80 km (50 miles) of coastline within the Cape Canaveral Complex, though the exact acreage is not known, and the Project Area encompasses 53.5 ac of potential SEBM habitat (Service 2008). The loss of individuals will not result in adverse population effects or reduce appreciably the species' likelihood of survival and recovery. After vegetation clearing and air sparge installation activities have concluded, we expect the species will have access to and can use the unaffected area as a corridor for movement, refugia and forage opportunities.

Maintenance herbicide applications will be conducted biannually after the establishment of air sparging systems and in accordance with other invasive plant species treatments that occur at

CCSFS. These include applications to invasive plant species within the established transects to maintain open areas for access to the air sparging systems. There are no additional anticipated effects to SEBM from the application of herbicides due to the targeted nature of herbicide application, the nocturnal nature of the species and application of herbicide during daylight hours and the intermittent nature of herbicide treatments.

5.2. Air Sparge System Removal or Abandonment

The removal of air sparge systems will occur when target levels of contamination reduction are reached. These systems will either be left in place and capped/filled with grout, or the lateral lines will be removed from the ground and the wells will be filled with grout. Due to the prior establishment of transects for the air sparging systems, there are no anticipated negative effects on SEBM due to the implementation of conservation measures including pre-work surveys for small mammal burrows and the avoidance of these burrows. Functional groundwater monitoring wells will be left in place.

6. CUMULATIVE EFFECTS

For purposes of consultation under ESA §7, cumulative effects are those caused by future state, tribal, local, or private actions that are reasonably certain to occur in the Project area. Future Federal actions that are unrelated to the proposed Project are not considered, because they require separate consultation under §7 of the ESA.

The proposed project is occurring on federal property and all other actions conducted within the property boundaries must undergo separate consultation under §7 of the ESA. There are no non-federal actions that fit the definition of cumulative effects. Therefore, cumulative effects are not relevant to formulating our opinion for the Project.

7. CONCLUSION

"*Jeopardize the continued existence*" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR §402.02). After reviewing the current status of the species, the environmental baseline for the Project Area, the effects of the Project and the cumulative effects, it is the Service's biological opinion that the Project is not likely to jeopardize the continued existence of the **SOUTHEASTERN BEACH MOUSE**.

The Service has come to this conclusion based on the following:

1. The loss of individuals within the Project area will not result in adverse population effects or reduce appreciably the species' likelihood of survival and recovery. The Cape Canaveral population size is unknown (Service 2019) and the Proposed Project is estimated to impact approximately 3 – 6 pairs per year over a 10-year period. The

Proposed Project is further located in secondary SEBM habitat and not primary dune habitat, further reducing the potential effects on the SEBM population within the Cape Complex.

2. The Proposed Project will impact SEBM habitat through the creation of transects over the 53.5 ac, though the anticipated impacts will be approximately 26.75 ac through the creation of access paths. However, SEBM home ranges will not be limited to the access path impacts and the estimated effects are expected over the entire 53.5 ac Proposed Project area.
3. After clearing activities and air sparge system installation we expect the species will access and continue to use the areas in between established transects for movement, refugia, or forage opportunities.

8. INCIDENTAL TAKE STATEMENT

ESA §9(a)(1) and regulations issued under §4(d) prohibit the take of endangered and threatened fish and wildlife species without special exemption. The term "take" in the ESA means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (ESA §3). In regulations at 50 CFR §17.3, the Service further defines:

- "harass" as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering;"
- "harm" as "an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering;" and
- "incidental take" as "any taking otherwise prohibited, if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity."

Under the terms of ESA §7(b)(4) and §7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered prohibited, provided that such taking is in compliance with the terms and conditions of an incidental take statement (ITS). The Project considered in this BO includes the NASA Air Sparging Remediation System. This BO considers the effects of the Project on southeastern beach mice (*Peromyscus polionotus niveiventris*). The Project does not affect designated critical habitat; therefore, this BO does not address critical habitat.

For the exemption in ESA §7(o)(2) to apply to the Project considered in this BO, NASA must undertake the non-discretionary measures described in this ITS and the project description (e.g., conservation measures), and these measures must become binding conditions of any permit, contract, or grant issued for implementing the Project. Consistent with ESA section 7(b)(4)(C)(iv), NASA has a continuing duty to regulate the Project activities covered by this ITS that are under its jurisdiction. NASA is responsible for the Project activities covered by this ITS that are under its control and jurisdiction. The protective coverage of §7(o)(2) may lapse if NASA does not:

- adhere to the proposed conservation measures within the project description
- assume and implement the terms and conditions; or
- require a permittee, contractor, or grantee to adhere to the terms and conditions of the ITS through enforceable terms that are added to the permit, contract, or grant document.

In order to monitor the impact of incidental take, NASA must report the progress of the Project and its impact on the species to the Service as specified in this ITS.

8.1. Amount or Extent of Take

This section specifies the amount or extent of take of Southeastern beach mouse that the Project is reasonably certain to cause, which we estimated in the "Effects of the Project" section of this BO. We reference, but do not repeat, these analyses here.

The Service anticipates that the Project is reasonably certain to cause incidental take of individual Southeastern beach mouse consistent with the definition of harm resulting from clearing activities and installation of air sparging systems (see section 5.4, Summary of the Effects of the Project).

Anticipated Take of Southeastern Beach Mouse

Common Name	Life Stage	# of Pairs and/or Juveniles	Form of Take	BO Effects Analysis
Southeastern beach mouse	All	32 - 60	Harm	5.1

Surrogate measures for monitoring take of listed wildlife species caused by the Project, based on the cited BO effects analyses

Common Name	Life Stage	Surrogate (units)	Quantity	BO Effects Analysis
Southeastern beach mouse	All	Acres coastal habitat within the proposed Project limits	53.5	5.1

Due to the difficulty of detecting take of Southeastern beach mouse caused by the Project due to the nocturnal nature of the species, the difficulty of surveying and identifying burrows and confirming mortality of individuals during construction activities, NASA will monitor the extent of taking using the surrogate specified in the table above.

Instructions for monitoring and reporting take are provided in section 8.4.

8.2. Reasonable and Prudent Measures

The Service believes that no reasonable and prudent measures are necessary or appropriate to minimize the impact of incidental take caused by the Project on southeastern beach mouse.

Minor changes that do not alter the basic design, location, scope, duration, or timing of the Project will not reduce incidental take below the amount or extent anticipated for the Project as proposed. Therefore, this ITS does not provide RPMs.

8.3. Terms and Conditions

No reasonable and prudent measures to minimize the impacts of incidental take caused by the Project are provided in this ITS; therefore, no terms and conditions for carrying out such measures are necessary.

8.4. Monitoring and Reporting Requirements

In order to monitor the impacts of incidental take, NASA must report the progress of the Project and its impact on the species to the Service as specified in the incidental take statement (50 CFR §402.14(i)(3)). This section provides the specific instructions for such monitoring and reporting. As necessary and appropriate to fulfill this responsibility, NASA must require any permittee, contractor, or grantee to accomplish the monitoring and reporting through enforceable terms that are added to the permit, contract, or grant document. Such enforceable terms must include a requirement to immediately notify NASA and the Service if the amount or extent of incidental take specified in this ITS is exceeded during Project implementation.

M&R 1. Reporting After vegetation clearing is completed for each phase, report to the Service the sum (in acres) that was modified or cleared. The sum shall not exceed 27 acres within the Project area. Reports containing acreage amounts, dates of clearing, and a map or figure detailing the location of clearing will be submitted electronically within 60 days of clearing to the Florida Ecological Services email inbox at FW4FLESRegs@fws.gov or in writing to the Florida Ecological Services – Jacksonville Field Office 7915 Baymeadows Way Suite 200, Jacksonville, FL 32256-7517..

M&R 2. Monitoring After clearing is completed for each phase, continue to monitor the Project area for indications of SEBM activity.

M&R 3. Reporting Any serious situations, particularly mortalities, contact the North Florida Ecological Services Field Office (904)-731-3336 and the CCSFS Environmental Element (321)-853-6822 within 24 hours.

M&R 4. Disposition of Dead or Injured Upon locating a dead, injured, or sick threatened or endangered species, notification must be made to the North Florida Ecological Services Field Office at 904-731-3336 and by email to FW4FLESRegs@fws.gov within 24 hours. If an injured or sick specimen is found and North Florida Ecological Services Field Office staff is unable to be reached, contact the Florida Fish and Wildlife Conservation Commission Wildlife Alert Hotline at 1-888-404-3922.

Care should be taken in handling dead specimens to ensure biological material is preserved in the best possible state for later analysis as to the cause of death. If a dead specimen is found in the project area, the specimen should be thoroughly soaked in water and frozen for later analysis of

cause of death. In conjunction with the preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

9. CONSERVATION RECOMMENDATIONS

§7(a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by conducting conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary activities that an action agency may undertake to avoid or minimize the adverse effects of a proposed action, implement recovery plans, or develop information that is useful for the conservation of listed species. The Service offers the following recommendations that are relevant to the listed species addressed in this BO and that we believe are consistent with the authorities of NASA.

1. Avoid, to the greatest extent practical, applying herbicides within 10 feet of identified burrows that may contain small mammals.
2. Survey for, adequately mark, and avoid to the greatest extent practical, burrows that may contain small mammals and gopher tortoise burrows that establish within cleared transects.
3. Provide informational material about SEBM to all contractors, superintendents, project managers, and crews working within the Proposed Project Area.

10.REINITIATION NOTICE

Formal consultation for the Project considered in this BO is concluded. Reinitiating consultation is required if NASA retains discretionary involvement or control over the Project (or is authorized by law) when:

a. the amount or extent of incidental take is exceeded;
b. new information reveals that the Project may affect listed species or designated critical habitat in a manner or to an extent not considered in this BO;
c. the Project is modified in a manner that causes effects to listed species or designated critical habitat not considered in this BO; or
d. a new species is listed or critical habitat designated that the Project may affect.

In instances where the amount or extent of incidental take is exceeded, NASA is required to immediately request a reinitiation of formal consultation.

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DRILLER PERMITS AND COMPLETION REPORTS

WELL COMPLETION LOG

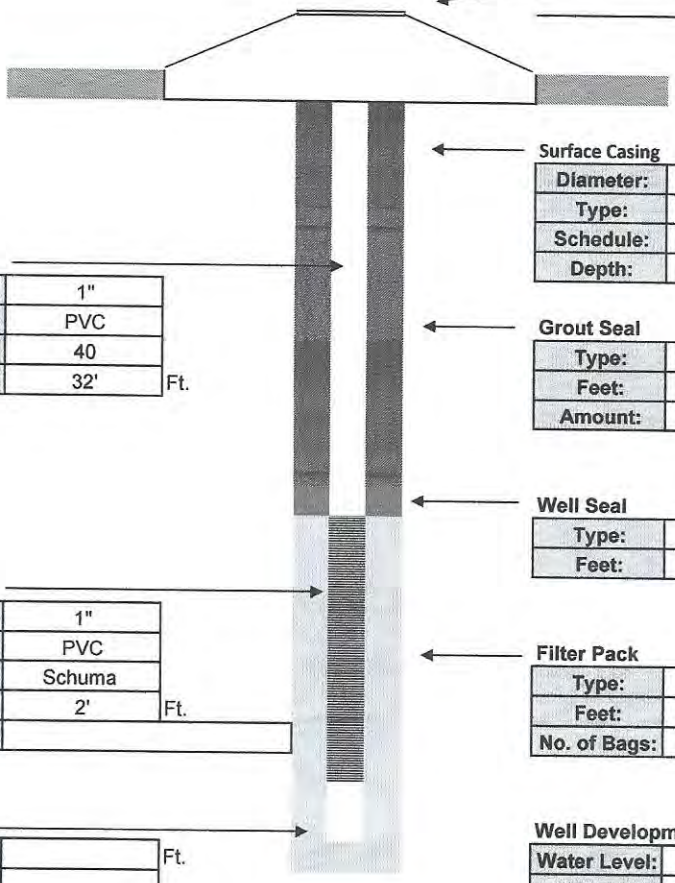
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 361
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	34'	2'	32'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		29'	Feet	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	32' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	29'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/25/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company: Drillpro LLC d/b/a Groundwater Protection
Address: 2300 Silver Star Road
C,S,Z: Orlando, Florida 32804-3310
Phone/FAX: (407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

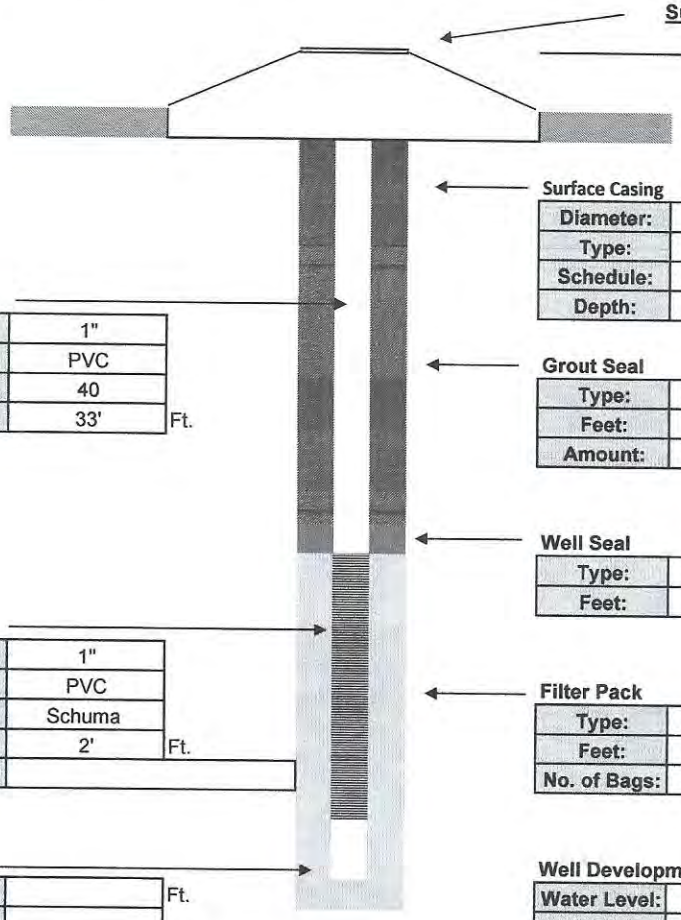
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 315
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	2'	33'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		30'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	33' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	30'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/19/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

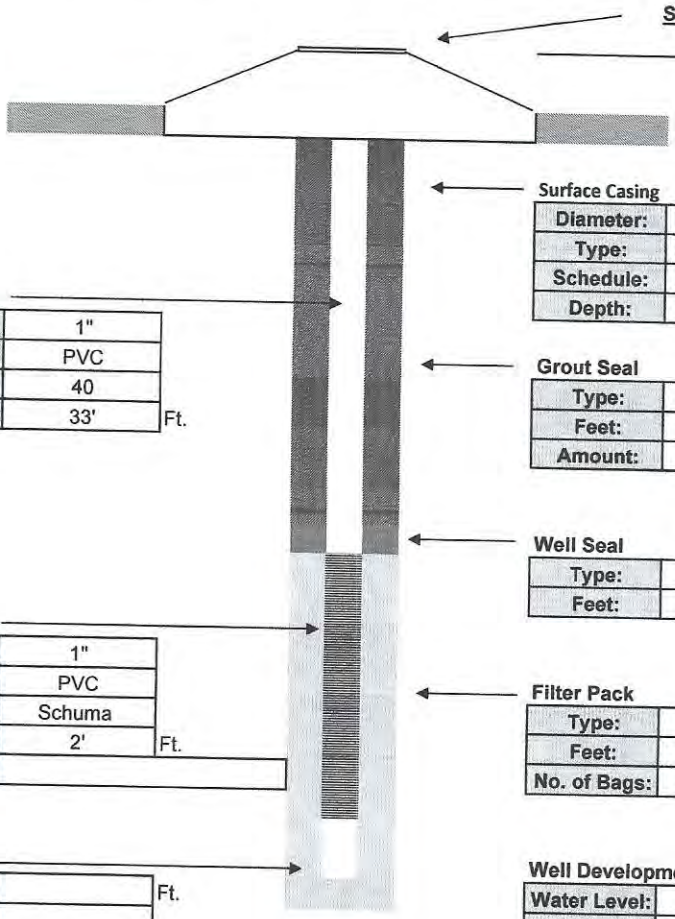
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 363
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	2'	33'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		30'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	33' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	30'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/25/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

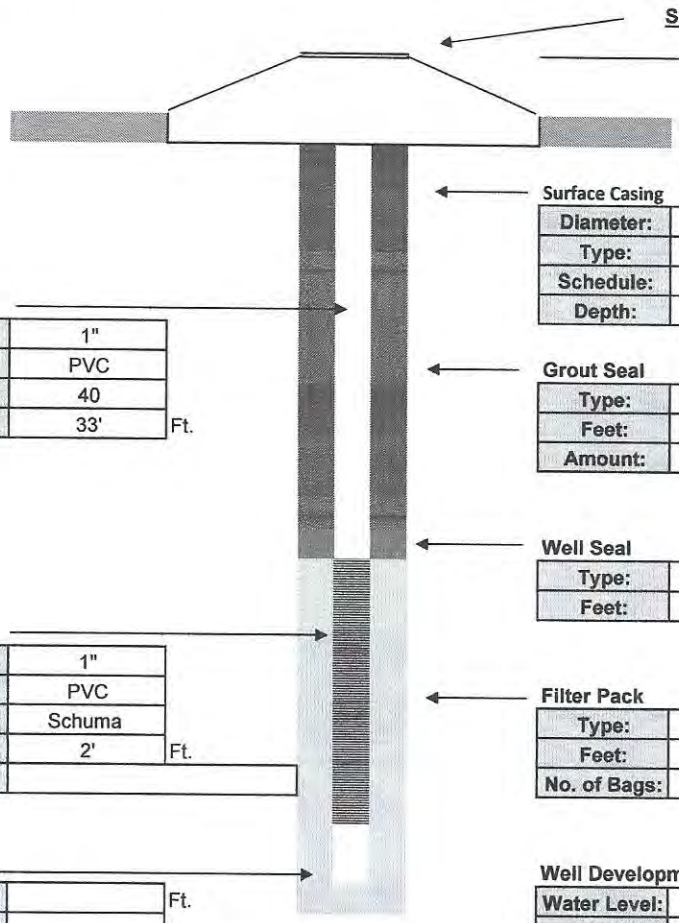
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 343
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	2'	33'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		30'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	33' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	30'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/28/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

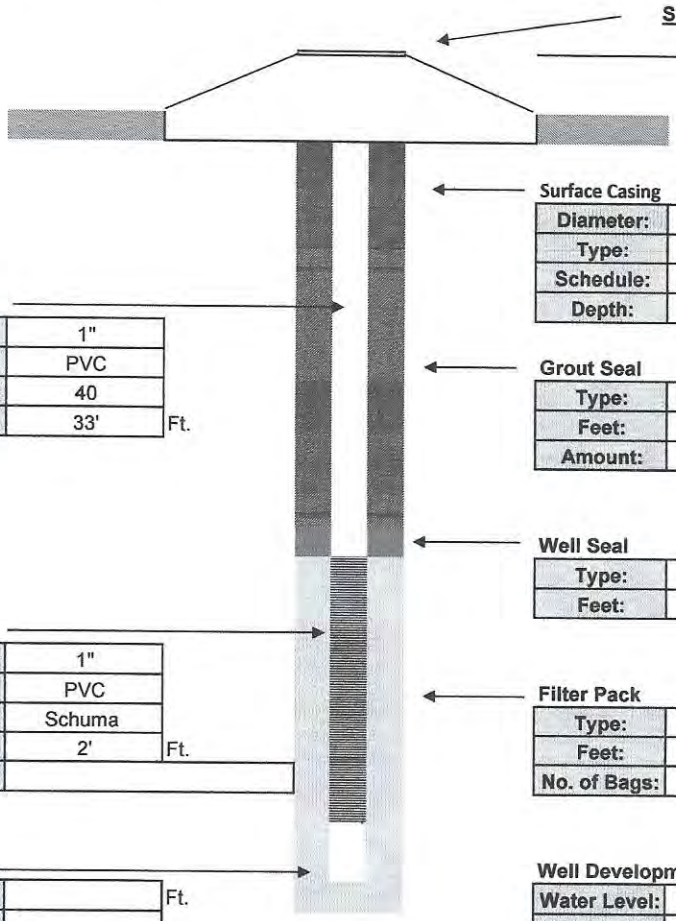
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 344
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	2'	33'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		30'	Feet	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	33' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	30'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/28/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

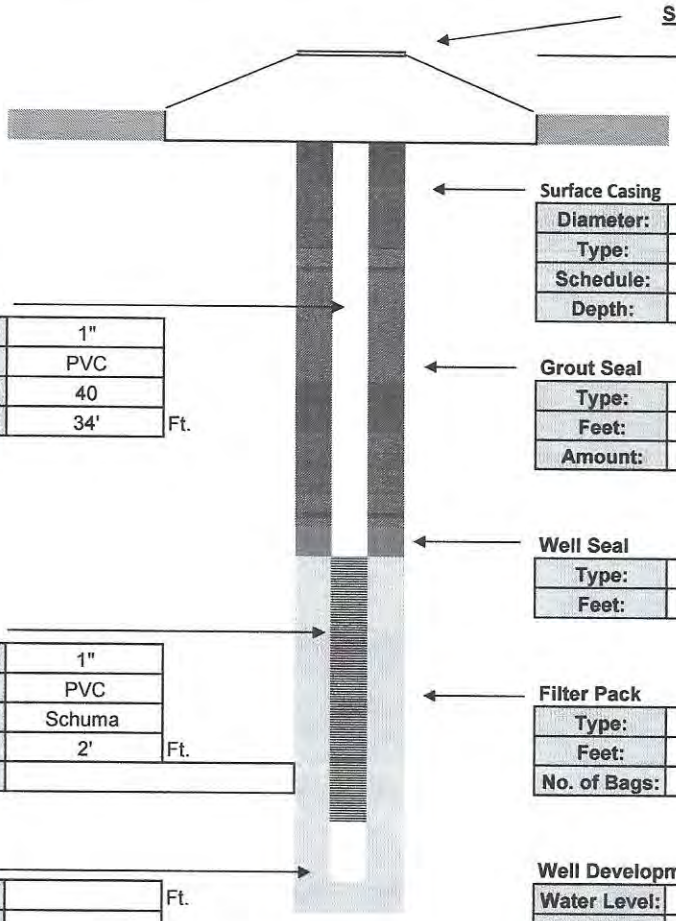
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 346
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	36'	2'	34'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		31'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	34' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	31'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/31/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

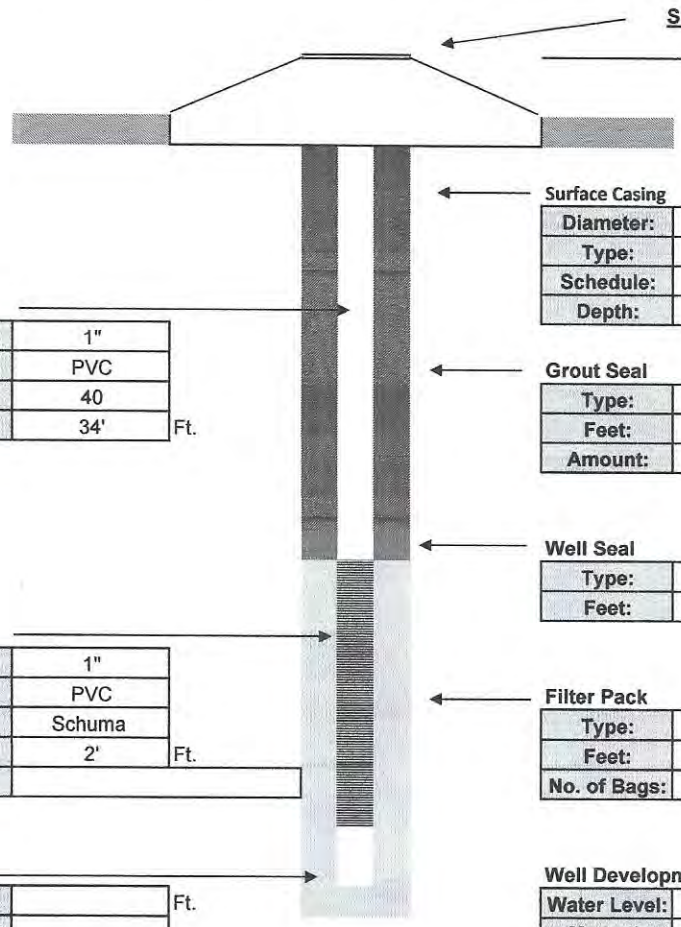
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 356
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	36'	2'	34'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		31'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	34' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	31'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/27/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

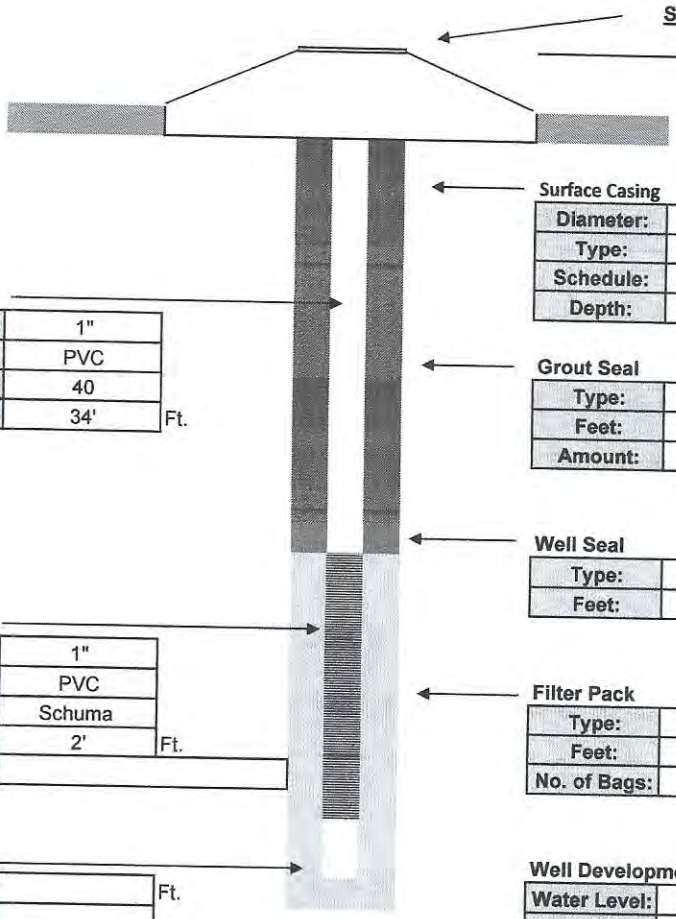
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 371
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	36'	2'	34'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ← Schedule		Slot Size: →	Schuma		31'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	34' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	31'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/25/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company: Drillpro LLC d/b/a Groundwater Protection
Address: 2300 Silver Star Road
C,S,Z: Orlando, Florida 32804-3310
Phone/FAX: (407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

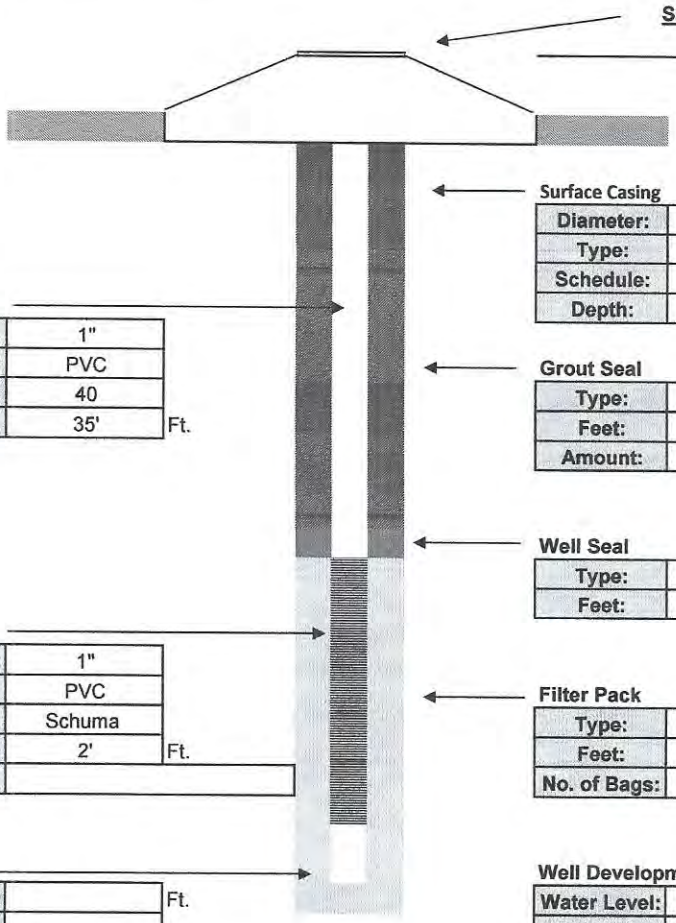
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 342
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	37'	2'	35'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		32'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	35' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	32'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/28/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

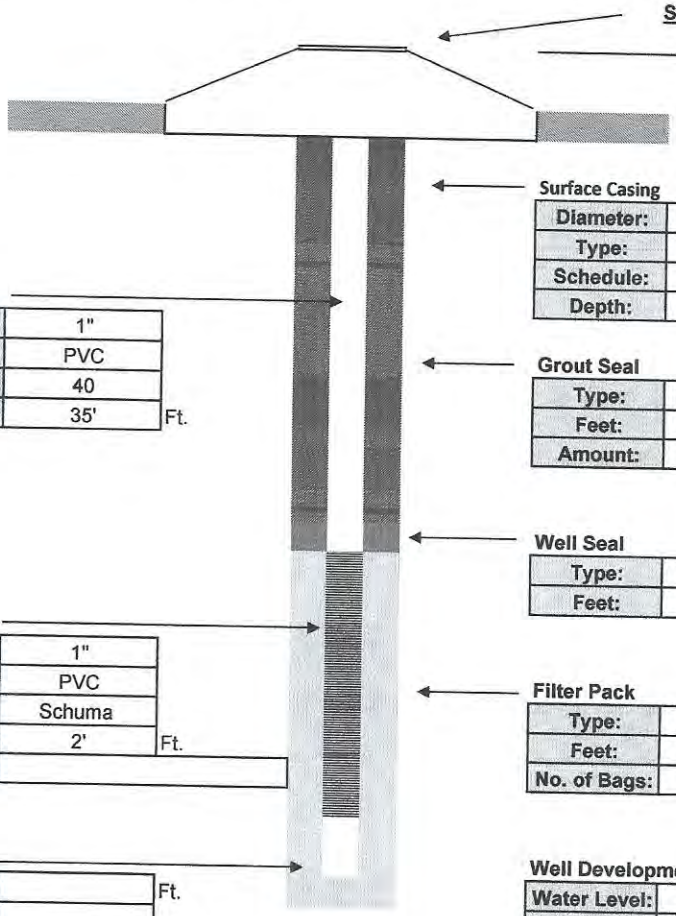
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 355
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	37'	2'	35'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		32'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	35' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	32'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/28/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

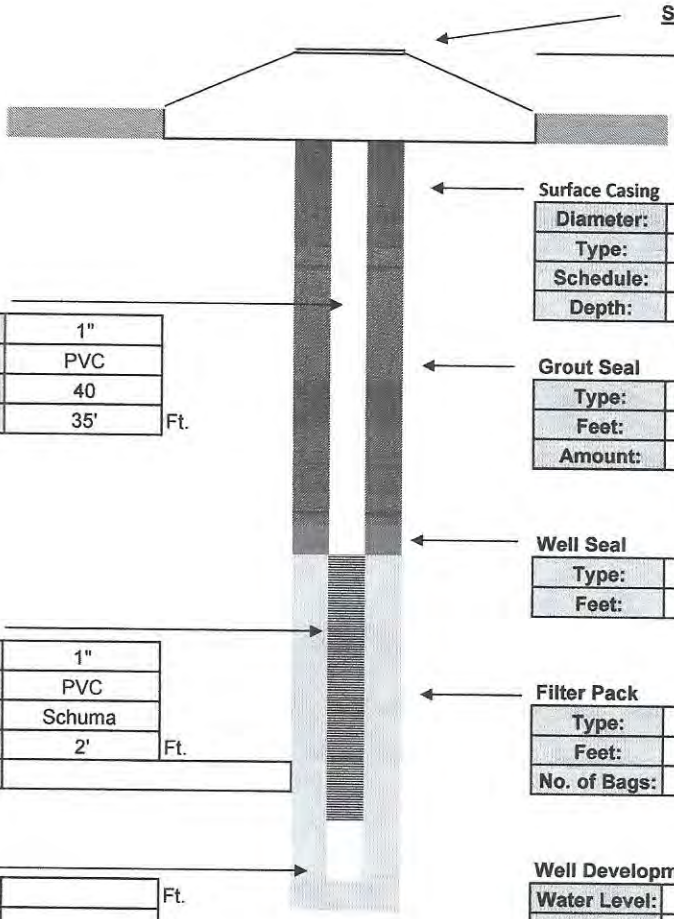
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 360
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	37'	2'	35'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		32'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	35' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	32'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/25/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

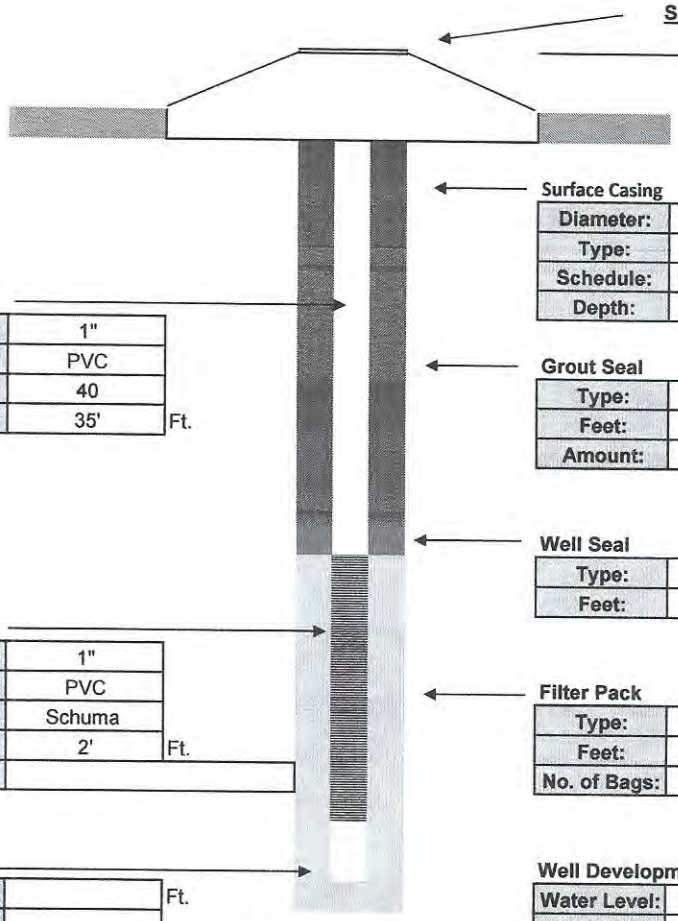
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 375
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	37'	2'	35'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		32'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	35' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	32'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/25/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company: Drillpro LLC d/b/a Groundwater Protection
Address: 2300 Silver Star Road
C,S,Z: Orlando, Florida 32804-3310
Phone/FAX: (407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

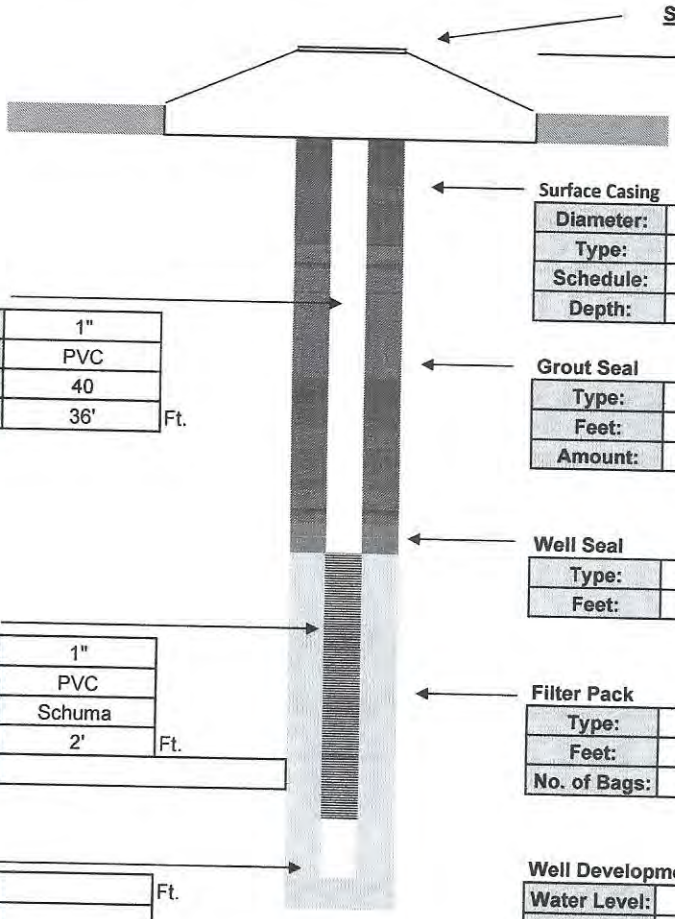
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 341
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/19/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

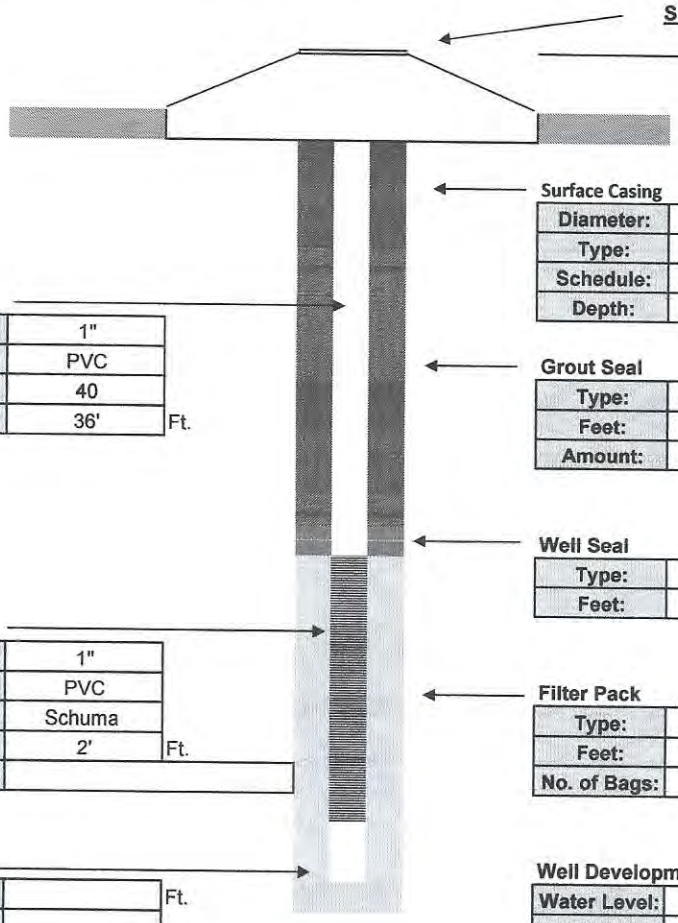
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 345
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/28/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company: Drillpro LLC d/b/a Groundwater Protection
Address: 2300 Silver Star Road
C,S,Z: Orlando, Florida 32804-3310
Phone/FAX: (407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

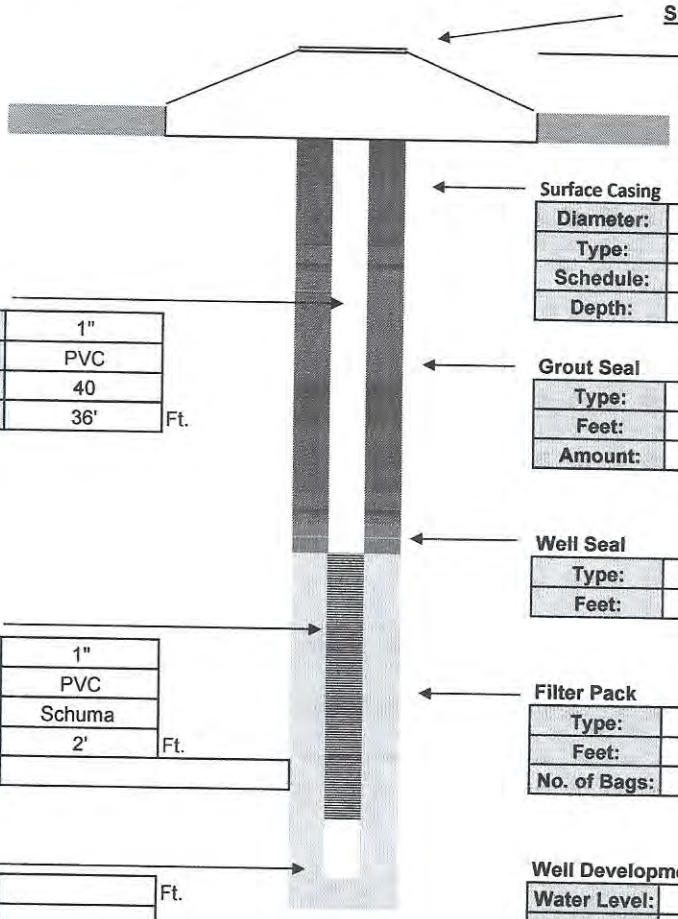
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 357
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/27/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

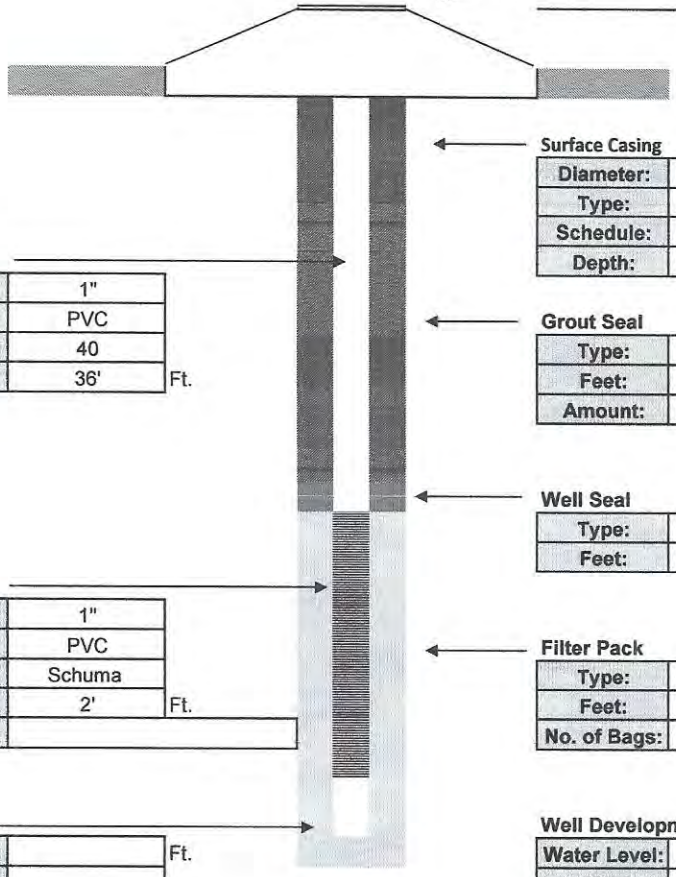
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 358
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/25/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

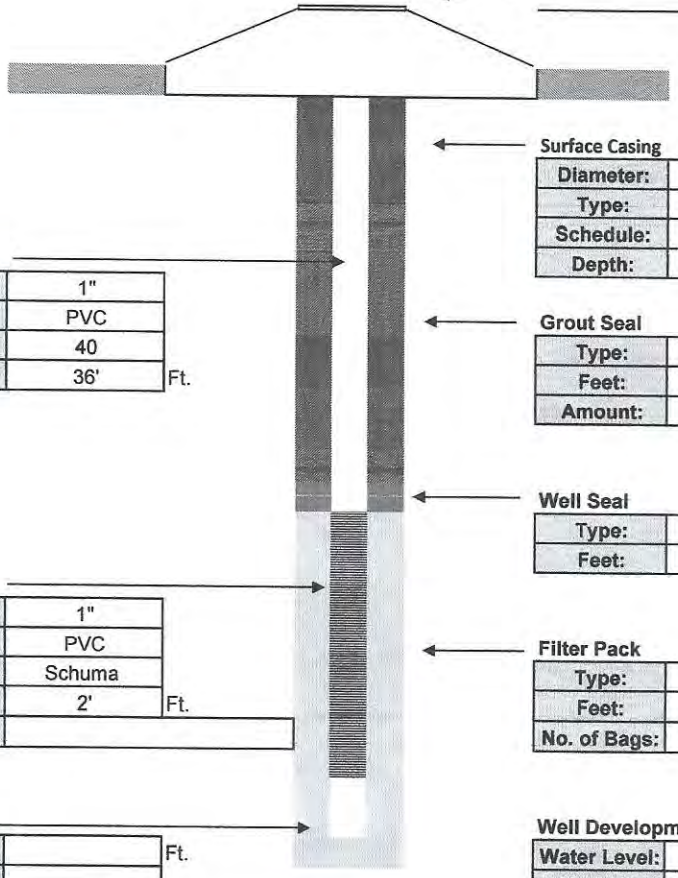
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 359
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/26/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

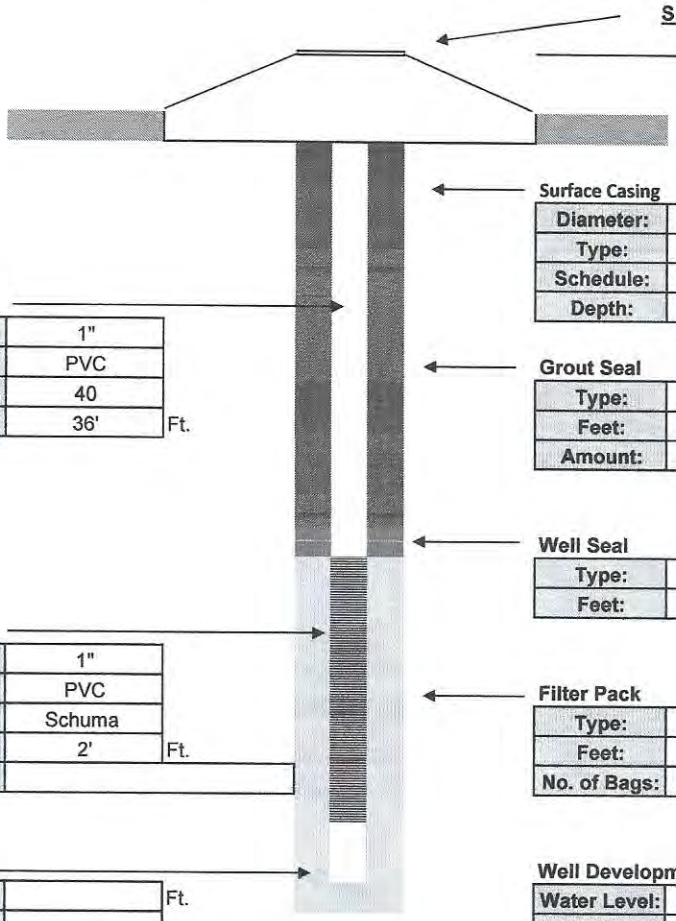
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 368
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		33'	Feet	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/24/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

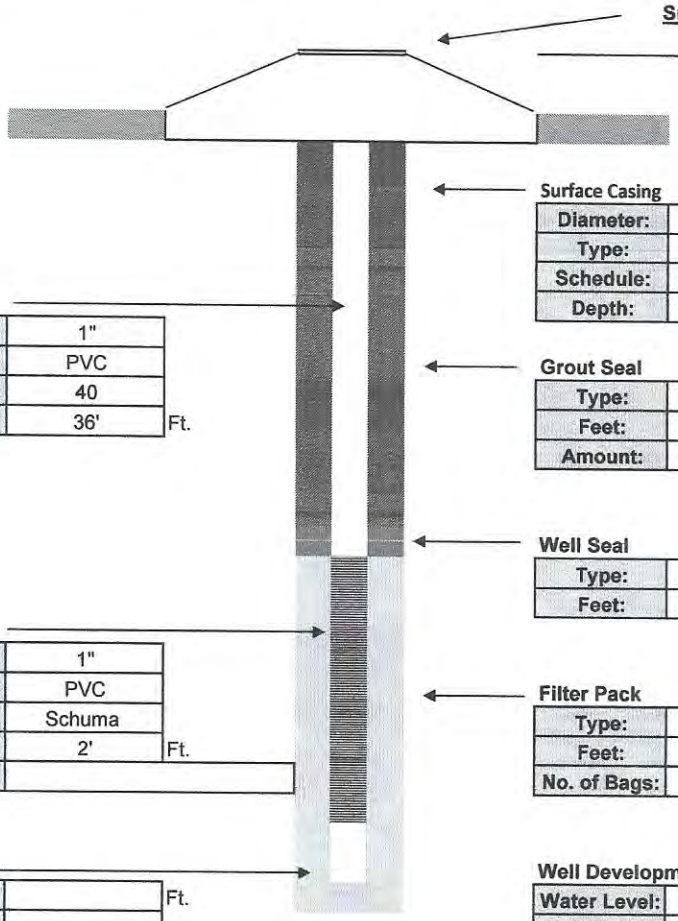
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 369
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		33'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/24/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

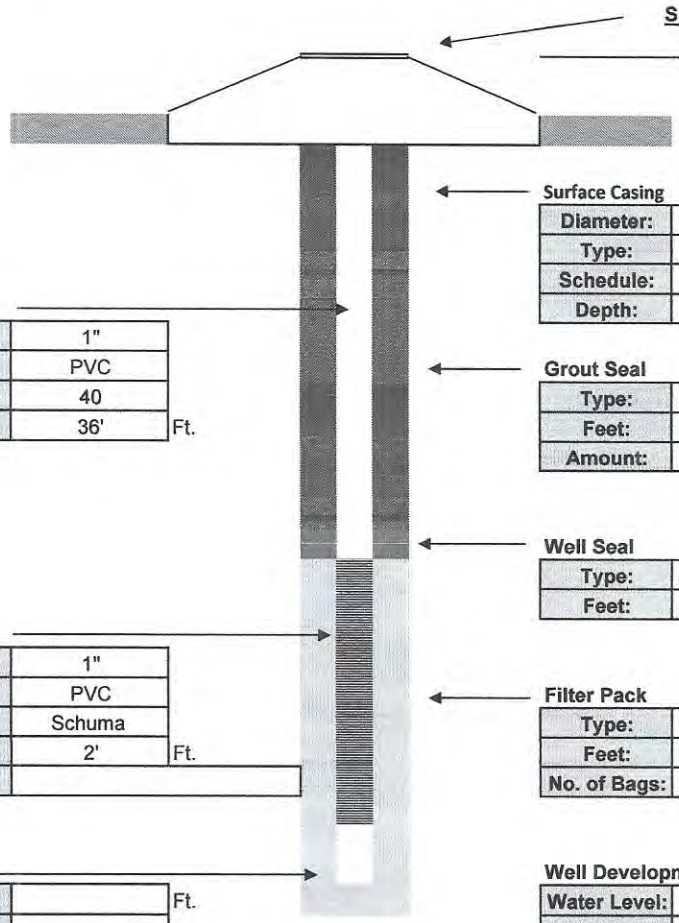
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 373
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/20/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

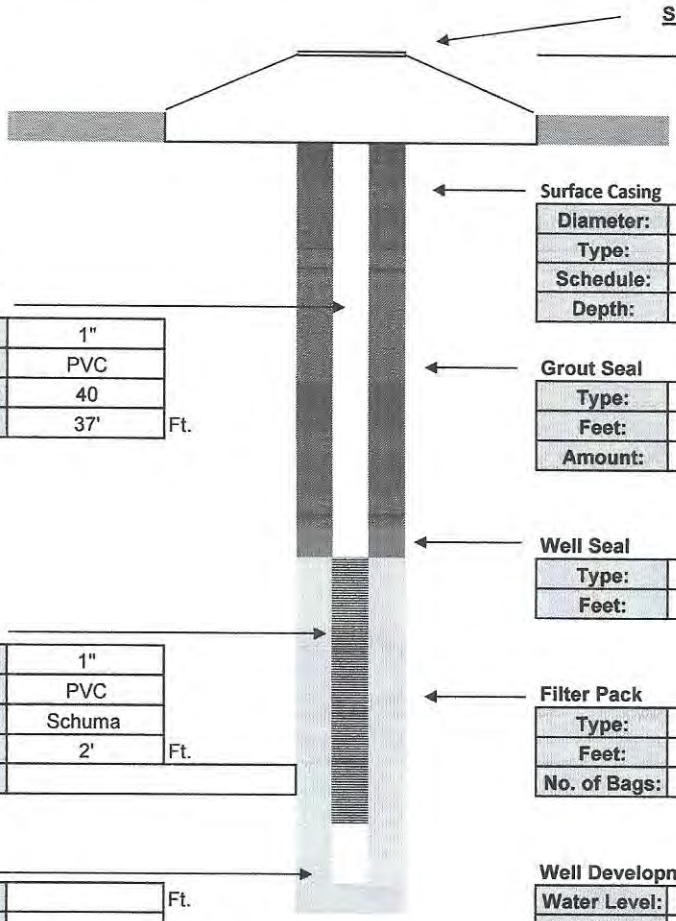
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 305
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		34'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/17/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

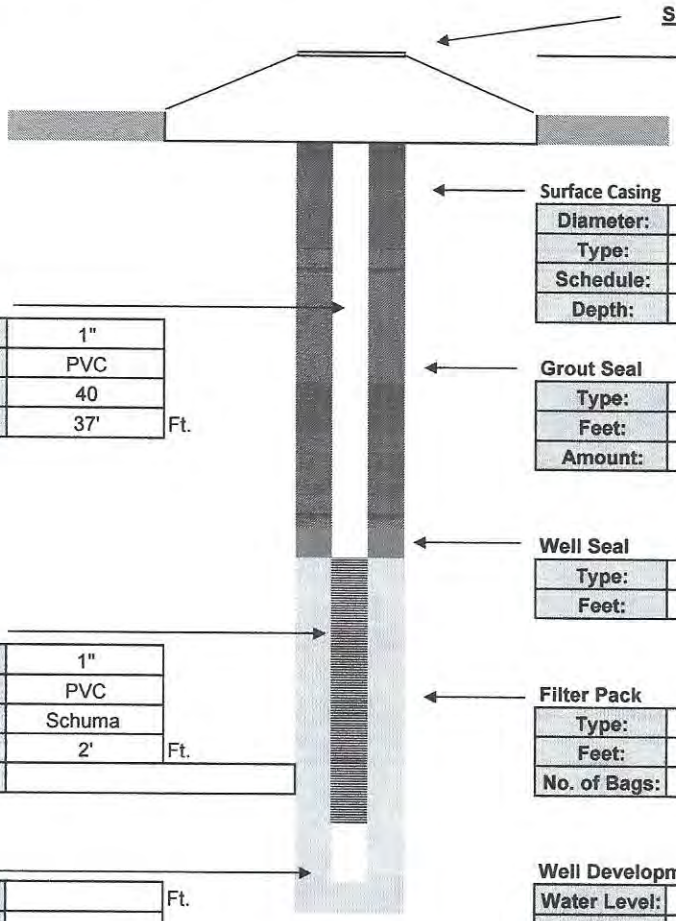
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 314
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		34'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/19/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

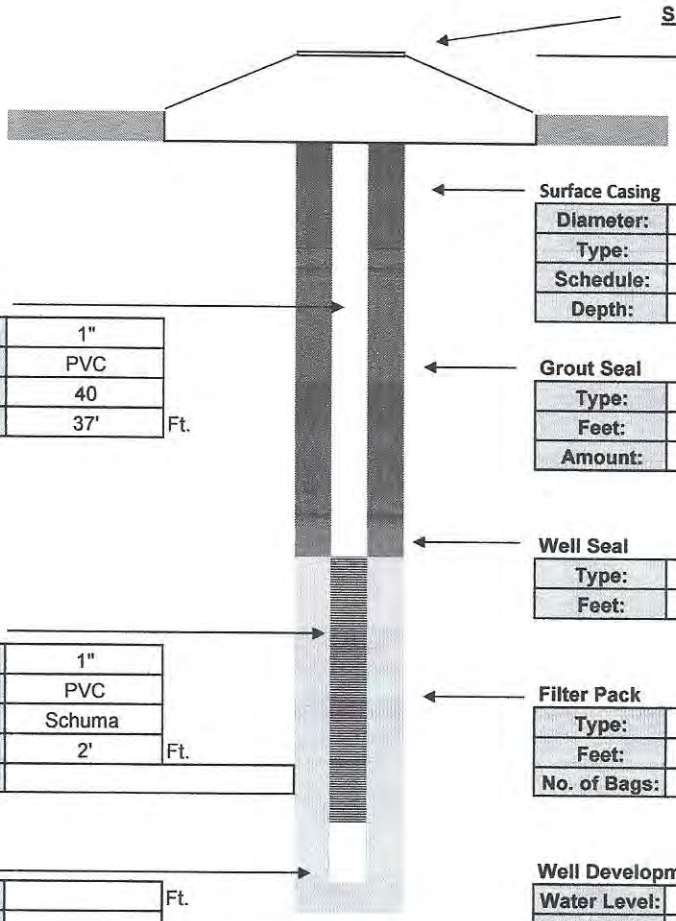
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 317
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		34'	Feet	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/19/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

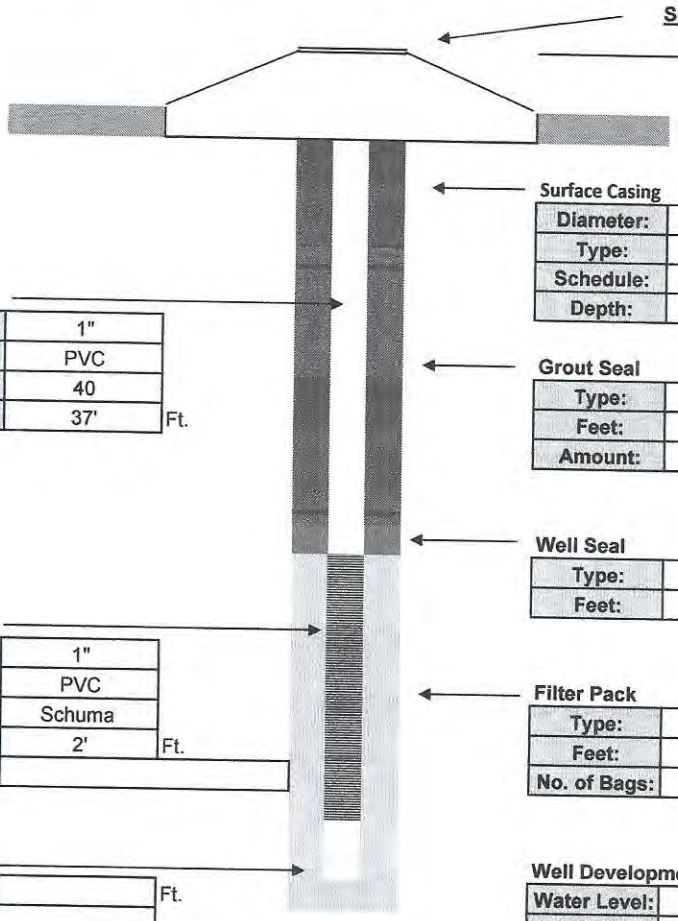
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 324
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		34'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/19/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

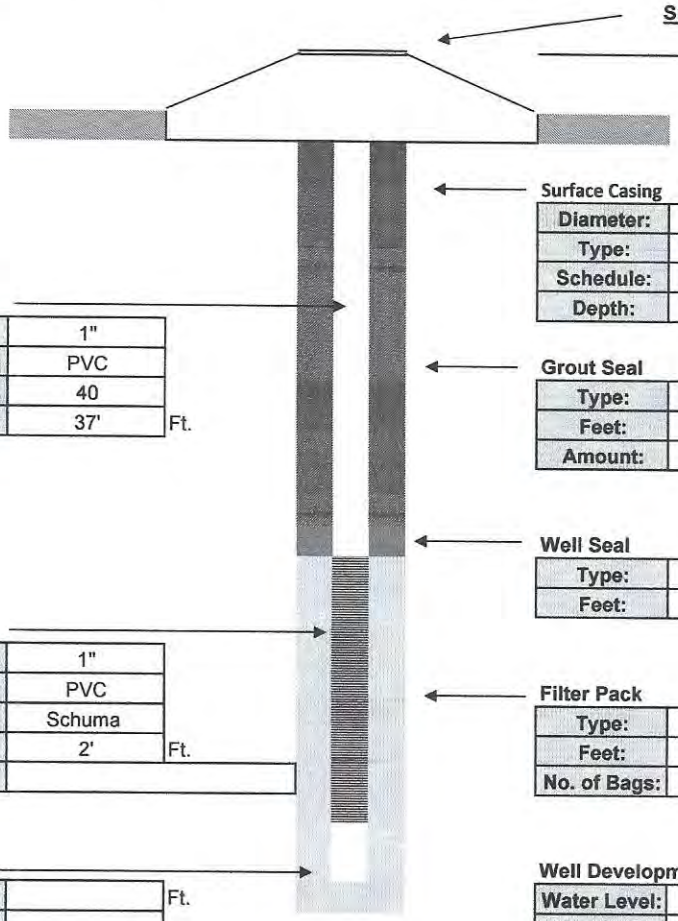
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 352
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		34'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/21/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

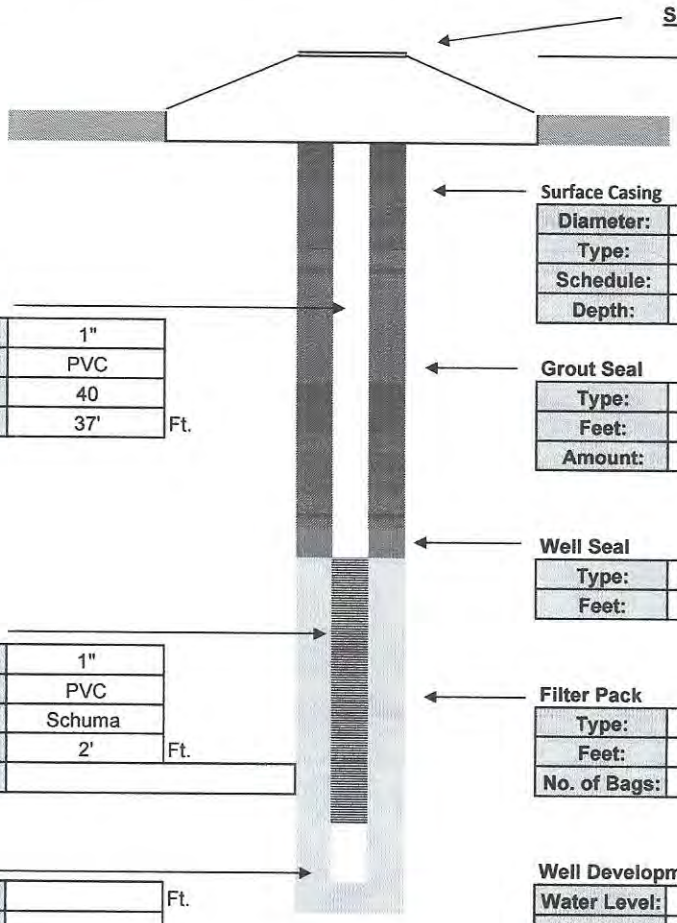
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 370
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		34'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/26/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

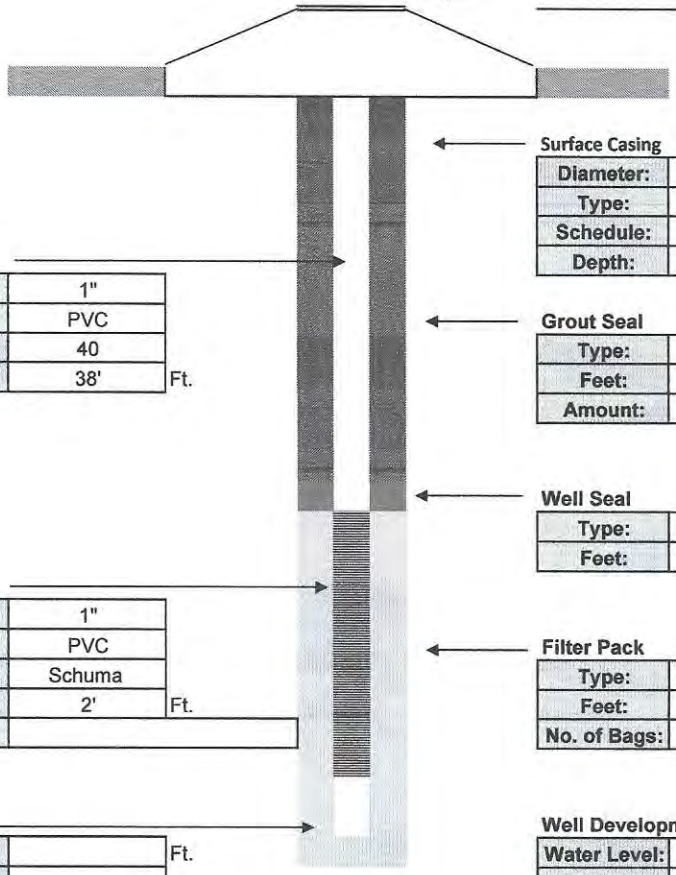
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 304
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/17/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

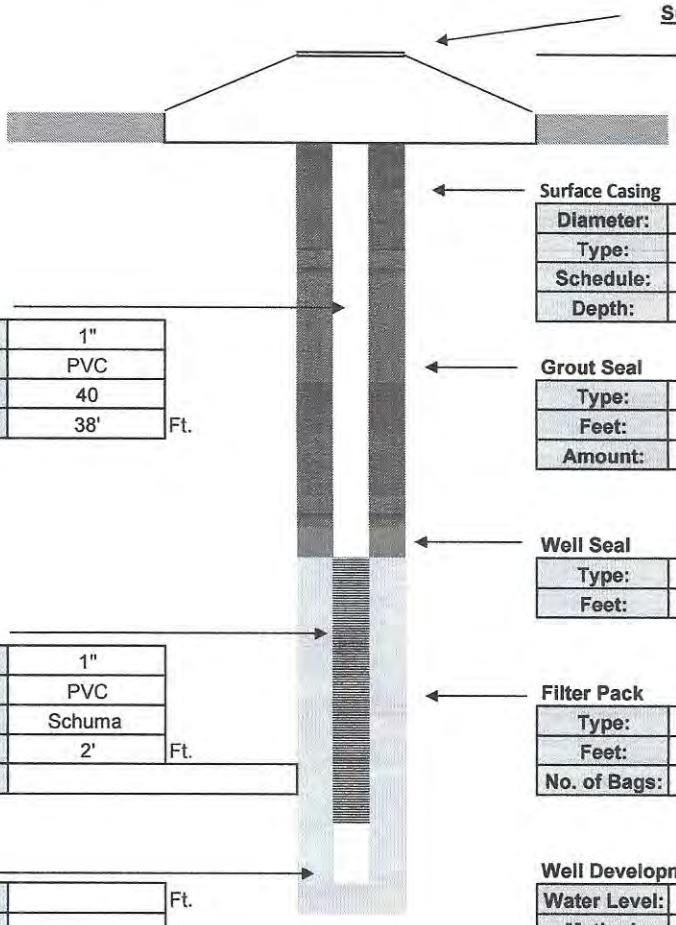
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 306
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/18/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

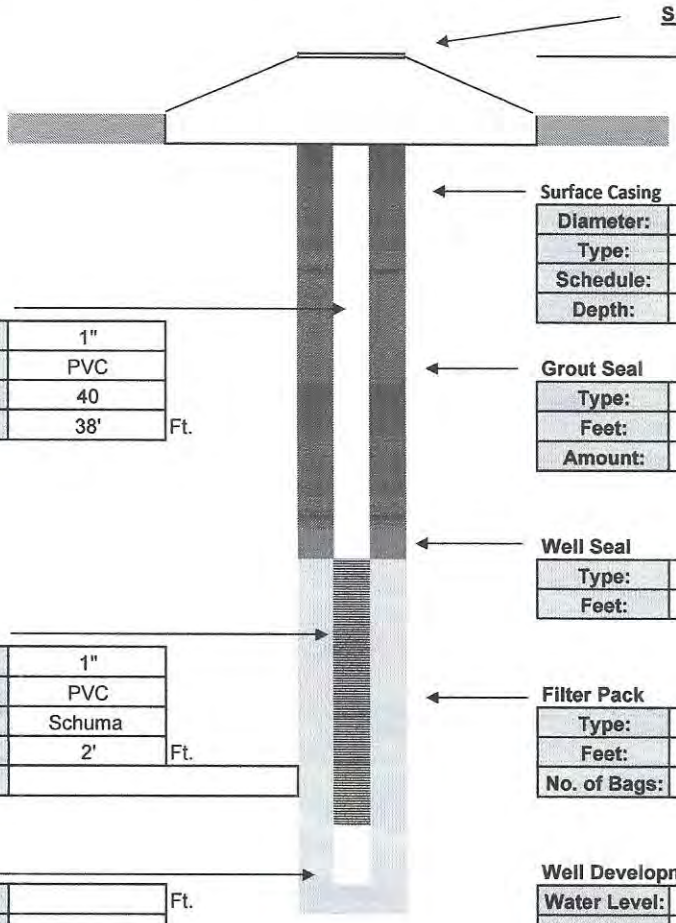
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 307
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/18/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

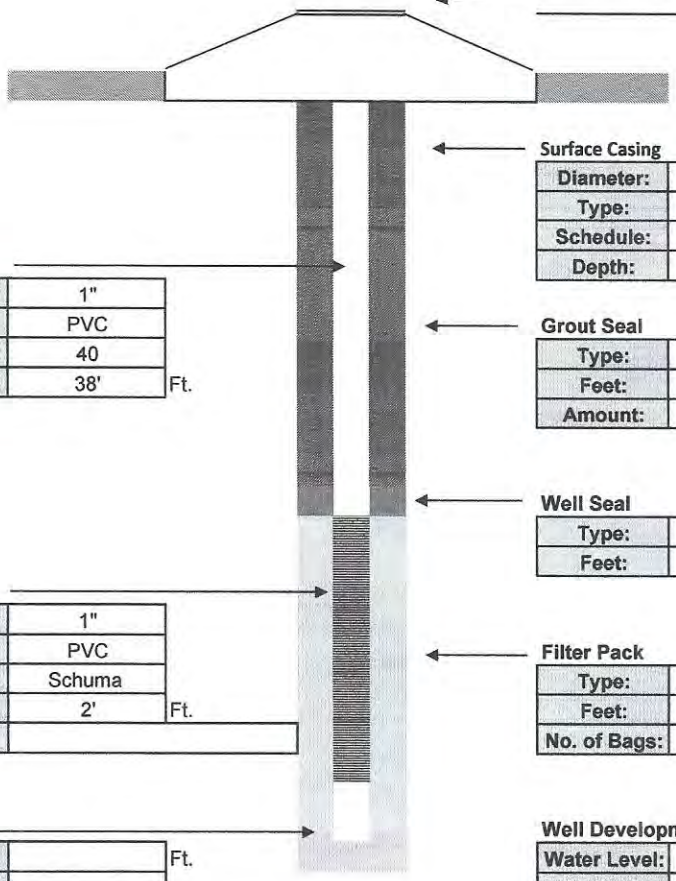
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 308
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/18/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

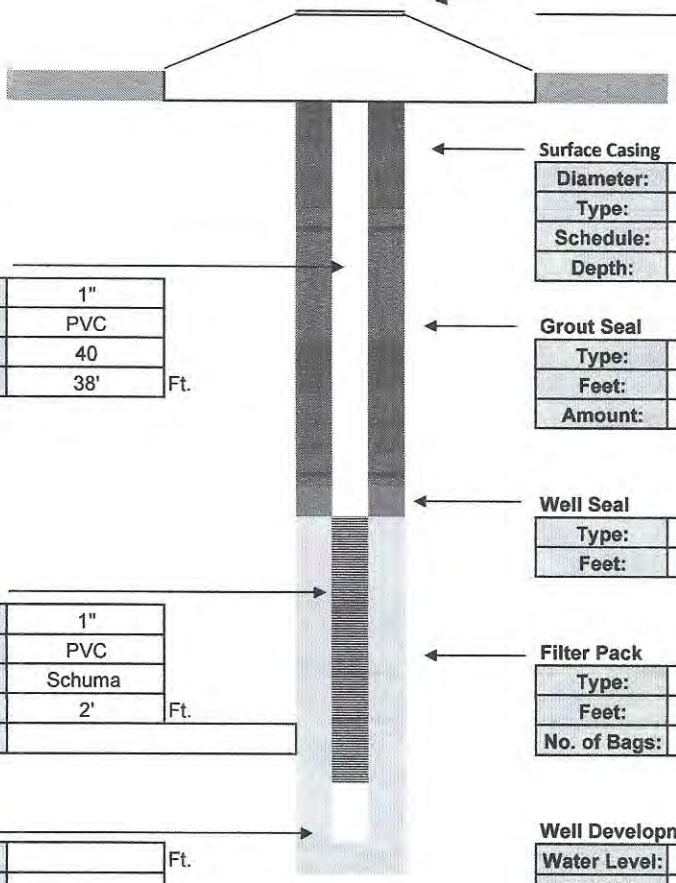
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 311
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/18/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

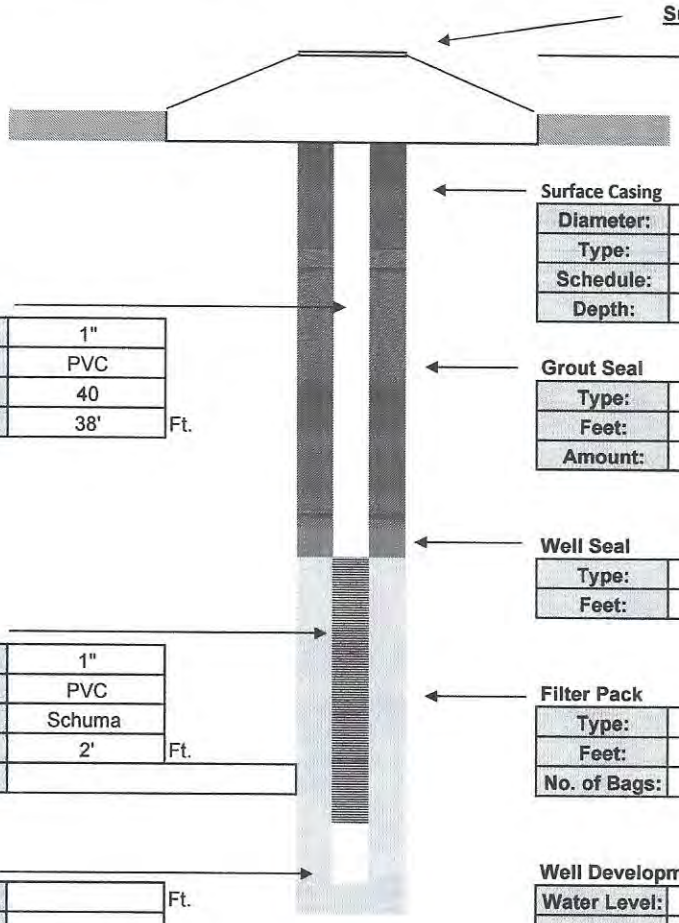
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 312
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		35'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/18/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

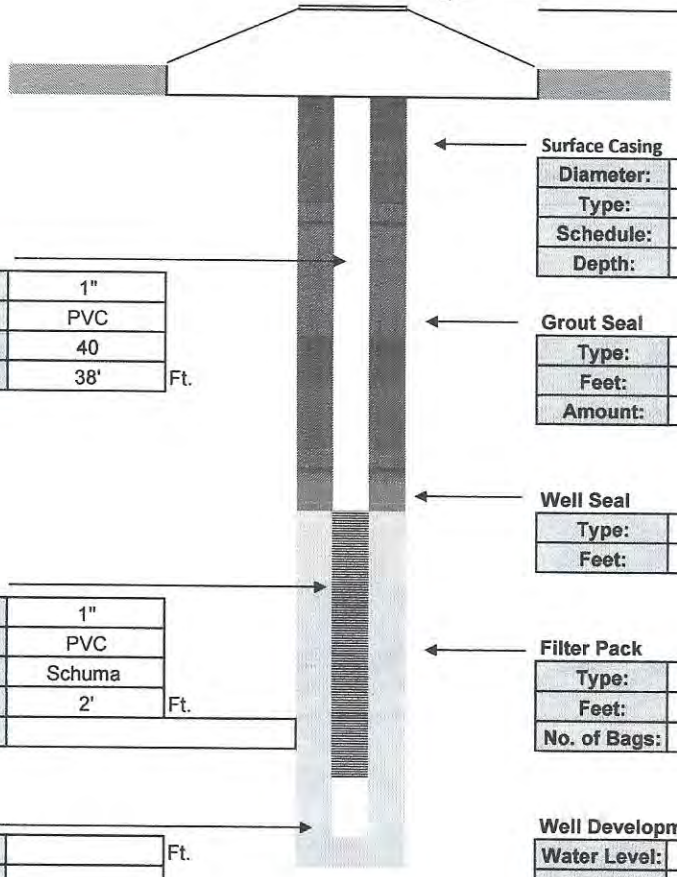
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 348
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		35'	Feet	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/31/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

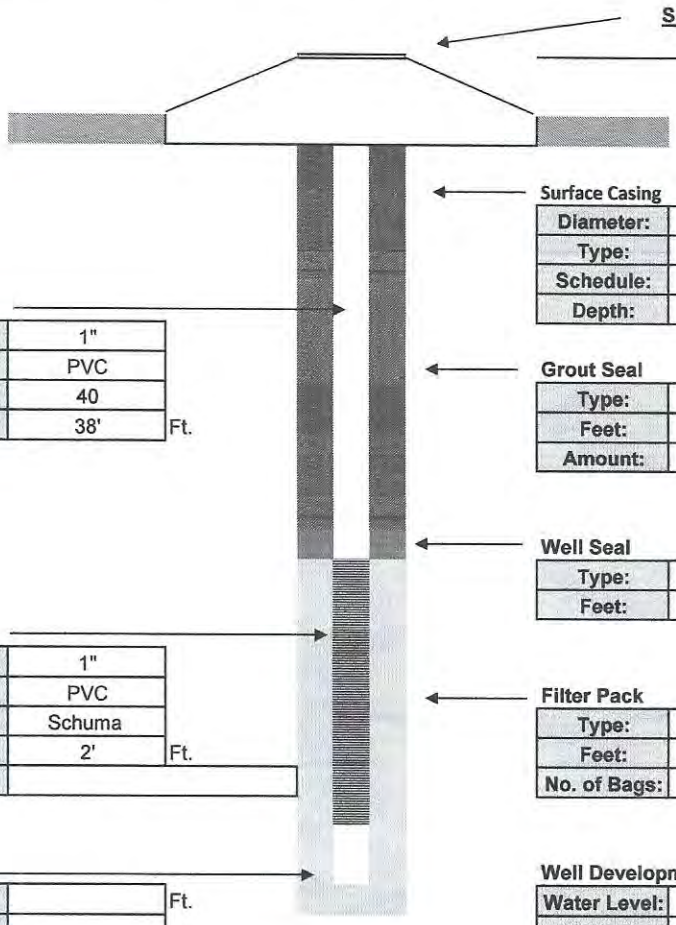
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 349
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/31/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

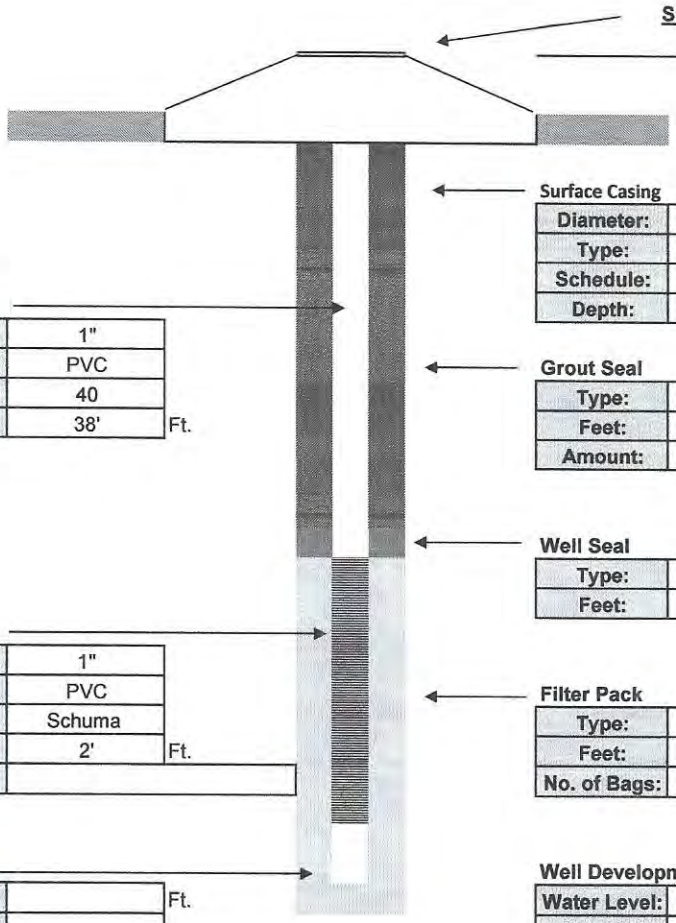
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 353
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/21/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

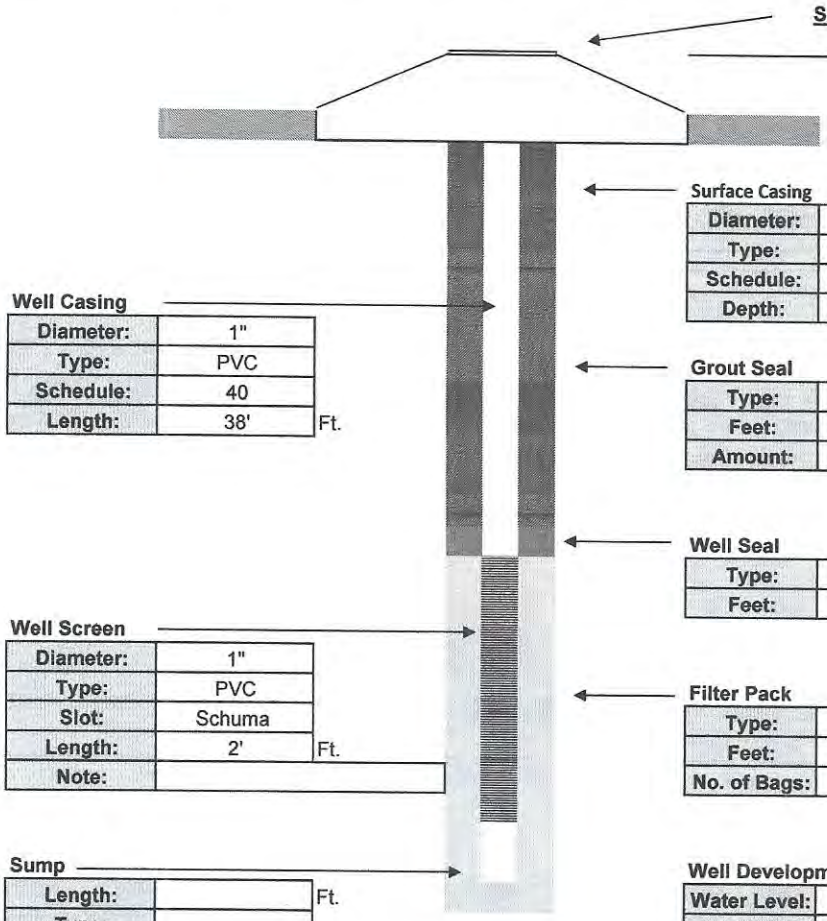
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 354
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/20/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

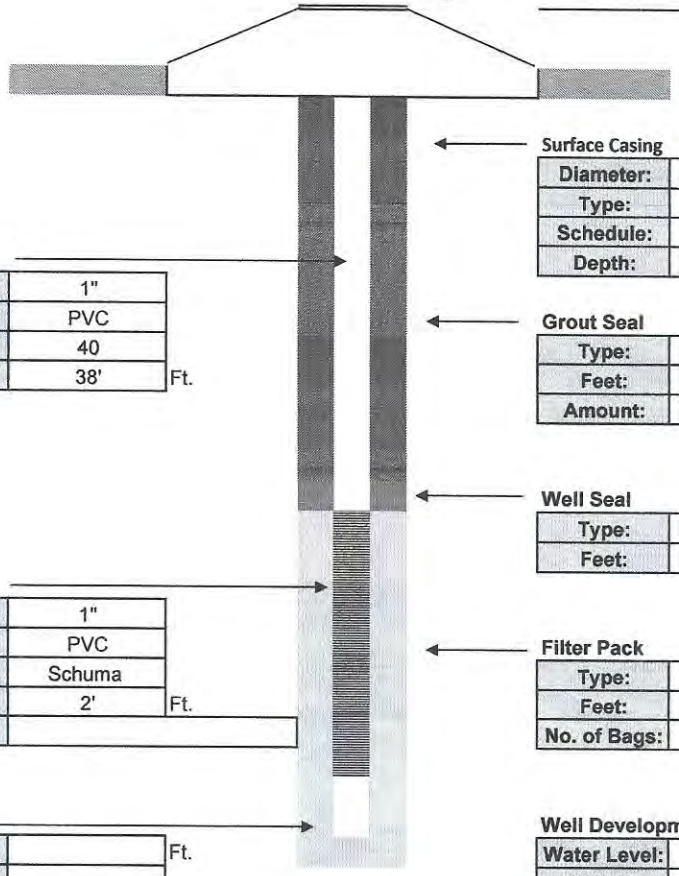
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 364
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/21/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

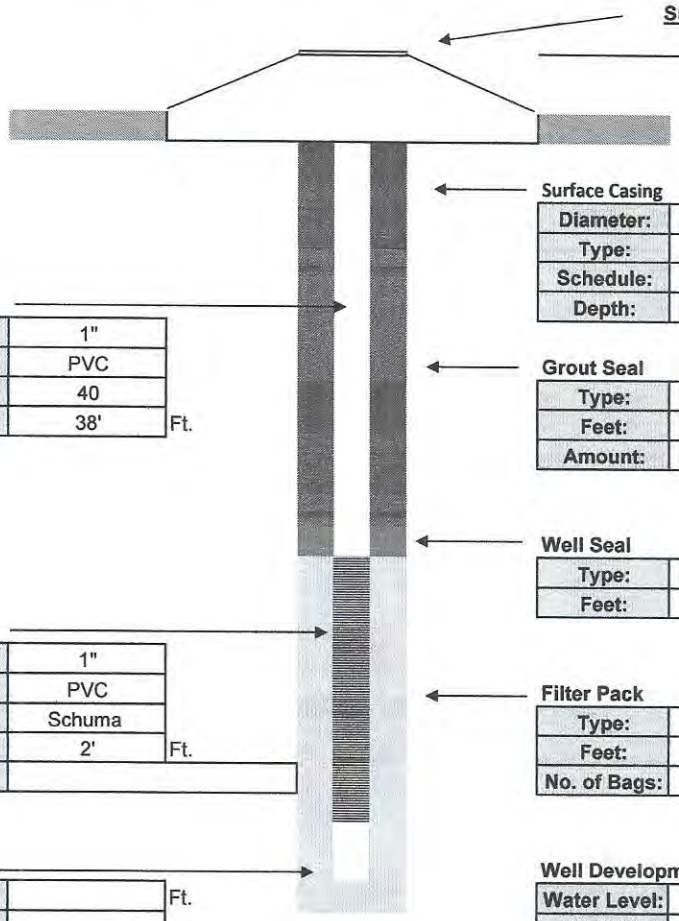
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 365
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/21/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

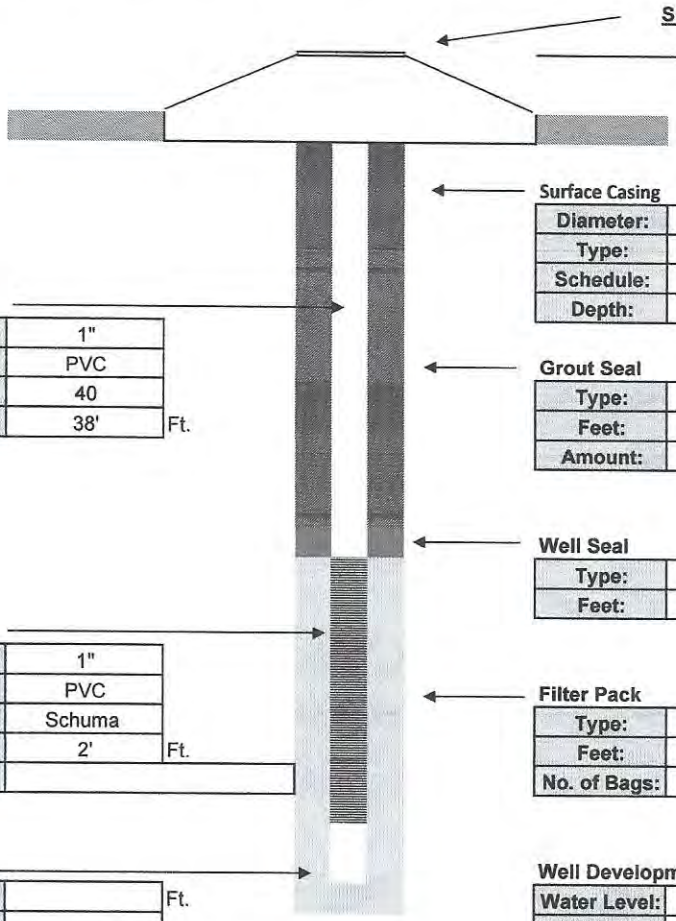
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 366
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/31/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

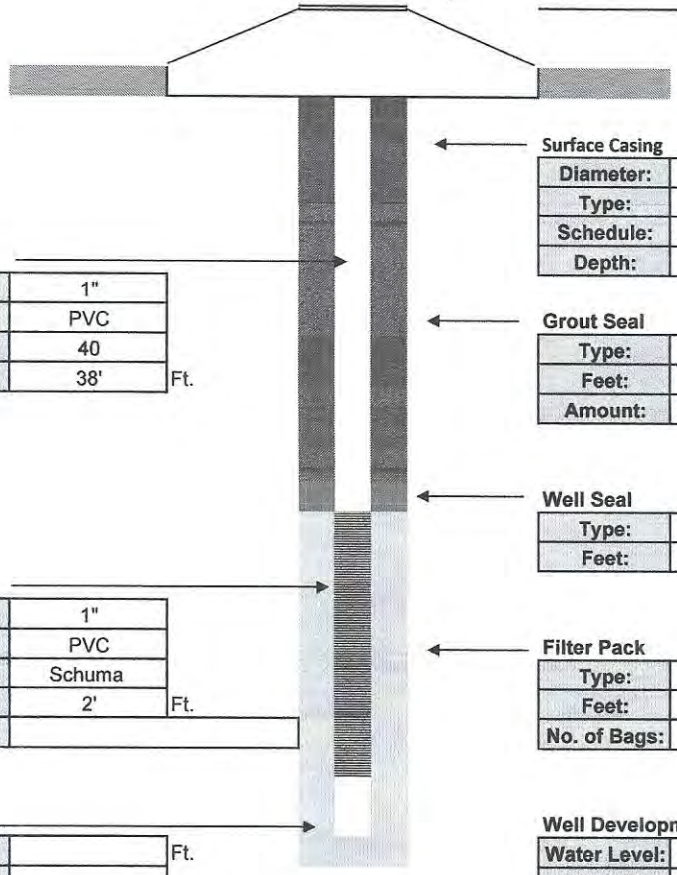
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 367
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/24/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

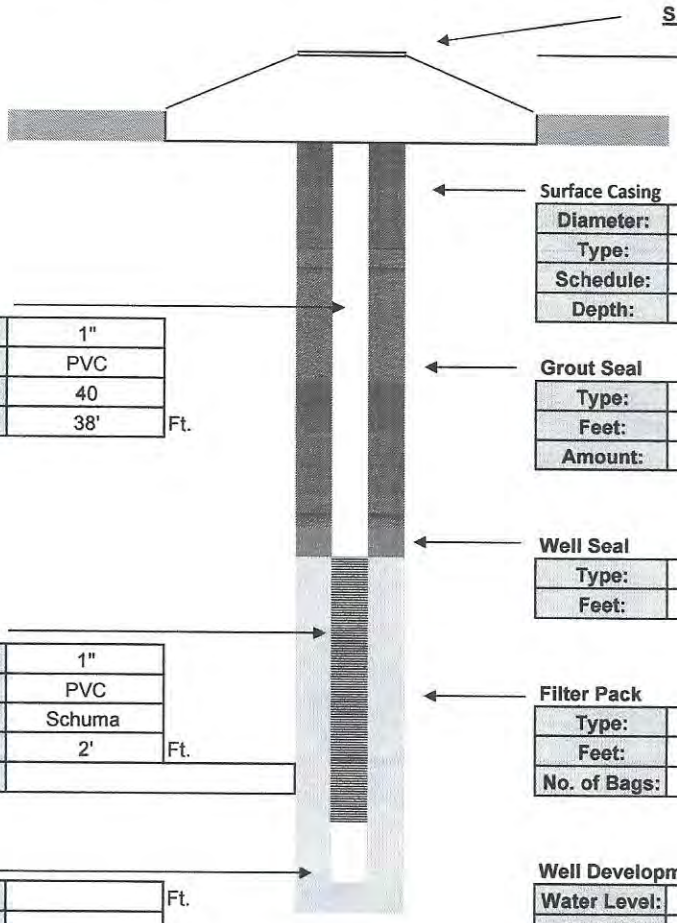
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 374
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/20/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

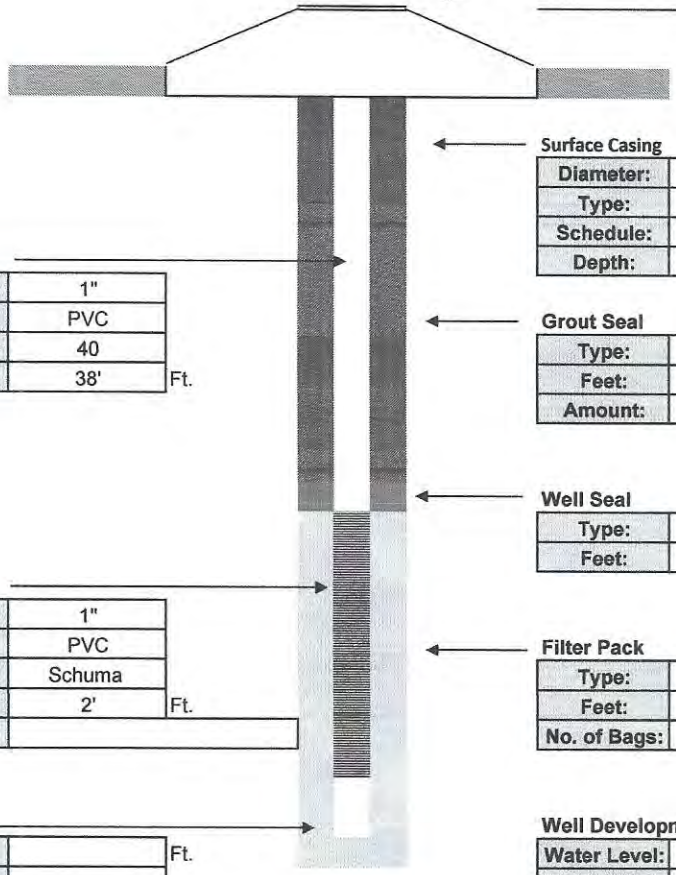
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 375
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/20/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

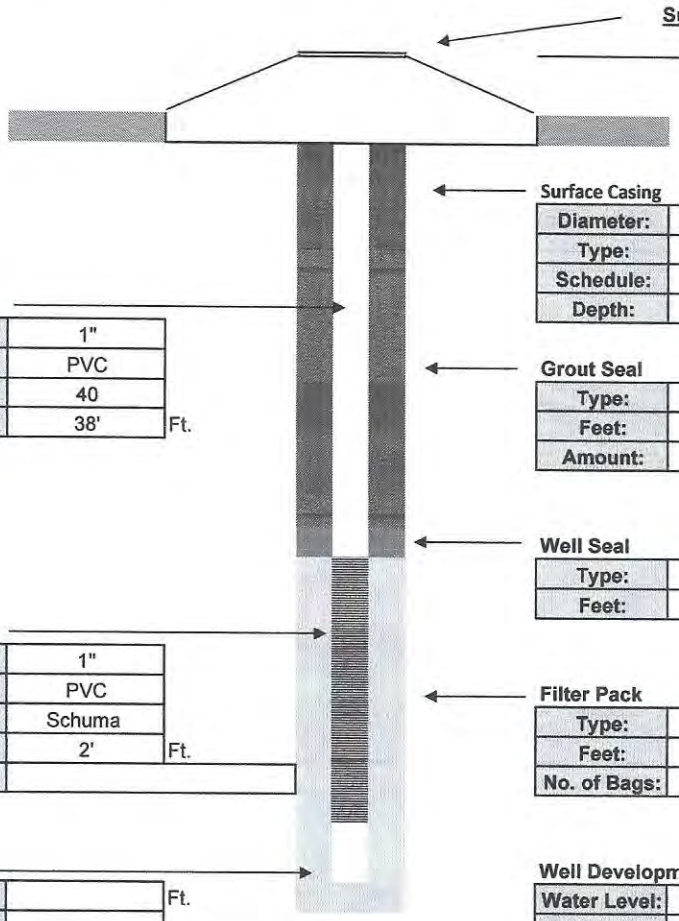
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 376
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	10/20/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

GROUNDWATER PROTECTION
A Division of DRILLPRO, LLC

INVOICE

BILL TO
Tetra Tech NUS, Inc.
661 Andersen Drive
Foster Plaza 7, Suite 5
Pittsburgh, PA 15220

INVOICE # S1122002
DATE 11/17/2022

TERMS Net 45

PURCHASE ORDER	SITE NAME	CLIENT CONTACT
1177430	LC 34	Mark Jonnet / Scott Postler

ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
SR4:FT	Monitor Well Installation	289	26.00	7,514.00
SR4:FT	Monitor Well Materials	289	4.00	1,156.00
SR4:EA	Materials: 1" x 5' PP Screen	7	65.00	455.00
SR4:EA	Materials: 1" x 10' PP Screen	3	130.00	390.00
SR4:FT	Air Sparge Well Installation	720	24.00	17,280.00
SR4:FT	Materials: AS Well Materials	720	4.00	2,880.00
SR4:EA	Materials: 1" x 2" Schuma Screen	18	65.00	1,170.00
SR4:EA	Sonic Coring Bottom 10' of AS Wells	18	80.00	1,440.00

SITE INFORMATION:
Launch Complex 34
Cape Canaveral SFS
Cape Canaveral, FL
Job Date(s): Nov. 1-4, 7-8, 2022

BALANCE DUE **$32,285.00**

BLS

WELL COMPLETION LOG

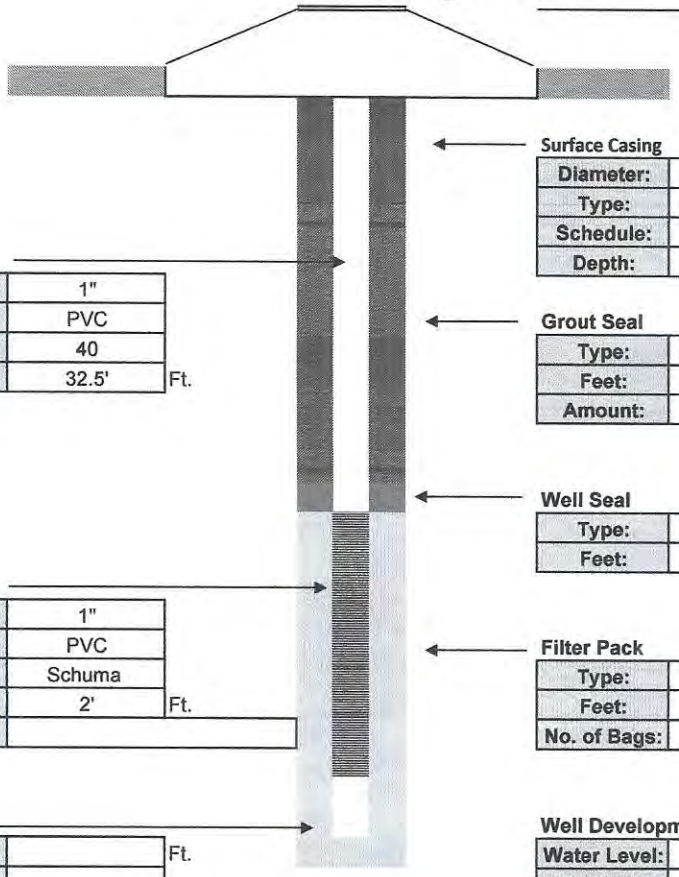
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 321
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	34.5	2'	32.5'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		29.5'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	32.5' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	29.5'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/3/2022
Driller:	Joel Aponte
Lead Hand:	Terry Winstead
3rd Man:	
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

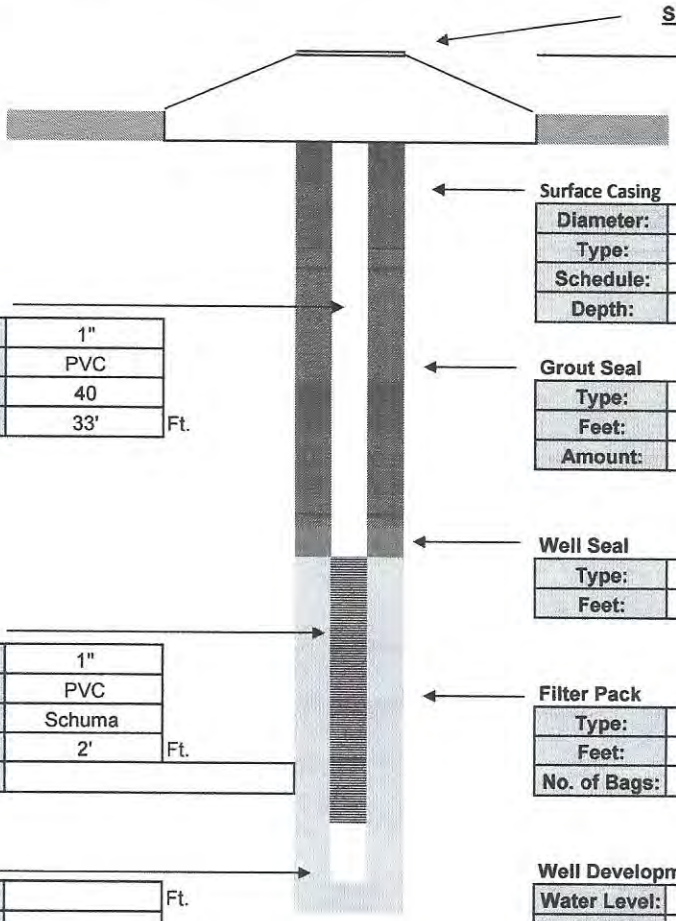
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 326
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	2'	33'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		30'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	33' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	30'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/2/2022
Driller:	Joel Aponte
Lead Hand:	Terry Winstead
3rd Man:	
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

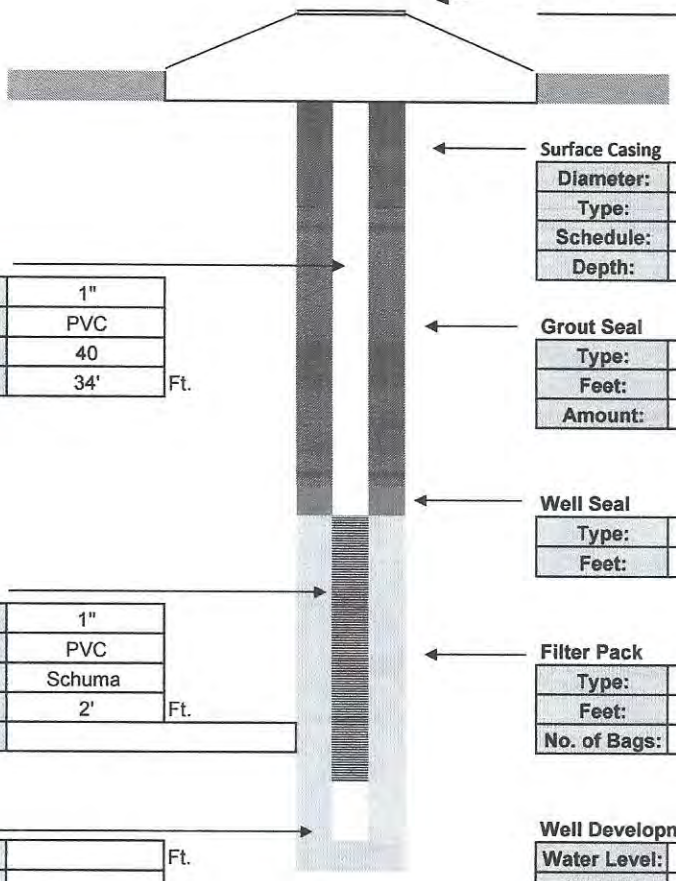
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 322
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	36'	2'	34'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		31'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	34' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	31'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/3/2022
Driller:	Joel Aponte
Lead Hand:	Terry Winstead
3rd Man:	
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

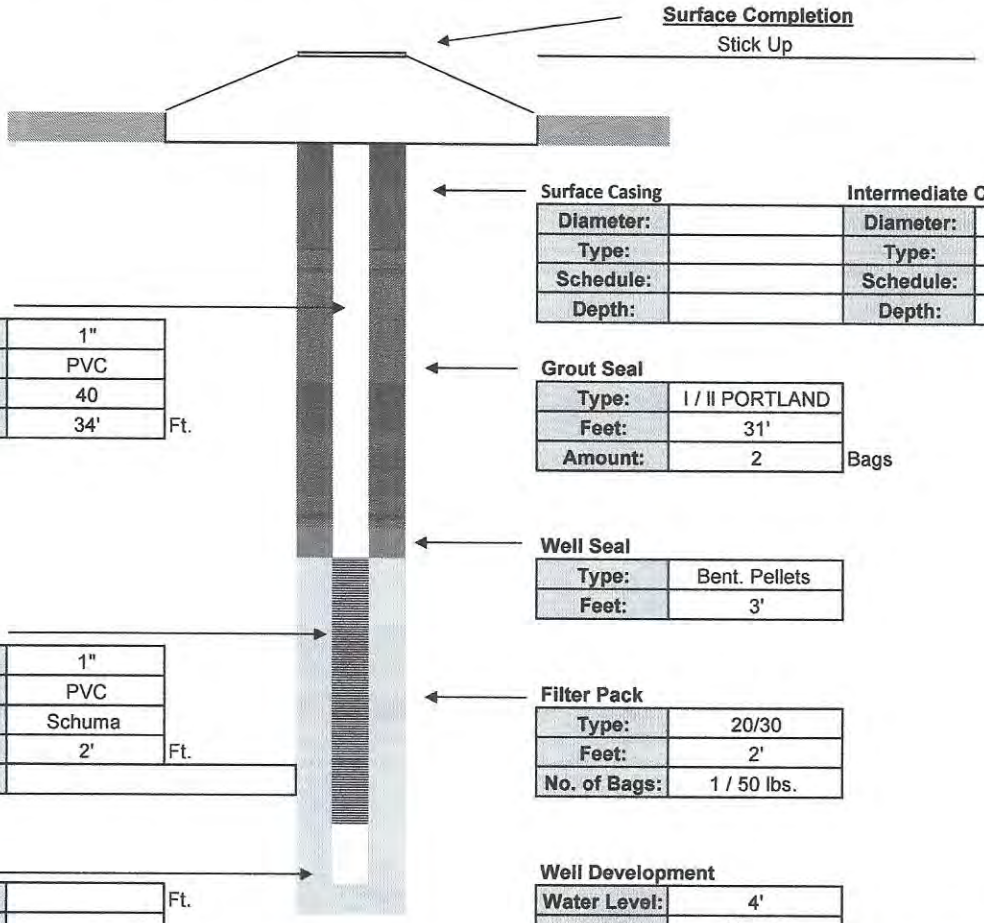
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 328
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	36'	2'	34'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		31'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	34' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	31'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/2/2022
Driller:	Joel Aponte
Lead Hand:	Terry Winstead
3rd Man:	
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

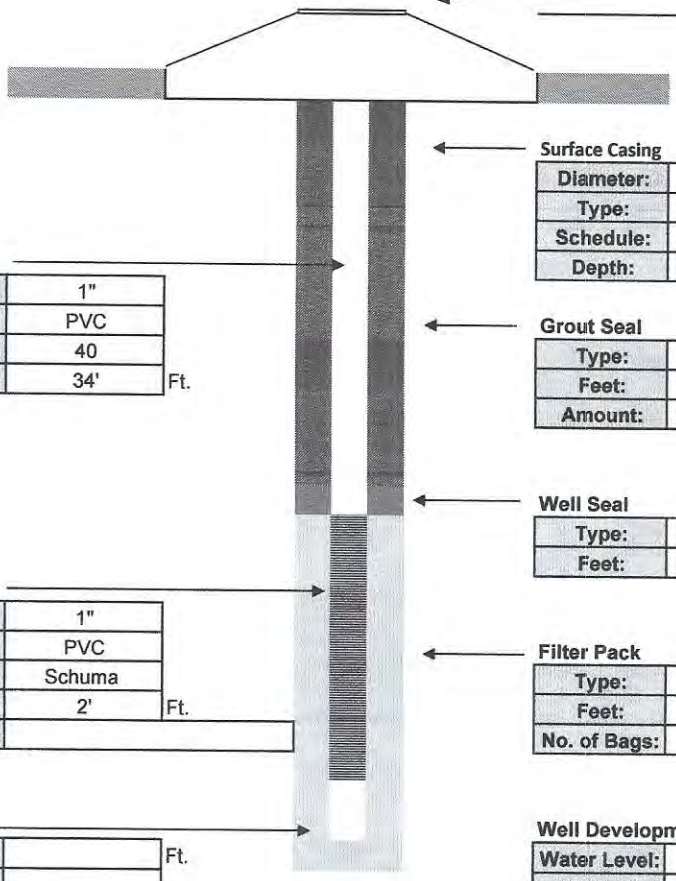
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 329
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	36'	2'	34'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		31'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	34' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	31'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/2/2022
Driller:	Joel Aponte
Lead Hand:	Terry Winstead
3rd Man:	
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

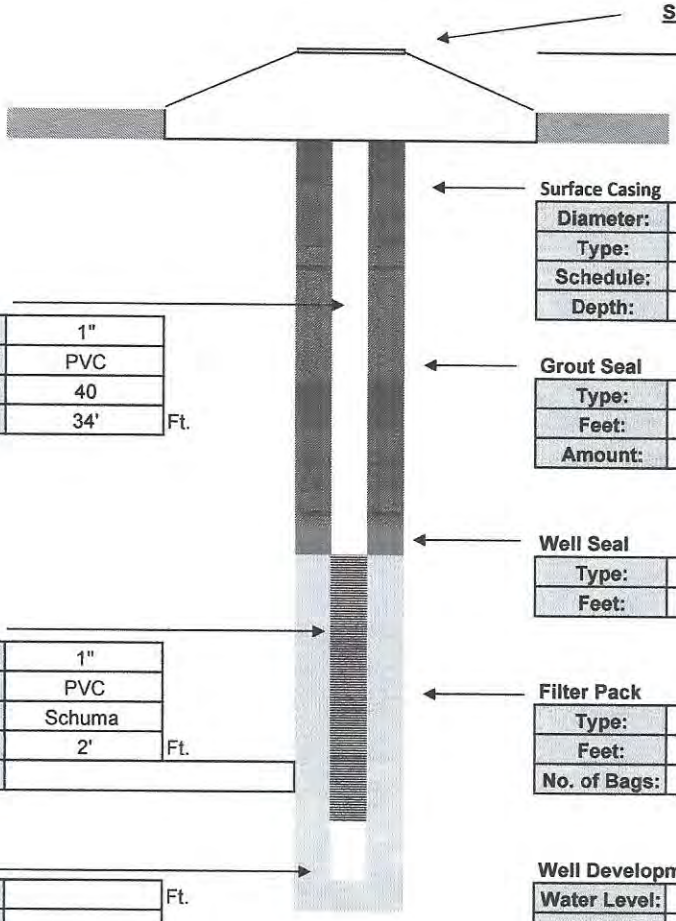
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 330
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	36'	2'	34'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		31'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	34' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	31'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/2/2022
Driller:	Joel Aponte
Lead Hand:	Terry Winstead
3rd Man:	
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

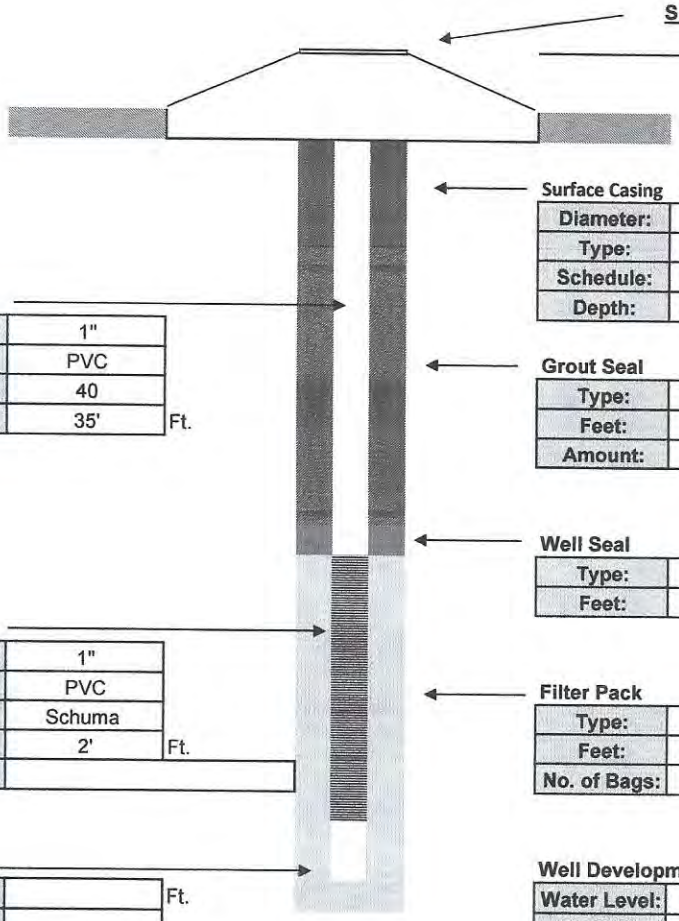
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 320
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	37'	2'	35'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		32'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	35' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	32'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/3/2022
Driller:	Joel Aponte
Lead Hand:	Terry Winstead
3rd Man:	
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

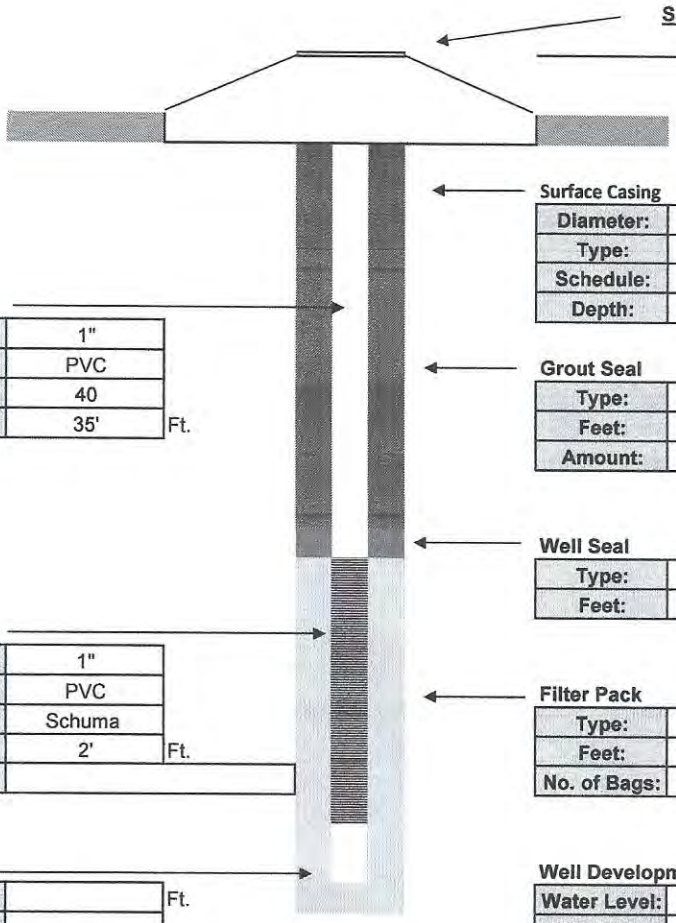
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 323
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	37'	2'	35'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		32'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	35' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	32'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/7/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

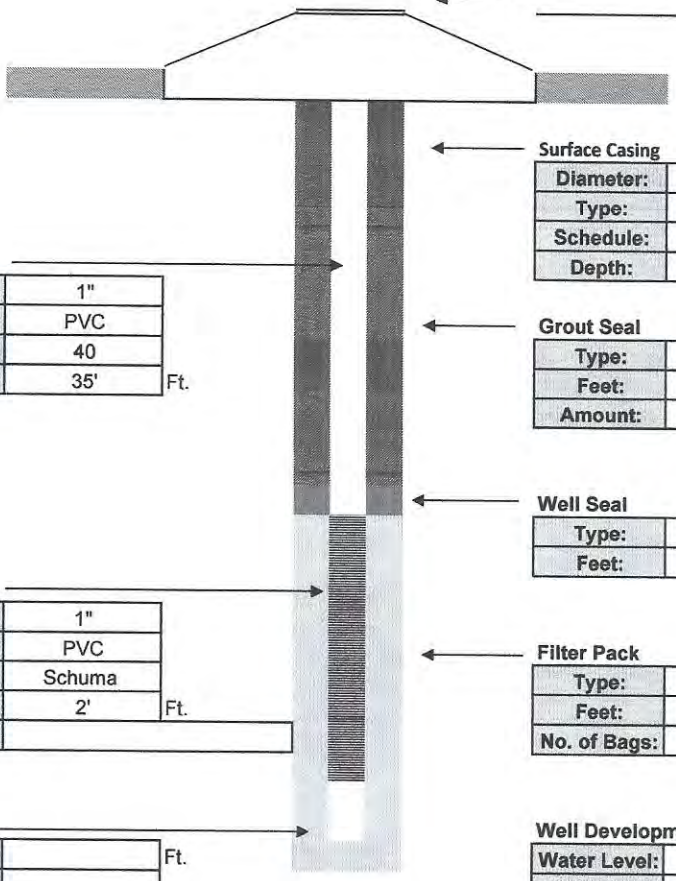
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 327
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	37'	2'	35'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		32'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	35' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	32'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/2/2022
Driller:	Joel Aponte
Lead Hand:	Terry Winstead
3rd Man:	
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

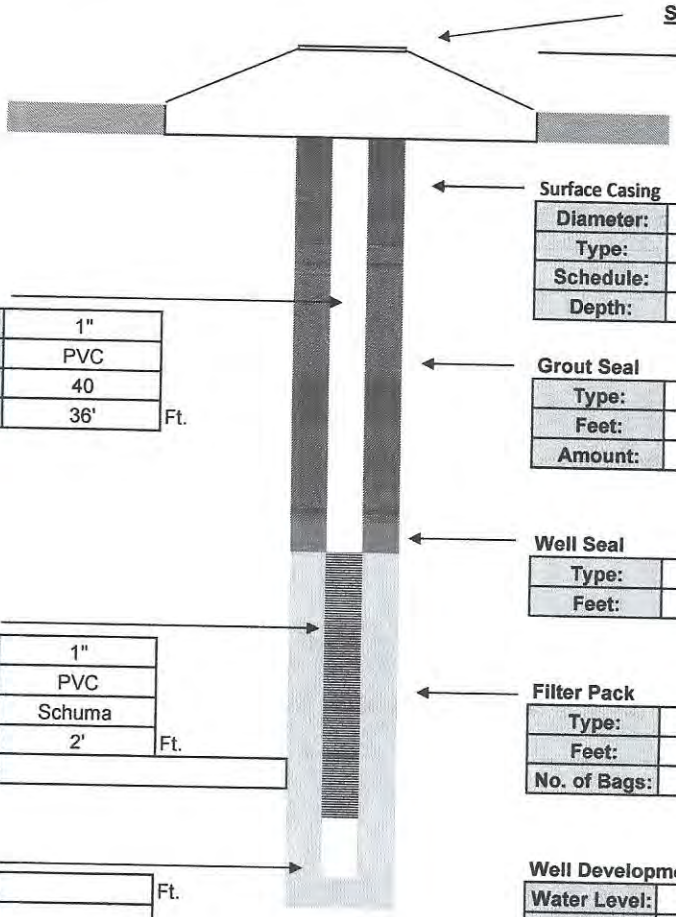
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 47
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/3/2022
Driller:	Joel Aponte
Lead Hand:	Terry Winstead
3rd Man:	
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

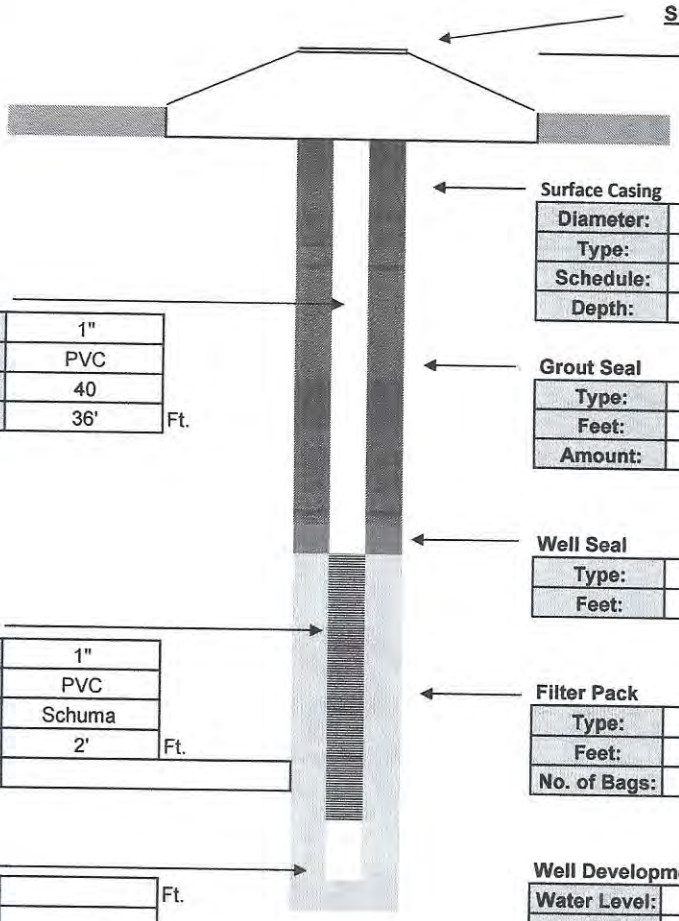
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 333
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/3/2022
Driller:	Joel Aponte
Lead Hand:	Terry Winstead
3rd Man:	
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

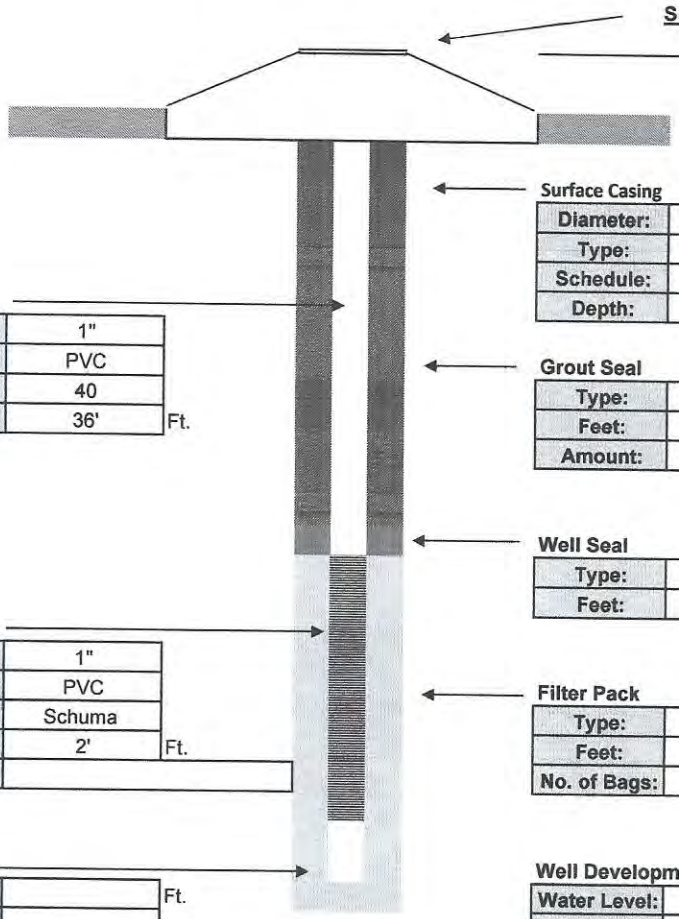
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 340
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		33'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/7/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

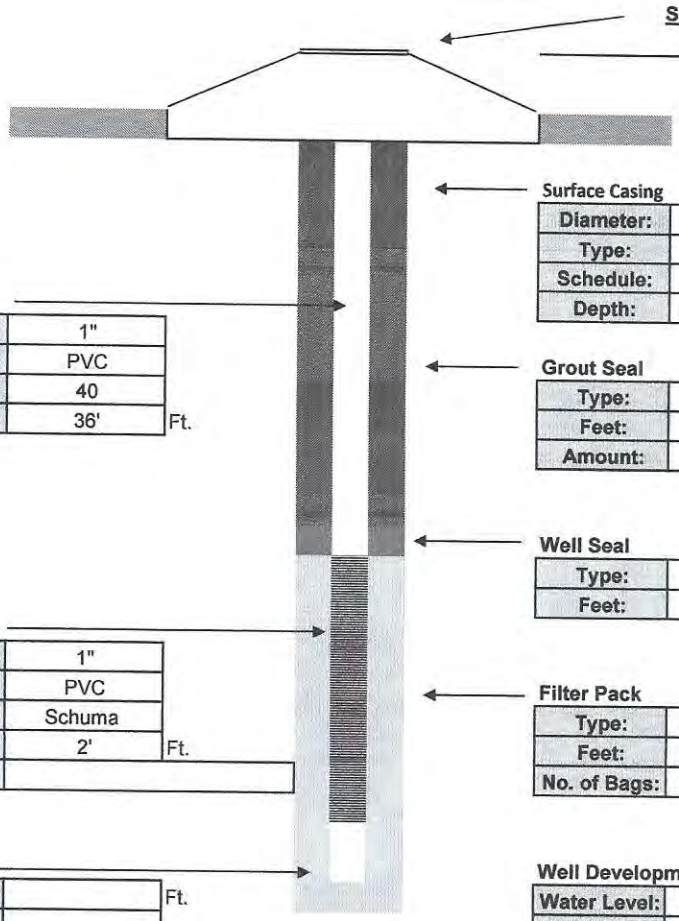
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 350
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/4/2022
Driller:	Joel Aponte
Lead Hand:	Terry Winstead
3rd Man:	
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

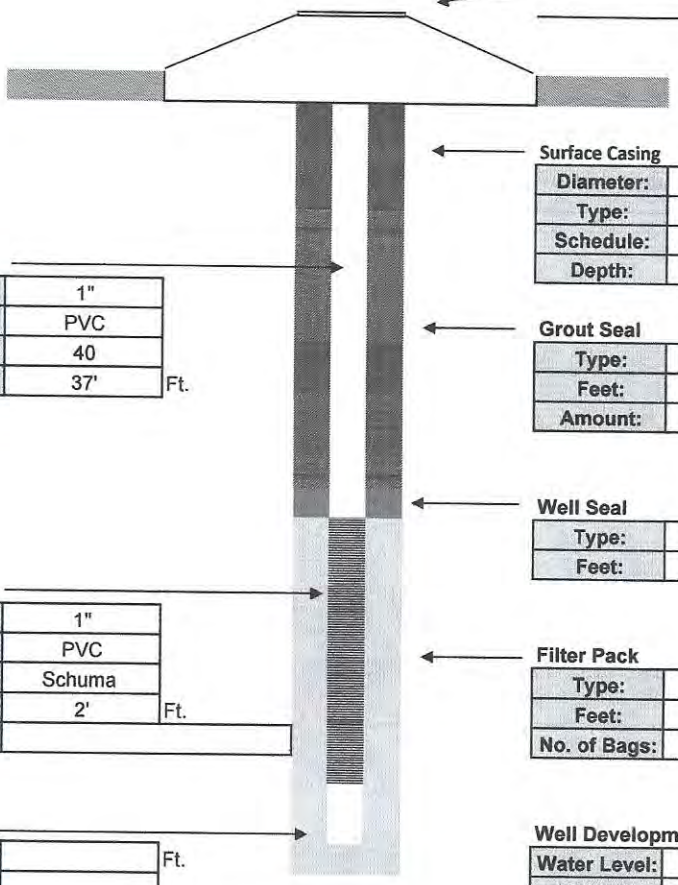
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 331
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		34'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/1/2022
Driller:	Joel Aponte
Lead Hand:	Terry Winstead
3rd Man:	
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

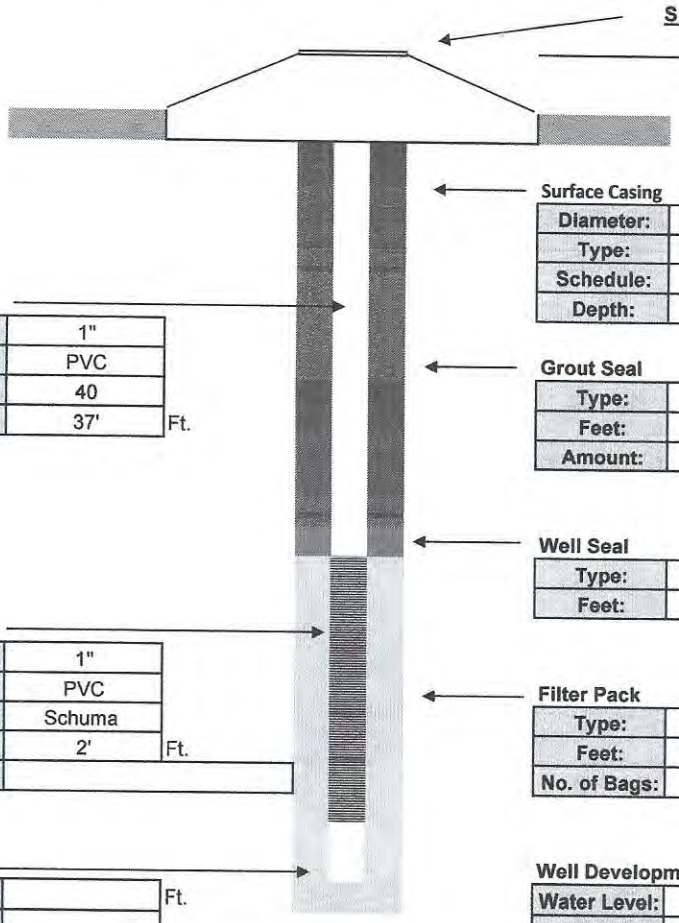
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 332
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		34'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/1/2022
Driller:	Joel Aponte
Lead Hand:	Terry Winstead
3rd Man:	
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

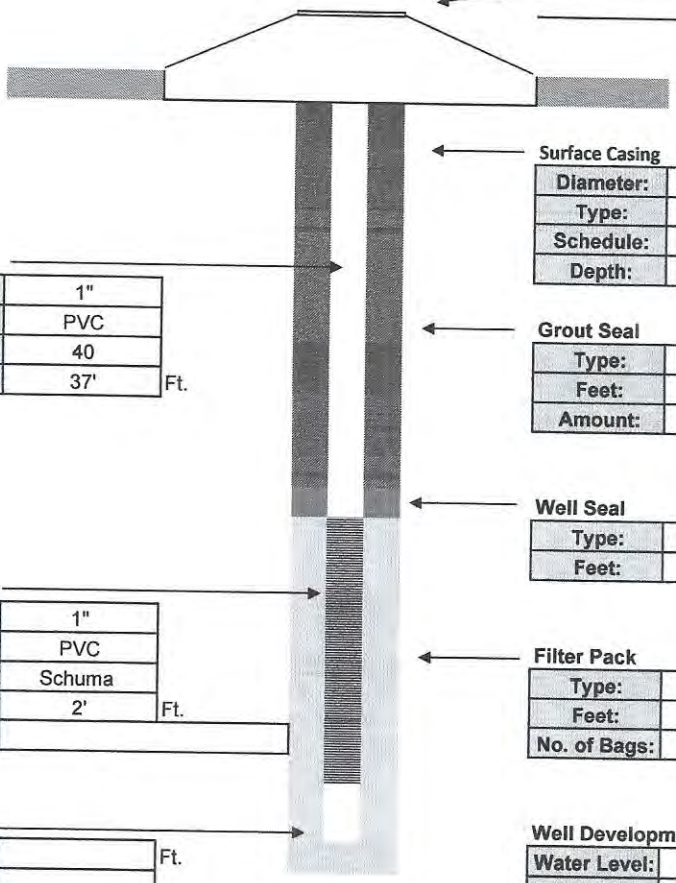
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 351
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		34'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/1/2022
Driller:	Joel Aponte
Lead Hand:	Terry Winstead
3rd Man:	
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

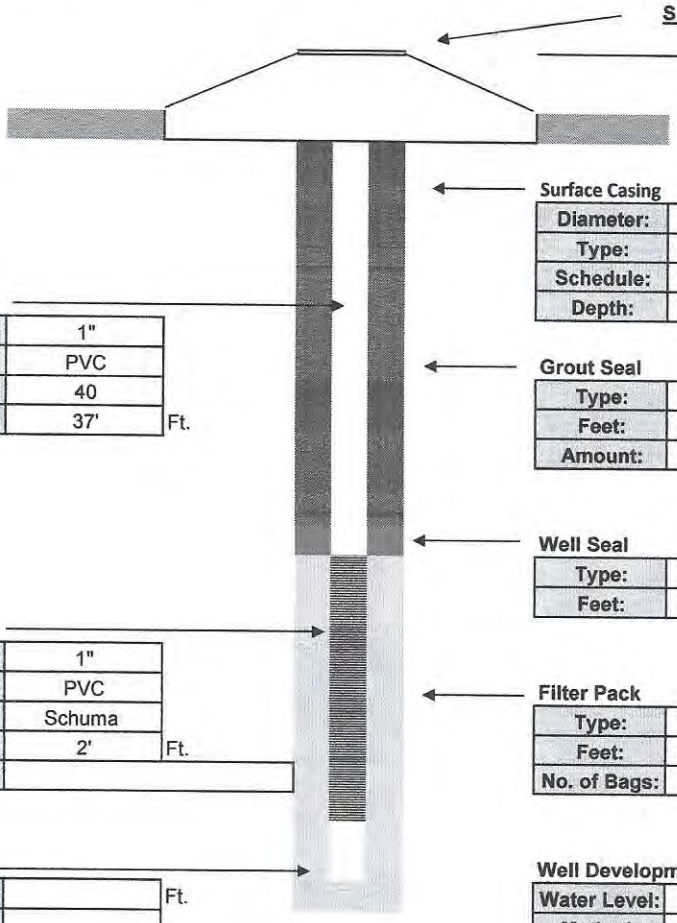
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 362
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		34'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/4/2022
Driller:	Joel Aponte
Lead Hand:	Terry Winstead
3rd Man:	
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

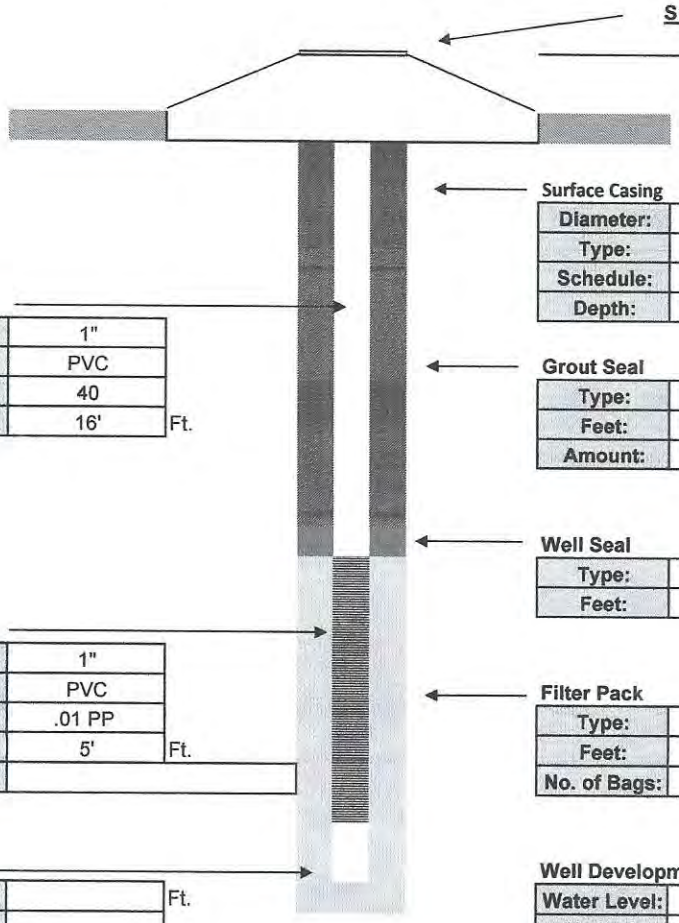
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 154
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	21'	5'	16'	0.75	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		12'	← Feet →	7'	2'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	16' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	12'
Amount:	0.75 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	5' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	7'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/8/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

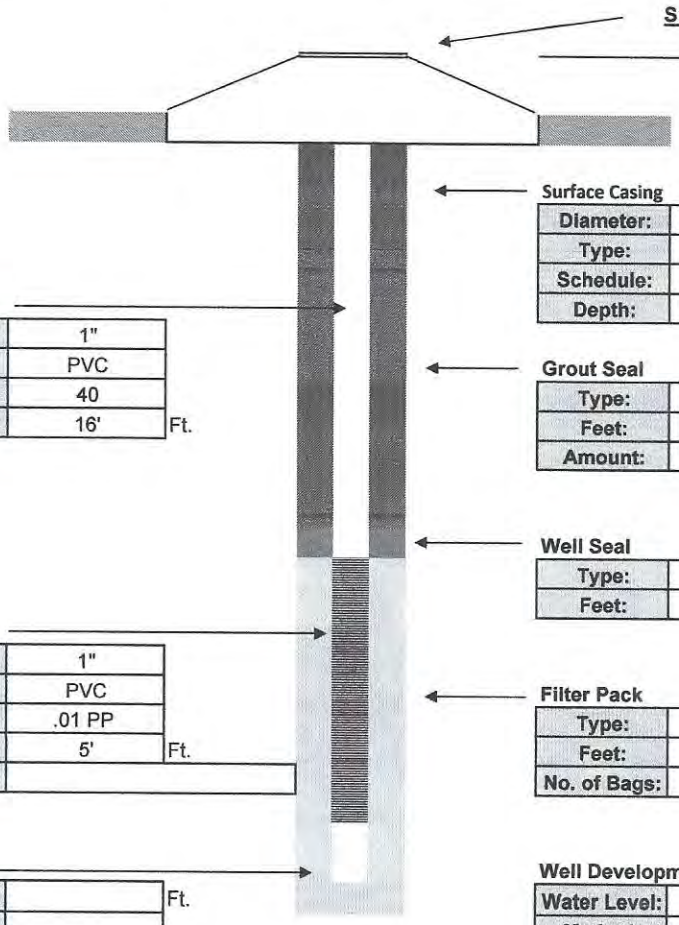
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 157
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	21'	5'	16'	0.75	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		12'	← Feet →	7'	2'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	16' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	12'
Amount:	0.75 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	5' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	7'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/8/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

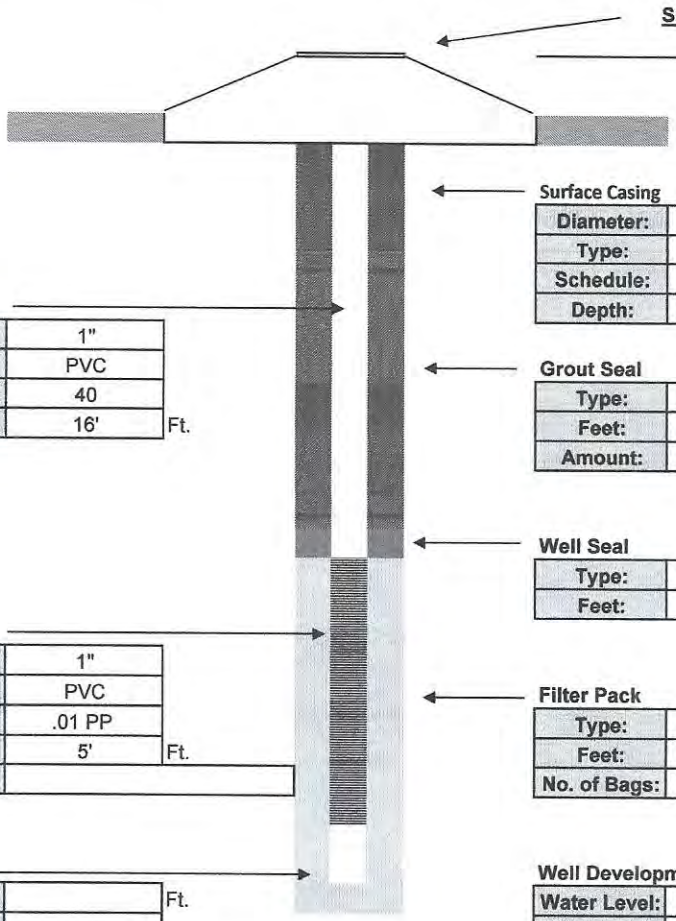
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 158
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	21'	5'	16'	0.75	1 / 50 lbs.	20/30	30/65
40	Schedule	Slot Size:	.01 PP		12'	Feet	7'	2'



Surface Casing		Intermediate Casing	
Diameter:		Diameter:	
Type:		Type:	
Schedule:		Schedule:	
Depth:		Depth:	

Well Casing		
Diameter:	1"	
Type:	PVC	
Schedule:	40	
Length:	16'	Ft.

Grout Seal		
Type:	I / II PORTLAND	
Feet:	12'	
Amount:	0.75	Bags

Well Seal	
Type:	30/65
Feet:	2'

Well Screen		
Diameter:	1"	
Type:	PVC	
Slot:	.01 PP	
Length:	5'	Ft.
Note:		

Filter Pack	
Type:	20/30
Feet:	7'
No. of Bags:	1 / 50 lbs.

Sump		
Length:		Ft.
Type:		

Well Development			
Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/8/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

The water well contractor is responsible for completing this form and forwarding the permit application to the appropriate delegated authority where applicable.

Permit No:	**MW-192769-1**		
Florida Unique ID			
Permit Stipulations Required (See Attached)			
MW-8			
62-524 Quad No.	**3705SE**	Delineation No.	
CUP/WUP Application No.			

ABOVE THIS LINE FOR OFFICIAL USE ONLY

1. **United States of America** (*Owner, Legal Name if Corporation) | **1849 C St NW, Room 5665** (*Address) | **Washington** (*City) | **DC** (*State) | **20240** (*Zip) | **4129217090** (*Telephone Number)

2. **LC-34, CCSFS, FL 32920** (*Well Location – Address, Road Name or Number, City)

3. **23-38-05-00-1** (*Parcel ID No. (PIN) or Alternate Key (Circle One)) | Lot | Block | Unit

4. **6** (*Section or Land Grant) | **23S** (*Township) | **38E** (*Range) | **Brevard** (*County) | Subdivision | Check if 62-524: Yes **X** No

5. **James P Hinst** (*Water Well Contractor) | **9311** (*License Number) | **4074267885** (*Telephone Number) | **jim@drillprollc.com** (E-mail Address)

6. **2300 Silver Star Rd** (*Water Well Contractor's Address) | **Orlando** (City) | **FL** (State) | **32804-3310** (ZIP)

7. *Type of Work: **X** Construction ____ Repair ____ Modification ____ Abandonment ____ (*Reason for Repair, Modification, or Abandonment)

8. *Number of Proposed Wells **8**

9. *Specify Intended Use(s) of Well(s):

- ____ Domestic
- ____ Bottled Water Supply
- ____ Public Water Supply (Limited Use/DOH)
- ____ Public Water Supply (Community orNon-Community/DEP)
- ____ Class I Injection
- ____ Landscape Irrigation
- ____ Recreation Area Irrigation
- ____ Agricultural Irrigation
- ____ Livestock
- ____ Nursery Irrigation
- ____ Commercial/Industrial
- ____ Golf Course Irrigation
- ____ Site Investigation
- **X** Monitoring
- ____ Test
- ____ Earth-Coupled Geothermal
- ____ HVAC Supply
- ____ HVAC Return

Class V Injection: ____ Recharge ____ Commercial/Industrial Disposal ____ Aquifer Storage and Recovery ____ Drainage

Remediation: ____ Recovery ____ Air Sparge ____ Other (Describe) ____

Other (Describe) ____ (Note: Not all types of wells are permitted by a given permitting authority)

Date Stamp
Confirmation# **785770**
Date: **10/11/2022**
Official Use Only

10. *Distance from Septic System if ≤ 200 ft. ____ 11. Facility Description ____ 12. Estimated Start Date **01/09/2023**

13. *Estimated Well Depth **21** ft. *Estimated Casing Depth **16** ft. *Primary Casing Diameter **1** in. Open Hole: From ____ To ____ ft.

14. Estimated Screen Interval: From **16** To **21** ft.

15. *Primary Casing Material: ____ Black Steel ____ Galvanized **X** PVC ____ Stainless Steel ____ Not Cased ____ Other: ____

16. Secondary Casing: ____ Telescope Casing ____ Liner ____ Surface Casing Diameter ____ in.

17. Secondary Casing Material: ____ Black Steel ____ Galvanized ____ PVC ____ Stainless Steel ____ Other ____

18. *Method of Construction, Repair, or Abandonment: ____ Auger ____ Cable Tool ____ Jetted ____ Rotary **X** Sonic ____ Combination (Two or More Methods) ____ Hand Driven (Well Point, Sand Point) ____ Hydraulic Point (Direct Push) ____ Horizontal Drilling ____ Plugged by Approved Method ____ Other (Describe) ____

19. Proposed Grouting Interval for the Primary, Secondary, and Additional Casing:

From **0**	To **16**	Seal Material (____ Bentonite	____ Neat Cement	**X** Other	**Cement with Bentonite, < 5% by weight**	)
From ____	To ____	Seal Material (____ Bentonite	____ Neat Cement	____ Other	____	)
From ____	To ____	Seal Material (____ Bentonite	____ Neat Cement	____ Other	____	)
From ____	To ____	Seal Material (____ Bentonite	____ Neat Cement	____ Other	____	)

20. Indicate total number of existing wells on site ____ List number of existing unused wells on site ____

21. *Is this well or any existing well or water withdrawal on the owner's contiguous property covered under a Consumptive/Water Use Permit (CUP/WUP) or CUP/WUP Application? ____ Yes **X** No If Yes, complete the following: CUP/WUP No. ____ District Well ID No. **533537**

22. Latitude **283111.51** Longitude **803341.54**

23. Data Obtained From: ____ GPS **X** Map ____ Survey Datum: ____ NAD 27 **X** NAD 83 ____ WGS 84

I hereby certify that I will comply with the applicable rules of Title 40, Florida Administration Code, and that a water use permit or artificial recharge permit, if needed, has been or will be obtained prior to commencement of well construction. I further certify that information provided in this application is accurate and that I will obtain necessary approval from other federal, state, or local governments, if applicable. I agree to provide a well completion report to the District within 30 days after completion of the construction, repair, modification, or abandonment authorized by this permit, or the permit expiration, whichever occurs first.

James P Hinst (*Signature of Contractor) | **9311** (*License No.)

I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 373, Florida Statutes, to maintain or properly abandon this well; or, I certify that I am the agent for the owner, that the information provided is accurate, and that I have informed the owner of his responsibilities as stated above. Owner consents to allowing personnel of this WMD or Delegated Authority access to the well site during the construction, repair, modification, or abandonment authorized by this permit.

James P Hinst (*Signature of Owner or Agent) | **10/11/2022** (*Date)

BELOW THIS LINE – FOR OFFICIAL USE ONLY

Approval Granted By *Cynthia Leckey* Issue Date **10/11/2022** Expiration Date **10/10/2023** Hydrologist Approval ____ initials

Fee Received $ **100** Receipt No. **96233** Check No. **OnLine-04698G-785775**

THIS PERMIT IS NOT VALID UNTIL PROPERLY SIGNED BY AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD OR DELEGATED AUTHORITY. THE PERMIT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL CONSTRUCTION, MODIFICATION, OR ABANDONMENT ACTIVITIES.

STATE OF FLORIDA WELL COMPLETION REPORT

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

Date Stamp

Confirmation# 792423

Date:11/29/2022

Official Use Only

1. *Permit Number MW-192769-1 *CUP/WUP Number _____ *DID Number 533537 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 3 *Number of permitted wells not constructed, repaired, or abandoned 5
3. *Owner's Name United States of America 4.*Completion Date 11/08/2022 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283108.532 Longitude 803338.1314
9. Data Obtained From: ___GPS _X_Map ___Survey Datum: ___NAD 27 _X_NAD 83 ___WGS 84

10. *Type of Work: _X_Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
_X_Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted _X_Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above _X_Below Land Surface *Flowing: ___Yes _X_No
15. *Casing Material: ___Black Steel ___Galvanized _X_PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 21 ft. Cased Depth 16 ft. *Open Hole: From ___To___ft. *Screen: From 16 To 21 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:

Dia 1 in.	From 0 ft.	To 12 ft.	No. of Bags .75	Seal Material (Check One):	___Neat Cement	___Bentonite	_X_Other	Cement with Bentonite, < 5% by weight
Dia 1 in.	From 12 ft.	To 16 ft.	No. of Bags 1	Seal Material (Check One):	___Neat Cement	___Bentonite	_X_Other	Sand
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	

20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower ___ Pump Capacity (GPM) ___
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192769-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 154

STATE OF FLORIDA WELL COMPLETION REPORT

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

Date Stamp

Confirmation# 792425

Date:11/29/2022

Official Use Only

1. *Permit Number MW-192769-1 *CUP/WUP Number _____ *DID Number 535307 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 3 *Number of permitted wells not constructed, repaired, or abandoned 5
3. *Owner's Name United States of America 4.*Completion Date 11/08/2022 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283107.7217 Longitude 803340.106
9. Data Obtained From: ___GPS __X__Map ___Survey Datum: ___NAD 27 __X__NAD 83 ___WGS 84

10. *Type of Work: __X__Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
__X__Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted __X__Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above __X__Below Land Surface *Flowing: ___Yes __X__No
15. *Casing Material: ___Black Steel ___Galvanized __X__PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 21 ft. Cased Depth 16 ft. *Open Hole: From ___To___ft. *Screen: From 16 To 21 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:

Dia 1 in.	From 0 ft.	To 12 ft.	No. of Bags .75	Seal Material (Check One):	___Neat Cement	___Bentonite	__X__Other	Cement with Bentonite, < 5% by weight
Dia 1 in.	From 12 ft.	To 16 ft.	No. of Bags 1	Seal Material (Check One):	___Neat Cement	___Bentonite	__X__Other	Sand
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	

20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower _____ Pump Capacity (GPM) _____
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron _____ppm Sulfate _____ppm Chloride _____ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192769-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 157

STATE OF FLORIDA WELL COMPLETION REPORT

[ ] Southwest
[ ] Northwest
[ ] St. Johns River
[ ] South Florida
[ ] Suwannee River
[ ] DEP
[X] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Confirmation# 792426

Date:11/29/2022

Official Use Only

1. *Permit Number MW-192769-1 *CUP/WUP Number _____ *DID Number 535309 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 3 *Number of permitted wells not constructed, repaired, or abandoned 5
3. *Owner's Name United States of America 4.*Completion Date 11/08/2022 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283110.5045 Longitude 803340.7916
9. Data Obtained From: ___GPS __X__Map ___Survey Datum: ___NAD 27 __X__NAD 83 ___WGS 84

10. *Type of Work: __X__Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
__X__Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted __X__Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above __X__Below Land Surface *Flowing: ___Yes __X__No
15. *Casing Material: ___Black Steel ___Galvanized __X__PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 21 ft. Cased Depth 16 ft. *Open Hole: From ___To___ft. *Screen: From 16 To 21 ft. Slot Size .01

17. *Abandonment: ___Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:

Dia 1 in.	From 0 ft.	To 12 ft.	No. of Bags .75	Seal Material (Check One):	___Neat Cement	___Bentonite	__X__Other	Cement with Bentonite, < 5% by weight
Dia 1 in.	From 12 ft.	To 16 ft.	No. of Bags 1	Seal Material (Check One):	___Neat Cement	___Bentonite	__X__Other	Sand
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	

20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower _____ Pump Capacity (GPM) _____
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192769-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 158

WELL COMPLETION LOG

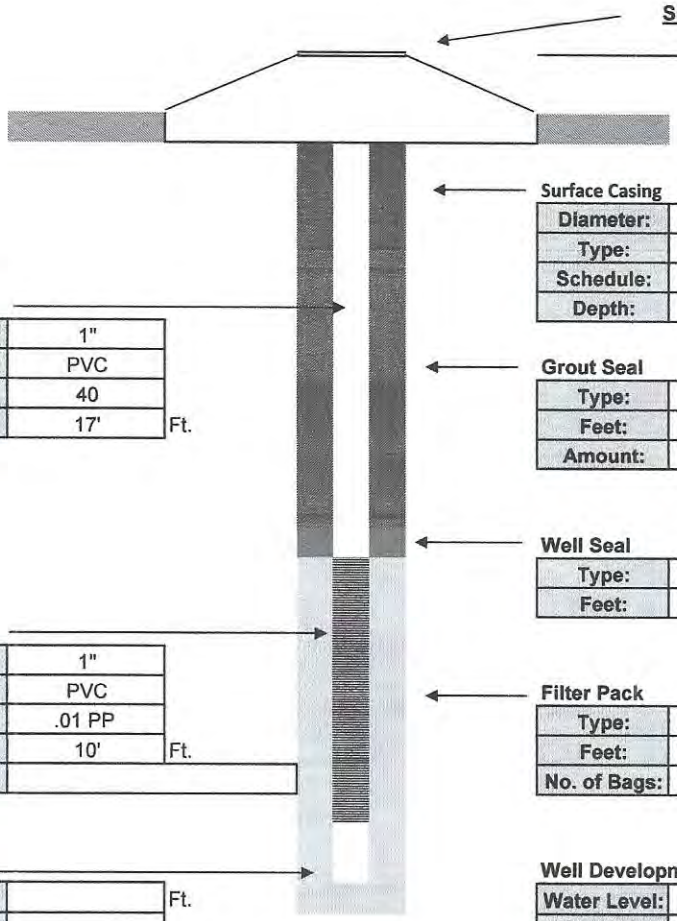
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 148
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	27'	10'	17'	0.75	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		13'	← Feet →	12'	2'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	17' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	13'
Amount:	0.75 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	10' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	12'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/7/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

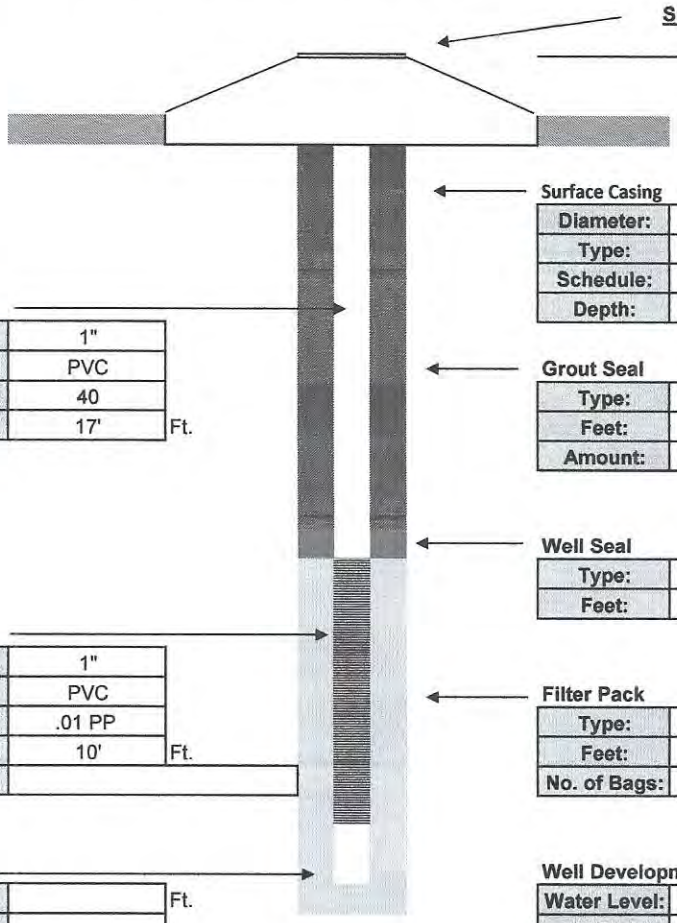
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 150
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	27'	10'	17'	0.75	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		13'	← Feet →	12'	2'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	17' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	13'
Amount:	0.75 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	10' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	12'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/8/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

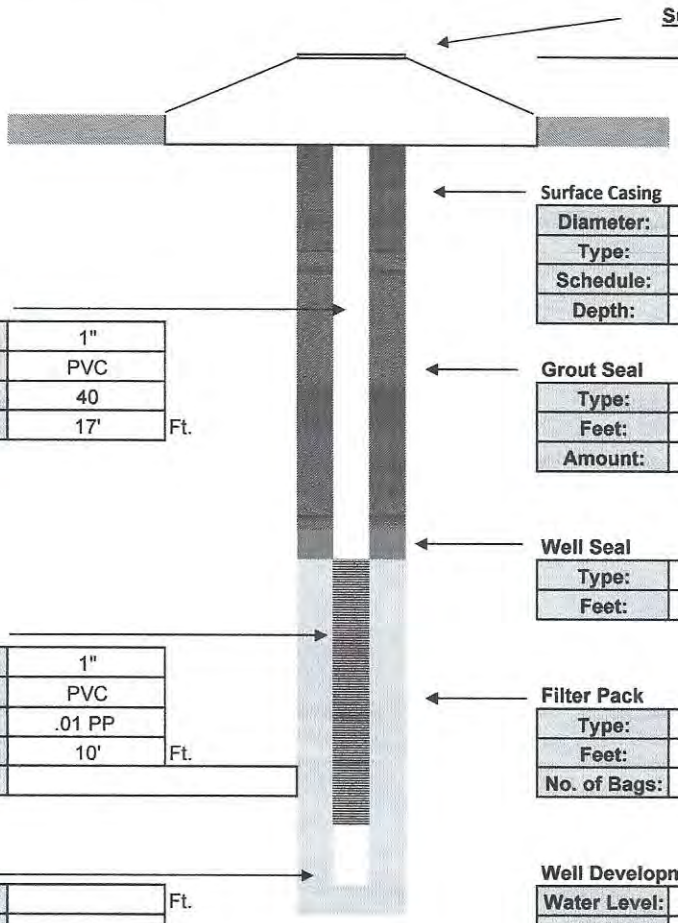
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 152
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	27'	10'	17'	0.75	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		13'	← Feet →	12'	2'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	17' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	13'
Amount:	0.75 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	10' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	12'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/8/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

Permit No:	MW-192770-1
Florida Unique ID	
Permit Stipulations Required (See Attached)	
MW-6	
62-524 Quad No. 3705SE	Delineation No.
CUP/WUP Application No.	

ABOVE THIS LINE FOR OFFICIAL USE ONLY

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

The water well contractor is responsible for completing this form and forwarding the permit application to the appropriate delegated authority where applicable.

1. **United States of America** (*Owner, Legal Name if Corporation) | **1849 C St NW, Room 5665** (*Address) | **Washington** (*City) | **DC** (*State) | **20240** (*Zip) | **4129217090** (*Telephone Number)
2. **LC-34, CCSFS, FL 32920** (*Well Location – Address, Road Name or Number, City)
3. **23-38-05-00-1** (*Parcel ID No. (PIN) or Alternate Key (Circle One)) | Lot | Block | Unit
4. **6** (*Section or Land Grant) | **23S** (*Township) | **38E** (*Range) | **Brevard** (*County) | Subdivision | Check if 62-524: Yes **X** No
5. **James P Hinst** (*Water Well Contractor) | **9311** (*License Number) | **4074267885** (*Telephone Number) | **jim@drillprollc.com** (E-mail Address)
6. **2300 Silver Star Rd** (*Water Well Contractor's Address) | **Orlando** City | **FL** State | **32804-3310** ZIP
7. *Type of Work: **X** Construction ____ Repair ____ Modification ____ Abandonment ____ (*Reason for Repair, Modification, or Abandonment)
8. *Number of Proposed Wells **6**
9. *Specify Intended Use(s) of Well(s):

____ Domestic
____ Bottled Water Supply
____ Public Water Supply (Limited Use/DOH)
____ Public Water Supply (Community orNon-Community/DEP)
____ Class I Injection
____ Landscape Irrigation
____ Recreation Area Irrigation
____ Agricultural Irrigation
____ Livestock
____ Nursery Irrigation
____ Commercial/Industrial
____ Golf Course Irrigation
____ Site Investigation
X Monitoring
____ Test
____ Earth-Coupled Geothermal
____ HVAC Supply
____ HVAC Return

Class V Injection: ____ Recharge ____ Commercial/Industrial Disposal ____ Aquifer Storage and Recovery ____ Drainage

Remediation: ____ Recovery ____ Air Sparge ____ Other (Describe) ____

Other (Describe) ____ (Note: Not all types of wells are permitted by a given permitting authority)

Date Stamp
Confirmation# 785772
Date: 10/11/2022
Official Use Only

10. *Distance from Septic System if ≤ 200 ft. ____ 11. Facility Description ____ 12. Estimated Start Date **01/09/2023**
13. *Estimated Well Depth **27** ft. *Estimated Casing Depth **17** ft. *Primary Casing Diameter **1** in. Open Hole: From ____ To ____ ft.
14. Estimated Screen Interval: From **17** To **27** ft.
15. *Primary Casing Material: ____ Black Steel ____ Galvanized **X** PVC ____ Stainless Steel ____ Not Cased ____ Other: ____
16. Secondary Casing: ____ Telescope Casing ____ Liner ____ Surface Casing Diameter ____ in.
17. Secondary Casing Material: ____ Black Steel ____ Galvanized ____ PVC ____ Stainless Steel ____ Other ____
18. *Method of Construction, Repair, or Abandonment: ____ Auger ____ Cable Tool ____ Jetted ____ Rotary **X** Sonic ____ Combination (Two or More Methods) ____ Hand Driven (Well Point, Sand Point) ____ Hydraulic Point (Direct Push) ____ Horizontal Drilling ____ Plugged by Approved Method ____ Other (Describe) ____
19. Proposed Grouting Interval for the Primary, Secondary, and Additional Casing:

From **0**	To **17**	Seal Material (	____ Bentonite	____ Neat Cement	**X** Other	**Cement with Bentonite, < 5% by weight**)
From ____	To ____	Seal Material (	____ Bentonite	____ Neat Cement	____ Other	____)
From ____	To ____	Seal Material (	____ Bentonite	____ Neat Cement	____ Other	____)
From ____	To ____	Seal Material (	____ Bentonite	____ Neat Cement	____ Other	____)

20. Indicate total number of existing wells on site ____ List number of existing unused wells on site ____
21. *Is this well or any existing well or water withdrawal on the owner's contiguous property covered under a Consumptive/Water Use Permit (CUP/WUP) or CUP/WUP Application? ____ Yes **X** No If Yes, complete the following: CUP/WUP No. ____ District Well ID No. **533538**
22. Latitude **283111.37** Longitude **803345.27**
23. Data Obtained From: ____ GPS **X** Map ____ Survey Datum: ____ NAD 27 **X** NAD 83 ____ WGS 84

I hereby certify that I will comply with the applicable rules of Title 40, Florida Administration Code, and that a water use permit or artificial recharge permit, if needed, has been or will be obtained prior to commencement of well construction. I further certify that information provided in this application is accurate and that I will obtain necessary approval from other federal, state, or local governments, if applicable. I agree to provide a well completion report to the District within 30 days after completion of the construction, repair, modification, or abandonment authorized by this permit, or the permit expiration, whichever occurs first.

James P Hinst (*Signature of Contractor) | **9311** (*License No.)

I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 373, Florida Statutes, to maintain or properly abandon this well; or, I certify that I am the agent for the owner, that the information provided is accurate, and that I have informed the owner of his responsibilities as stated above. Owner consents to allowing personnel of this WMD or Delegated Authority access to the well site during the construction, repair, modification, or abandonment authorized by this permit.

James P Hinst (*Signature of Owner or Agent) | **10/11/2022** (*Date)

BELOW THIS LINE – FOR OFFICIAL USE ONLY

Approval Granted By *Cynthia Leckey* Issue Date **10/11/2022** Expiration Date **10/10/2023** Hydrologist Approval ____ initials

Fee Received $ **100** Receipt No. **96233** Check No. **OnLine-04698G-785775**

THIS PERMIT IS NOT VALID UNTIL PROPERLY SIGNED BY AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD OR DELEGATED AUTHORITY. THE PERMIT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL CONSTRUCTION, MODIFICATION, OR ABANDONMENT ACTIVITIES.

STATE OF FLORIDA WELL COMPLETION REPORT

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Confirmation# 792427

Date:11/29/2022

Official Use Only

1. *Permit Number MW-192770-1 *CUP/WUP Number _____ *DID Number 533538 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 3 *Number of permitted wells not constructed, repaired, or abandoned 3
3. *Owner's Name United States of America 4.*Completion Date 11/07/2022 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283109.6053 Longitude 803343.9085
9. Data Obtained From: ___GPS _X_ Map ___Survey Datum: ___NAD 27 _X_ NAD 83 ___WGS 84

10. *Type of Work: _X_ Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

- ___Domestic
- ___Bottled Water Supply
- ___Public Water Supply (Limited Use/DOH)
- ___Public Water Supply (Community or Non-Community/DEP)
- ___Class I Injection
- ___Landscape Irrigation
- ___Recreation Area Irrigation
- ___Agricultural Irrigation
- ___Livestock
- ___Nursery Irrigation
- ___Commercial/Industrial
- ___Golf Course Irrigation
- ___Site Investigation
- _X_ Monitoring
- ___Test
- ___Earth-Coupled Geothermal
- ___HVAC Supply
- ___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted _X_ Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above _X_ Below Land Surface *Flowing: ___Yes _X_ No
15. *Casing Material: ___Black Steel ___Galvanized _X_ PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 27 ft. Cased Depth 17 ft. *Open Hole: From ___To___ft. *Screen: From 17 To 27 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
19. *Primary Casing Diameter and Depth:
    Dia 1 in. From 0 ft. To 13 ft. No. of Bags .75 Seal Material (Check One): ___Neat Cement ___Bentonite _X_ Other Cement with Bentonite, < 5% by weight
    Dia 1 in. From 13 ft. To 17 ft. No. of Bags 1 Seal Material (Check One): ___Neat Cement ___Bentonite _X_ Other Sand
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower _____ Pump Capacity (GPM) _____
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192770-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
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9225 CR 49
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PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 148

STATE OF FLORIDA WELL COMPLETION REPORT

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Confirmation# 792428

Date:11/29/2022

Official Use Only

1. *Permit Number MW-192770-1 *CUP/WUP Number _____ *DID Number 535312 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 3 *Number of permitted wells not constructed, repaired, or abandoned 3
3. *Owner's Name United States of America 4.*Completion Date 11/07/2022 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283109.4186 Longitude 803342.1897
9. Data Obtained From: ___GPS _X_Map ___Survey Datum: ___NAD 27 ___NAD 83 _X_WGS 84

10. *Type of Work: _X_Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
_X_Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted _X_Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above _X_Below Land Surface *Flowing: ___Yes _X_No
15. *Casing Material: ___Black Steel ___Galvanized _X_PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 27 ft. Cased Depth 17 ft. *Open Hole: From ___To ___ft. *Screen: From 17 To 27 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
19. *Primary Casing Diameter and Depth:

Dia 1 in.	From 0 ft.	To 13 ft.	No. of Bags .75	Seal Material (Check One):	___Neat Cement	___Bentonite	_X_	Other	Cement with Bentonite, < 5% by weight
Dia 1 in.	From 13 ft.	To 17 ft.	No. of Bags 1	Seal Material (Check One):	___Neat Cement	___Bentonite	_X_	Other	Sand
Dia ___in.	From ___ft.	To ___ft.	No. of Bags ___	Seal Material (Check One):	___Neat Cement	___Bentonite	___	Other	___
Dia ___in.	From ___ft.	To ___ft.	No. of Bags ___	Seal Material (Check One):	___Neat Cement	___Bentonite	___	Other	___
Dia ___in.	From ___ft.	To ___ft.	No. of Bags ___	Seal Material (Check One):	___Neat Cement	___Bentonite	___	Other	___

20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower ___ Pump Capacity (GPM) ___
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192770-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
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***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 150

STATE OF FLORIDA WELL COMPLETION REPORT

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Confirmation# 792429

Date:11/29/2022

Official Use Only

1. *Permit Number MW-192770-1 *CUP/WUP Number _____ *DID Number 535314 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 3 *Number of permitted wells not constructed, repaired, or abandoned 3
3. *Owner's Name United States of America 4.*Completion Date 11/07/2022 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283109.2786 Longitude 803339.935
9. Data Obtained From: ___GPS __X__Map ___Survey Datum: ___NAD 27 ___NAD 83 __X__WGS 84
10. *Type of Work: __X__Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic	___Landscape Irrigation	___Agricultural Irrigation	___Site Investigation
___Bottled Water Supply	___Recreation Area Irrigation	___Livestock	__X__Monitoring
___Public Water Supply (Limited Use/DOH)		___Nursery Irrigation	___Test
___Public Water Supply (Community or Non-Community/DEP)		___Commercial/Industrial	___Earth-Coupled Geothermal
___Class I Injection		___Golf Course Irrigation	___HVAC Supply
			___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted __X__Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above __X__Below Land Surface *Flowing: ___Yes __X__No
15. *Casing Material: ___Black Steel ___Galvanized __X__PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 27 ft. Cased Depth 17 ft. *Open Hole: From ___To___ft. *Screen: From 17 To 27 ft. Slot Size .01
17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:

Dia 1 in.	From 0 ft.	To 13 ft.	No. of Bags .75	Seal Material (Check One):	___Neat Cement	___Bentonite	__X__Other	Cement with Bentonite, < 5% by weight
Dia 1 in.	From 13 ft.	To 17 ft.	No. of Bags 1	Seal Material (Check One):	___Neat Cement	___Bentonite	__X__Other	Sand
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	

20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower _____ Pump Capacity (GPM) _____
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192770-1

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***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____

Comments:
GP WO 1022018
IW 152

WELL COMPLETION LOG

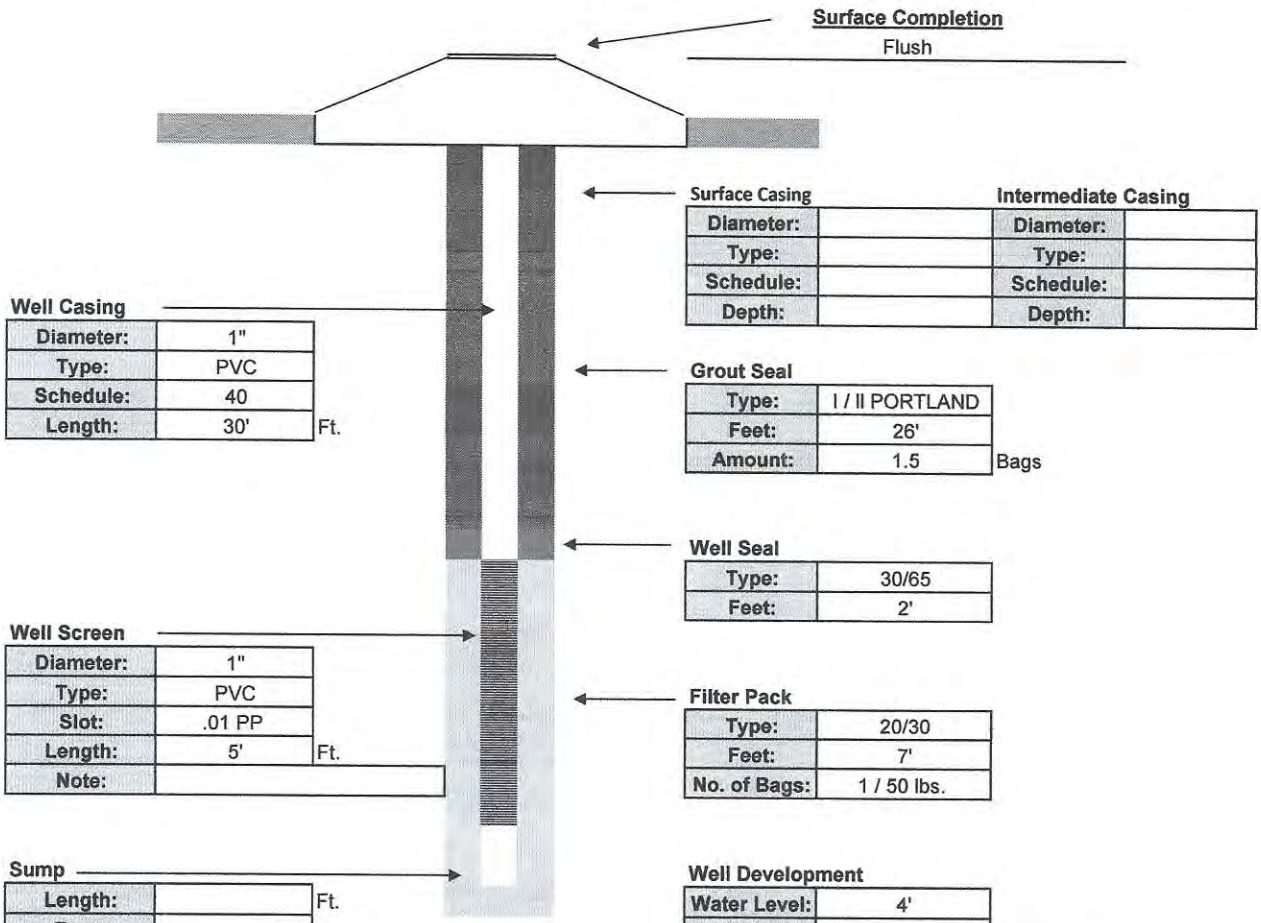
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 149
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	5'	30'	1.5	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		26'	← Feet →	7'	2'



Surface Casing		Intermediate Casing	
Diameter:		Diameter:	
Type:		Type:	
Schedule:		Schedule:	
Depth:		Depth:	

Well Casing		
Diameter:	1"	
Type:	PVC	
Schedule:	40	
Length:	30'	Ft.

Grout Seal		
Type:	I / II PORTLAND	
Feet:	26'	
Amount:	1.5	Bags

Well Seal	
Type:	30/65
Feet:	2'

Well Screen		
Diameter:	1"	
Type:	PVC	
Slot:	.01 PP	
Length:	5'	Ft.
Note:		

Filter Pack	
Type:	20/30
Feet:	7'
No. of Bags:	1 / 50 lbs.

Sump		
Length:		Ft.
Type:		

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/7/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

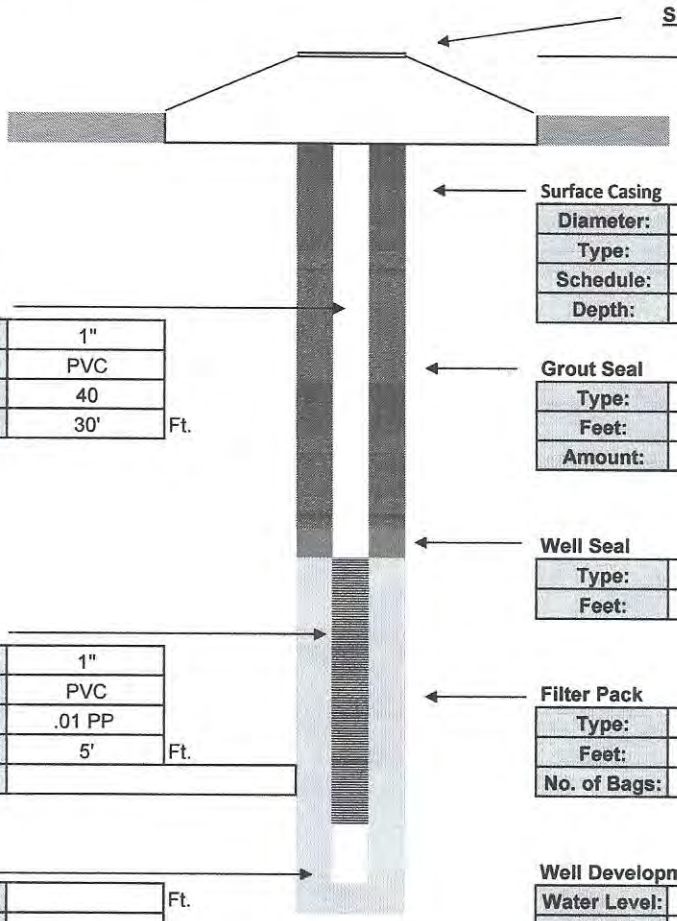
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 151
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	5'	30'	1.5	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		26'	← Feet →	7'	2'



Surface Completion
Flush

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"	
Type:	PVC	
Schedule:	40	
Length:	30'	Ft.

Grout Seal

Type:	I / II PORTLAND	
Feet:	26'	
Amount:	1.5	Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"	
Type:	PVC	
Slot:	.01 PP	
Length:	5'	Ft.
Note:		

Filter Pack

Type:	20/30
Feet:	7'
No. of Bags:	1 / 50 lbs.

Sump

Length:		Ft.
Type:		

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/7/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

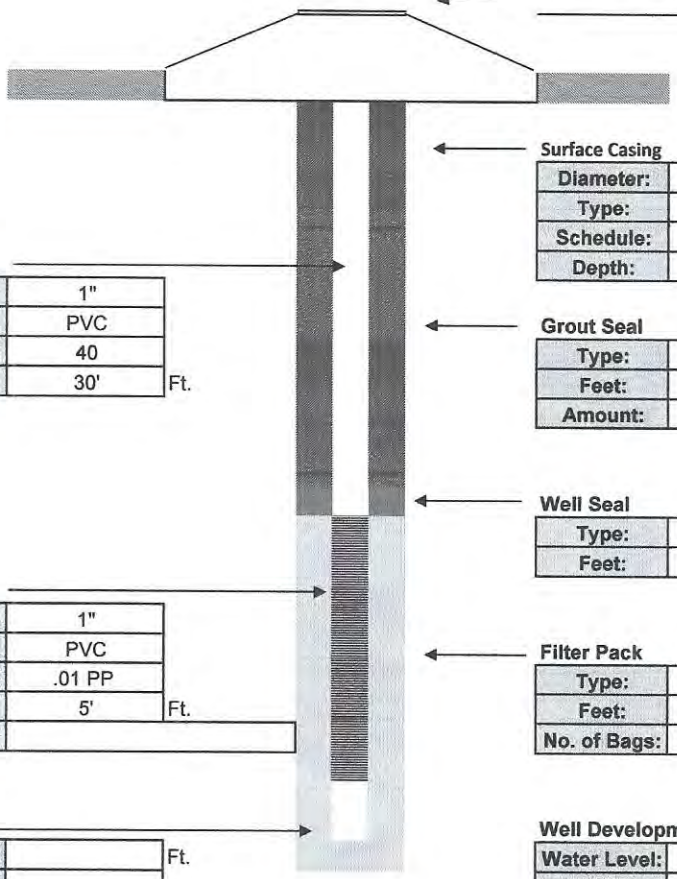
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 153
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	5'	30'	1.5	1 / 50 lbs.	20/30	30/65
40	Schedule	Slot Size:	.01 PP		26'	Feet	7'	2'



Surface Completion
Flush

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	30' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	26'
Amount:	1.5 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	5' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	7'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/8/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

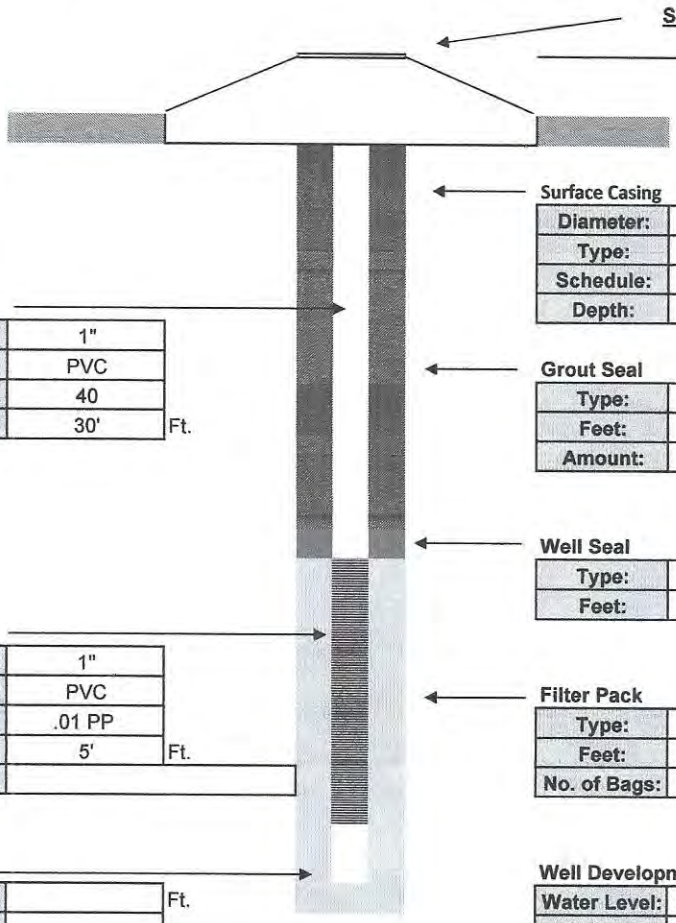
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 155
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	5'	30'	1.5	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		26'	← Feet →	7'	2'



Surface Completion
Flush

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	30' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	26'
Amount:	1.5 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	5' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	7'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	11/1/2022
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

Permit No:	MW-192771-1
Florida Unique ID	
Permit Stipulations Required (See Attached)	
MW-7	
62-524 Quad No. 3705SE	Delineation No.
CUP/WUP Application No.	

ABOVE THIS LINE FOR OFFICIAL USE ONLY

[ ] Southwest
[ ] Northwest
[ ] St. Johns River
[ ] South Florida
[ ] Suwannee River
[ ] DEP
[X] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

The water well contractor is responsible for completing this form and forwarding the permit application to the appropriate delegated authority where applicable.

1. **United States of America** (*Owner, Legal Name if Corporation) | **1849 C St NW, Room 5665** (*Address) | **Washington** (*City) | **DC** (*State) | **20240** (*Zip) | **4129217090** (*Telephone Number)

2. **LC-34, CCSFS, FL 32920** (*Well Location – Address, Road Name or Number, City)

3. **23-38-05-00-1** (*Parcel ID No. (PIN) or Alternate Key (Circle One)) | Lot | Block | Unit

4. **6** (*Section or Land Grant) | **23S** (*Township) | **38E** (*Range) | **Brevard** (*County) | Subdivision | Check if 62-524: Yes X No

5. **James P Hinst** (*Water Well Contractor) | **9311** (*License Number) | **4074267885** (*Telephone Number) | **jim@drillprollc.com** (E-mail Address)

6. **2300 Silver Star Rd** (*Water Well Contractor's Address) | **Orlando** (City) | **FL** (State) | **32804-3310** (ZIP)

7. *Type of Work: X Construction ____ Repair ____ Modification ____ Abandonment ____ (*Reason for Repair, Modification, or Abandonment)

8. *Number of Proposed Wells **7**

9. *Specify Intended Use(s) of Well(s):

____ Domestic
____ Bottled Water Supply
____ Public Water Supply (Limited Use/DOH)
____ Public Water Supply (Community orNon-Community/DEP)
____ Class I Injection
____ Landscape Irrigation
____ Recreation Area Irrigation
____ Agricultural Irrigation
____ Livestock
____ Nursery Irrigation
____ Commercial/Industrial
____ Golf Course Irrigation
____ Site Investigation
X Monitoring
____ Test
____ Earth-Coupled Geothermal
____ HVAC Supply
____ HVAC Return

Class V Injection: ____ Recharge ____ Commercial/Industrial Disposal ____ Aquifer Storage and Recovery ____ Drainage

Remediation: ____ Recovery ____ Air Sparge ____ Other (Describe) ____

Other (Describe) ____ (Note: Not all types of wells are permitted by a given permitting authority)

Date Stamp
Confirmation# **785773**
Date: **10/11/2022**
Official Use Only

10. *Distance from Septic System if ≤ 200 ft. ____ 11. Facility Description ____ 12. Estimated Start Date **01/09/2023**

13. *Estimated Well Depth **35** ft. *Estimated Casing Depth **30** ft. *Primary Casing Diameter **1** in. Open Hole: From ____ To ____ ft.

14. Estimated Screen Interval: From **30** To **35** ft.

15. *Primary Casing Material: ____ Black Steel ____ Galvanized X PVC ____ Stainless Steel ____ Not Cased ____ Other: ____

16. Secondary Casing: ____ Telescope Casing ____ Liner ____ Surface Casing Diameter ____ in.

17. Secondary Casing Material: ____ Black Steel ____ Galvanized ____ PVC ____ Stainless Steel ____ Other ____

18. *Method of Construction, Repair, or Abandonment: ____ Auger ____ Cable Tool ____ Jetted ____ Rotary X Sonic ____ Combination (Two or More Methods) ____ Hand Driven (Well Point, Sand Point) ____ Hydraulic Point (Direct Push) ____ Horizontal Drilling ____ Plugged by Approved Method ____ Other (Describe) ____

19. Proposed Grouting Interval for the Primary, Secondary, and Additional Casing:

From **0**	To **30**	Seal Material (	____ Bentonite	____ Neat Cement	X Other	**Cement with Bentonite, < 5% by weight**)
From ____	To ____	Seal Material (	____ Bentonite	____ Neat Cement	____ Other	____)
From ____	To ____	Seal Material (	____ Bentonite	____ Neat Cement	____ Other	____)
From ____	To ____	Seal Material (	____ Bentonite	____ Neat Cement	____ Other	____)

20. Indicate total number of existing wells on site ____ List number of existing unused wells on site ____

21. *Is this well or any existing well or water withdrawal on the owner's contiguous property covered under a Consumptive/Water Use Permit (CUP/WUP) or CUP/WUP Application? ____ Yes X No If Yes, complete the following: CUP/WUP No. ____ District Well ID No. **533539**

22. Latitude **283110.07** Longitude **803343.36**

23. Data Obtained From: ____ GPS X Map ____ Survey Datum: ____ NAD 27 X NAD 83 ____ WGS 84

I hereby certify that I will comply with the applicable rules of Title 40, Florida Administration Code, and that a water use permit or artificial recharge permit, if needed, has been or will be obtained prior to commencement of well construction. I further certify that information provided in this application is accurate and that I will obtain necessary approval from other federal, state, or local governments, if applicable. I agree to provide a well completion report to the District within 30 days after completion of the construction, repair, modification, or abandonment authorized by this permit, or the permit expiration, whichever occurs first.

James P Hinst (*Signature of Contractor) | **9311** (*License No.)

I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 373, Florida Statutes, to maintain or properly abandon this well; or, I certify that I am the agent for the owner, that the information provided is accurate, and that I have informed the owner of his responsibilities as stated above. Owner consents to allowing personnel of this WMD or Delegated Authority access to the well site during the construction, repair, modification, or abandonment authorized by this permit.

James P Hinst (*Signature of Owner or Agent) | **10/11/2022** (*Date)

BELOW THIS LINE – FOR OFFICIAL USE ONLY

Approval Granted By *Cynthia Leckey* Issue Date **10/11/2022** Expiration Date **10/10/2023** Hydrologist Approval ____ initials

Fee Received $ **100** Receipt No. **96233** Check No. **OnLine-04698G-785775**

THIS PERMIT IS NOT VALID UNTIL PROPERLY SIGNED BY AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD OR DELEGATED AUTHORITY. THE PERMIT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL CONSTRUCTION, MODIFICATION, OR ABANDONMENT ACTIVITIES.

STATE OF FLORIDA WELL COMPLETION REPORT

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

Date Stamp

Confirmation# 792431

Date:11/29/2022

Official Use Only

1. *Permit Number MW-192771-1 *CUP/WUP Number _____ *DID Number 533539 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 4 *Number of permitted wells not constructed, repaired, or abandoned 3
3. *Owner's Name United States of America 4.*Completion Date 11/07/2022 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283109.5864 Longitude 803343.949
9. Data Obtained From: ___GPS __X__Map ___Survey Datum: ___NAD 27 __X__NAD 83 ___WGS 84

10. *Type of Work: __X__Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
__X__Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted __X__Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above __X__Below Land Surface *Flowing: ___Yes __X__No
15. *Casing Material: ___Black Steel ___Galvanized __X__PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 35 ft. Cased Depth 30 ft. *Open Hole: From ___To___ft. *Screen: From 30 To 35 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:

Dia	1	in. From	0	ft. To	26	ft. No. of Bags	1.5	Seal Material (Check One): ___Neat Cement ___Bentonite	X	Other Cement with Bentonite, < 5% by weight
Dia	1	in. From	26	ft. To	30	ft. No. of Bags	1	Seal Material (Check One): ___Neat Cement ___Bentonite	X	Other Sand
Dia		in. From		ft. To		ft. No. of Bags		Seal Material (Check One): ___Neat Cement ___Bentonite		Other
Dia		in. From		ft. To		ft. No. of Bags		Seal Material (Check One): ___Neat Cement ___Bentonite		Other
Dia		in. From		ft. To		ft. No. of Bags		Seal Material (Check One): ___Neat Cement ___Bentonite		Other

20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower _____ Pump Capacity (GPM) _____
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron _____ppm Sulfate _____ppm Chloride _____ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192771-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	
From		To	ft.	Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 149

STATE OF FLORIDA WELL COMPLETION REPORT

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

Date Stamp

Confirmation# 792432

Date:11/29/2022

Official Use Only

1. *Permit Number MW-192771-1 *CUP/WUP Number _____ *DID Number 535320 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 4 *Number of permitted wells not constructed, repaired, or abandoned 3
3. *Owner's Name United States of America 4.*Completion Date 11/07/2022 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283109.4082 Longitude 803342.2061
9. Data Obtained From: ___GPS _X_Map ___Survey Datum: ___NAD 27 _X_NAD 83 ___WGS 84

10. *Type of Work: _X_Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
_X_Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted _X_Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above _X_Below Land Surface *Flowing: ___Yes _X_No
15. *Casing Material: ___Black Steel ___Galvanized _X_PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 35 ft. Cased Depth 30 ft. *Open Hole: From ___To___ft. *Screen: From 30 To 35 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:

Dia 1 in.	From 0 ft.	To 26 ft.	No. of Bags 1.5	Seal Material (Check One):	___Neat Cement	___Bentonite	_X_Other	Cement with Bentonite, < 5% by weight
Dia 1 in.	From 26 ft.	To 30 ft.	No. of Bags 1	Seal Material (Check One):	___Neat Cement	___Bentonite	_X_Other	Sand
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	

20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower ___ Pump Capacity (GPM) ___
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192771-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 151

STATE OF FLORIDA WELL COMPLETION REPORT

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Confirmation# 792434

Date:11/29/2022

Official Use Only

1. *Permit Number MW-192771-1 *CUP/WUP Number _____ *DID Number 535321 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 4 *Number of permitted wells not constructed, repaired, or abandoned 3
3. *Owner's Name United States of America 4.*Completion Date 11/07/2022 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283109.2512 Longitude 803339.8887
9. Data Obtained From: ___GPS _X_Map ___Survey Datum: ___NAD 27 _X_NAD 83 ___WGS 84

10. *Type of Work: _X_Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
_X_Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted _X_Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above _X_Below Land Surface *Flowing: ___Yes _X_No
15. *Casing Material: ___Black Steel ___Galvanized _X_PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 35 ft. Cased Depth 30 ft. *Open Hole: From ___To___ft. *Screen: From 30 To 35 ft. Slot Size .01

17. *Abandonment: ___ Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:

Dia 1 in.	From 0 ft.	To 26 ft.	No. of Bags 1.5	Seal Material (Check One):	___Neat Cement	___Bentonite	_X_Other	Cement with Bentonite, < 5% by weight
Dia 1 in.	From 26 ft.	To 30 ft.	No. of Bags 1	Seal Material (Check One):	___Neat Cement	___Bentonite	_X_Other	Sand
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	

20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower _____ Pump Capacity (GPM) _____
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron _____ppm Sulfate _____ppm Chloride _____ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192771-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
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ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
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152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
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P.O. BOX 24680
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WEST PLAM BEACH, FL 33416-4680
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9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 153

STATE OF FLORIDA WELL COMPLETION REPORT

[ ] Southwest
[ ] Northwest
[ ] St. Johns River
[ ] South Florida
[ ] Suwannee River
[ ] DEP
[X] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Confirmation# 792436

Date:11/29/2022

Official Use Only

1. *Permit Number MW-192771-1 *CUP/WUP Number _____ *DID Number 535322 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 4 *Number of permitted wells not constructed, repaired, or abandoned 3
3. *Owner's Name United States of America 4.*Completion Date 11/07/2022 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283108.4961 Longitude 803338.3244
9. Data Obtained From: ___GPS __X__Map ___Survey Datum: ___NAD 27 ___NAD 83 __X__WGS 84

10. *Type of Work: __X__Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
__X__Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted __X__Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above __X__Below Land Surface *Flowing: ___Yes __X__No
15. *Casing Material: ___Black Steel ___Galvanized __X__PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 35 ft. Cased Depth 30 ft. *Open Hole: From ___To ___ft. *Screen: From 30 To 35 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
19. *Primary Casing Diameter and Depth:

Dia 1 in.	From 0 ft.	To 26 ft.	No. of Bags 1.5	Seal Material (Check One):	___Neat Cement	___Bentonite	X	Other	Cement with Bentonite, < 5% by weight
Dia 1 in.	From 26 ft.	To 30 ft.	No. of Bags 1	Seal Material (Check One):	___Neat Cement	___Bentonite	X	Other	Sand
Dia ___in.	From ___ft.	To ___ft.	No. of Bags ___	Seal Material (Check One):	___Neat Cement	___Bentonite		Other	___
Dia ___in.	From ___ft.	To ___ft.	No. of Bags ___	Seal Material (Check One):	___Neat Cement	___Bentonite		Other	___
Dia ___in.	From ___ft.	To ___ft.	No. of Bags ___	Seal Material (Check One):	___Neat Cement	___Bentonite		Other	___

20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower _____ Pump Capacity (GPM) _____
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron _____ppm Sulfate _____ppm Chloride _____ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192771-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 155

WELL COMPLETION LOG

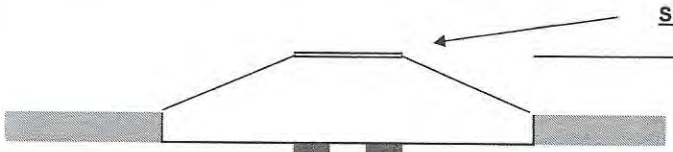
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 156
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	21'	5'	16'	0.75	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		12'	← Feet →	7'	2'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	16' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	12'
Amount:	0.75 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	5' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	7'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

STATE OF FLORIDA WELL COMPLETION REPORT

[ ] Southwest
[ ] Northwest
[ ] St. Johns River
[ ] South Florida
[ ] Suwannee River
[ ] DEP
[X] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Confirmation# 796748

Date:12/27/2022

Official Use Only

1. *Permit Number MW-192769-1 *CUP/WUP Number _____ *DID Number 536600 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 2 *Number of permitted wells not constructed, repaired, or abandoned 6
3. *Owner's Name United States of America 4.*Completion Date 12/06/2022 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283108.0525 Longitude 803337.0547
9. Data Obtained From: ___GPS _X_Map ___Survey Datum: ___NAD 27 _X_NAD 83 ___WGS 84

10. *Type of Work: _X_Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
_X_Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted _X_Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above _X_Below Land Surface *Flowing: ___Yes _X_No
15. *Casing Material: ___Black Steel ___Galvanized _X_PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 21 ft. Cased Depth 16 ft. *Open Hole: From ___To___ft. *Screen: From 16 To 21 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:

Dia 1 in.	From 0 ft.	To 12 ft.	No. of Bags .75	Seal Material (Check One):	___Neat Cement	___Bentonite	_X_Other	Cement with Bentonite, < 5% by weight
Dia 1 in.	From 12 ft.	To 16 ft.	No. of Bags 1	Seal Material (Check One):	___Neat Cement	___Bentonite	_X_Other	Sand
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	

20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower _____ Pump Capacity (GPM) _____
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192769-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 156

WELL COMPLETION LOG

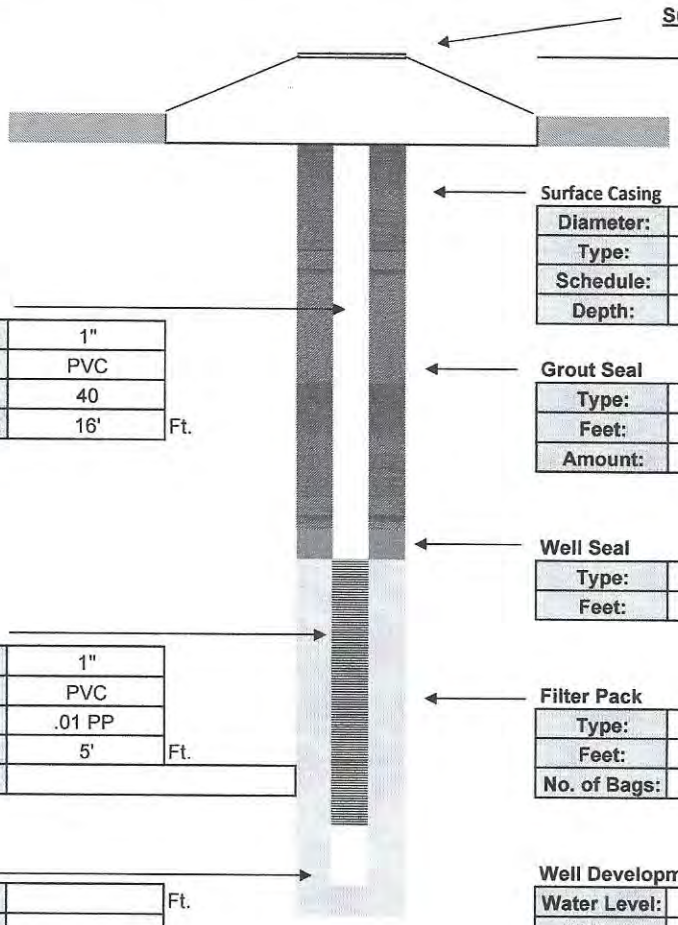
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 167
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	21'	5'	16'	0.75	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		12'	← Feet →	7'	2'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	16' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	12'
Amount:	0.75 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	5' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	7'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

STATE OF FLORIDA WELL COMPLETION REPORT

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Confirmation# 796750

Date:12/27/2022

Official Use Only

1. *Permit Number MW-192769-1 *CUP/WUP Number _____ *DID Number 536601 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 2 *Number of permitted wells not constructed, repaired, or abandoned 6
3. *Owner's Name United States of America 4.*Completion Date 12/21/2022 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283113.2279 Longitude 803349.7233
9. Data Obtained From: ___GPS __X__Map ___Survey Datum: ___NAD 27 ___NAD 83 __X__WGS 84

10. *Type of Work: __X__Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
__X__Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted __X__Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above __X__Below Land Surface *Flowing: ___Yes __X__No
15. *Casing Material: ___Black Steel ___Galvanized __X__PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 21 ft. Cased Depth 16 ft. *Open Hole: From ___To ___ft. *Screen: From 16 To 21 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:

Dia 1 in.	From 0 ft.	To 12 ft.	No. of Bags .75	Seal Material (Check One):	___Neat Cement	___Bentonite	__X__Other	Cement with Bentonite, < 5% by weight
Dia 1 in.	From 12 ft.	To 16 ft.	No. of Bags 1	Seal Material (Check One):	___Neat Cement	___Bentonite	__X__Other	Sand
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	

20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower _____ Pump Capacity (GPM) _____
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192769-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____
From	____ ft.	To	____ ft.	Color	____	Grain Size (F, M, C)	____	Material	____

Comments:
GP WO 1022018
IW 167

WELL COMPLETION LOG

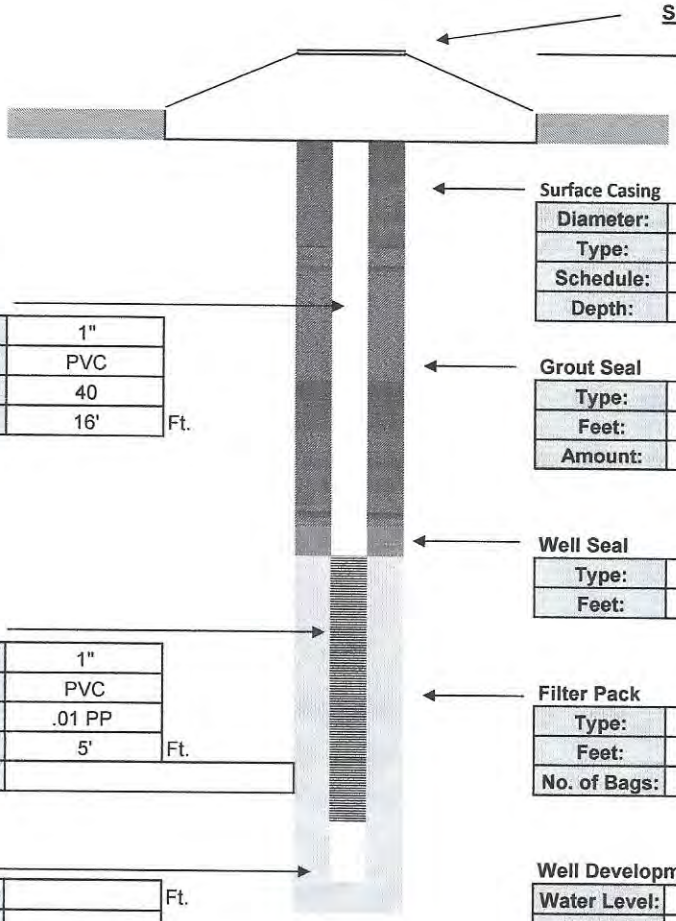
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 168
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	21'	5'	16'	0.75	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		12'	← Feet →	7'	2'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	16' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	12'
Amount:	0.75 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	5' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	7'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

STATE OF FLORIDA WELL COMPLETION REPORT

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

Date Stamp

Confirmation# 796752

Date:12/27/2022

Official Use Only

1. *Permit Number MW-192769-1 *CUP/WUP Number _____ *DID Number 536602 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 2 *Number of permitted wells not constructed, repaired, or abandoned 6
3. *Owner's Name United States of America 4.*Completion Date 12/21/2022 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283110.6529 Longitude 803350.9641
9. Data Obtained From: ___GPS __X__Map ___Survey Datum: ___NAD 27 ___NAD 83 __X__WGS 84
10. *Type of Work: __X__Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
__X__Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted __X__Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above __X__Below Land Surface *Flowing: ___Yes __X__No
15. *Casing Material: ___Black Steel ___Galvanized __X__PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 21 ft. Cased Depth 16 ft. *Open Hole: From ___To___ft. *Screen: From 16 To 21 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:

Dia 1 in.	From 0 ft.	To 12 ft.	No. of Bags .75	Seal Material (Check One):	Neat Cement	Bentonite	X	Other Cement with Bentonite, < 5% by weight
Dia 1 in.	From 12 ft.	To 16 ft.	No. of Bags 1	Seal Material (Check One):	Neat Cement	Bentonite	X	Other Sand
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	Neat Cement	Bentonite		Other___
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	Neat Cement	Bentonite		Other___
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	Neat Cement	Bentonite		Other___

20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower ___ Pump Capacity (GPM) ___
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192769-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 168

WELL COMPLETION LOG

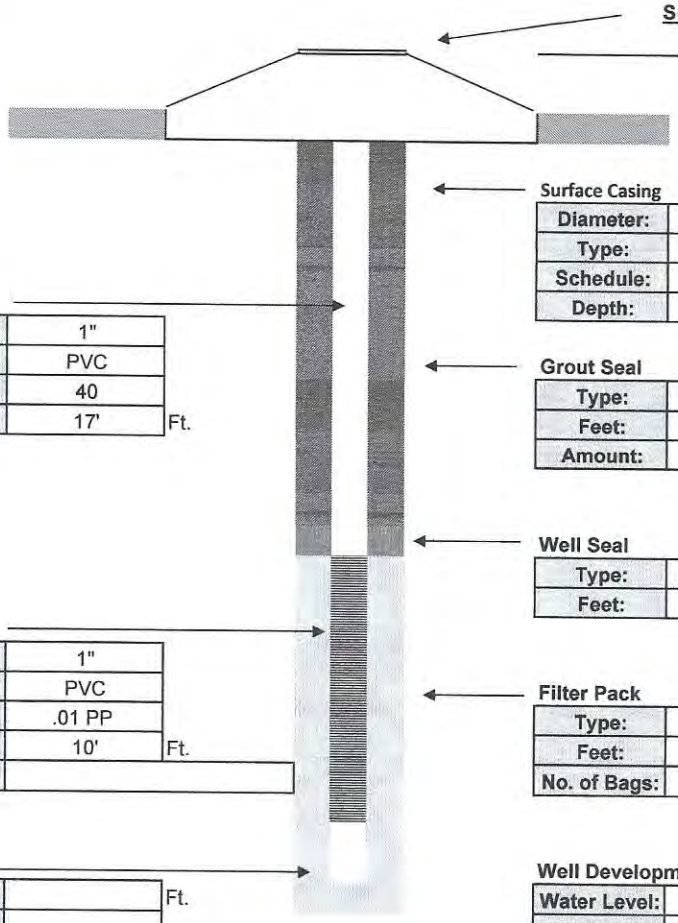
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 159
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	27'	10'	17'	0.75	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		13'	← Feet →	12'	2'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	17' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	13'
Amount:	0.75 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	10' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	12'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company: Drillpro LLC d/b/a Groundwater Protection
Address: 2300 Silver Star Road
C,S,Z: Orlando, Florida 32804-3310
Phone/FAX: (407) 426-7885 / (407) 426-7586

STATE OF FLORIDA WELL COMPLETION REPORT

[ ] Southwest
[ ] Northwest
[ ] St. Johns River
[ ] South Florida
[ ] Suwannee River
[ ] DEP
[X] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Confirmation# 796753

Date:12/27/2022

Official Use Only

1. *Permit Number MW-192770-1 *CUP/WUP Number _____ *DID Number 536603 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 1 *Number of permitted wells not constructed, repaired, or abandoned 5
3. *Owner's Name United States of America 4.*Completion Date 12/16/2022 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
*Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283111.2724 Longitude 803345.2747
9. Data Obtained From: ___GPS ___X___Map ___Survey Datum: ___NAD 27 ___X___NAD 83 ___WGS 84

10. *Type of Work: ___X___Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
___X___Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted ___X___Sonic
___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above ___X___Below Land Surface *Flowing: ___Yes ___X___No
15. *Casing Material: ___Black Steel ___Galvanized ___X___PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 27 ft. Cased Depth 17 ft. *Open Hole: From ___ To ___ ft. *Screen: From 17 To 27 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____

18. *Surface Casing Diameter and Depth:
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____

19. *Primary Casing Diameter and Depth:

Dia 1 in.	From 0 ft.	To 13 ft.	No. of Bags .75	Seal Material (Check One):	___Neat Cement	___Bentonite	X	Other	Cement with Bentonite, < 5% by weight
Dia 1 in.	From 13 ft.	To 17 ft.	No. of Bags 1	Seal Material (Check One):	___Neat Cement	___Bentonite	X	Other	Sand
Dia ___ in.	From ___ ft.	To ___ ft.	No. of Bags ___	Seal Material (Check One):	___Neat Cement	___Bentonite		Other	
Dia ___ in.	From ___ ft.	To ___ ft.	No. of Bags ___	Seal Material (Check One):	___Neat Cement	___Bentonite		Other	
Dia ___ in.	From ___ ft.	To ___ ft.	No. of Bags ___	Seal Material (Check One):	___Neat Cement	___Bentonite		Other	

20. *Liner Casing Diameter and Depth:
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____

21. *Telescope Casing Diameter and Depth:
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____

22. Pump Type (If known):
___Centrifugal ___Jet ___Submersible ___Turbine
Horsepower _____ Pump Capacity (GPM) _____
Pump Depth ___ ft. Intake Depth ___ ft.

23. Chemical Analysis (When Required):
Iron _____ppm Sulfate _____ppm Chloride _____ppm
___Laboratory Test ___Field Test Kit

24. Water Well Contractor:
*Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
*Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192770-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	
From	____ ft.	To	____ ft.	Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 159

WELL COMPLETION LOG

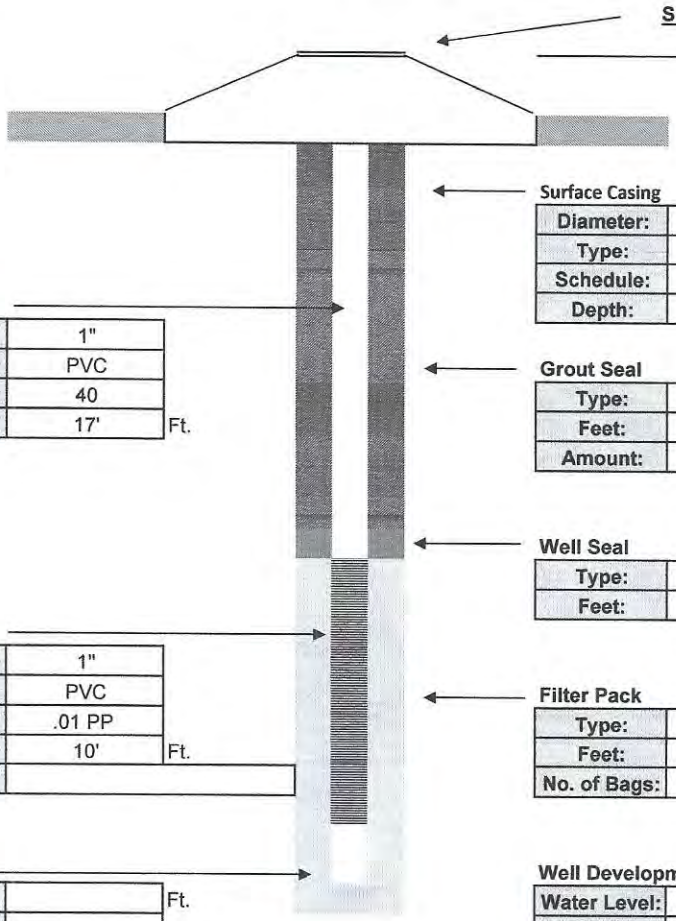
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 161
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	27'	10'	17'	0.75	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		13'	← Feet →	12'	2'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	17' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	13'
Amount:	0.75 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	10' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	12'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

STATE OF FLORIDA WELL COMPLETION REPORT

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

Date Stamp

Confirmation# 796756

Date:12/27/2022

Official Use Only

1. *Permit Number MW-192770-1 *CUP/WUP Number _____ *DID Number 536605 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 1 *Number of permitted wells not constructed, repaired, or abandoned 5
3. *Owner's Name United States of America 4.*Completion Date 12/21/2022 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283111.7305 Longitude 803348.2487
9. Data Obtained From: ___GPS __X__Map ___Survey Datum: ___NAD 27 __X__NAD 83 ___WGS 84

10. *Type of Work: __X__Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
__X__Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted __X__Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above __X__Below Land Surface *Flowing: ___Yes __X__No
15. *Casing Material: ___Black Steel ___Galvanized __X__PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 27 ft. Cased Depth 17 ft. *Open Hole: From ___ To ___ ft. *Screen: From 17 To 27 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
18. *Surface Casing Diameter and Depth:
    Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
19. *Primary Casing Diameter and Depth:

Dia 1 in.	From 0 ft.	To 13 ft.	No. of Bags .75	Seal Material (Check One):	___Neat Cement	___Bentonite	X	Other Cement with Bentonite, < 5% by weight
Dia 1 in.	From 13 ft.	To 17 ft.	No. of Bags 1	Seal Material (Check One):	___Neat Cement	___Bentonite	X	Other Sand
Dia ___ in.	From ___ ft.	To ___ ft.	No. of Bags ___	Seal Material (Check One):	___Neat Cement	___Bentonite	___	Other ___
Dia ___ in.	From ___ ft.	To ___ ft.	No. of Bags ___	Seal Material (Check One):	___Neat Cement	___Bentonite	___	Other ___
Dia ___ in.	From ___ ft.	To ___ ft.	No. of Bags ___	Seal Material (Check One):	___Neat Cement	___Bentonite	___	Other ___

20. *Liner Casing Diameter and Depth:
    Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
21. *Telescope Casing Diameter and Depth:
    Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower _____ Pump Capacity (GPM) _____
    Pump Depth ___ ft. Intake Depth ___ ft.
23. Chemical Analysis (When Required):
    Iron _____ppm Sulfate _____ppm Chloride _____ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192770-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 161

WELL COMPLETION LOG

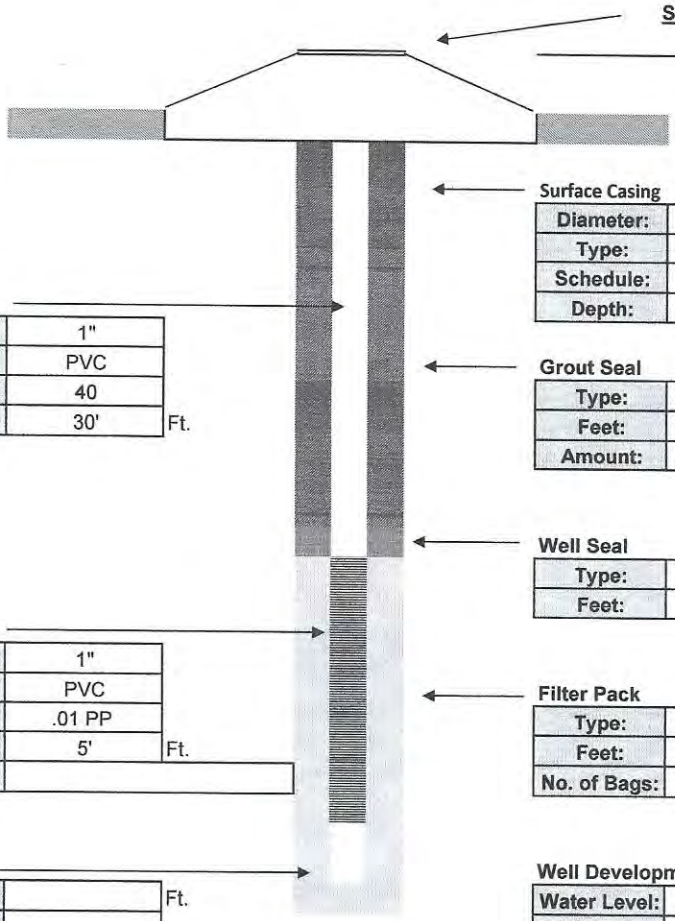
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 160
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	5'	30'	1.5	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		26'	← Feet →	7'	2'



Surface Completion
Flush

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	30' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	26'
Amount:	1.5 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	5' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	7'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

STATE OF FLORIDA WELL COMPLETION REPORT

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

Date Stamp

Confirmation# 796758

Date:12/27/2022

Official Use Only

1. *Permit Number MW-192771-1 *CUP/WUP Number _____ *DID Number 536606 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 1 *Number of permitted wells not constructed, repaired, or abandoned 6
3. *Owner's Name United States of America 4.*Completion Date 12/16/2022 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283111.3638 Longitude 803345.296
9. Data Obtained From: ___GPS _X_Map ___Survey Datum: ___NAD 27 _X_NAD 83 ___WGS 84

10. *Type of Work: _X_Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
_X_Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted _X_Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is 4 ft. ___Above _X_Below Land Surface *Flowing: ___Yes _X_No
15. *Casing Material: ___Black Steel ___Galvanized _X_PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 35 ft. Cased Depth 30 ft. *Open Hole: From ___To___ft. *Screen: From 30 To 35 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:

Dia 1 in.	From 0 ft.	To 26 ft.	No. of Bags 1.5	Seal Material (Check One):	___Neat Cement	___Bentonite	_X_Other	Cement with Bentonite, < 5% by weight
Dia 1 in.	From 26 ft.	To 30 ft.	No. of Bags 1	Seal Material (Check One):	___Neat Cement	___Bentonite	_X_Other	Sand
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	

20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower ___ Pump Capacity (GPM) ___
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192771-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 160

WELL COMPLETION LOG

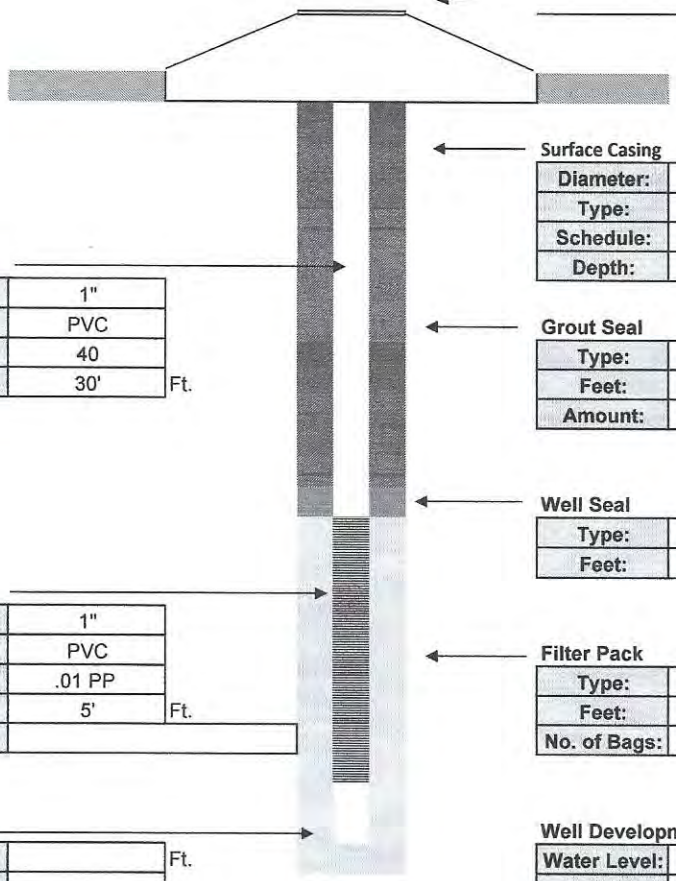
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 162
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	5'	30'	1.5	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		26'	← Feet →	7'	2'



Surface Completion
Flush

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	30' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	26'
Amount:	1.5 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	5' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	7'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

STATE OF FLORIDA WELL COMPLETION REPORT

[ ] Southwest	PLEASE, FILL OUT ALL APPLICABLE FIELDS
[ ] Northwest	(*Denotes Required Fields Where Applicable)
[ ] St. Johns River	
[ ] South Florida	
[ ] Suwannee River	
[ ] DEP	
[x] Delegated Authority (If Applicable)	**Brevard DOH**

Date Stamp

Confirmation# 796759

Date:12/27/2022

Official Use Only

1. *Permit Number MW-192771-1 *CUP/WUP Number _____ *DID Number 536607 62-524 Delineation No. _____

2. *Number of permitted wells constructed, repaired, or abandoned 1 *Number of permitted wells not constructed, repaired, or abandoned 6

3. *Owner's Name United States of America 4.*Completion Date 12/21/2022 5. Florida Unique ID _____

6. LC 34, CCSFS, FL 32920
*Well Location – Address, Road Name or Number, City, ZIP

7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E

8. Latitude 283111.771 Longitude 803348.2314

9. Data Obtained From: ___GPS [X] Map ___Survey Datum: ___NAD 27 [X] NAD 83 ___WGS 84

10. *Type of Work: [X] Construction ___Repair ___Modification ___Abandonment Reason: _____

11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
[X] Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage

Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____

___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted [X] Sonic
___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____

13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM

14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above [X] Below Land Surface *Flowing: ___Yes [X] No

15. *Casing Material: ___Black Steel ___Galvanized [X] PVC ___Stainless Steel ___Not Cased ___Other _____

16. *Total Well Depth 35 ft. Cased Depth 30 ft. *Open Hole: From ___To___ft. *Screen: From 30 To 35 ft. Slot Size .01

17. *Abandonment: ___ Other(Explain _____)

From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___

18. *Surface Casing Diameter and Depth:

Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___

19. *Primary Casing Diameter and Depth:

Dia 1 in. From 0 ft. To 26 ft. No. of Bags 1.5 Seal Material (Check One): ___Neat Cement ___Bentonite [X] Other Cement with Bentonite, < 5% by weight
Dia 1 in. From 26 ft. To 30 ft. No. of Bags 1 Seal Material (Check One): ___Neat Cement ___Bentonite [X] Other Sand
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___

20. *Liner Casing Diameter and Depth:

Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___

21. *Telescope Casing Diameter and Depth:

Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):

___Centrifugal ___Jet ___Submersible ___Turbine
Horsepower _____ Pump Capacity (GPM) _____
Pump Depth ___ft. Intake Depth ___ft.

23. Chemical Analysis (When Required):

Iron ___ppm Sulfate ___ppm Chloride ___ppm
___Laboratory Test ___Field Test Kit

24. Water Well Contractor:

*Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com

*Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192771-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
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WEST PLAM BEACH, FL 33416-4680
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SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 162

WELL COMPLETION LOG

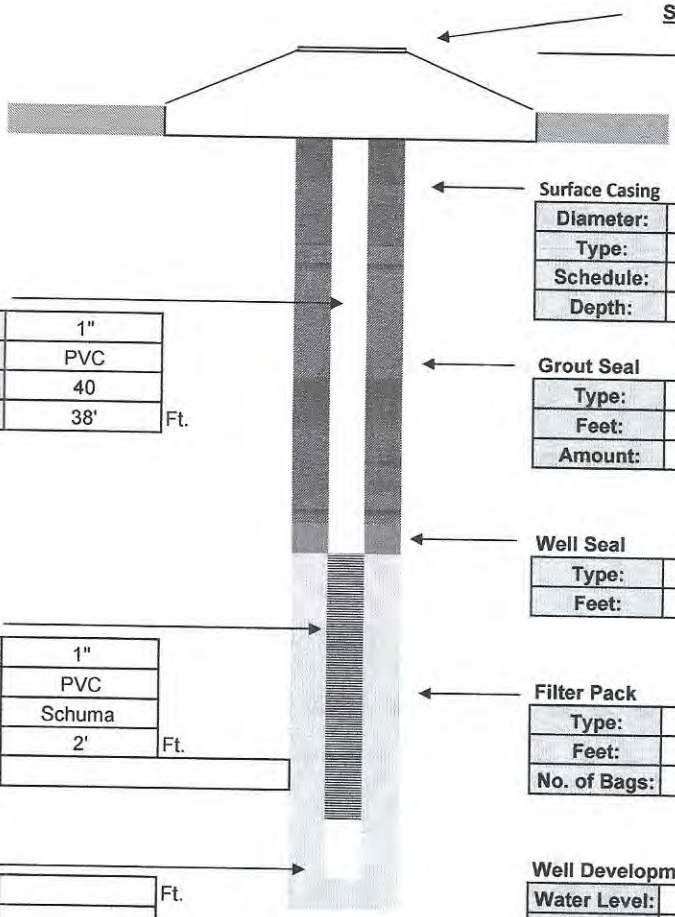
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 334 74°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

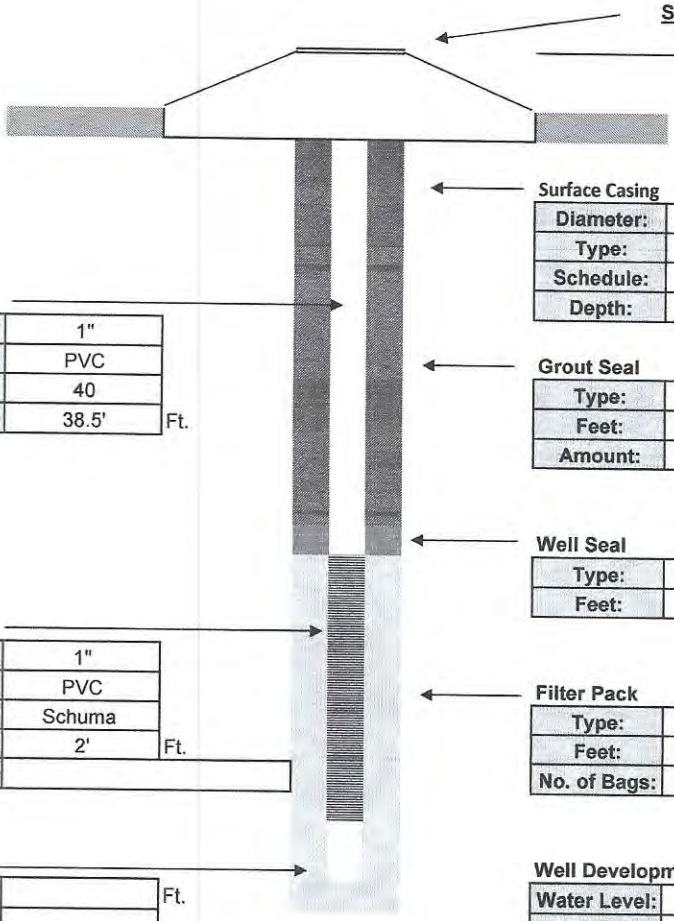
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 316 64°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40.5	2'	38.5'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		35.5'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38.5' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35.5'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

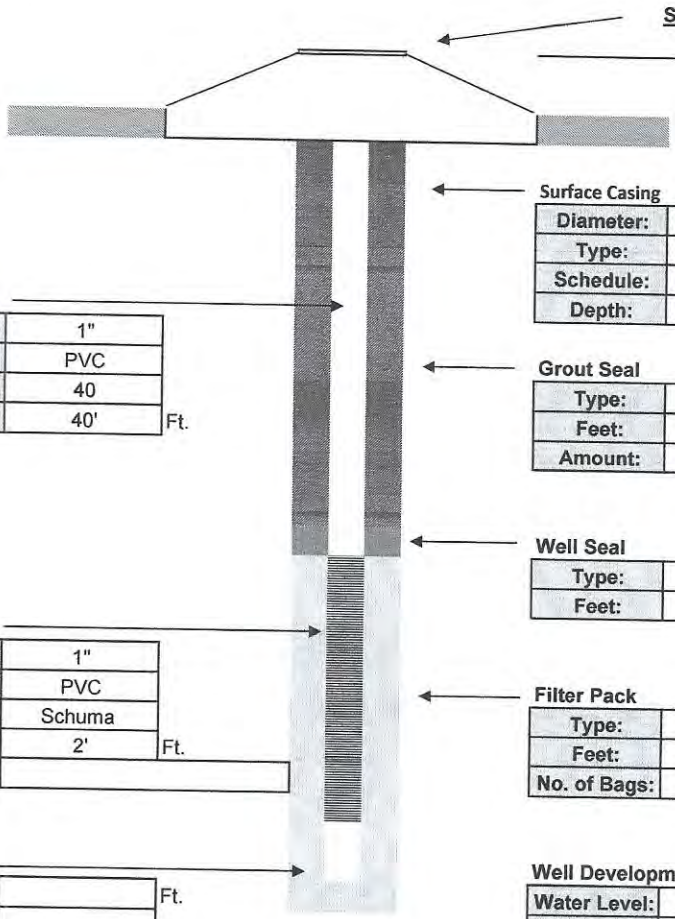
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 335 65°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	42'	2'	40'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		37'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	40'

Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	37'
Amount:	2

Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2'
Note:	

Ft.

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	
Type:	

Ft.

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

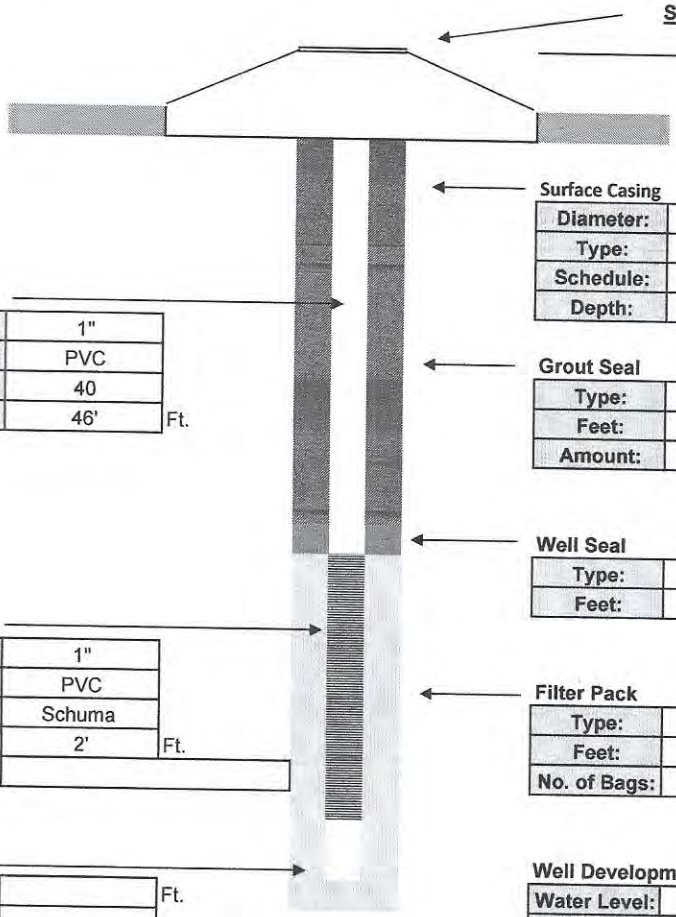
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 310 57°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	48'	2'	46'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		43'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	46' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	43'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

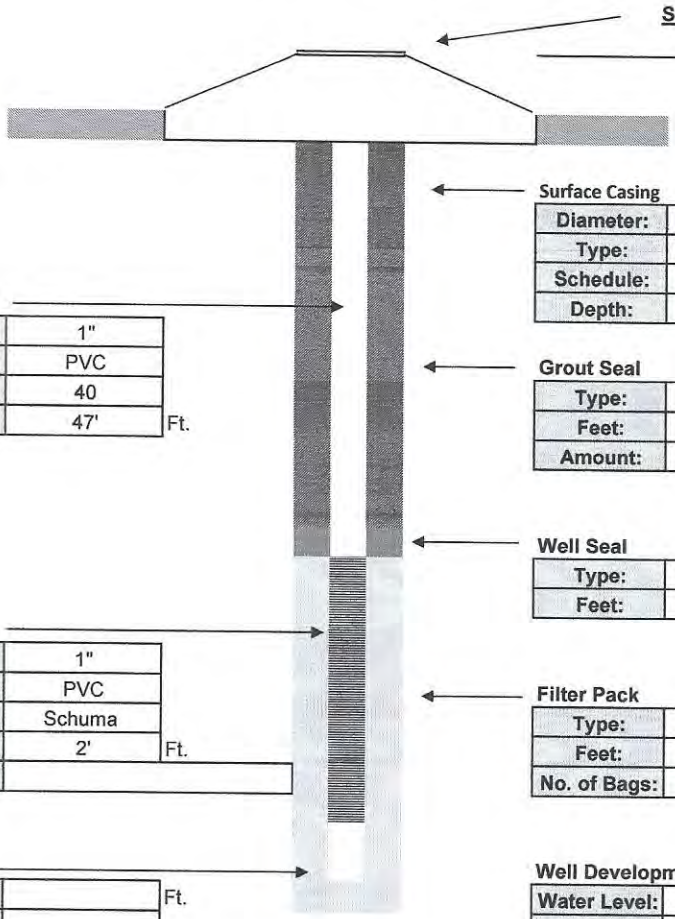
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 339 51°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	49	2'	47'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		44'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	47' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	44'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

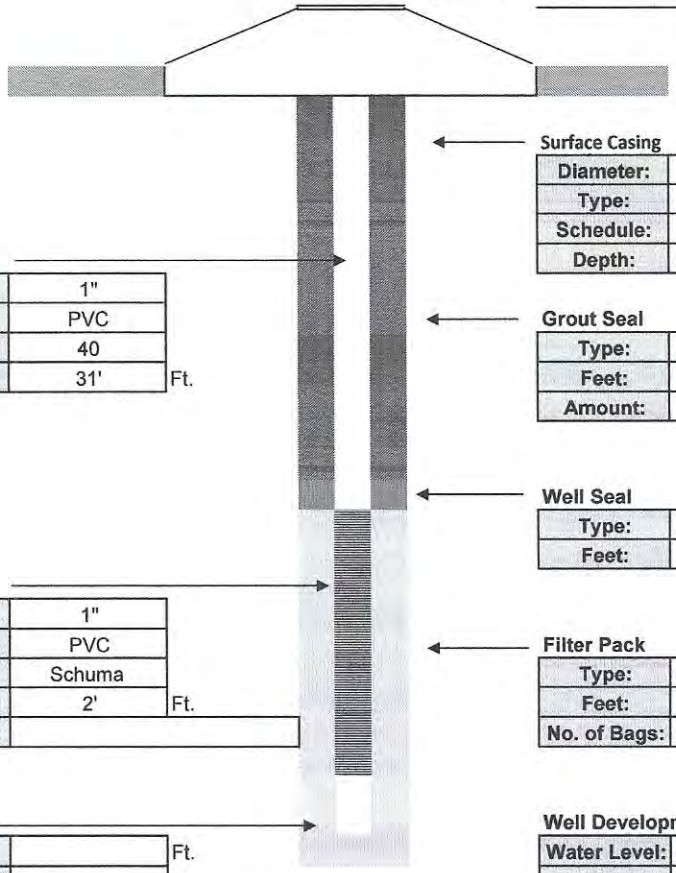
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 419
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	33'	2'	31'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		28'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	31' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	28'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

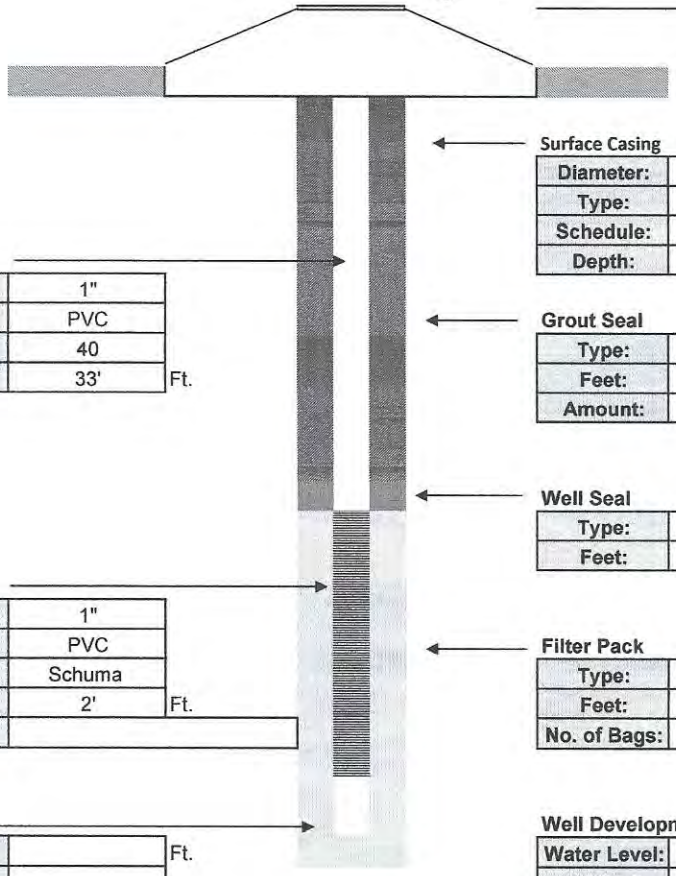
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 301
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	2'	33'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		30'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	33' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	30'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company: Drillpro LLC d/b/a Groundwater Protection
Address: 2300 Silver Star Road
C,S,Z: Orlando, Florida 32804-3310
Phone/FAX: (407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

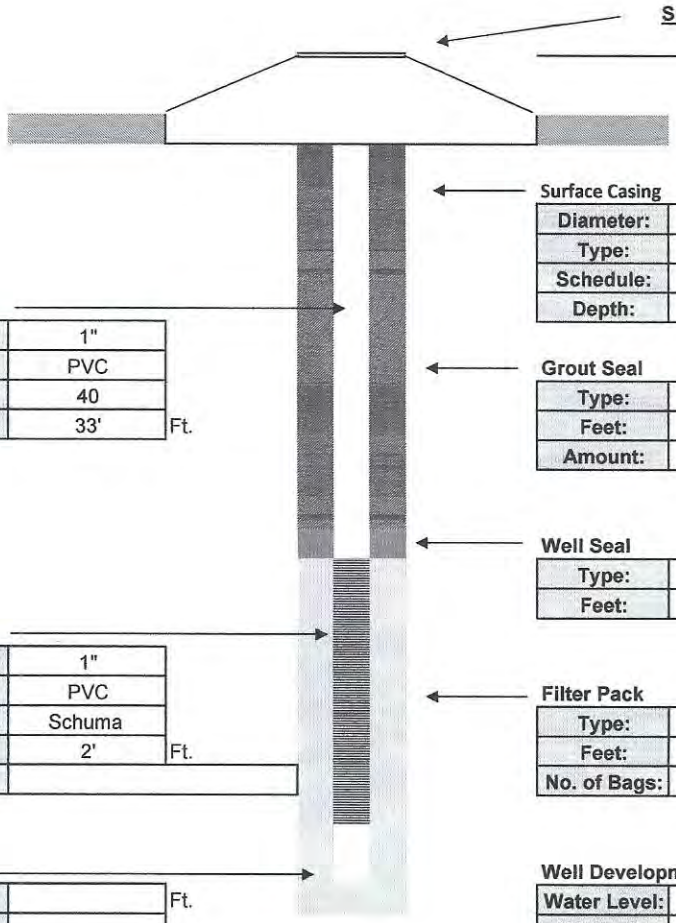
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 405
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	2'	33'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		30'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	33' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	30'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

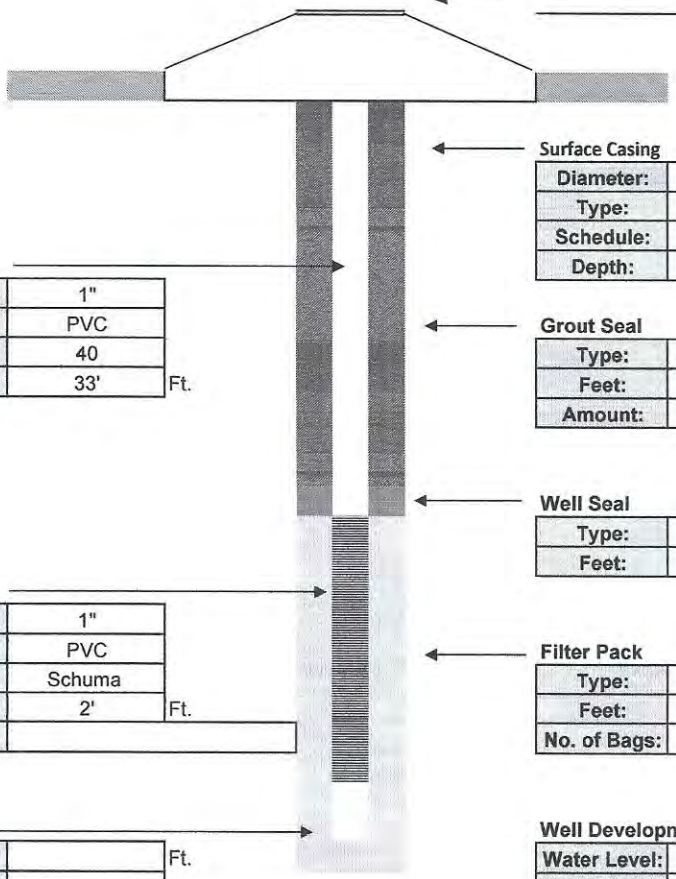
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 416
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	2'	33'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		30'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	33' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	30'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

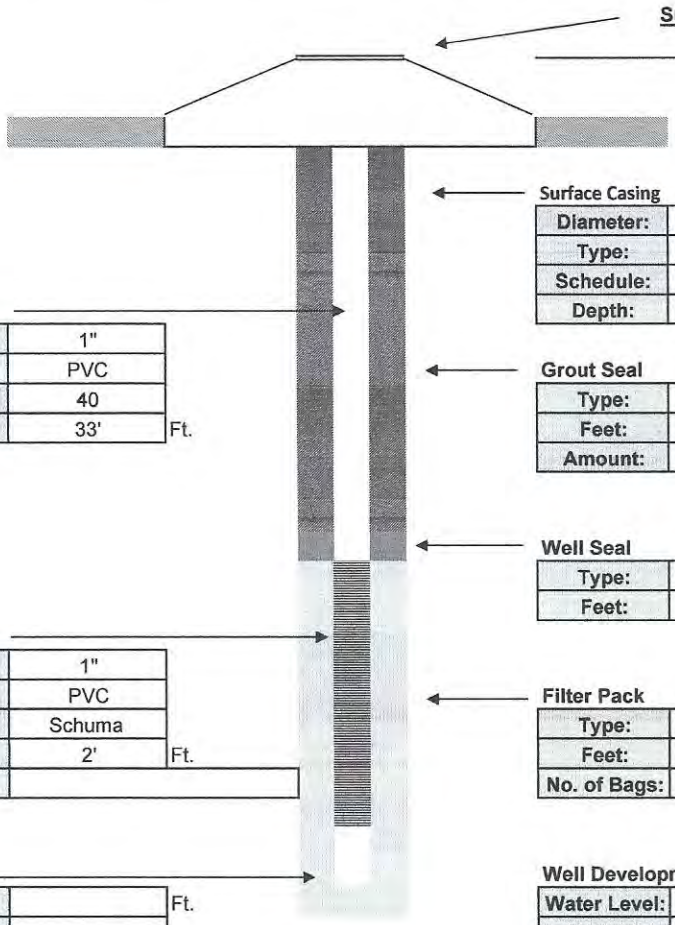
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 425
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	2'	33'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		30'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	33' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	30'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

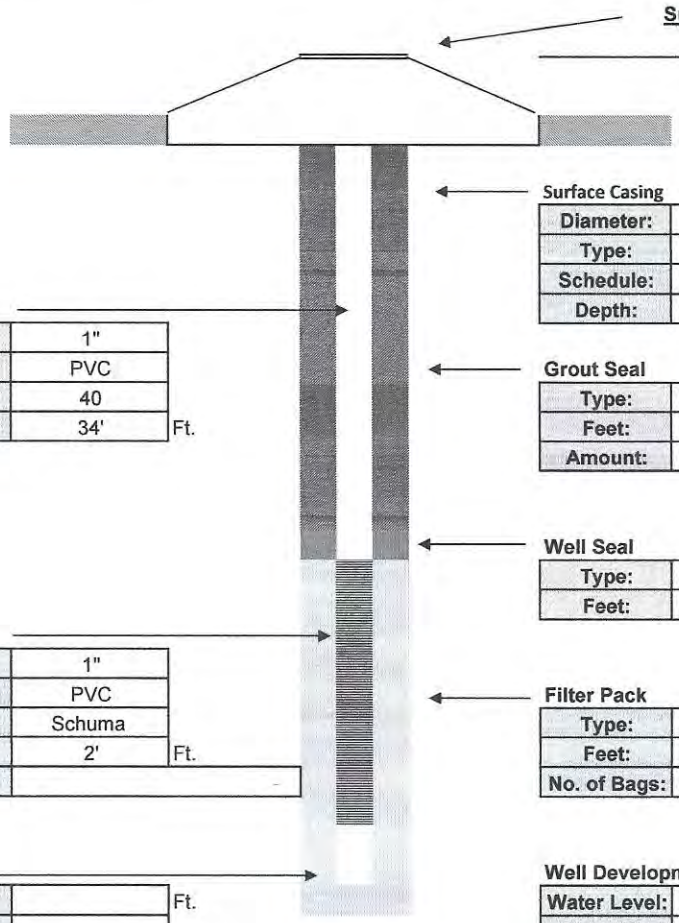
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 302
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	36'	2'	34'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		31'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	34' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	31'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

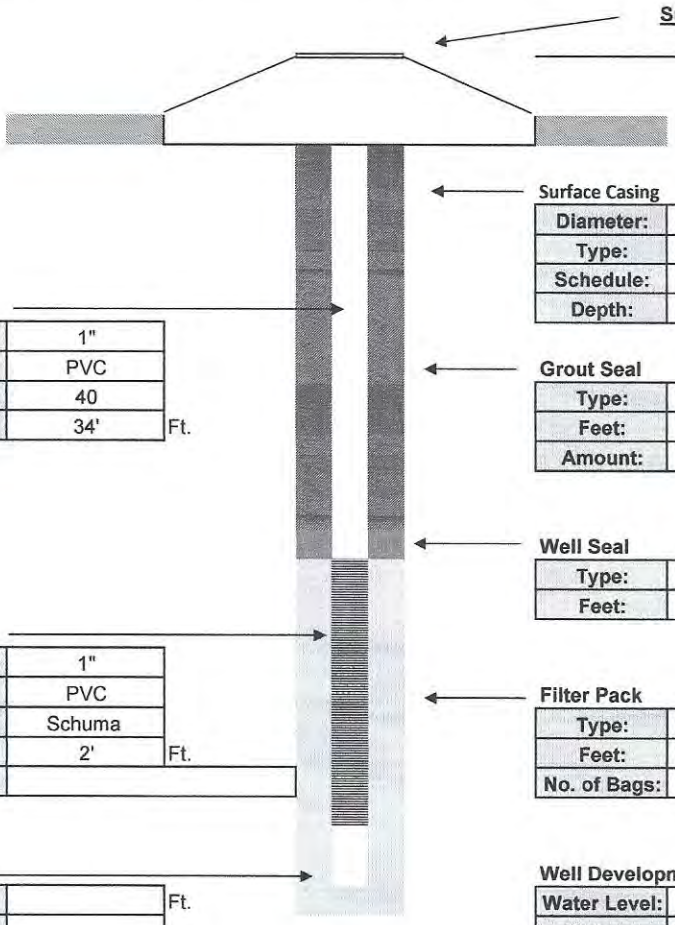
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 395
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	36'	2'	34'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		31'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	34' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	31'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

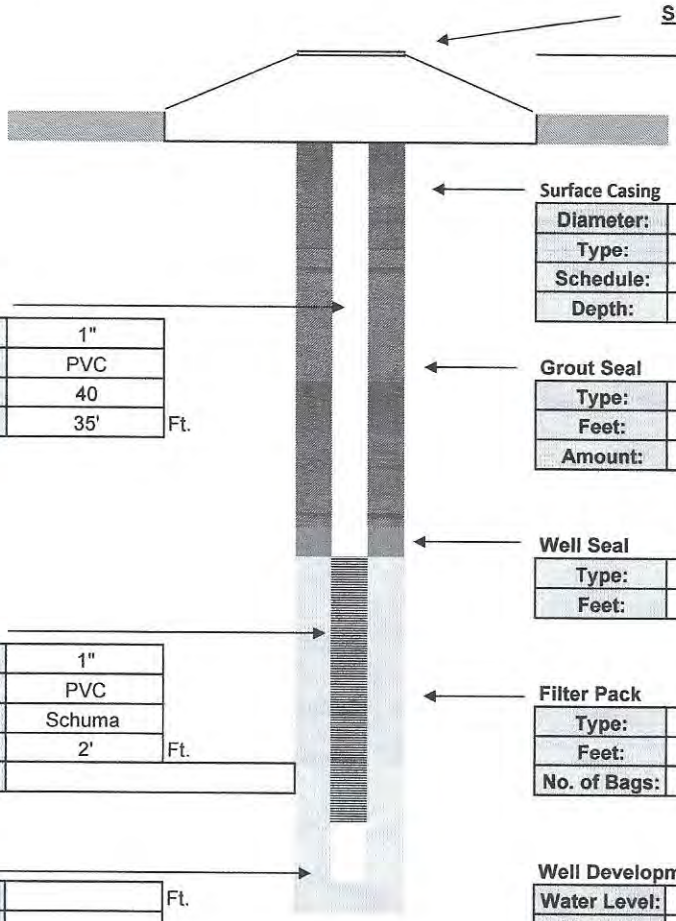
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 318
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	37'	2'	35'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		32'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	35' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	32'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

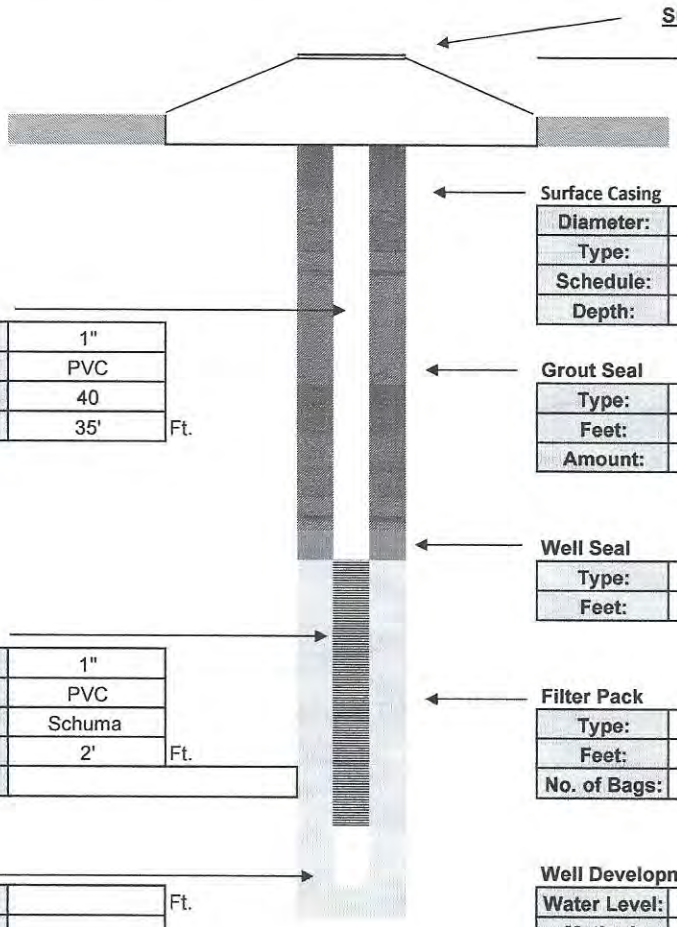
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 303
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	37'	2'	35'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		32'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	35' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	32'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

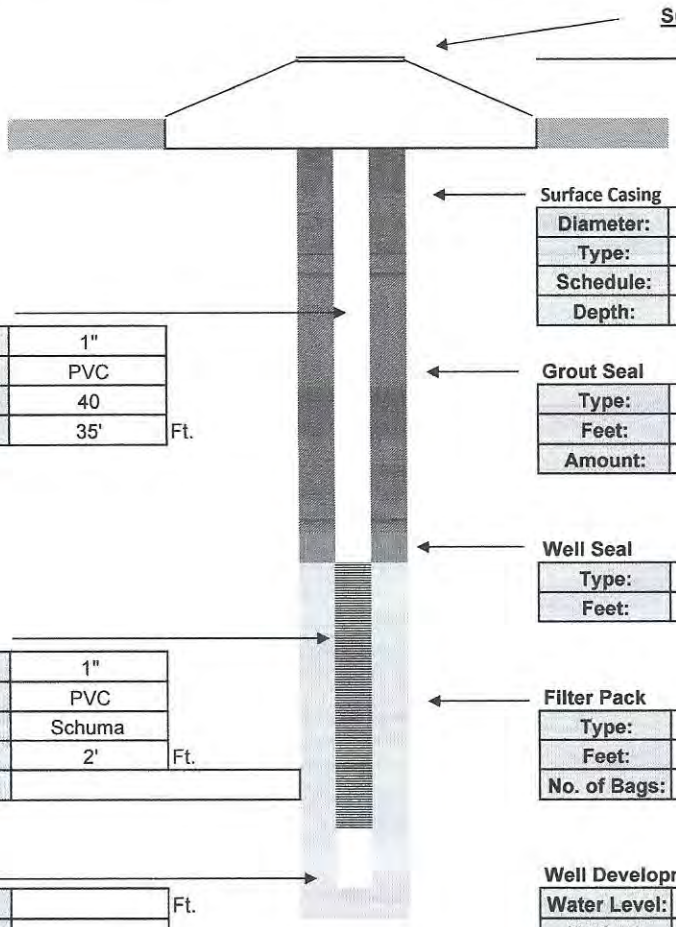
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 309
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	37'	2'	35'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		32'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	35' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	32'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

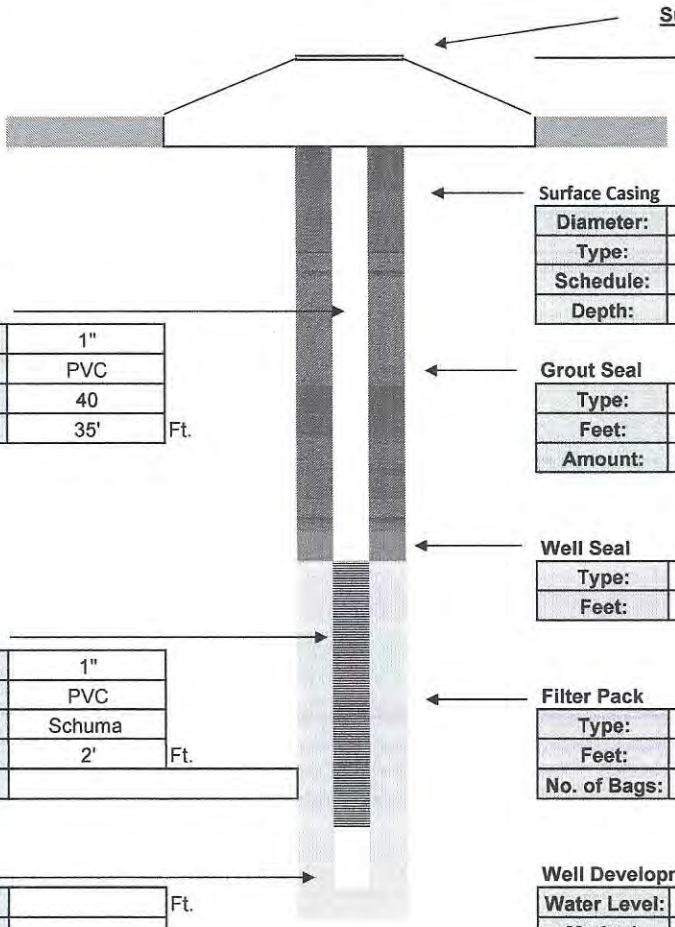
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 319
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	37'	2'	35'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		32'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	35' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	32'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

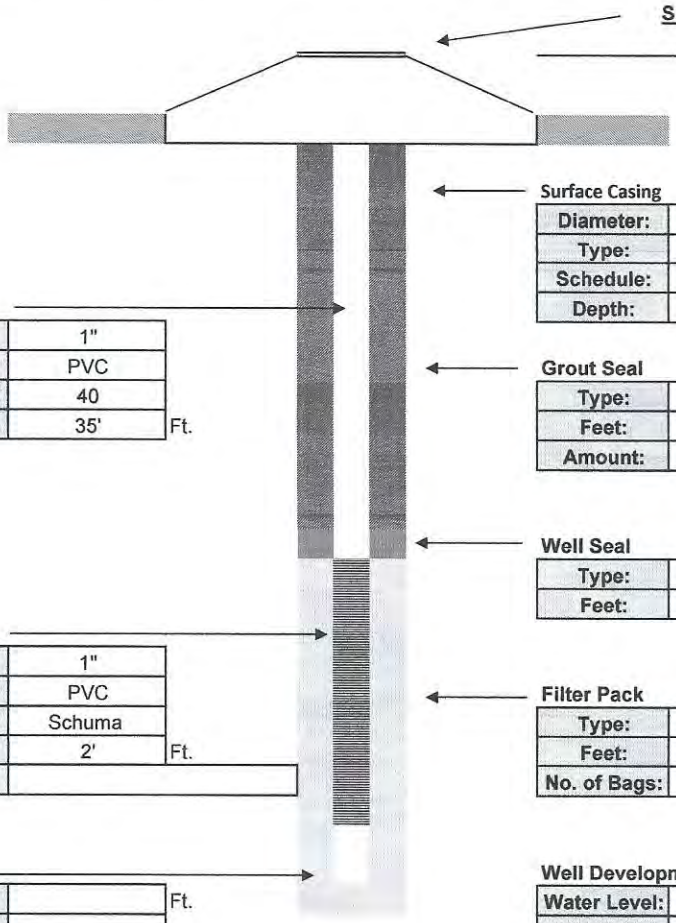
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 403
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	37'	2'	35'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		32'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	35' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	32'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

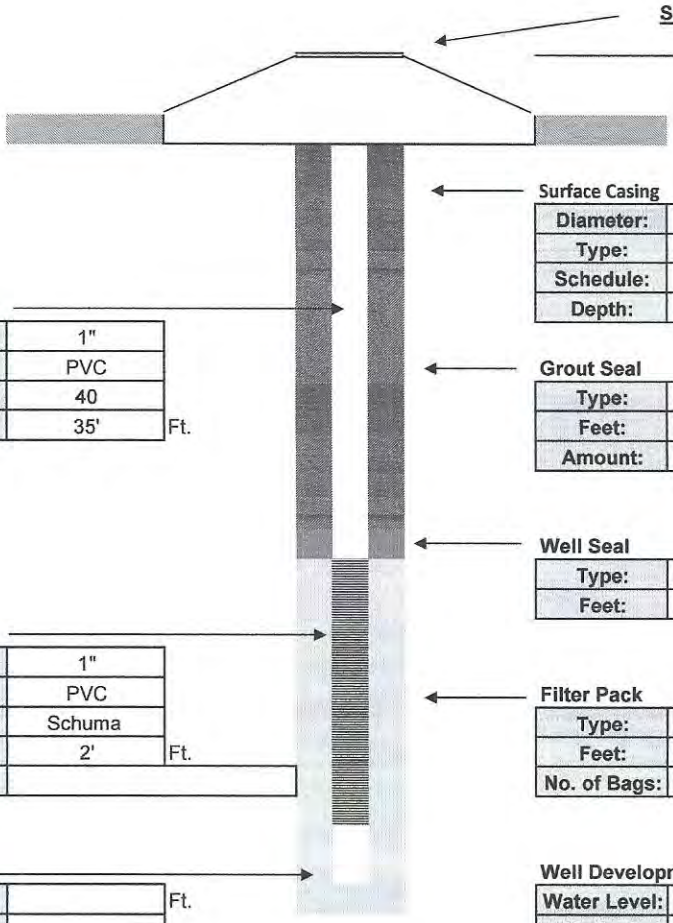
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 404
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	37'	2'	35'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		32'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	35' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	32'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

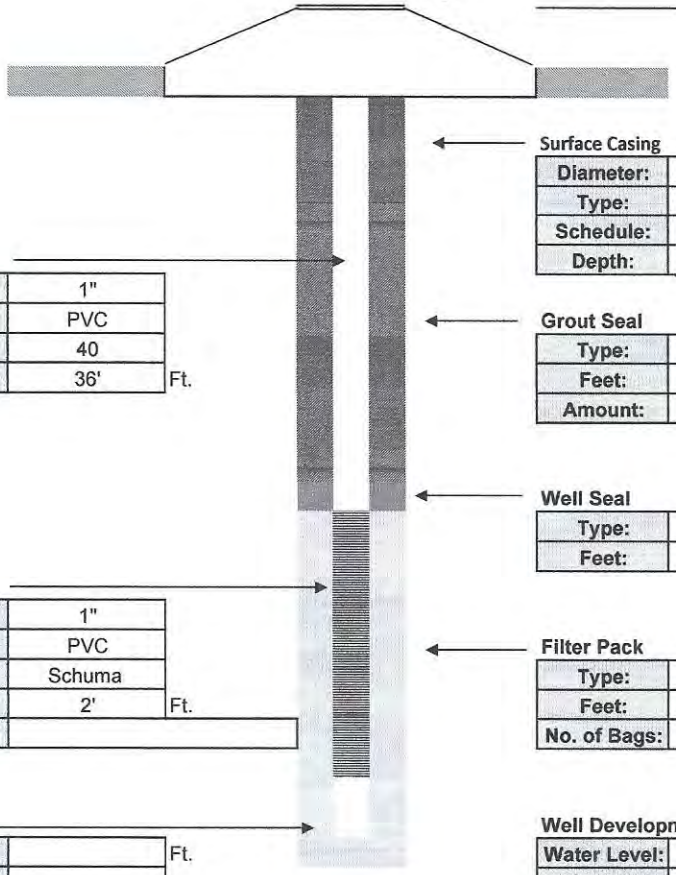
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 313
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		33'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

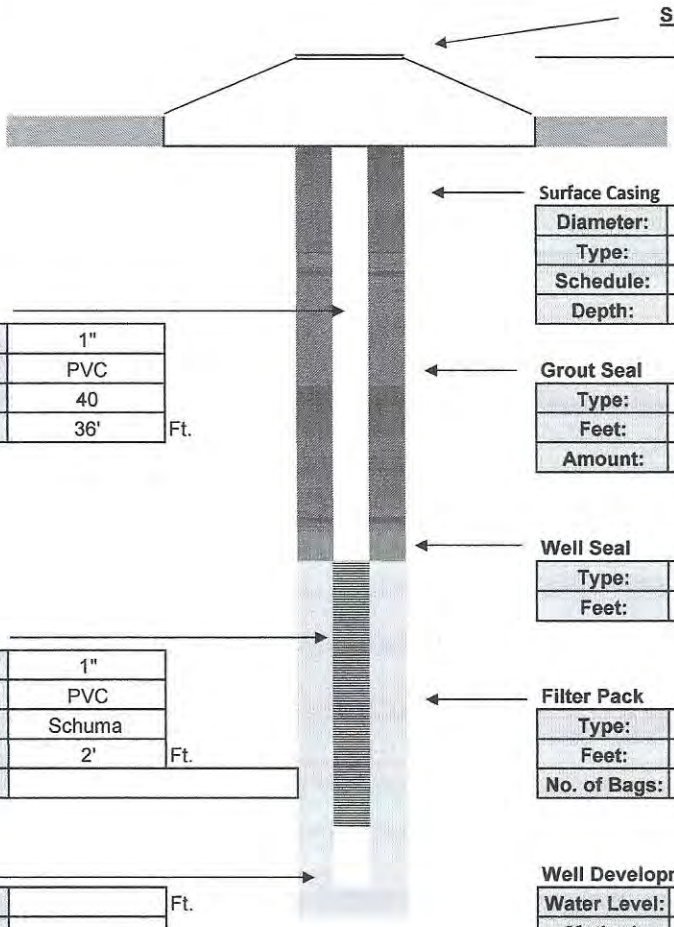
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 394
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

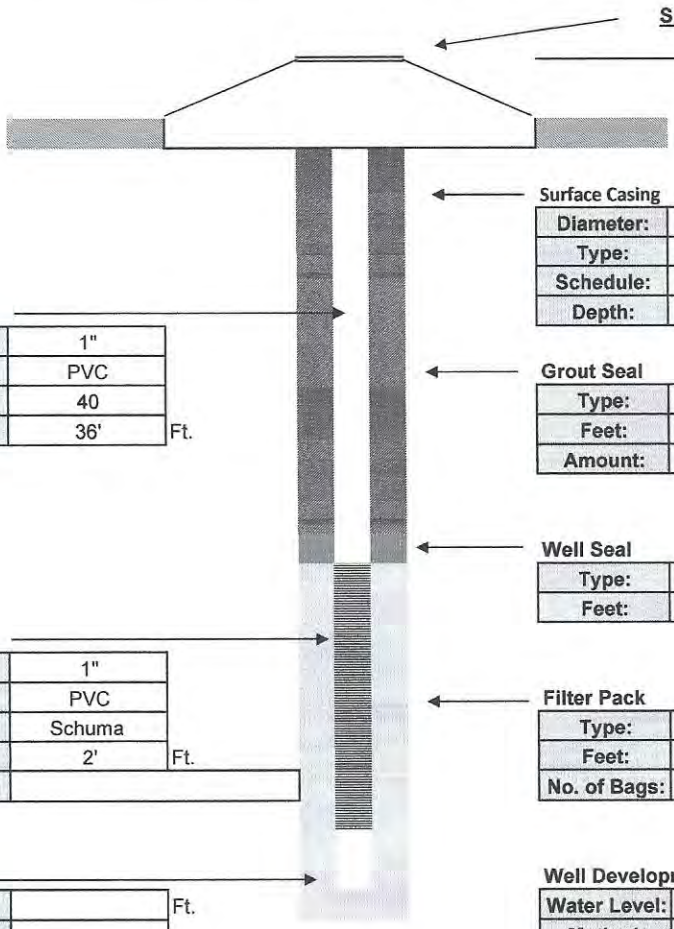
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 393
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company: Drillpro LLC d/b/a Groundwater Protection
Address: 2300 Silver Star Road
C,S,Z: Orlando, Florida 32804-3310
Phone/FAX: (407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

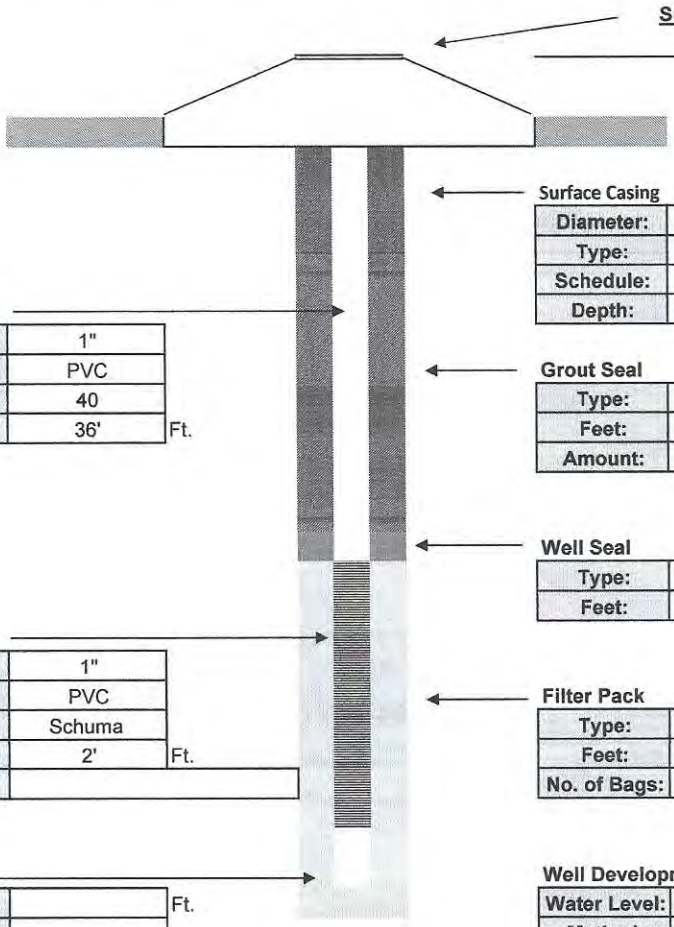
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 392
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

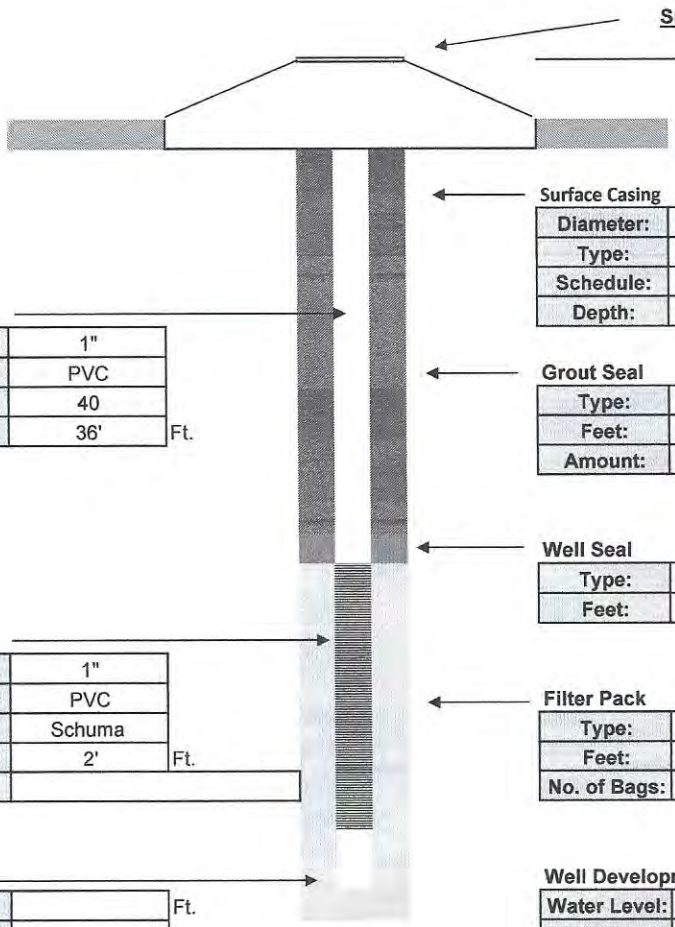
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 390
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

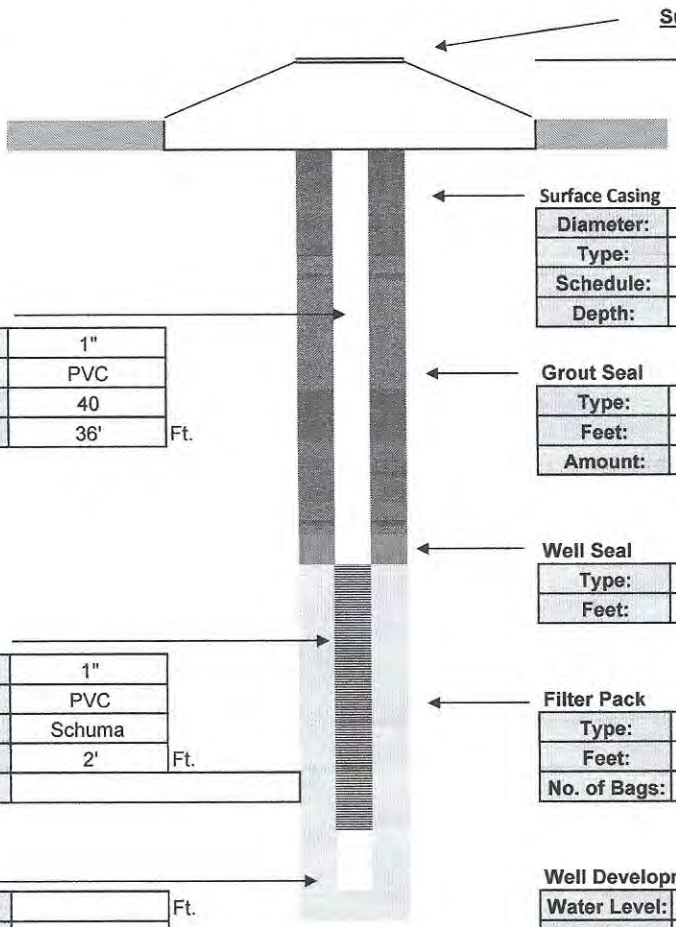
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 399
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		33'	Feet	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

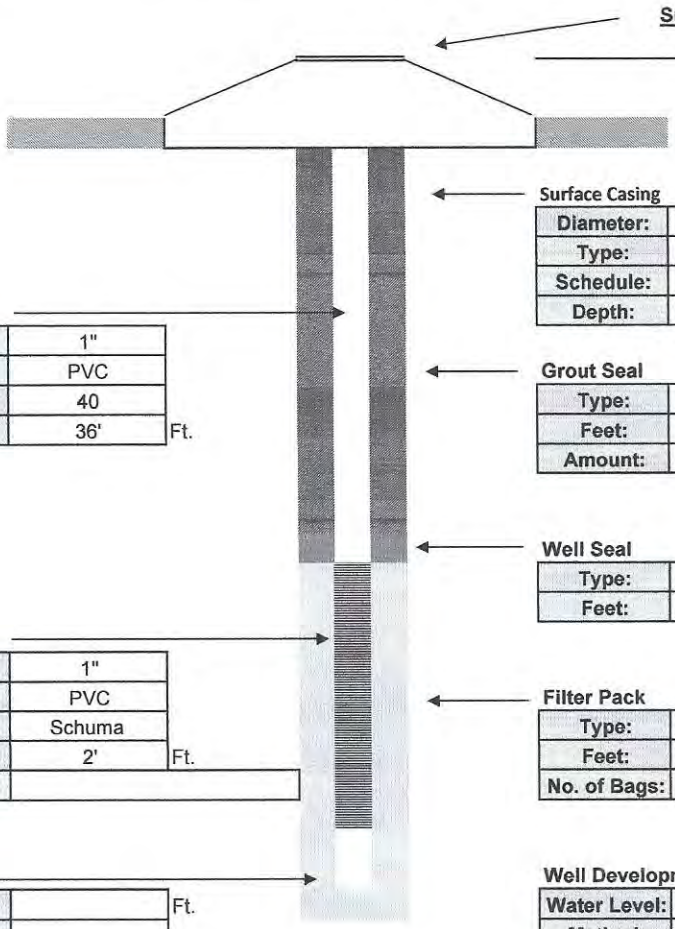
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 402
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		33'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

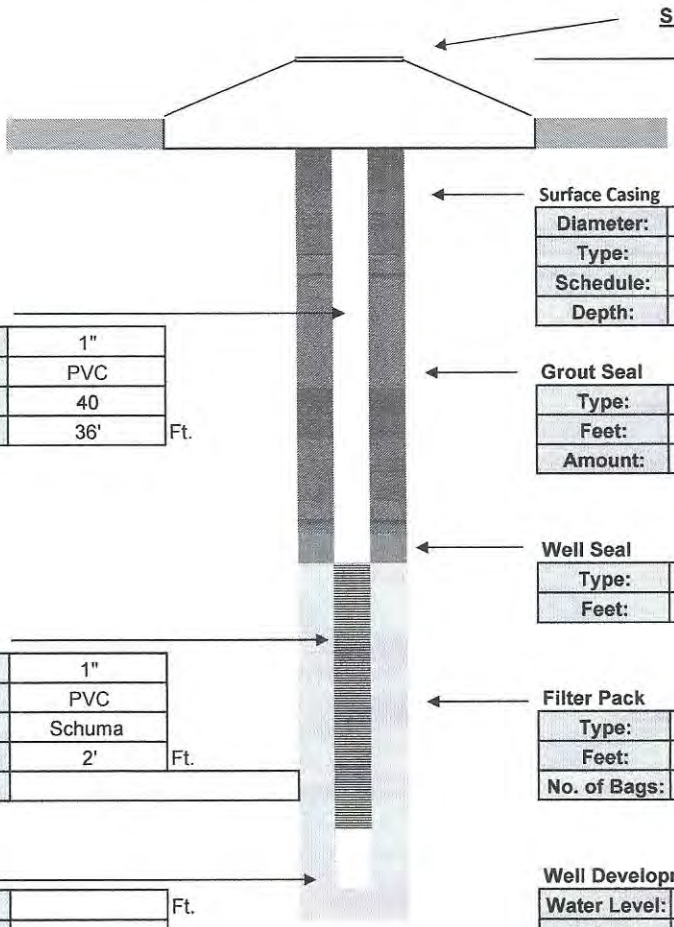
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 418
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

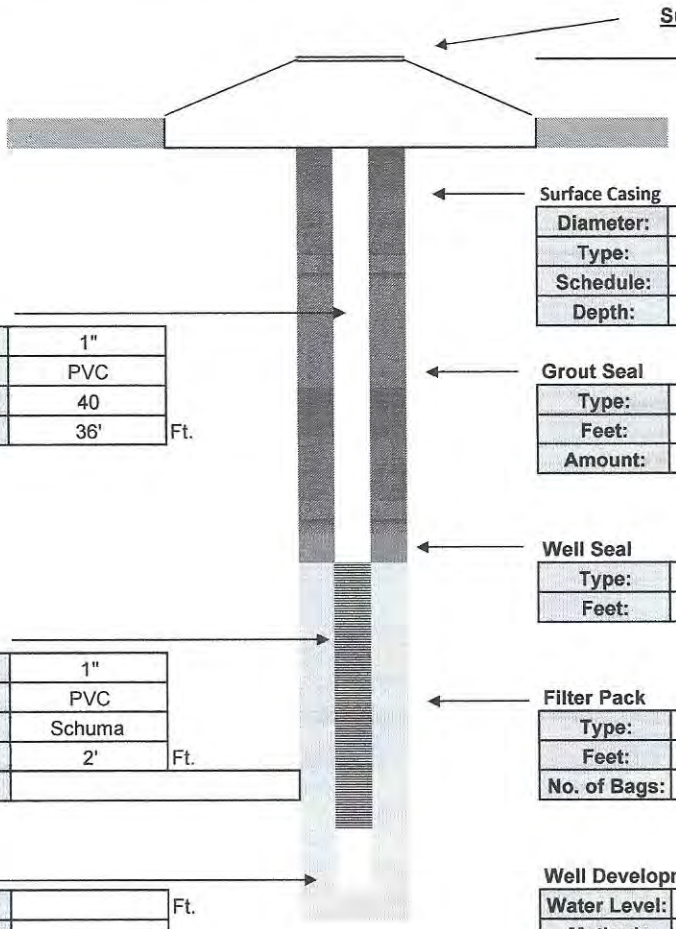
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 415
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing		Intermediate Casing	
Diameter:		Diameter:	
Type:		Type:	
Schedule:		Schedule:	
Depth:		Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

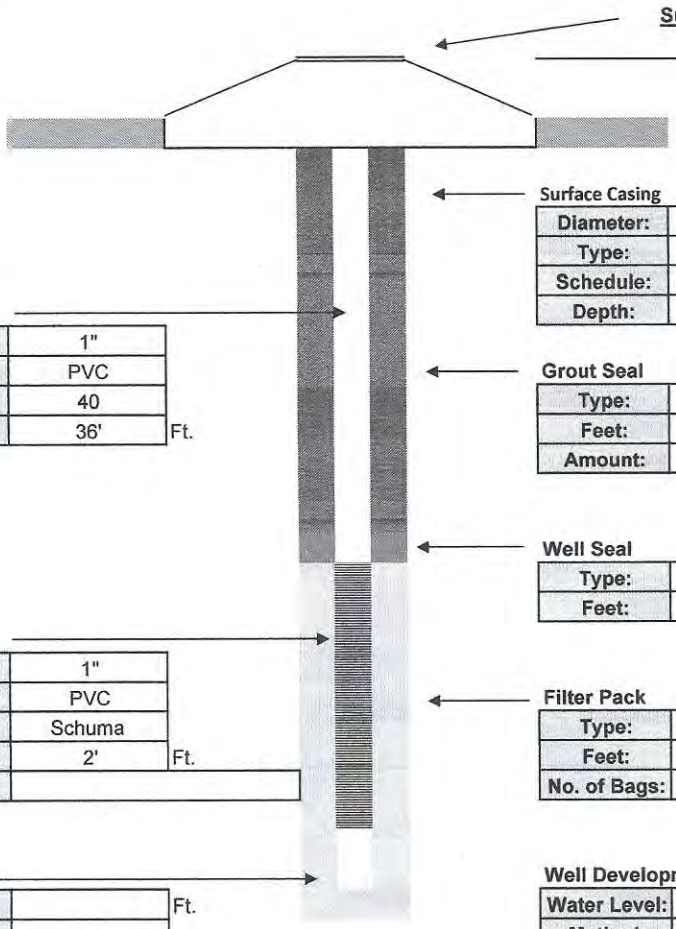
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 414
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

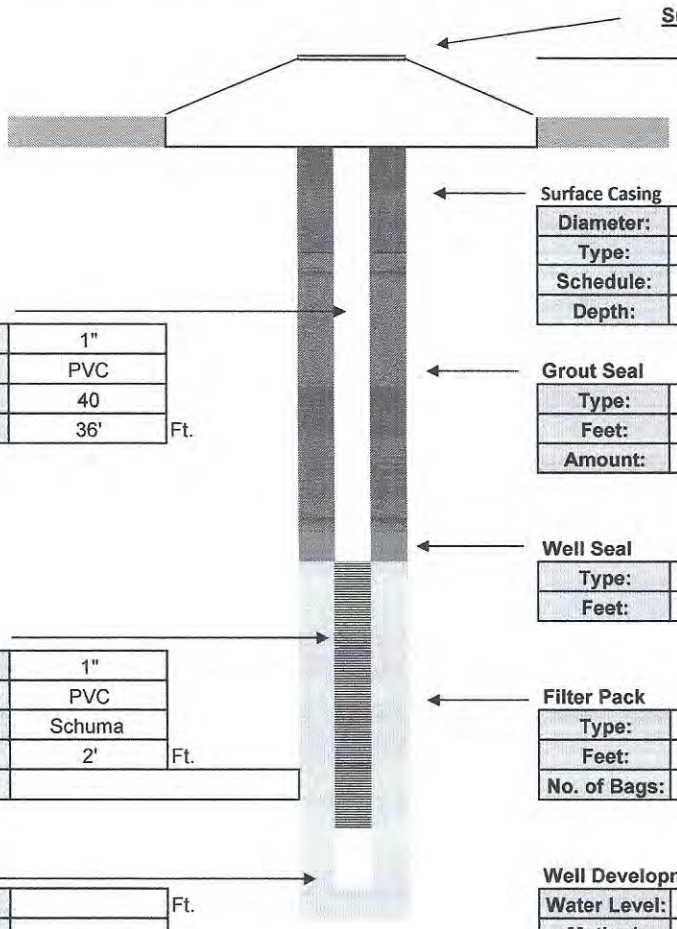
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 410
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

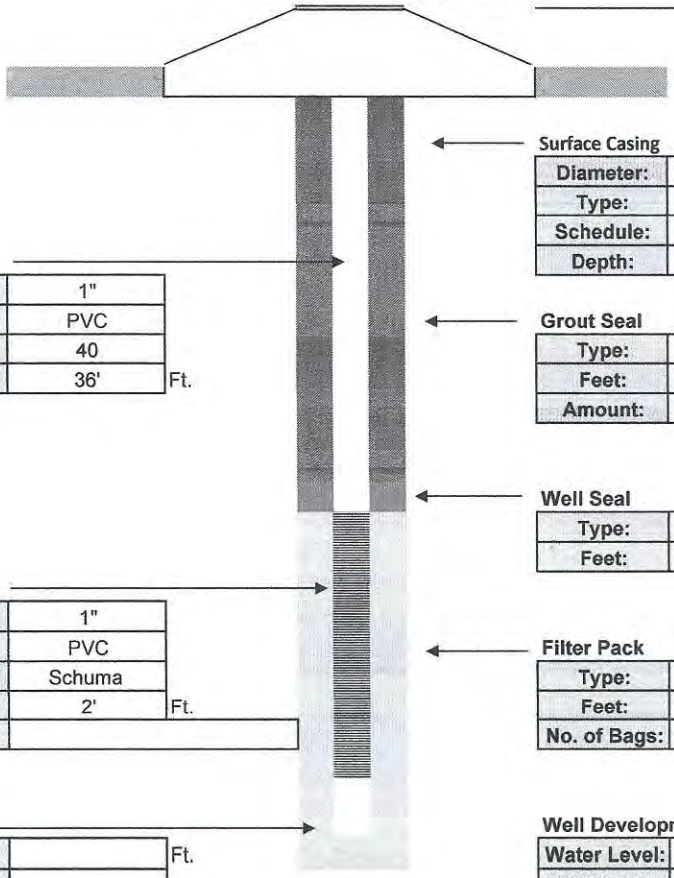
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 424
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

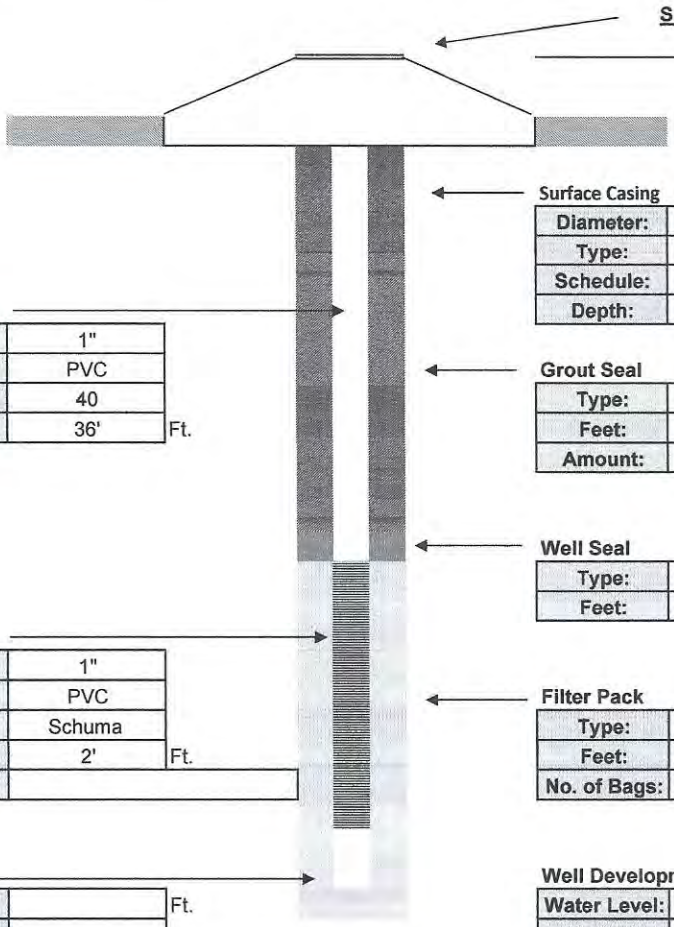
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 426
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

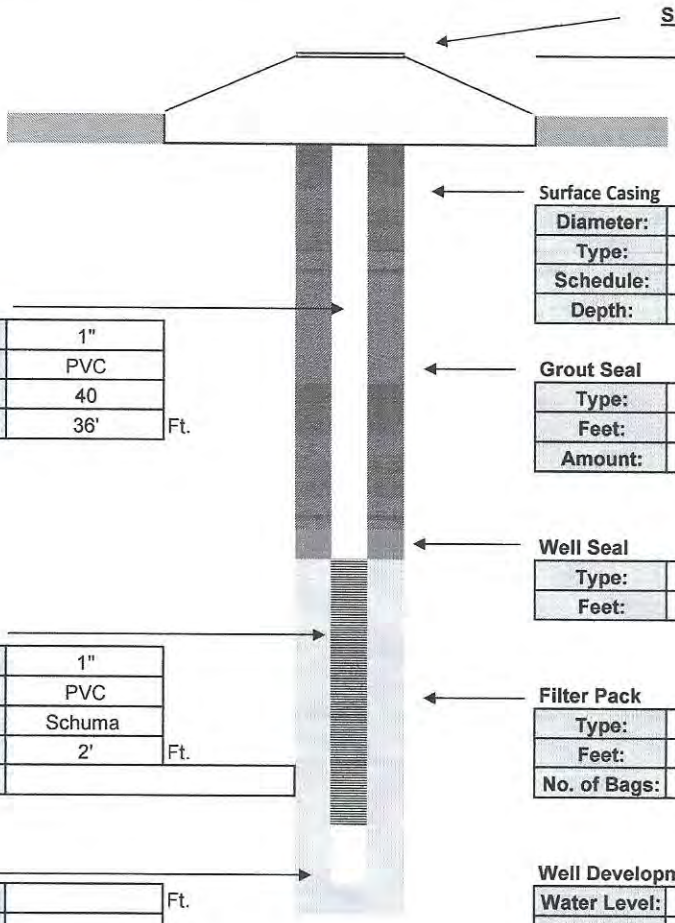
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 427
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

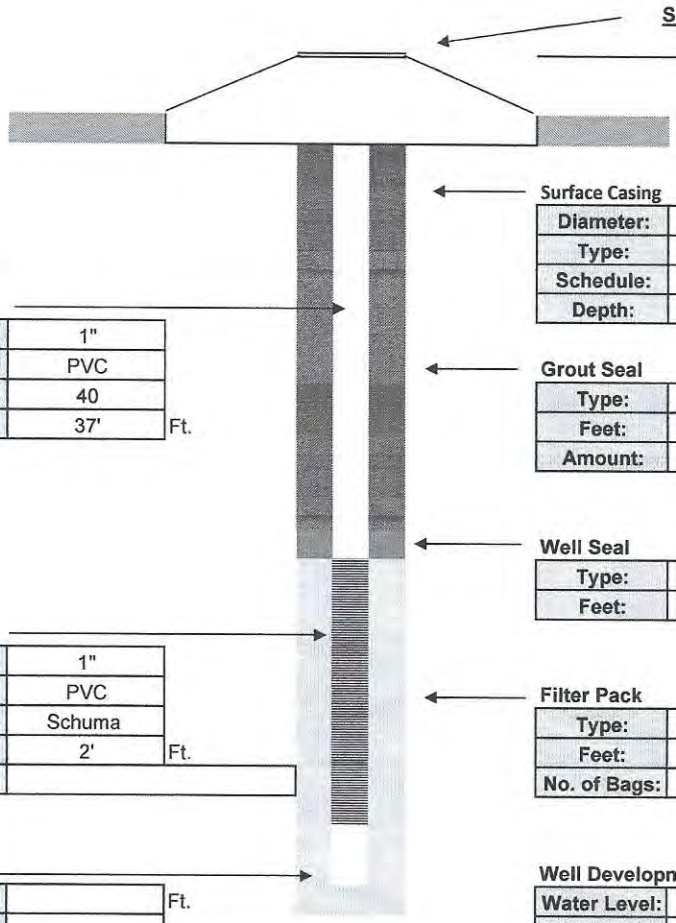
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 336
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		34'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

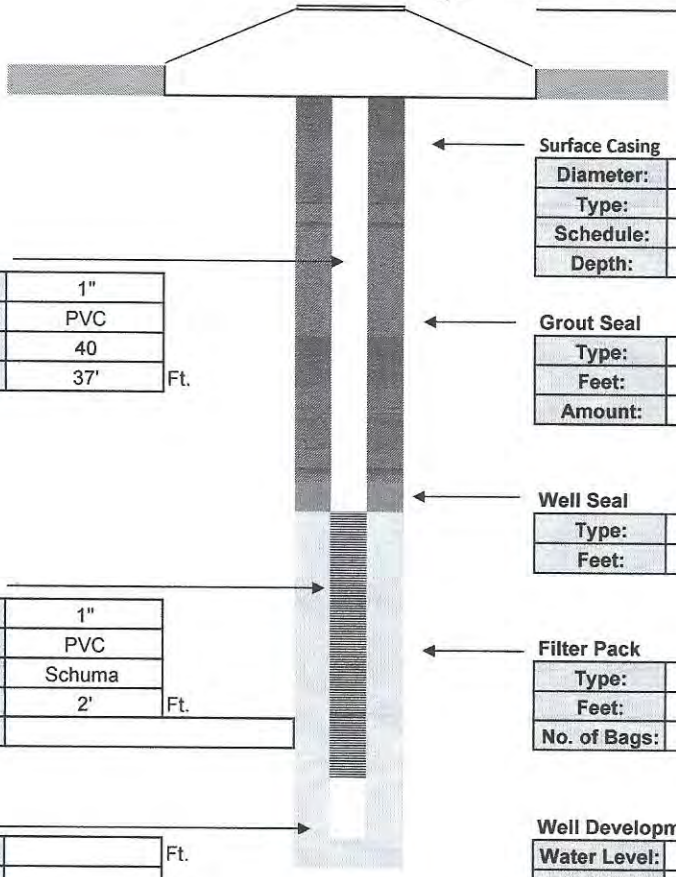
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 391
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		34'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

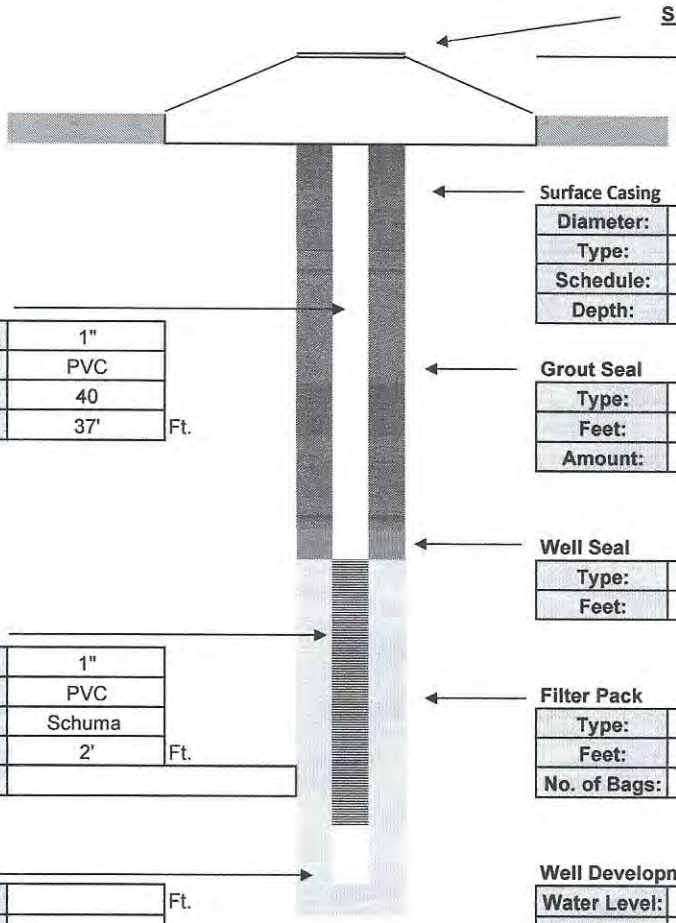
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 413
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		34'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

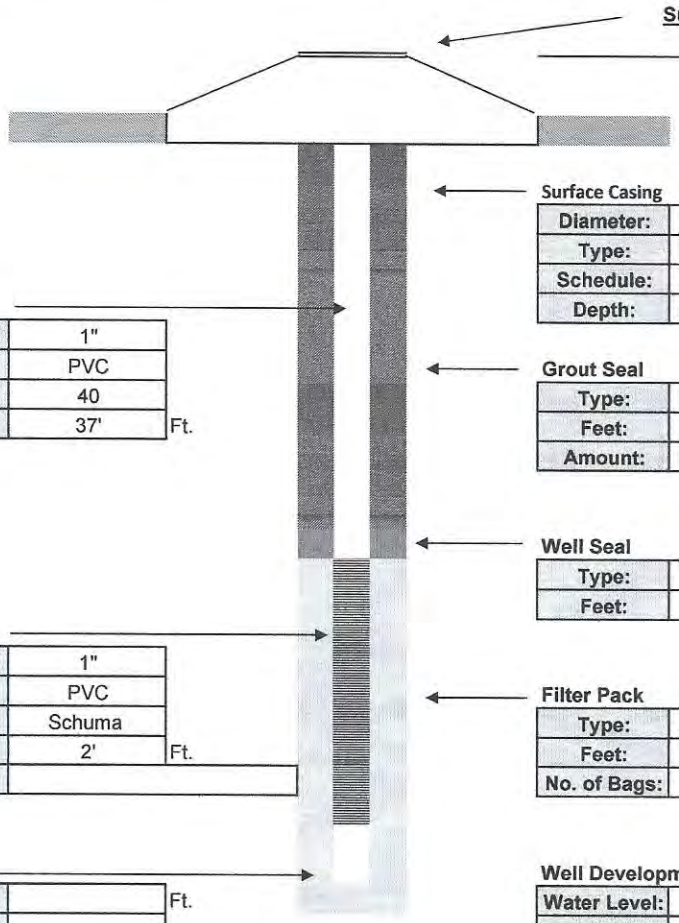
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 412
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		34'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

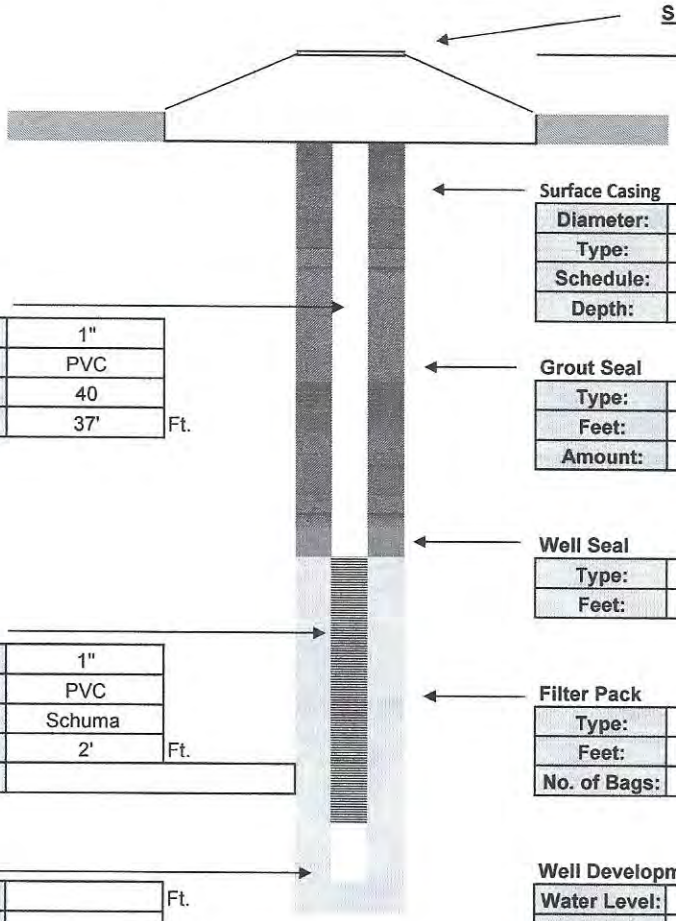
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 411
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		34'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

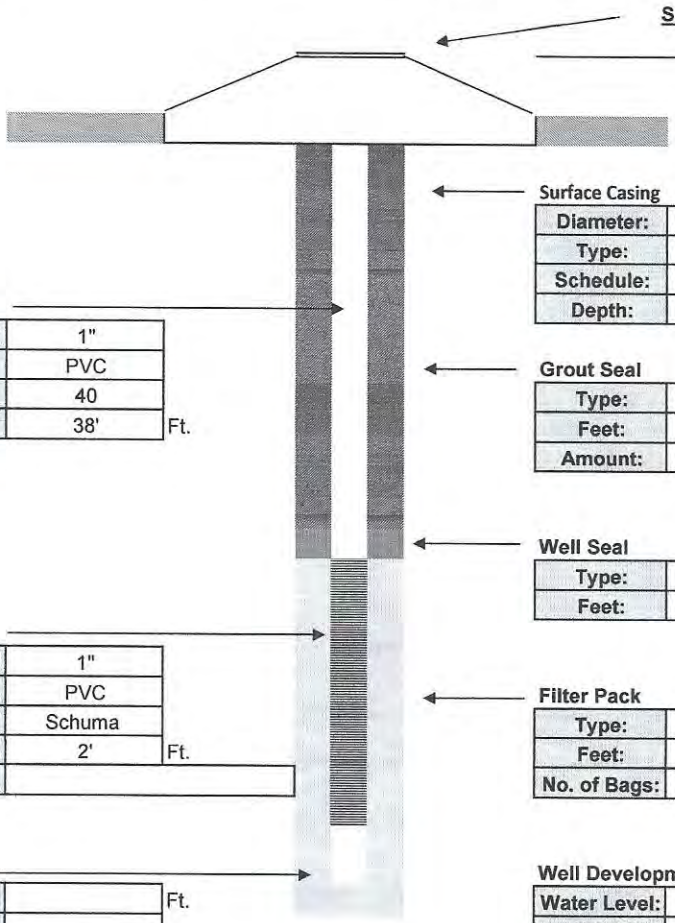
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 338
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

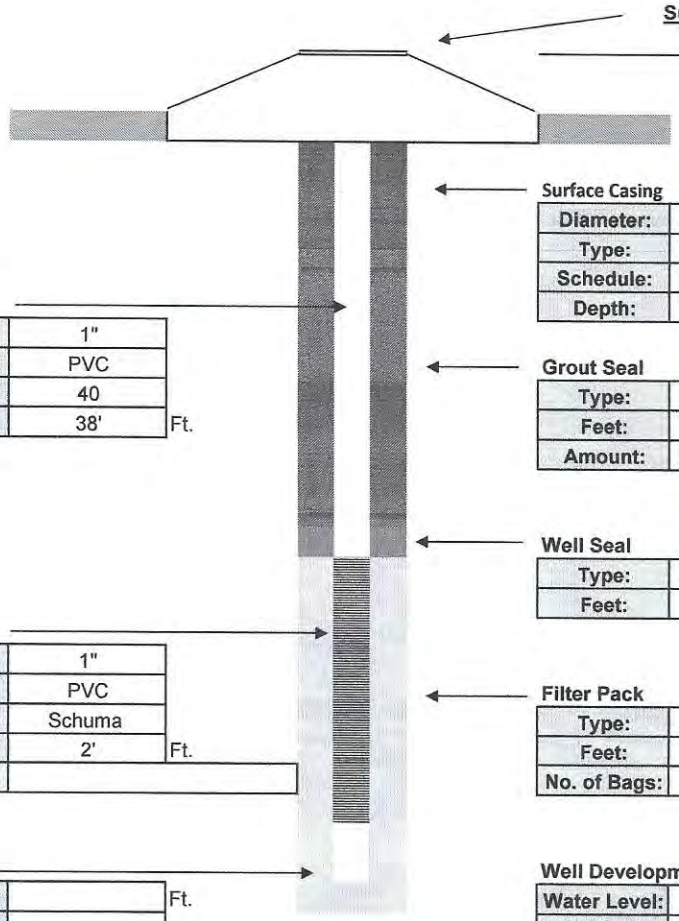
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 337
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

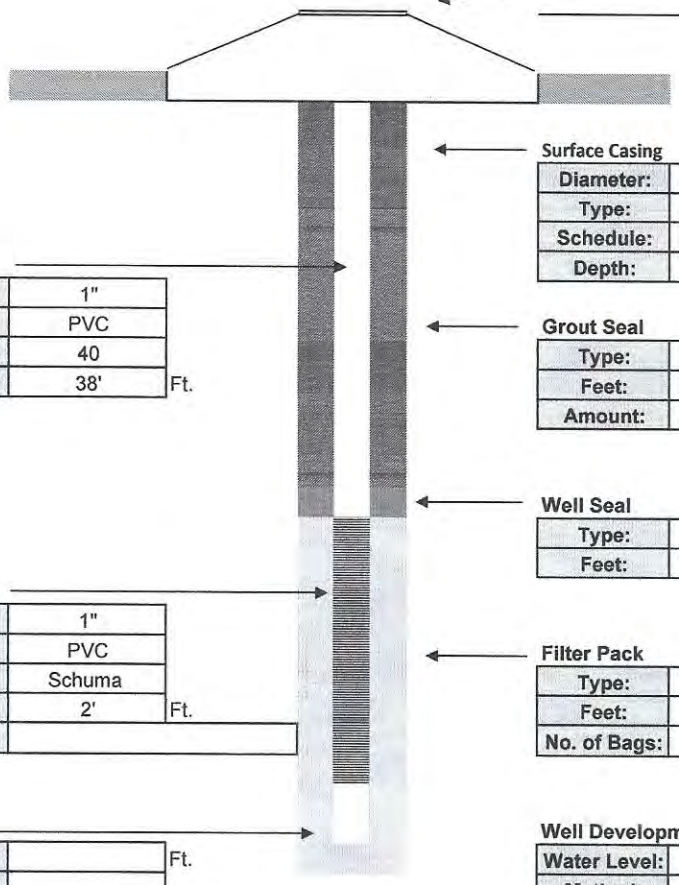
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 389
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

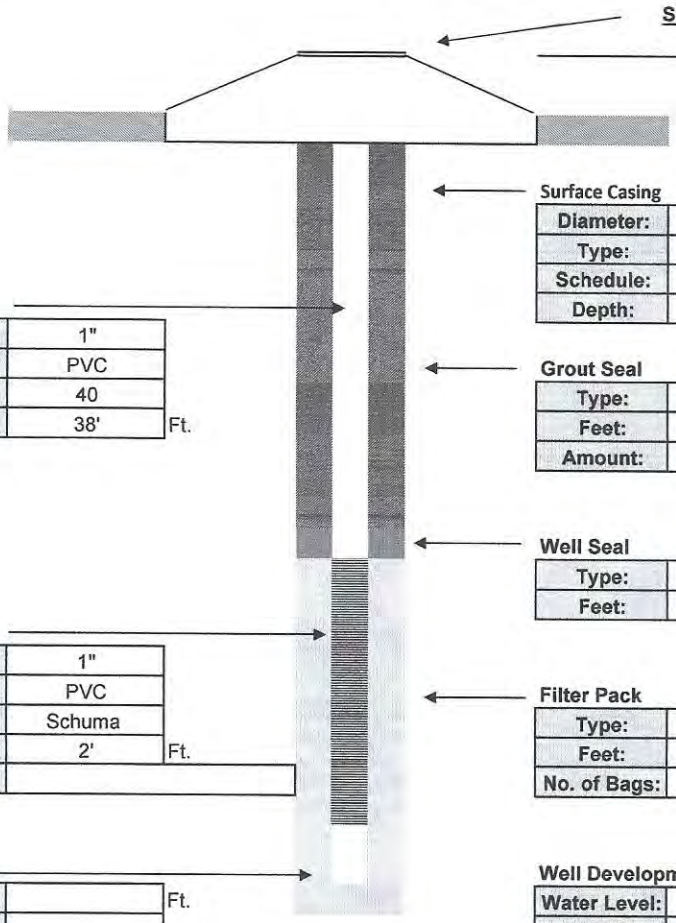
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 388
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

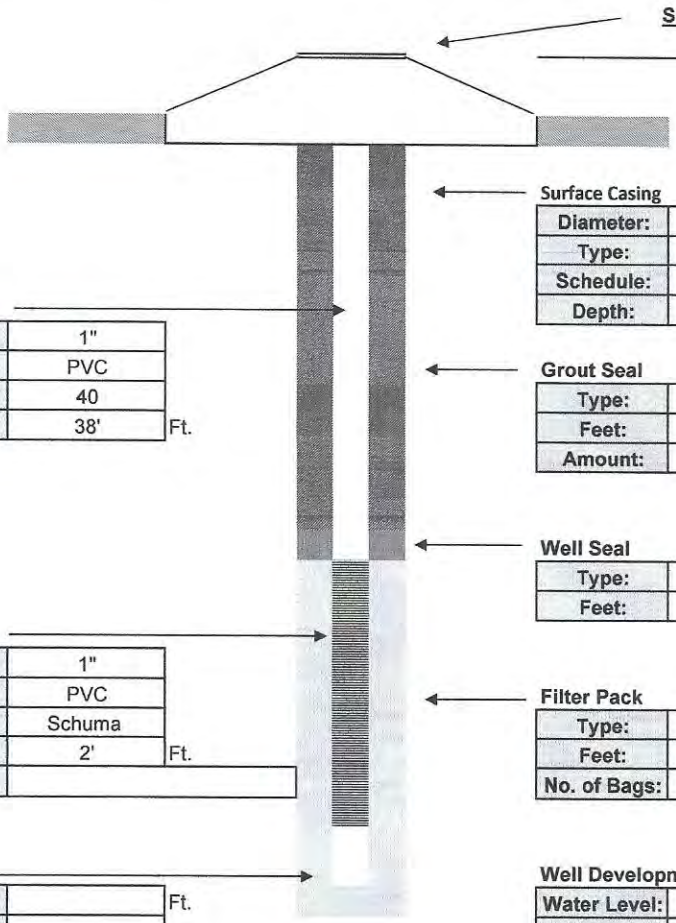
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 382
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

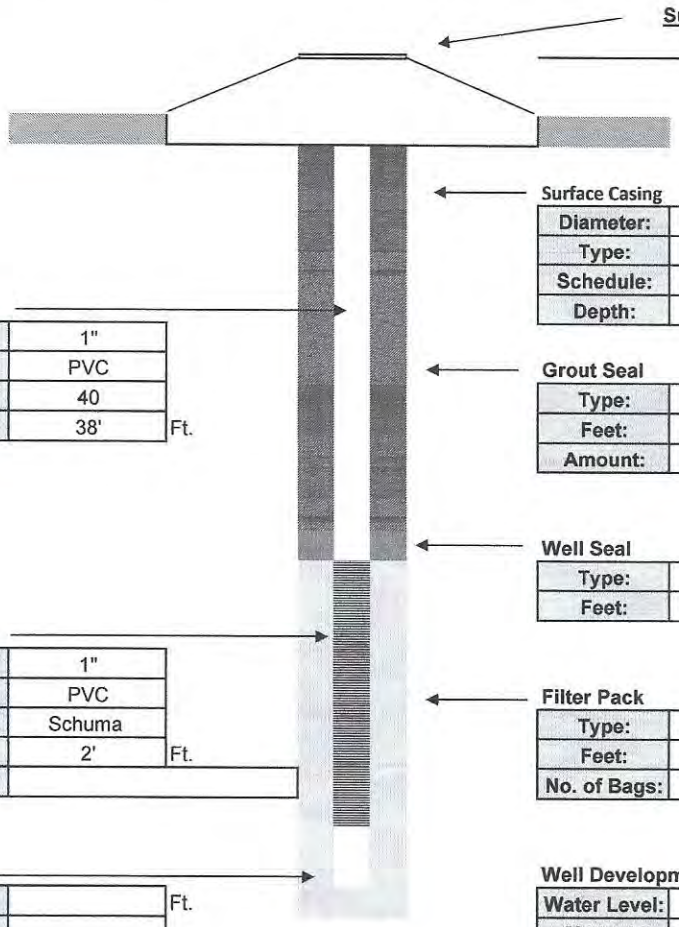
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 381
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

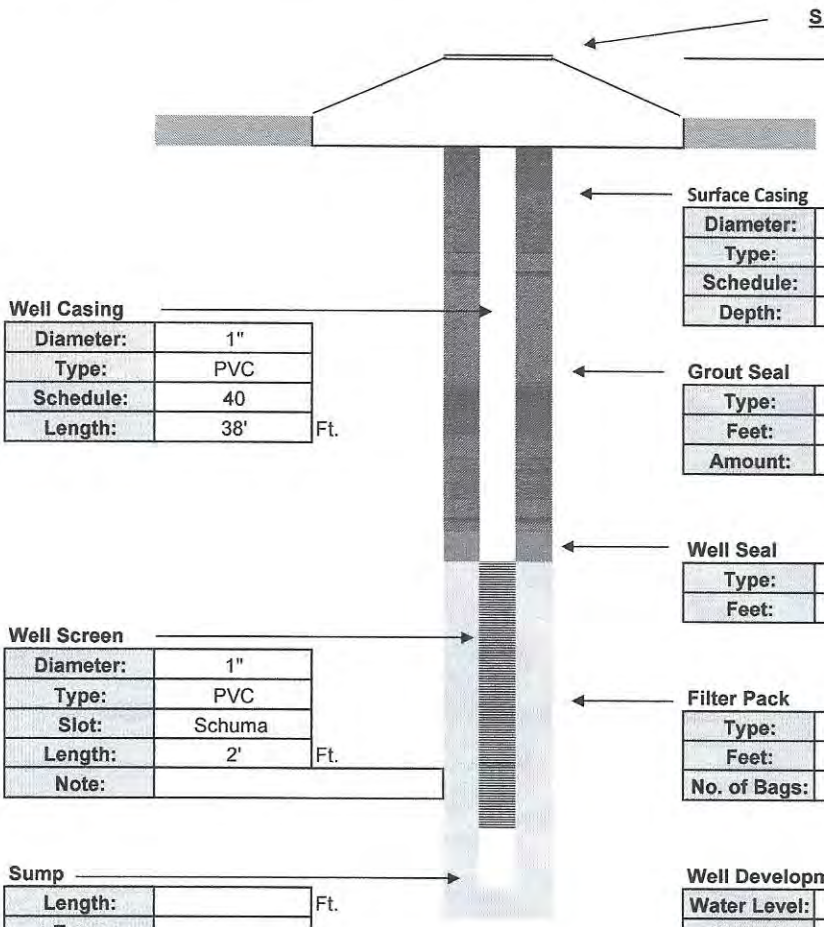
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 380
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

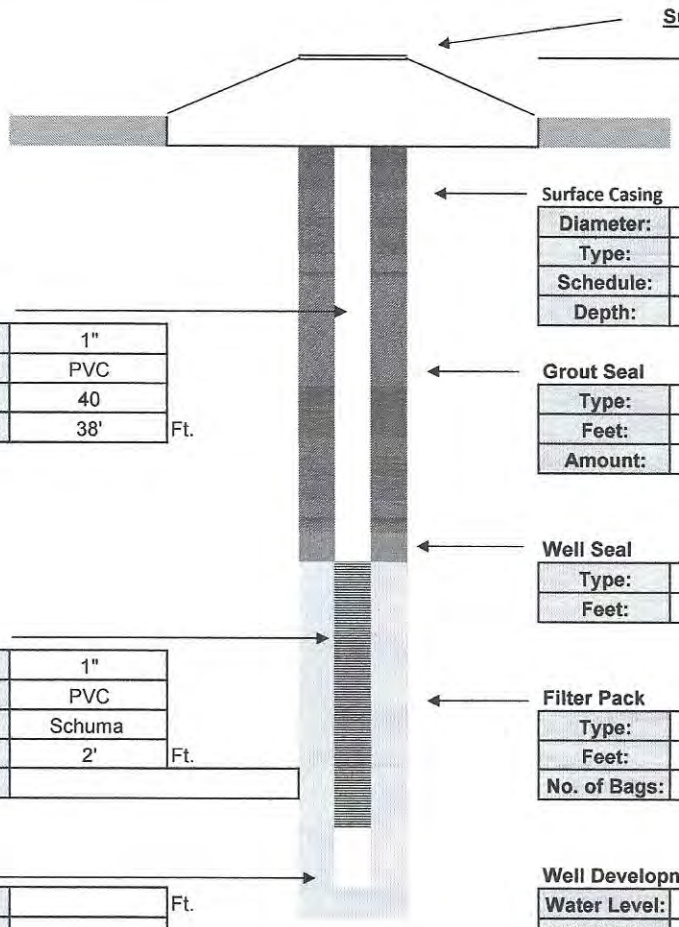
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 378
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

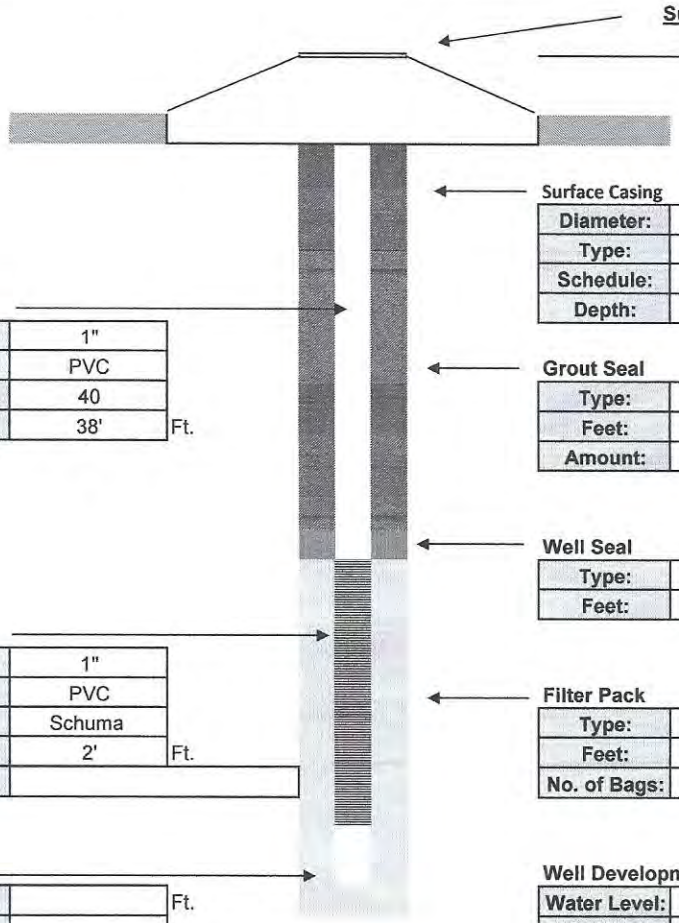
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 387
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

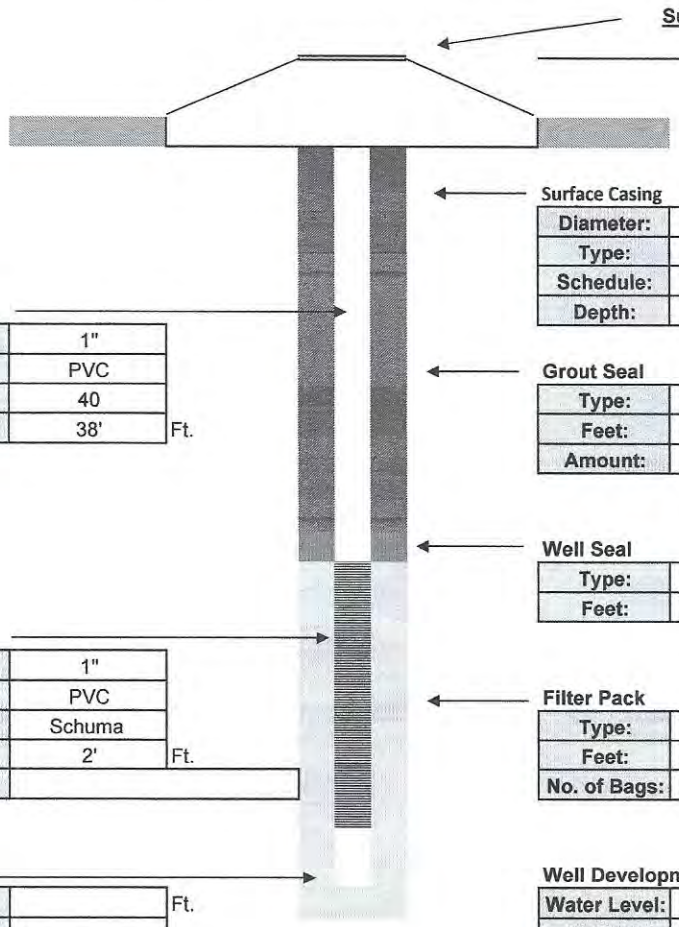
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 398
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

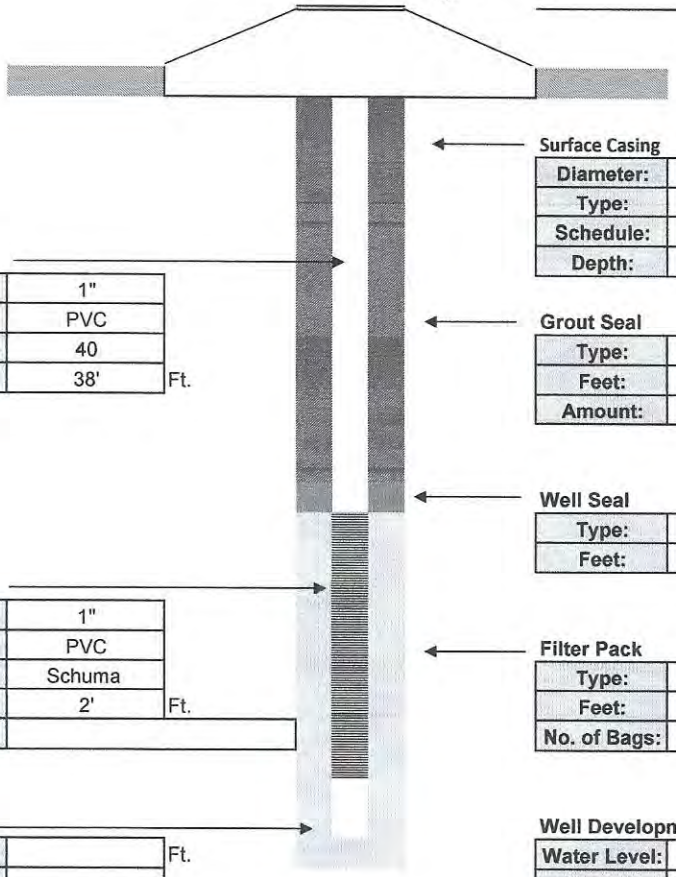
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 400
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

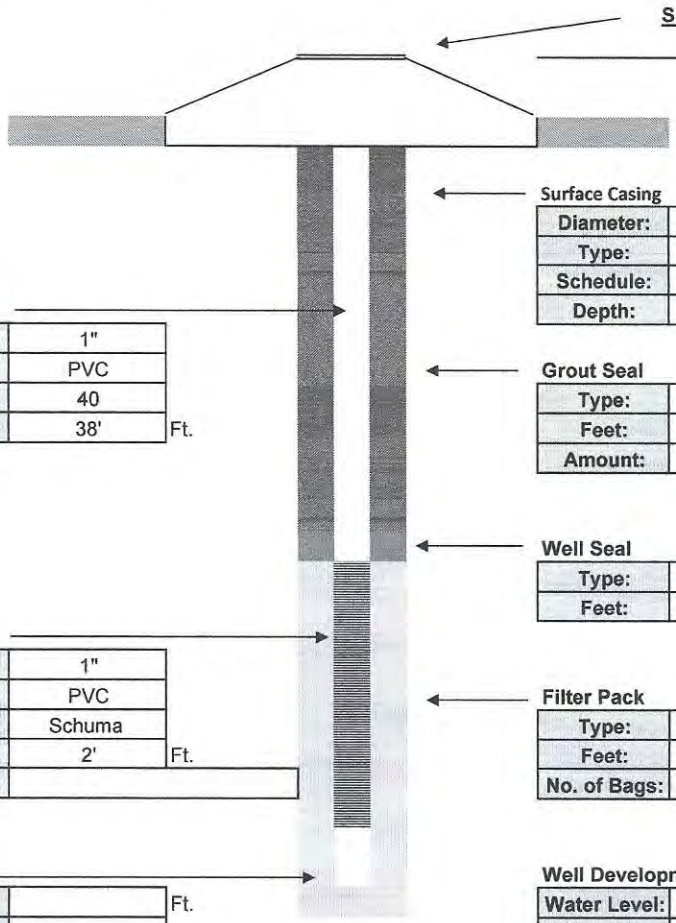
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 406
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

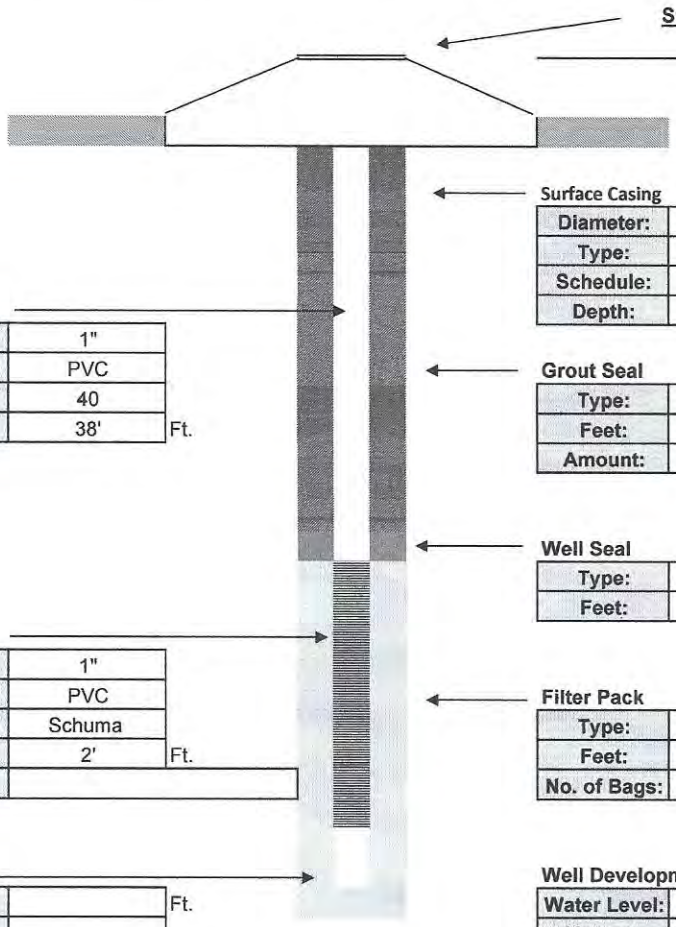
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 407
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

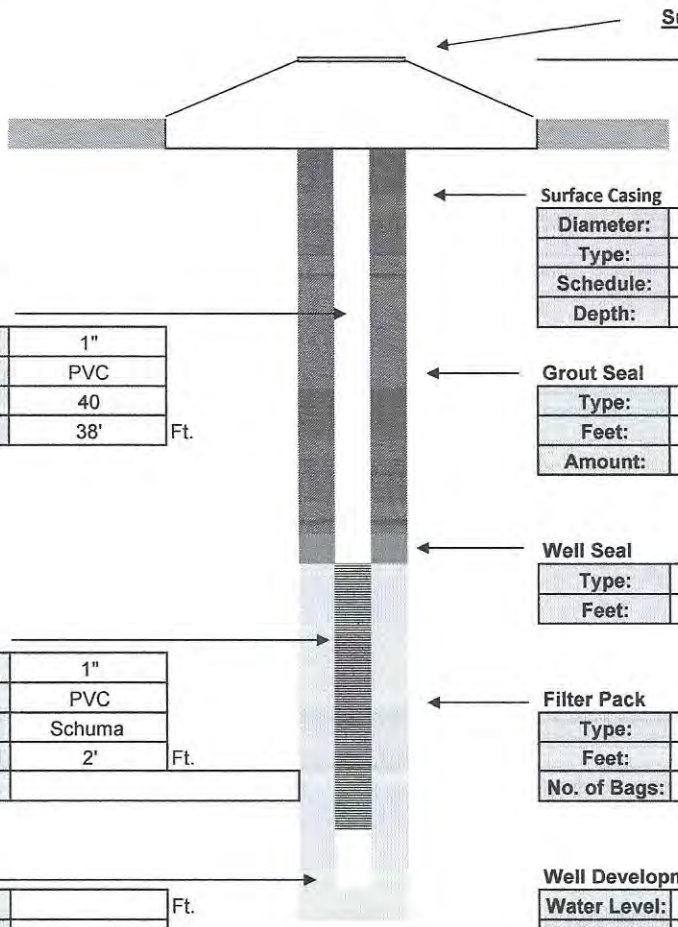
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 417
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

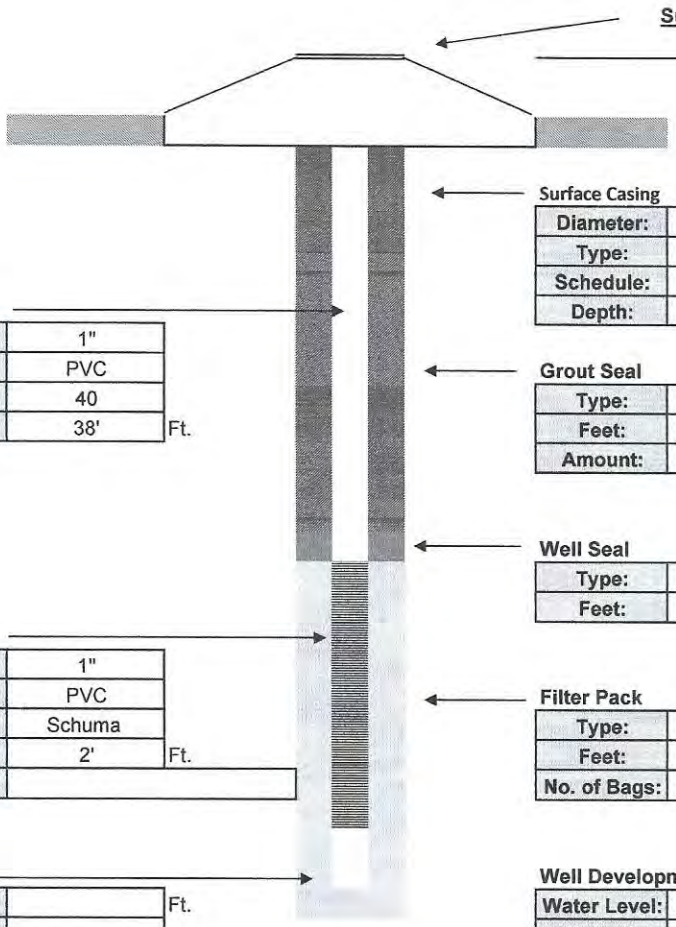
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 409
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

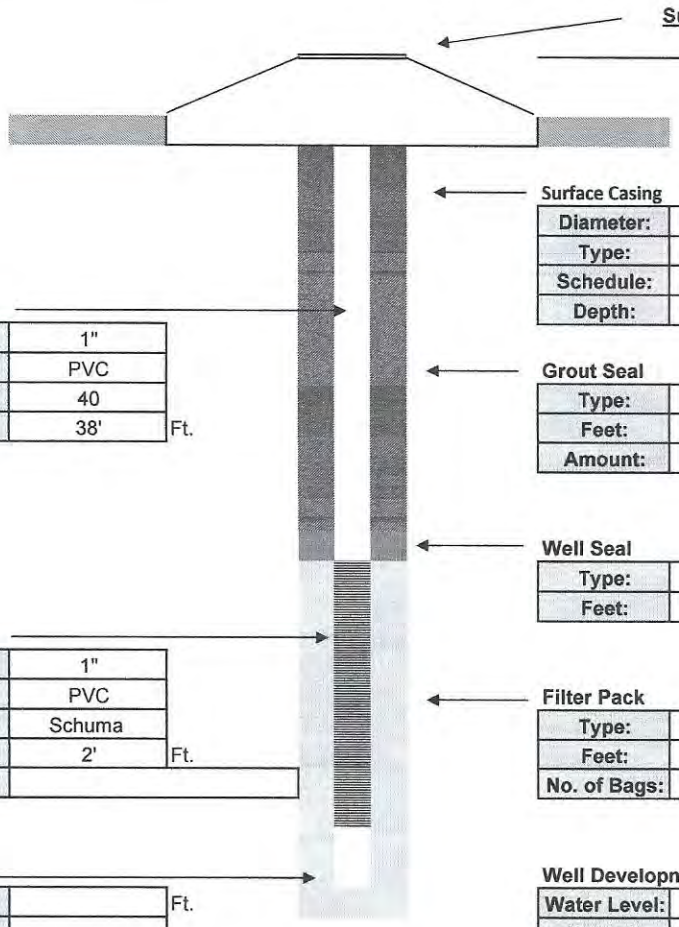
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 421
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

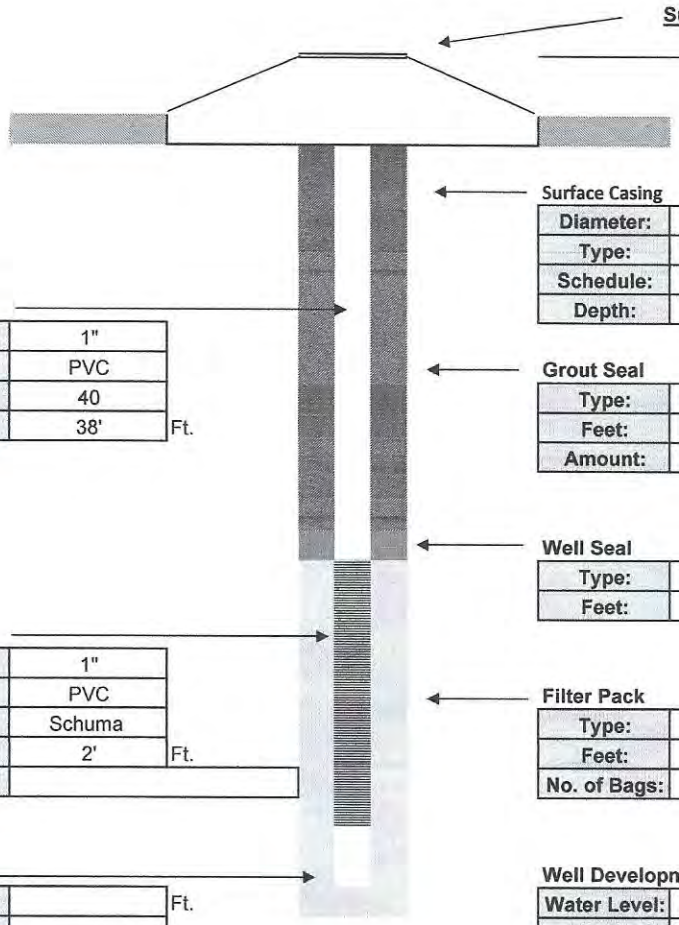
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 422
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"	
Type:	PVC	
Schedule:	40	
Length:	38'	Ft.

Grout Seal

Type:	I / II PORTLAND	
Feet:	35'	
Amount:	2	Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"	
Type:	PVC	
Slot:	Schuma	
Length:	2'	Ft.
Note:		

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:		Ft.
Type:		

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

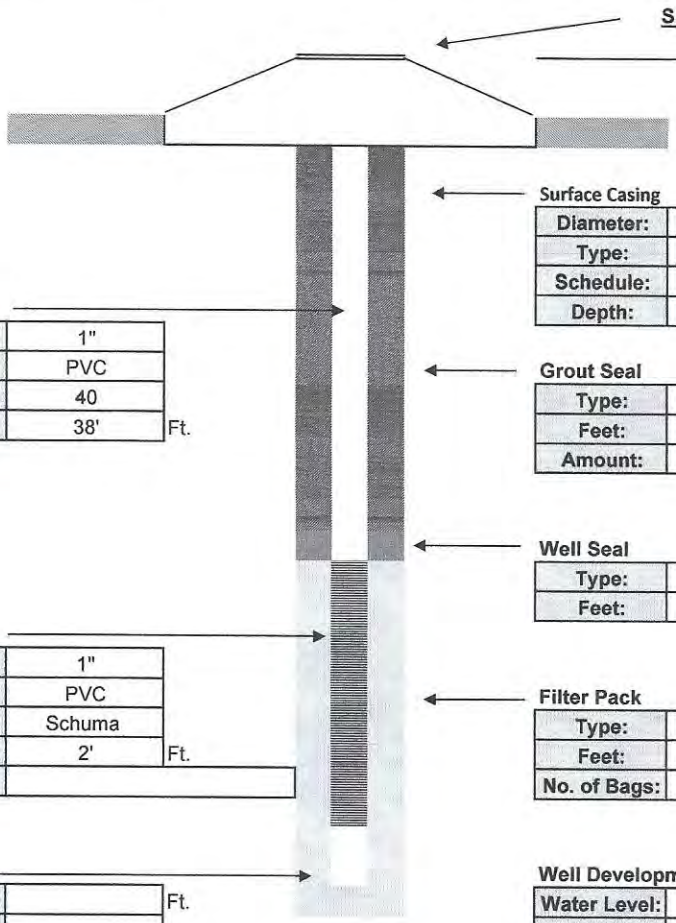
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 423
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	12/23/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Tyree Sanders / Terry Winstead
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

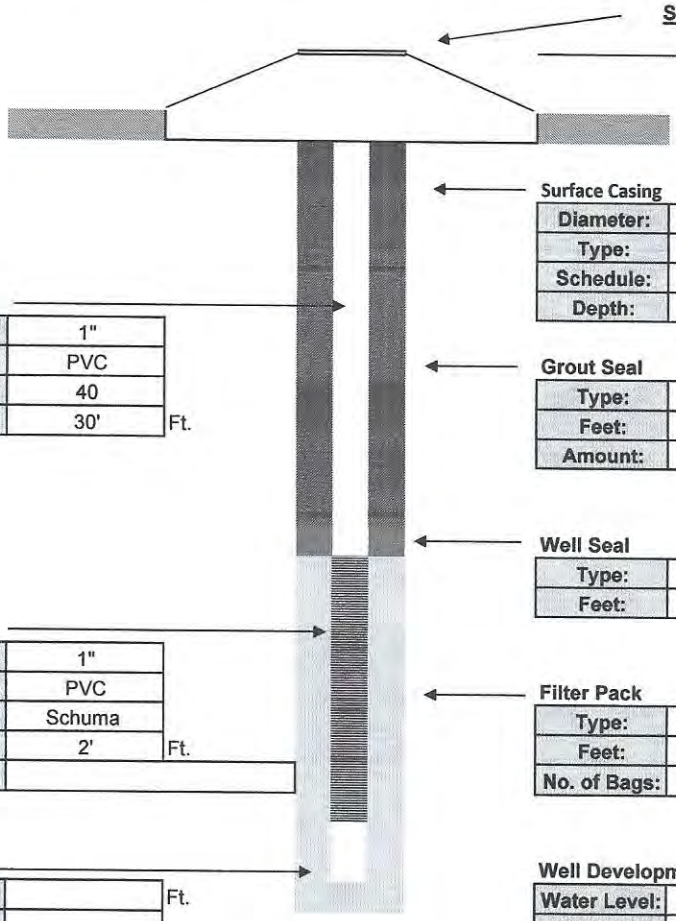
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 442
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	32'	2'	30'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		27'	Feet	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	30' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	27'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

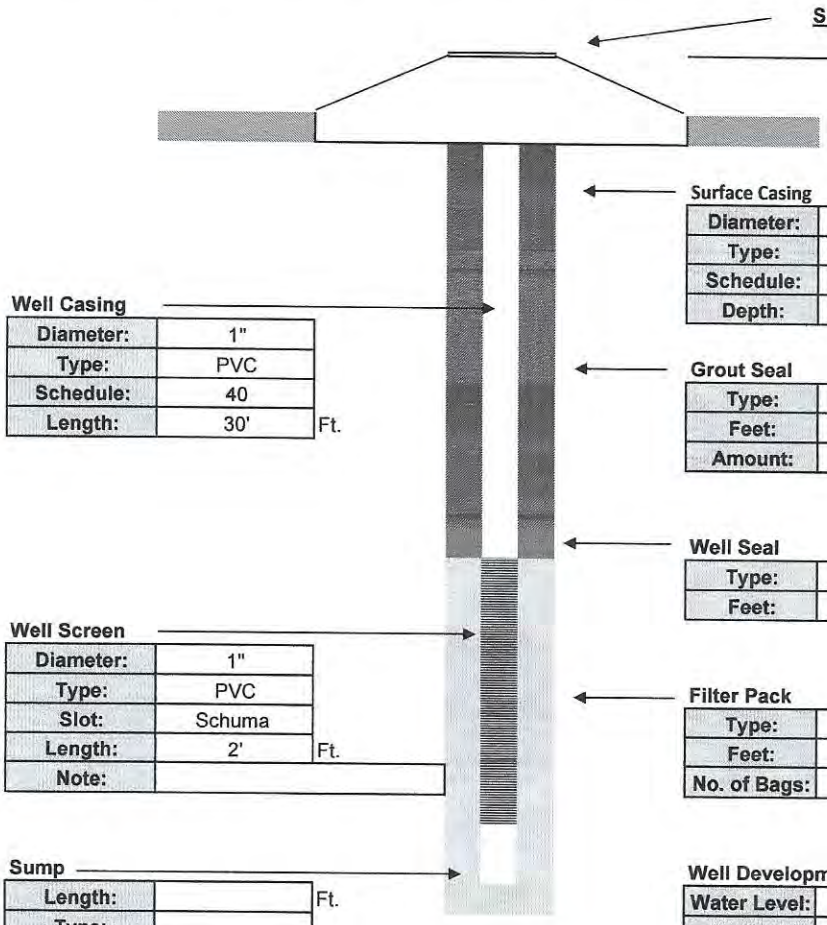
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 486
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	32'	2'	30'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		27'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	30' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	27'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

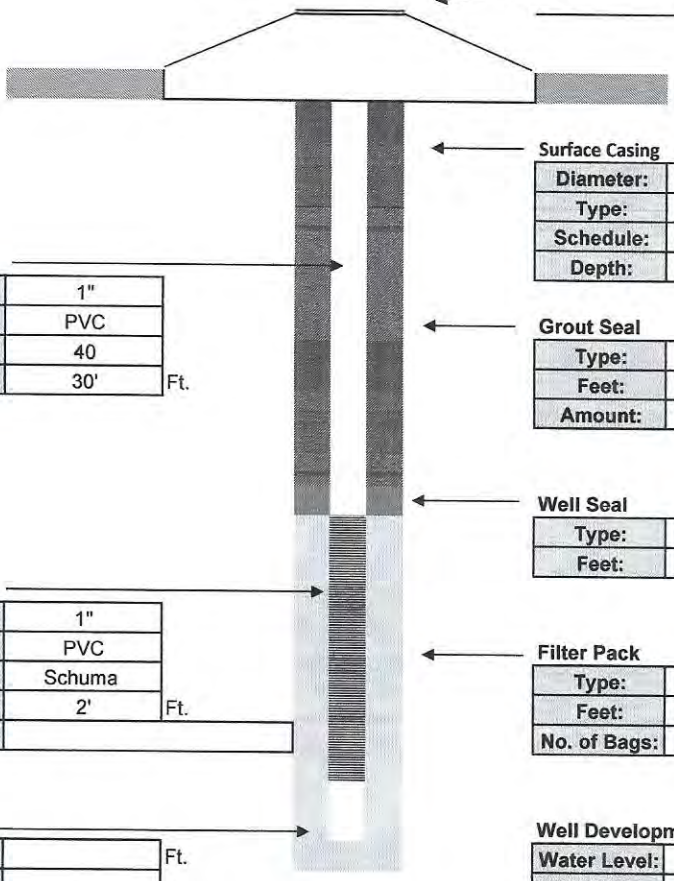
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 487
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	32'	2'	30'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		27'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	30' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	27'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

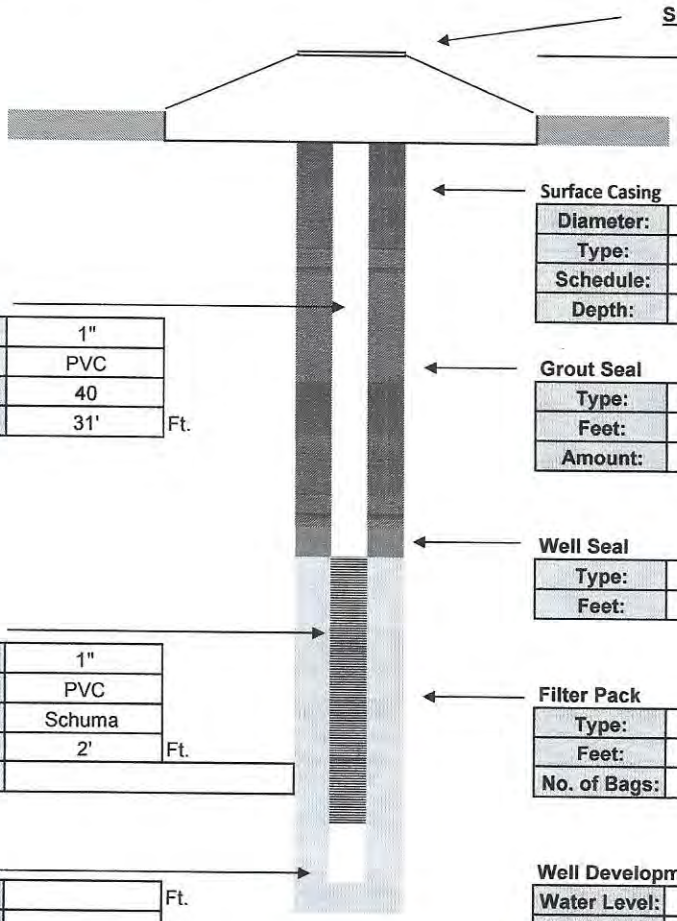
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 478
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	33'	2'	31'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		28'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	31' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	28'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

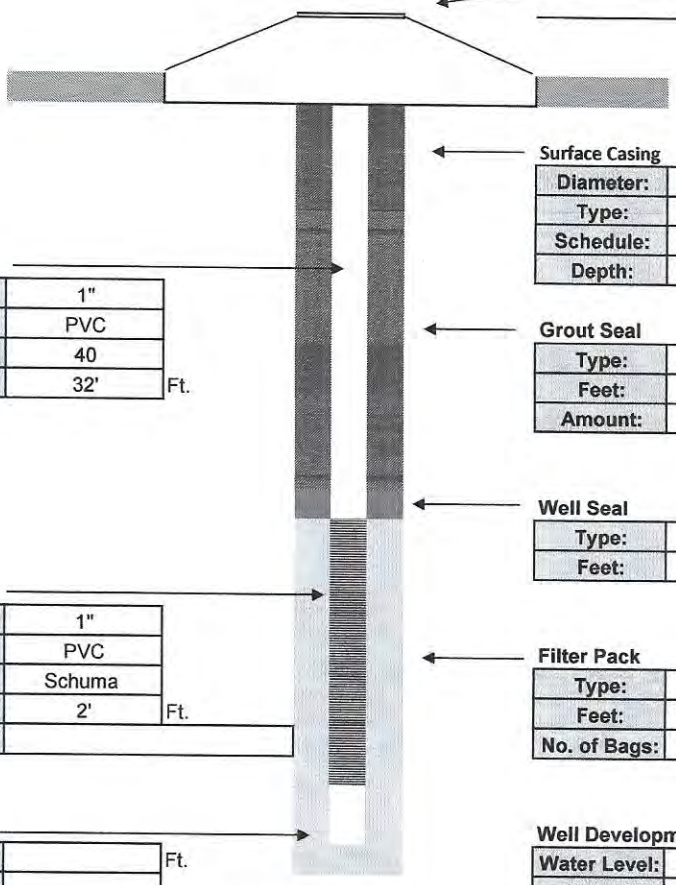
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 449
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	34'	2'	32'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		29'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	32' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	29'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	Jnauary 2023
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

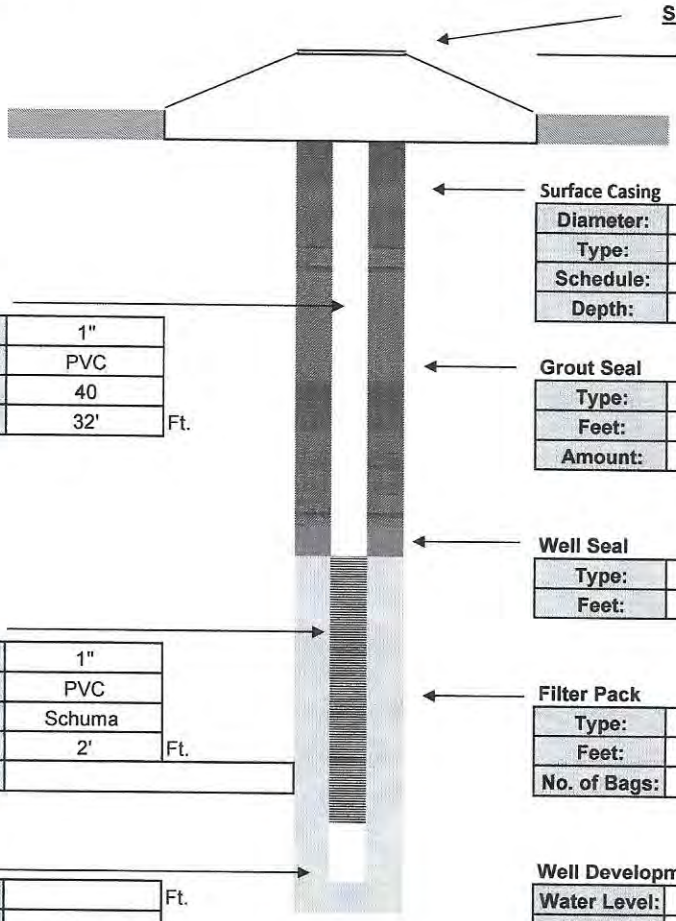
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 451
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	34'	2'	32'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		29'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	32' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	29'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	Jnauary 2023
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

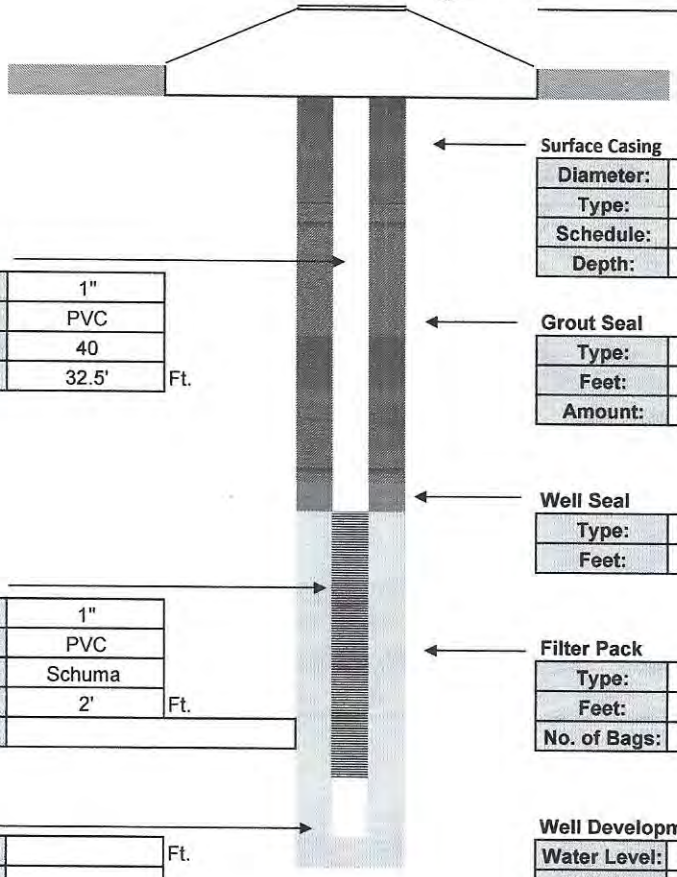
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 401
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	34.5	2'	32.5'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		29.5'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	32.5' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	29.5'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

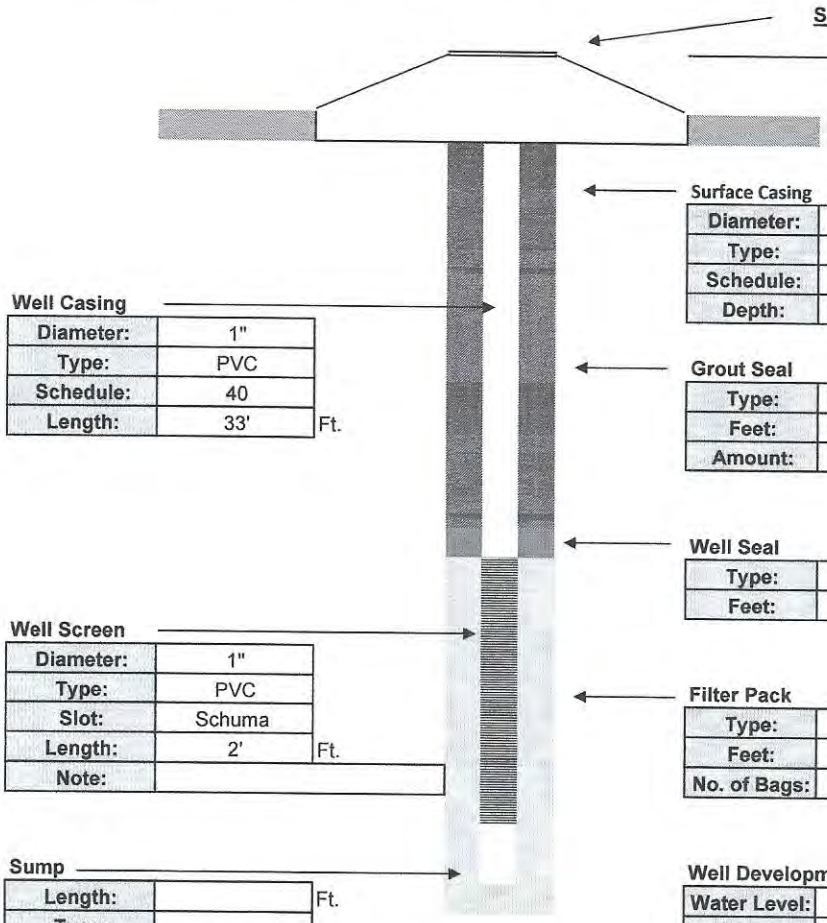
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 439
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	2'	33'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		30'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	33' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	30'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

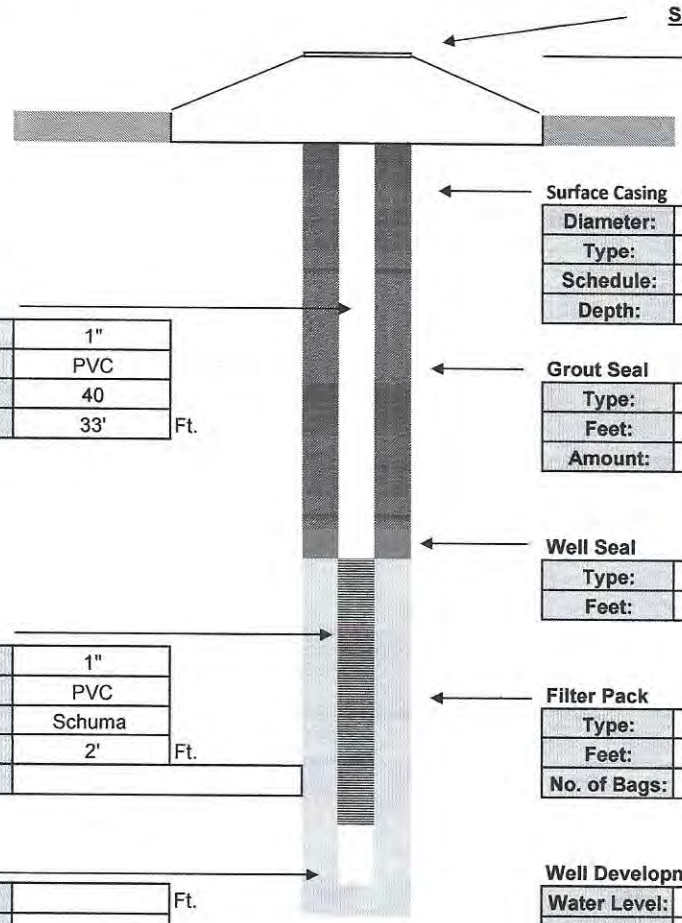
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 440
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	2'	33'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		30'	Feet	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	33' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	30'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

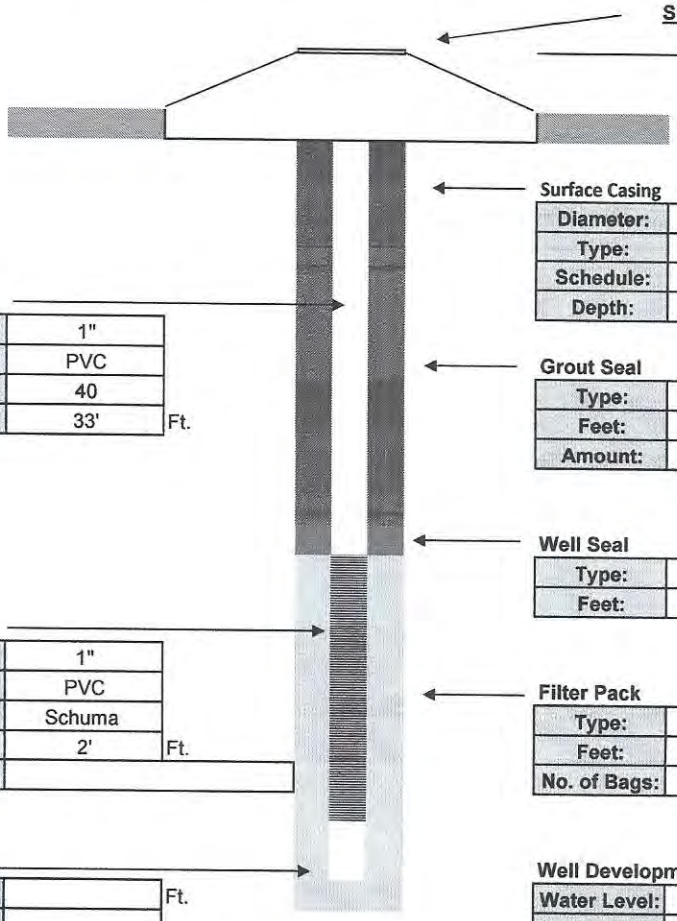
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 462
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	2'	33'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		30'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	33' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	30'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

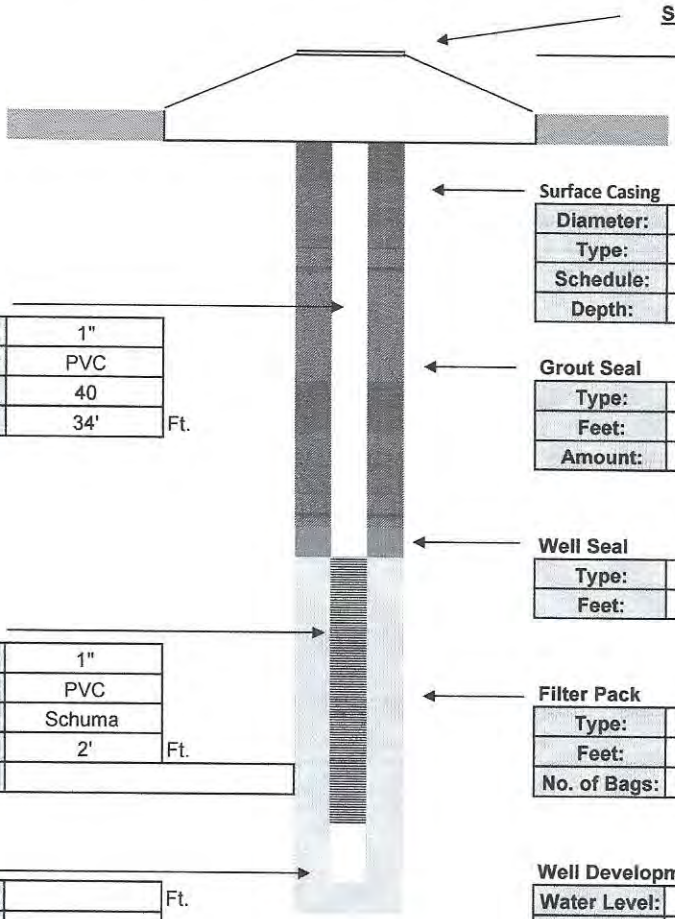
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 429
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	36'	2'	34'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		31'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	34' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	31'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	1/1/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Donald Huzzie
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

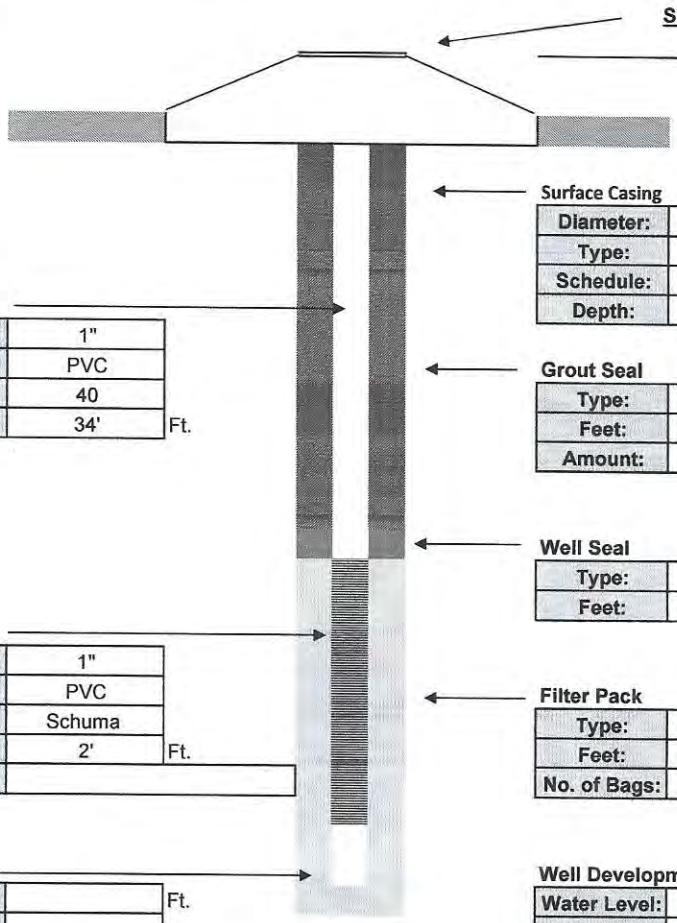
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 454
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	36'	2'	34'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		31'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	34' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	31'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

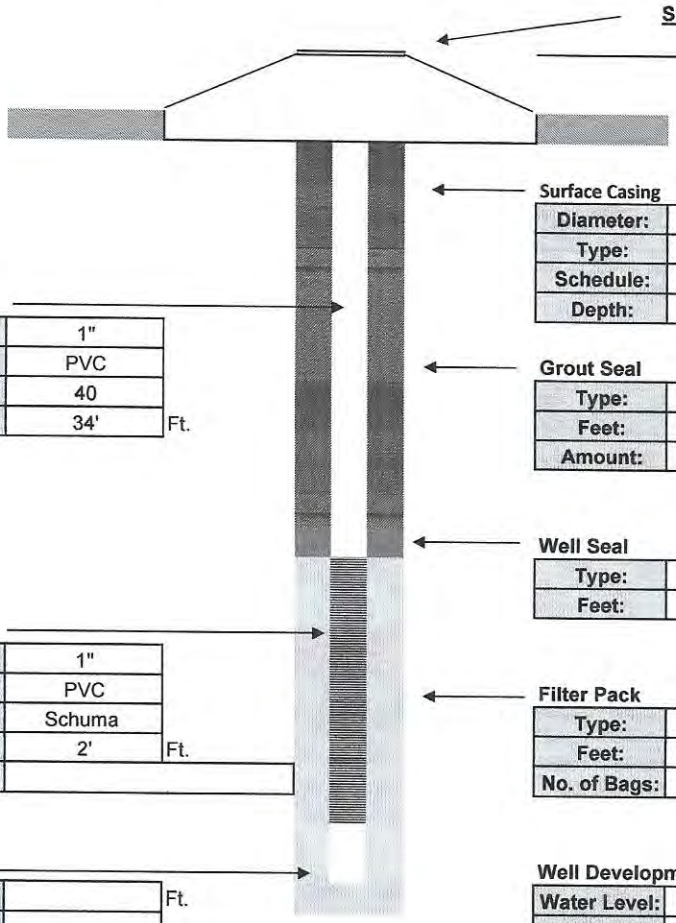
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 460
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	36'	2'	34'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		31'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	34' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	31'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

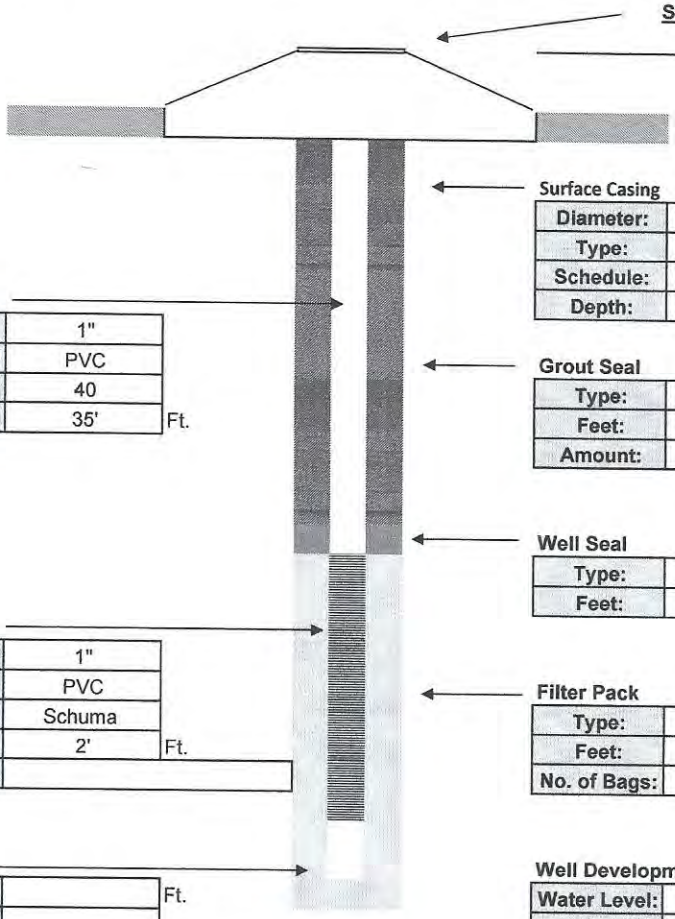
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 430
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	37'	2'	35'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		32'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	35' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	32'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	1/1/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Donald Huzzie
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

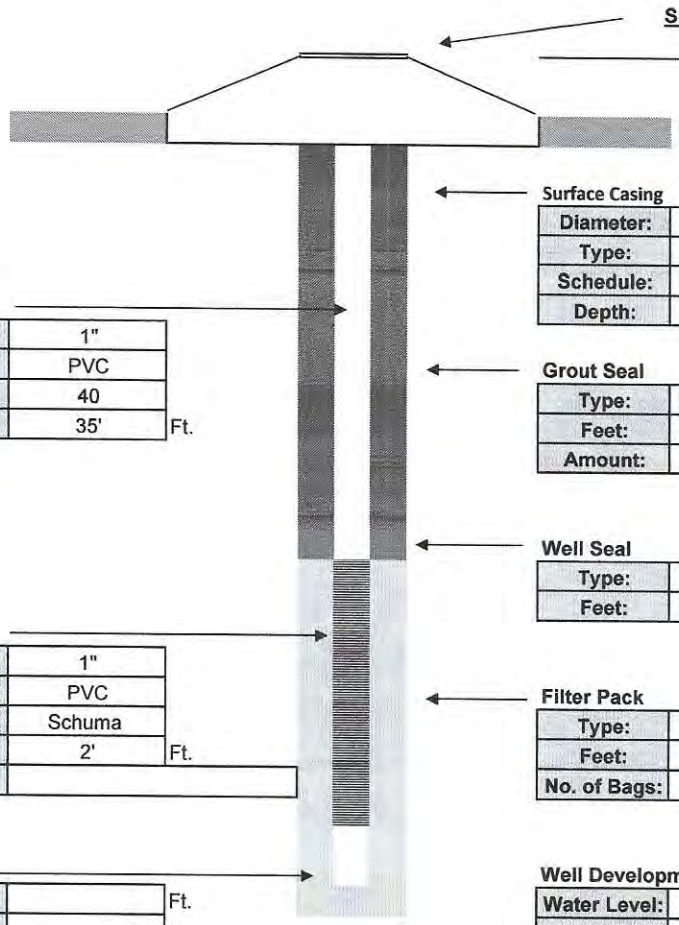
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 452
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	37'	2'	35'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		32'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	35' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	32'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

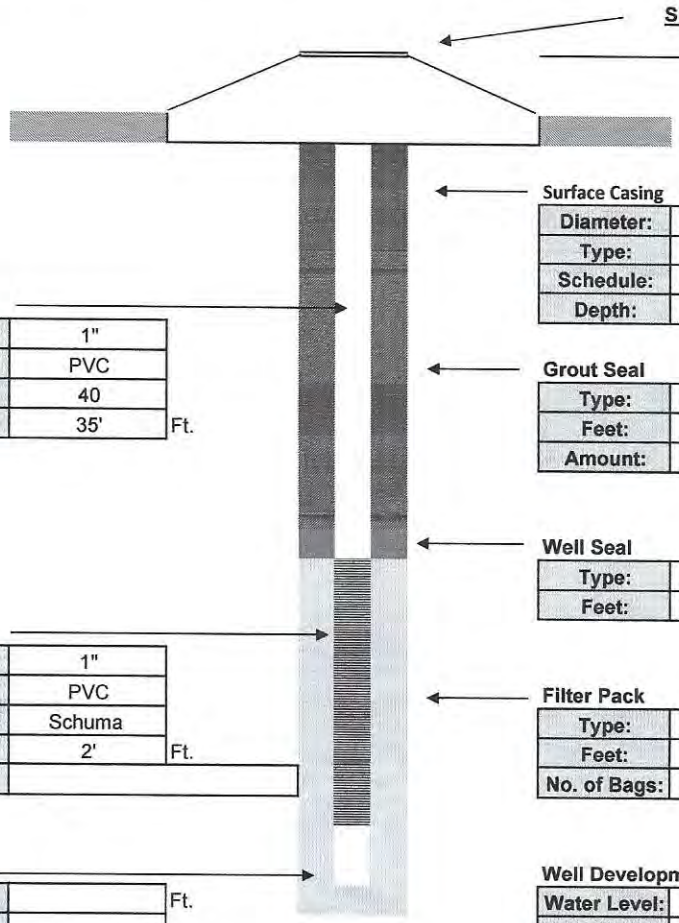
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 453
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	37'	2'	35'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		32'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	35' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	32'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

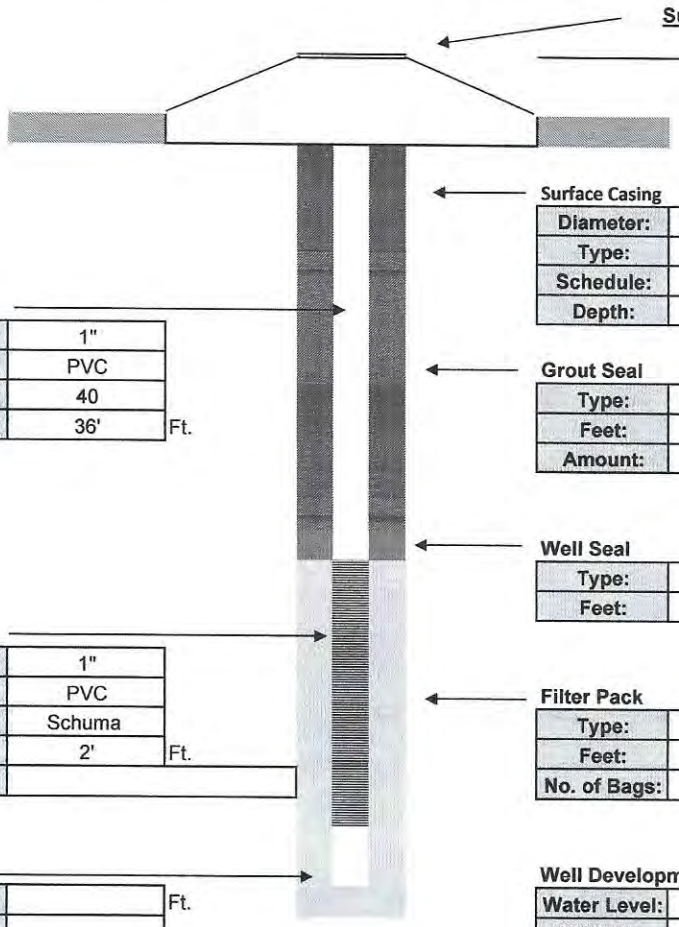
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 447
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

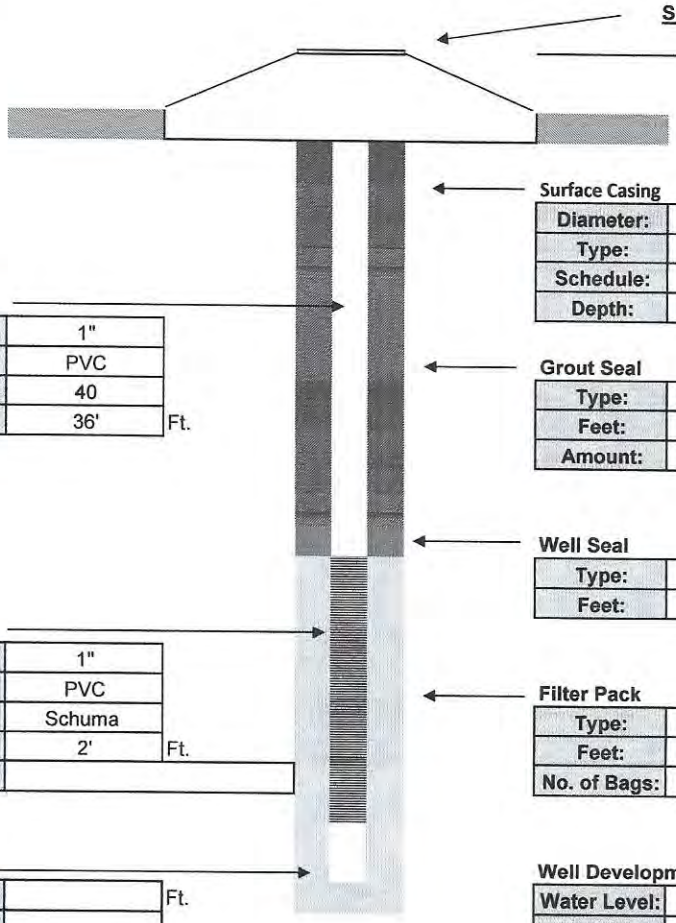
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 450
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

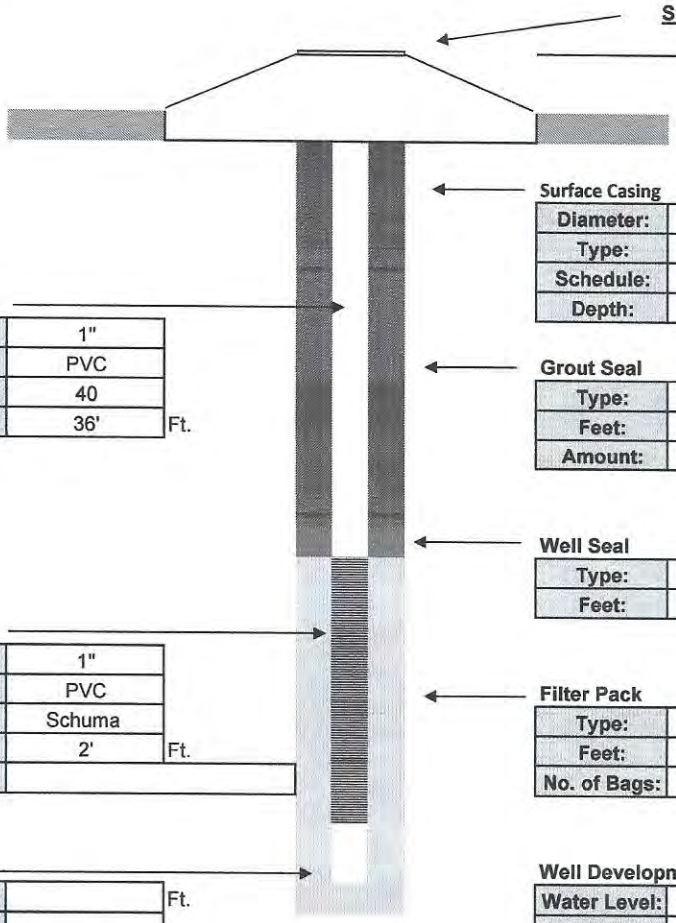
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 459
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

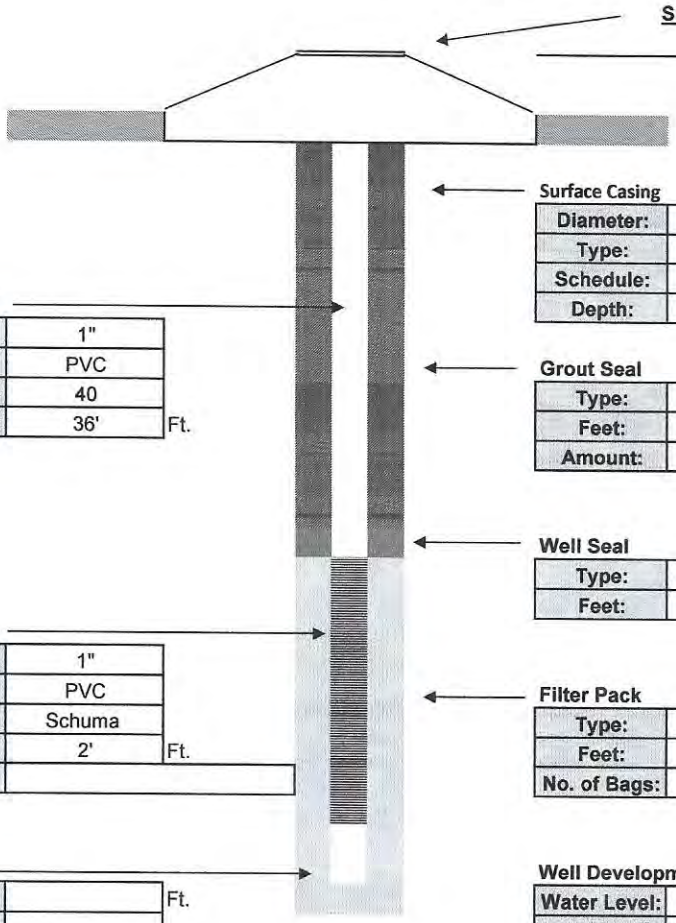
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 461
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

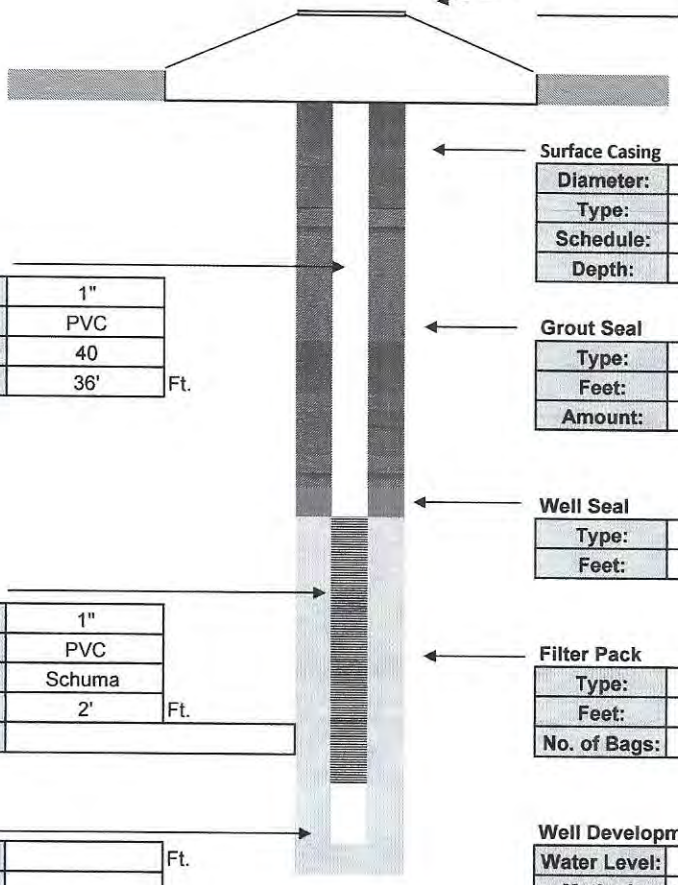
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 463
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

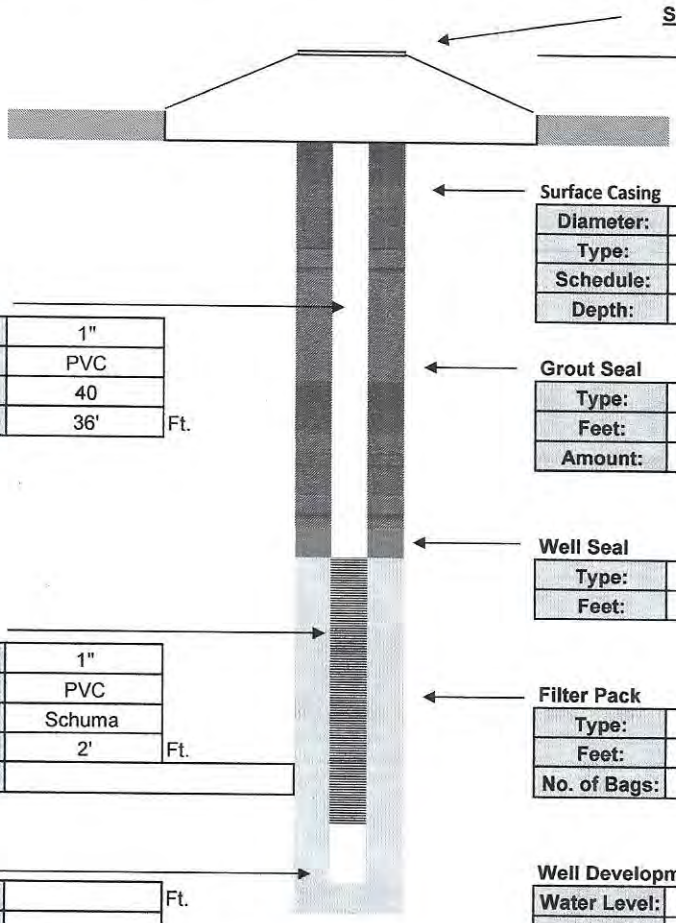
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 472
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	38'	2'	36'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		33'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	36' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	33'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

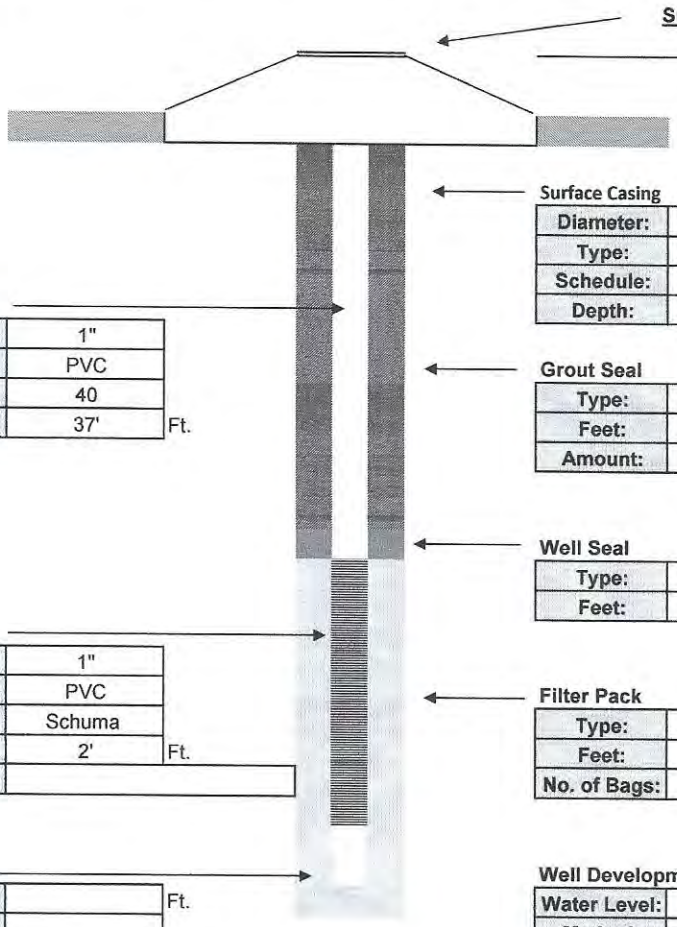
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 438
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		34'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

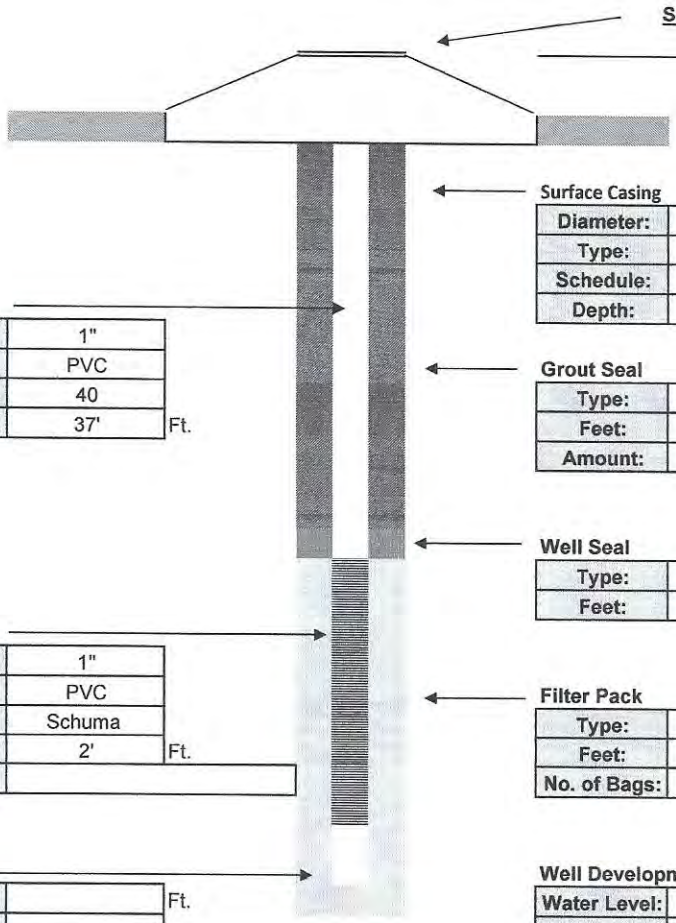
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 441
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		34'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

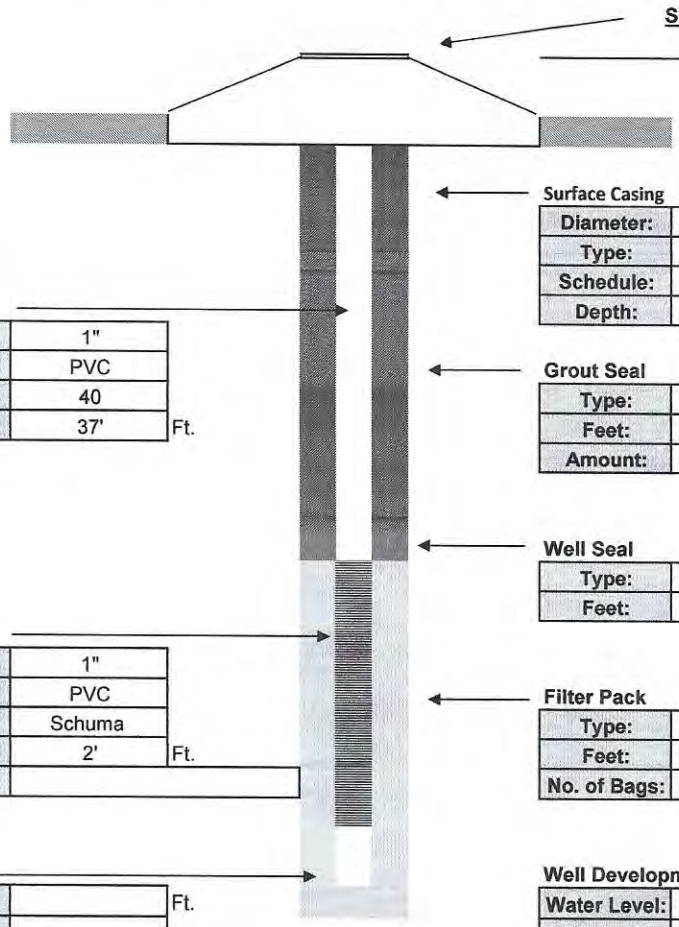
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 448
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		34'	Feet	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

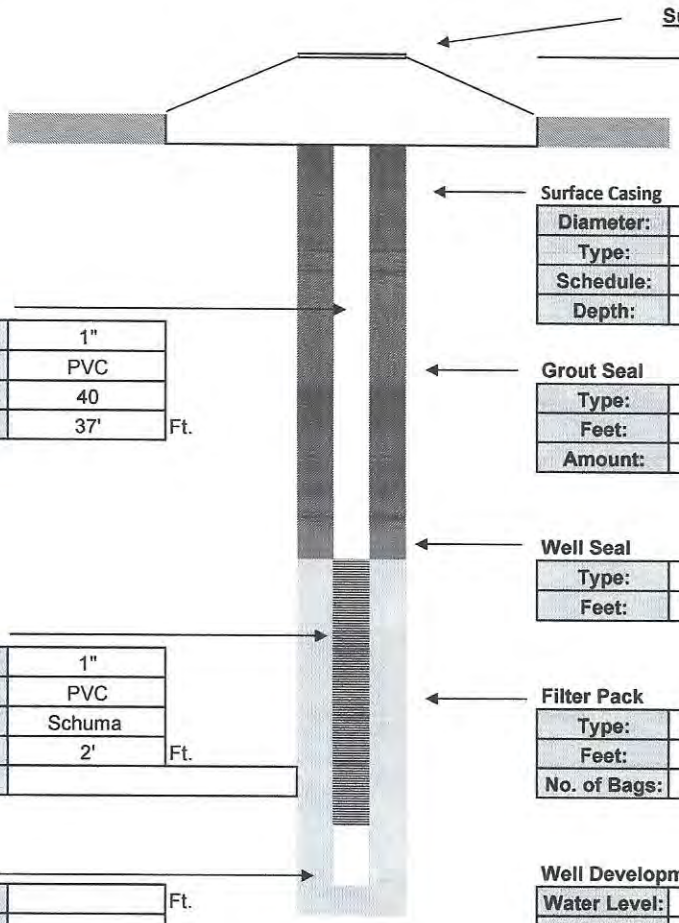
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 471
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	39'	2'	37'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		34'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	37' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	34'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

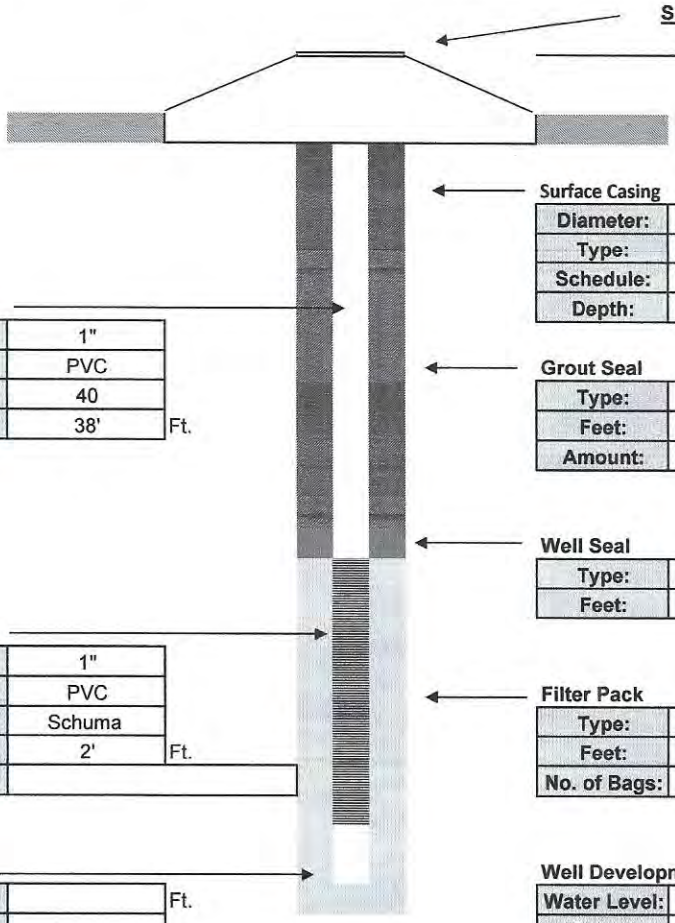
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 386
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

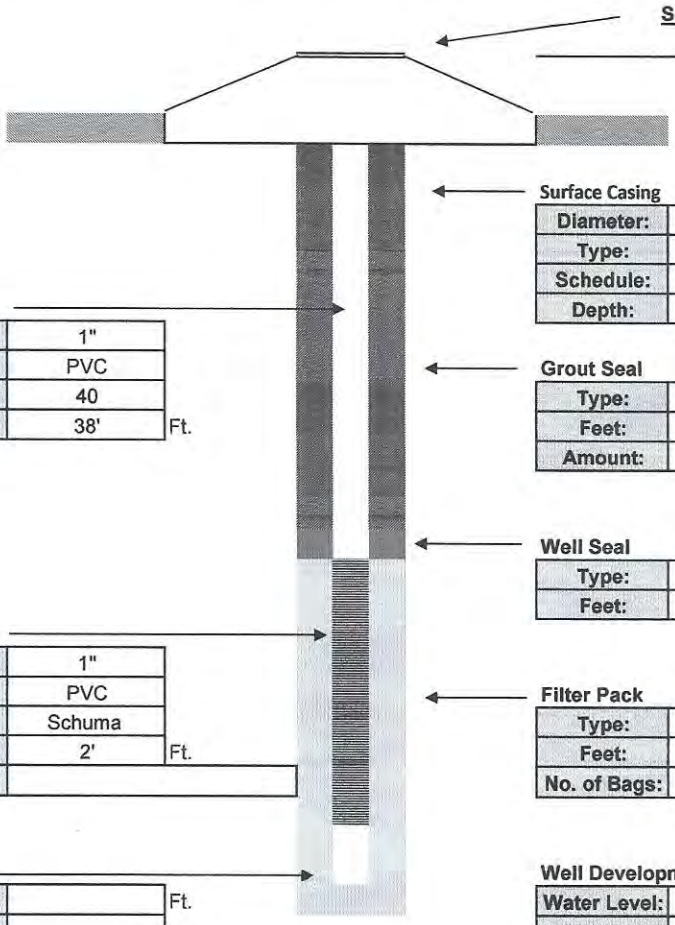
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 397
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

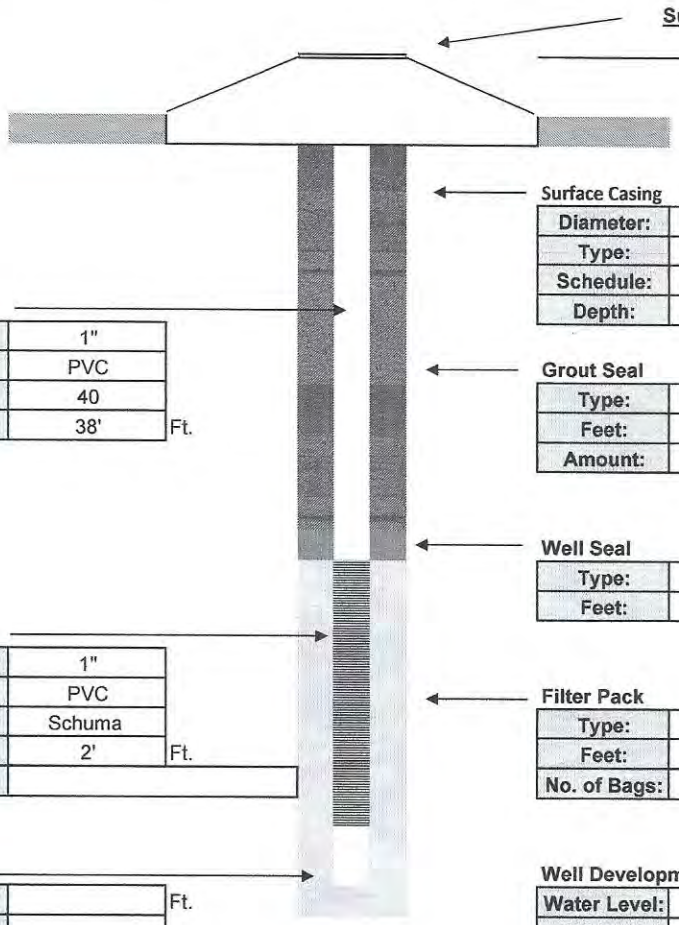
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 423
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	1/1/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Donald Huzzie
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

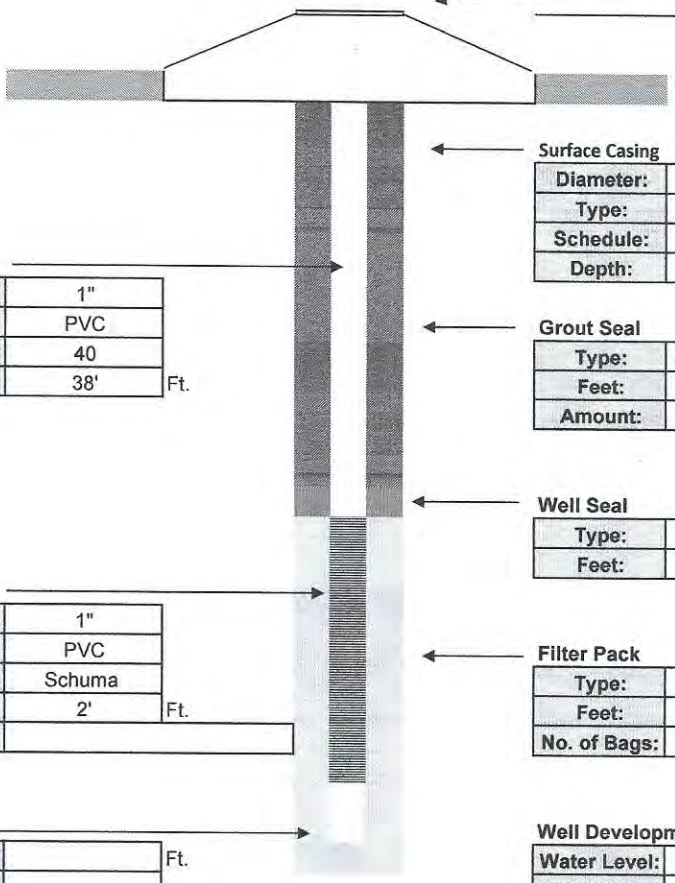
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 431
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	1/1/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Donald Huzzie
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

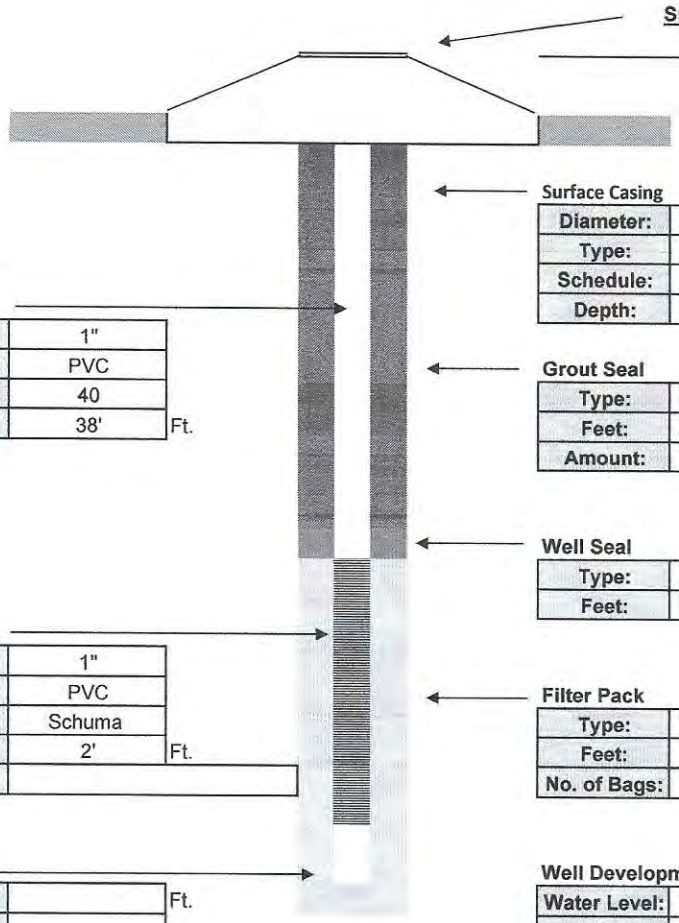
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 433
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

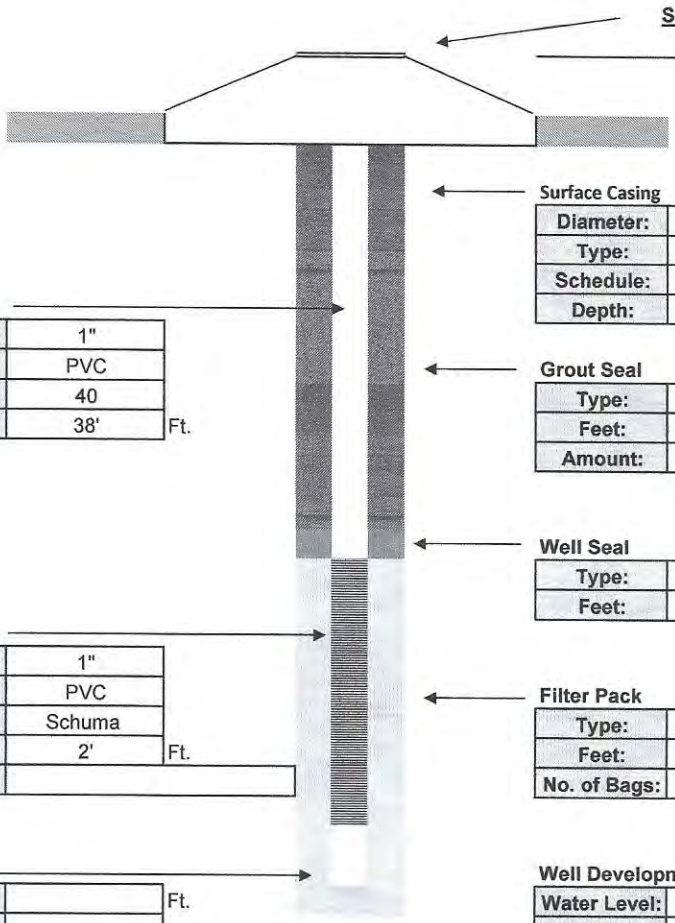
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 434
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

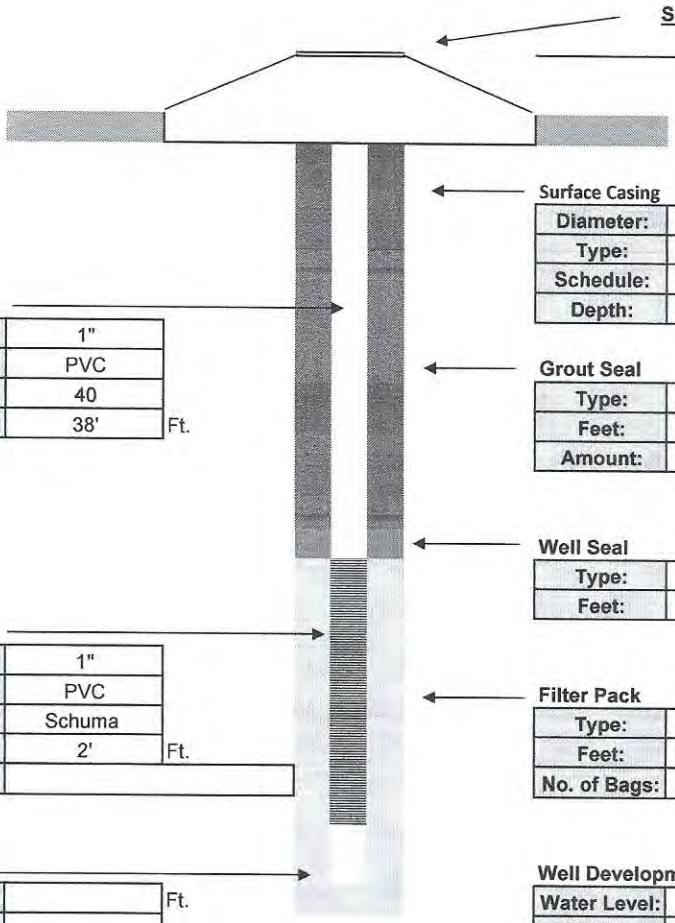
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 435
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

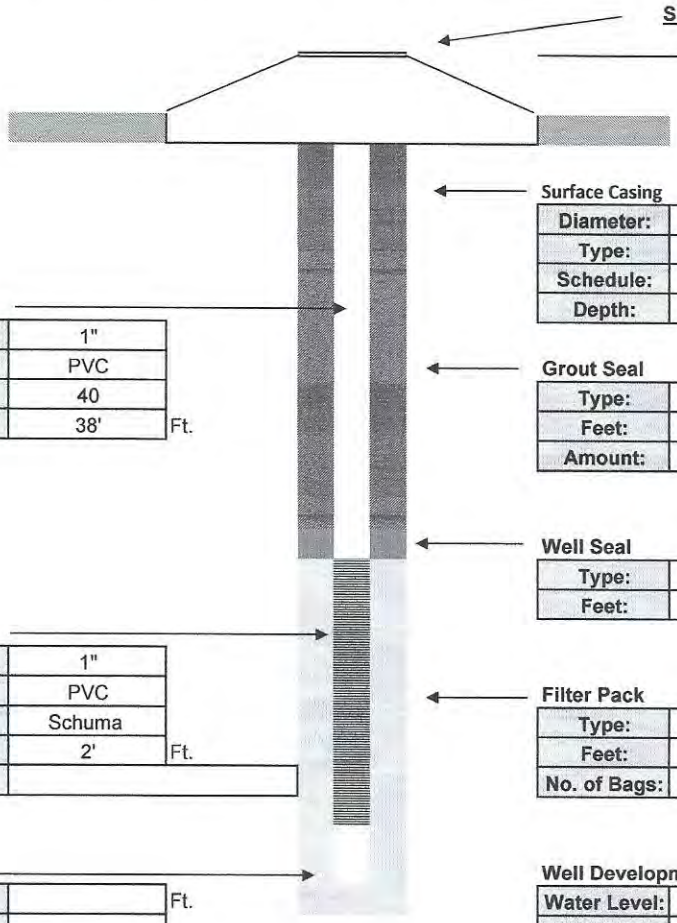
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 436
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

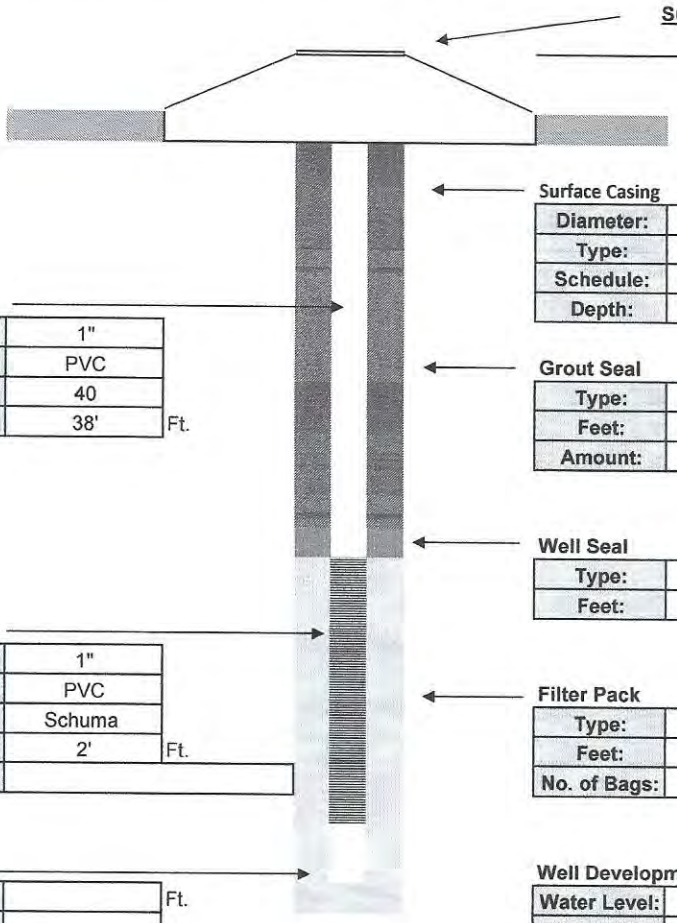
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 437
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

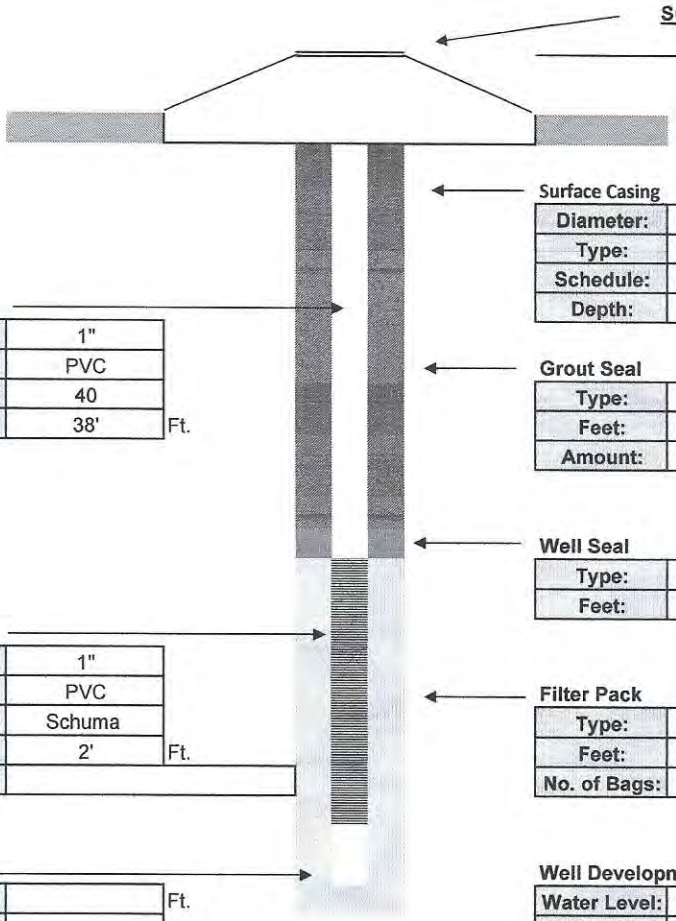
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 443
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

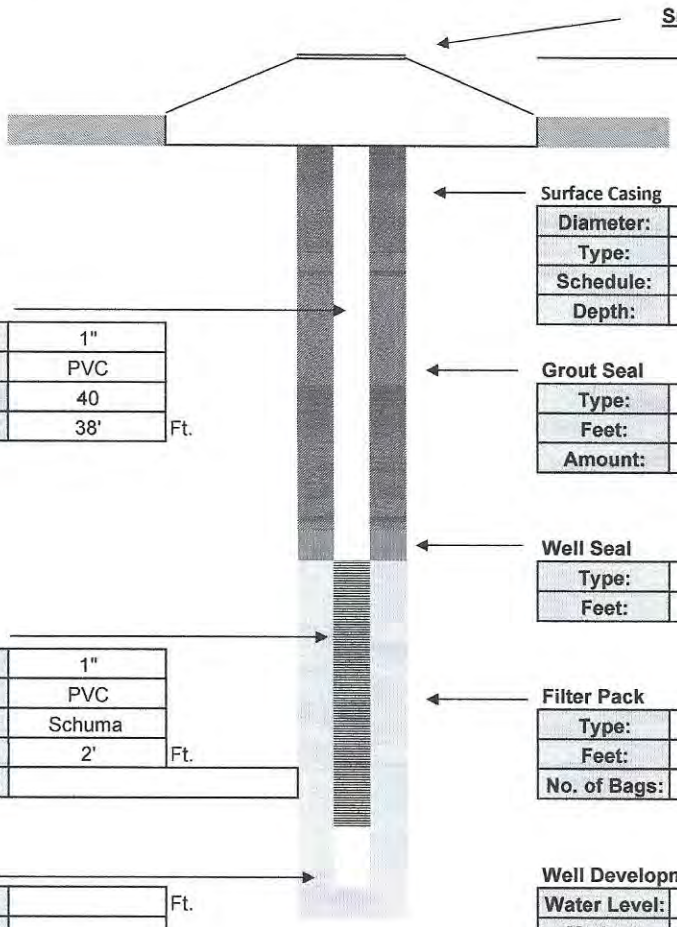
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 445
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

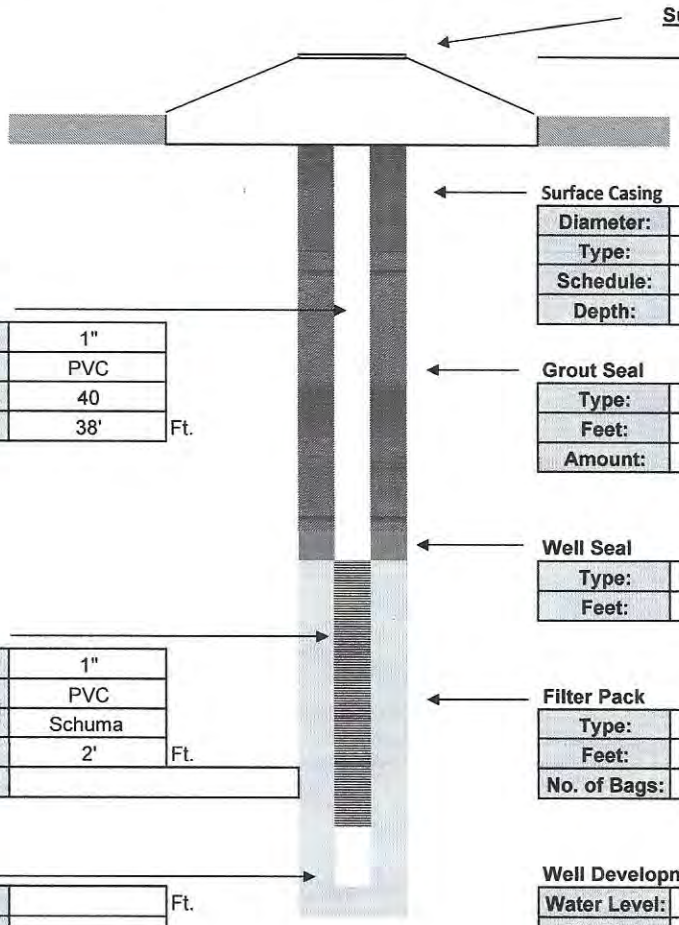
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 446
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

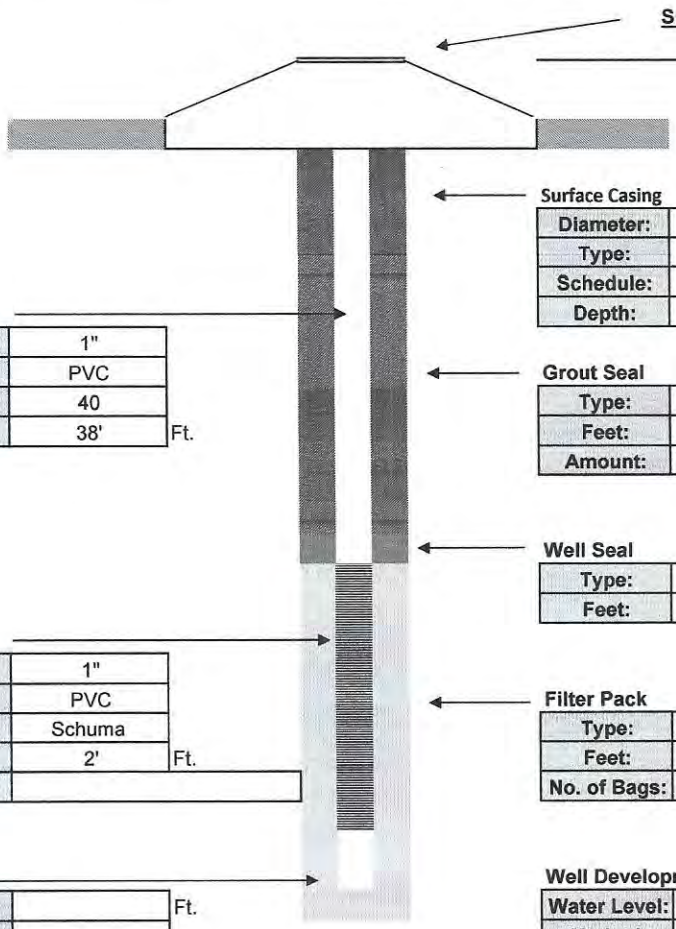
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 455
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

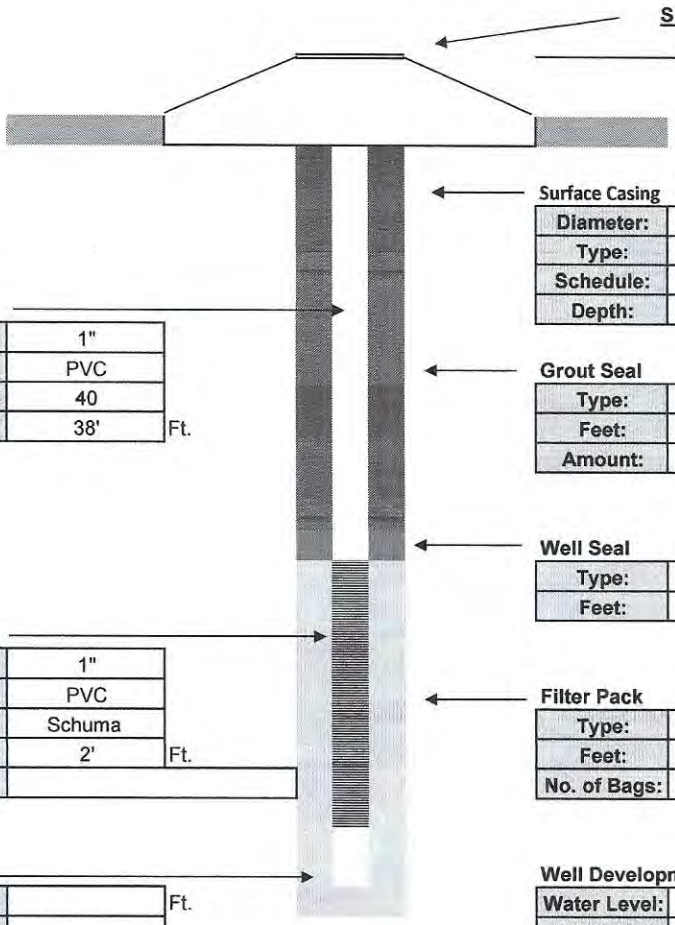
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 457
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

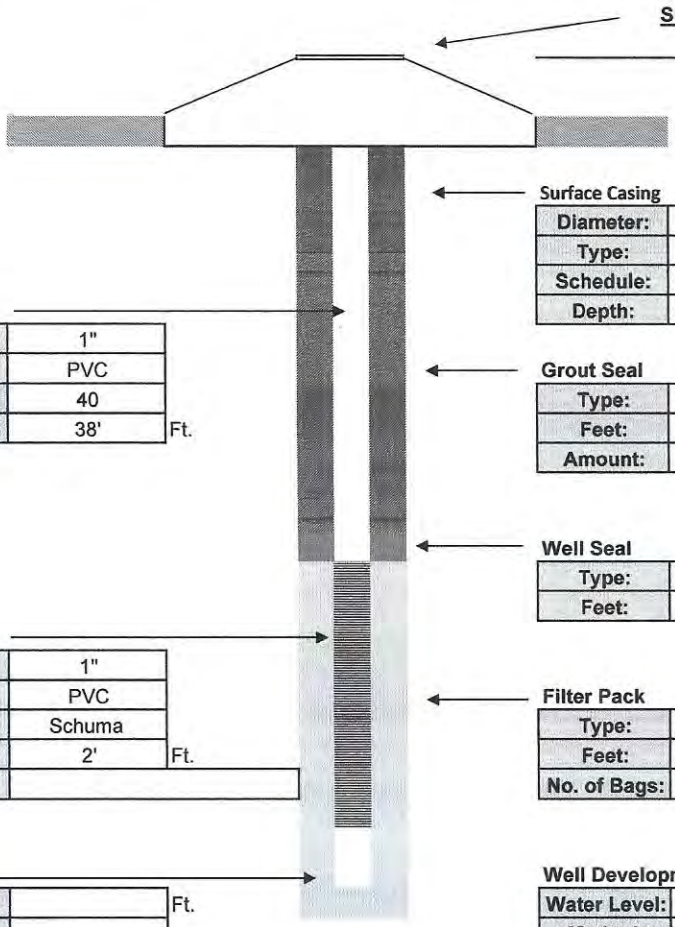
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 458
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company: Drillpro LLC d/b/a Groundwater Protection
Address: 2300 Silver Star Road
C,S,Z: Orlando, Florida 32804-3310
Phone/FAX: (407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

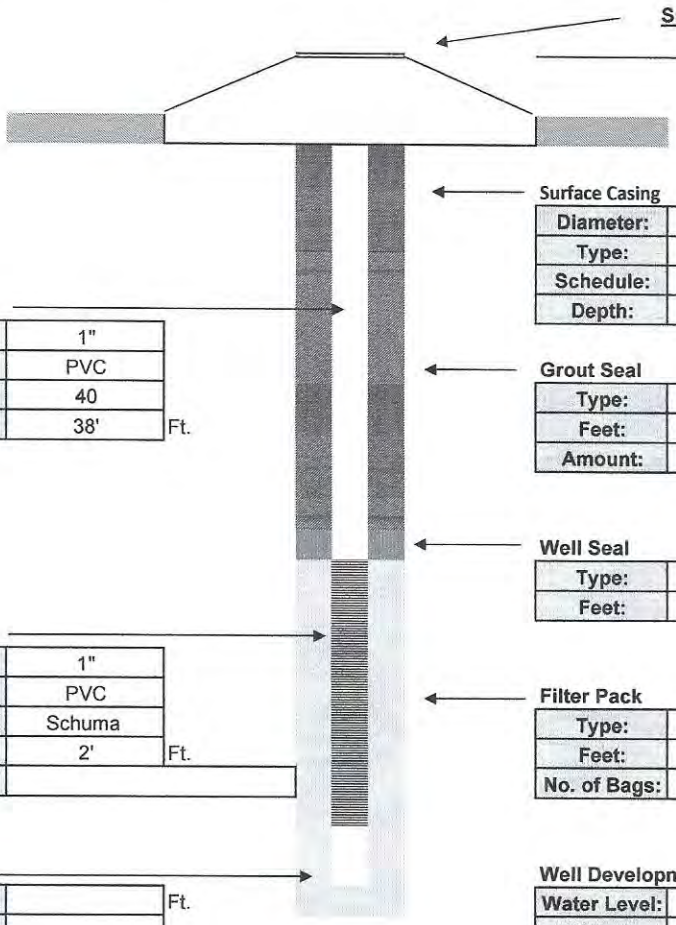
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 466
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		35'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

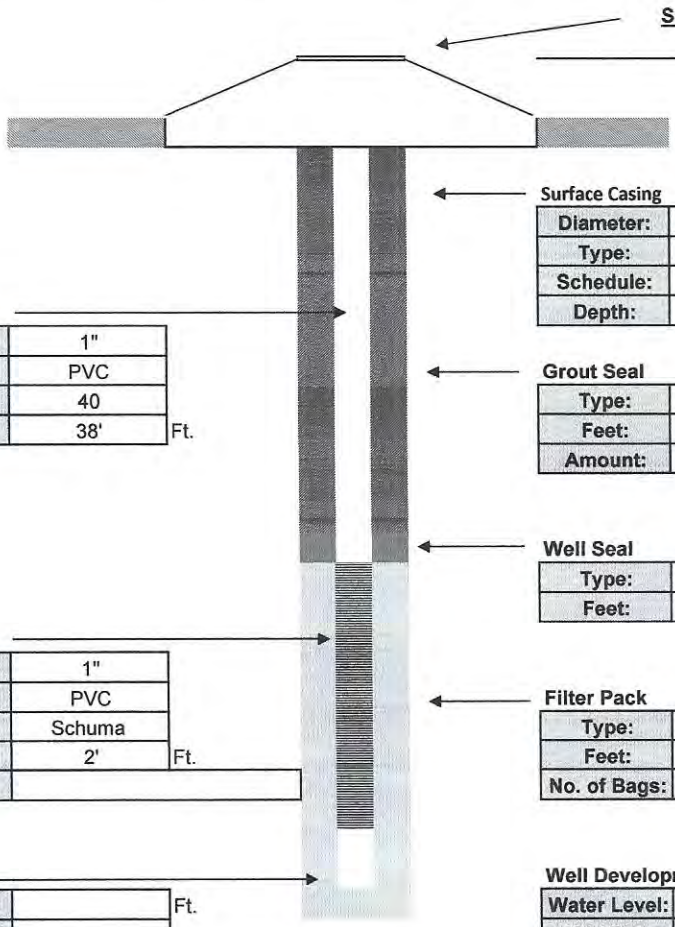
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 468
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

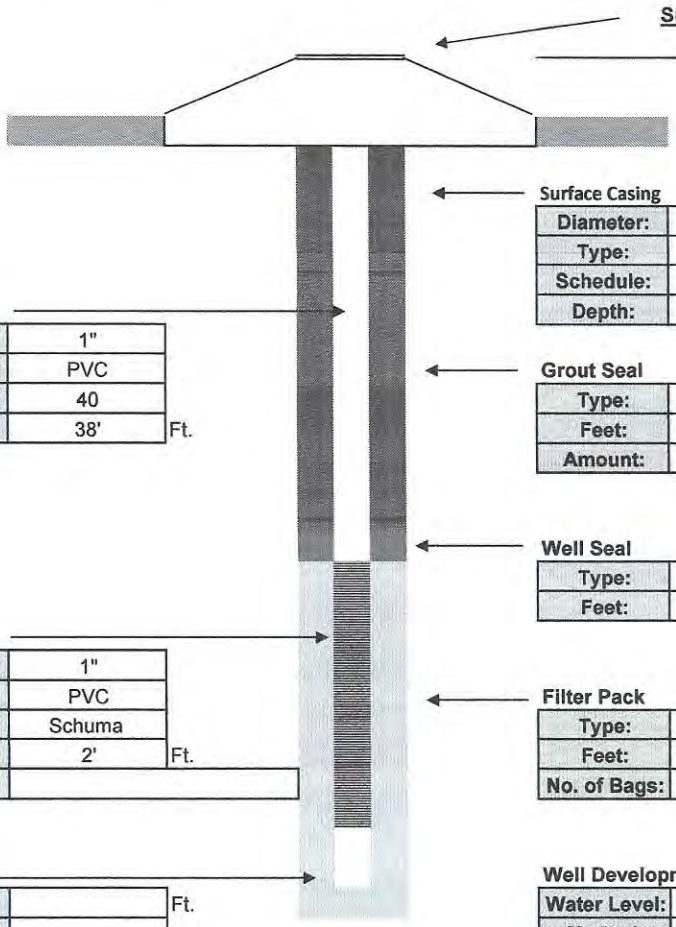
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 469
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

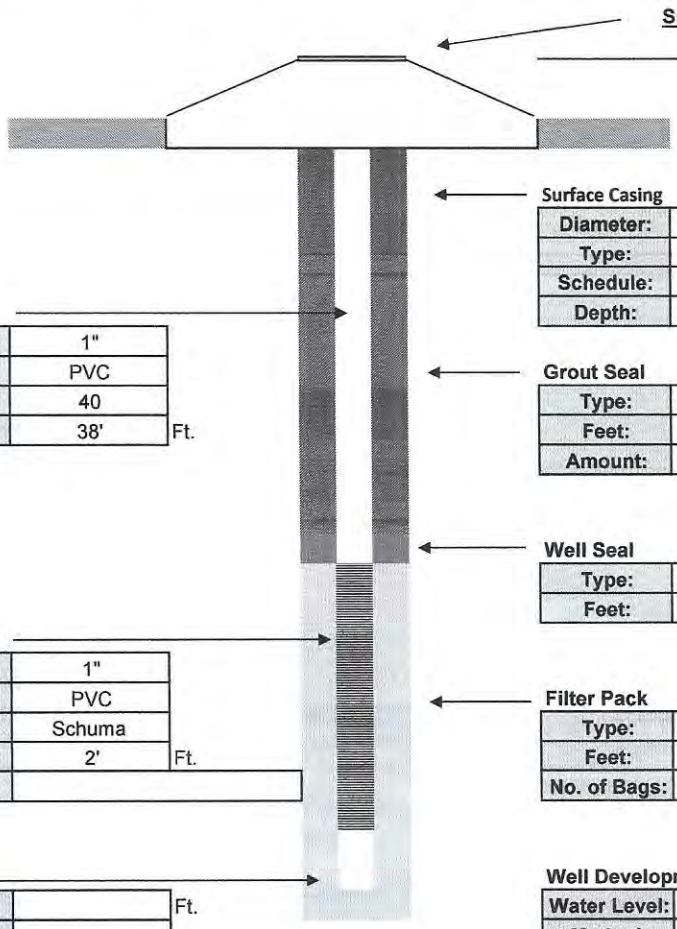
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 470
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

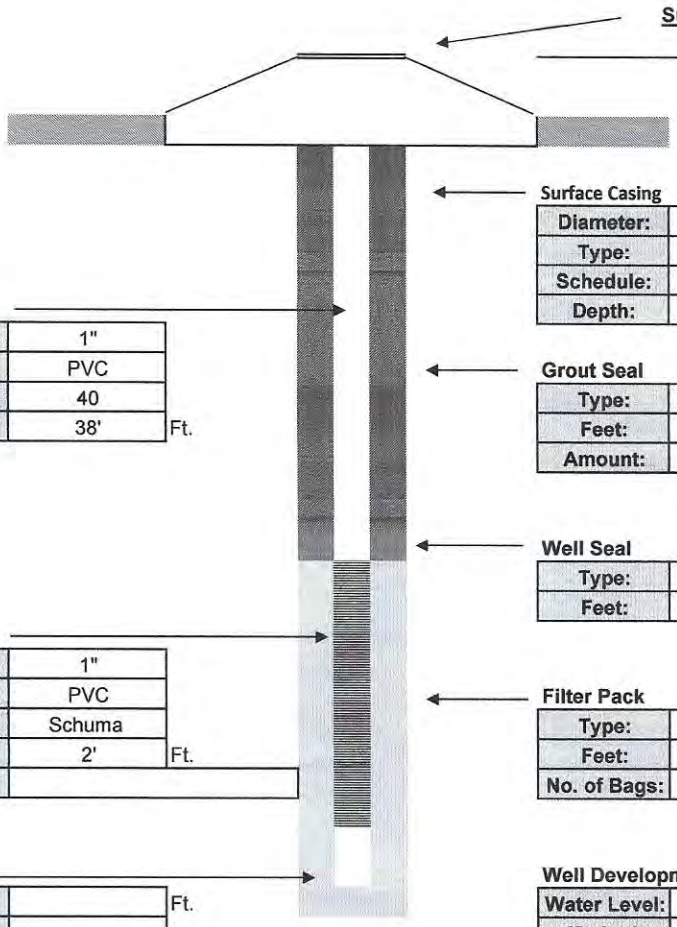
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 479
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

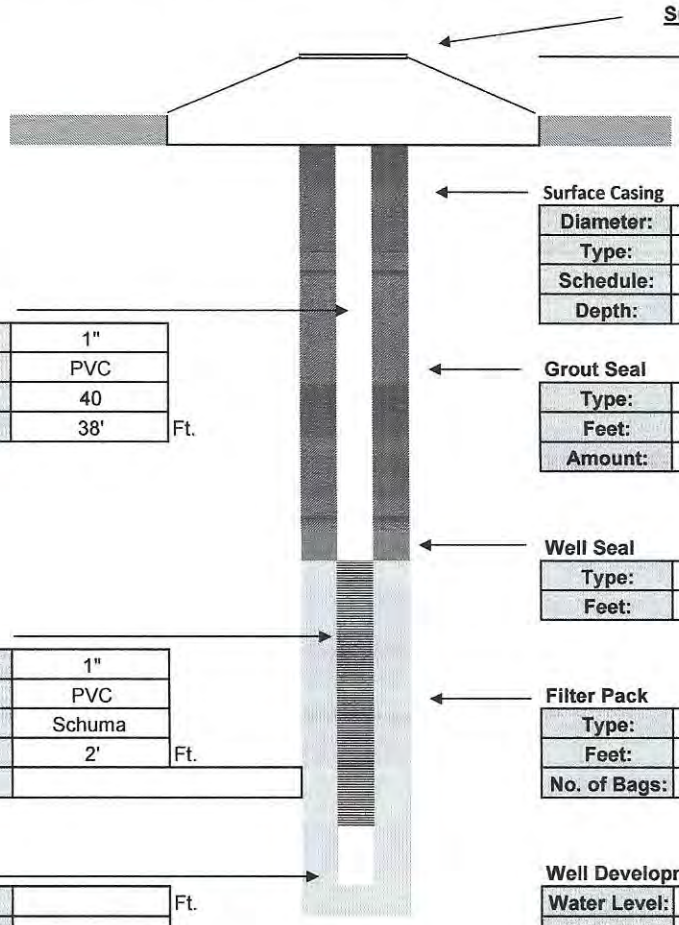
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 480
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	40'	2'	38'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		35'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	38' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	35'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

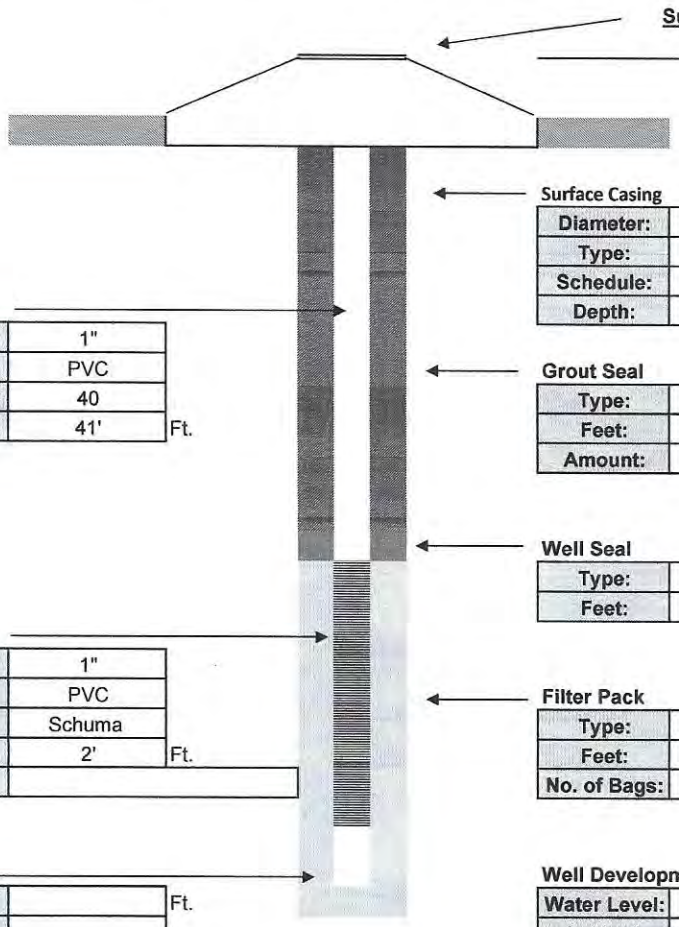
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 481
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	43'	2'	41'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		38'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	41' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	38'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

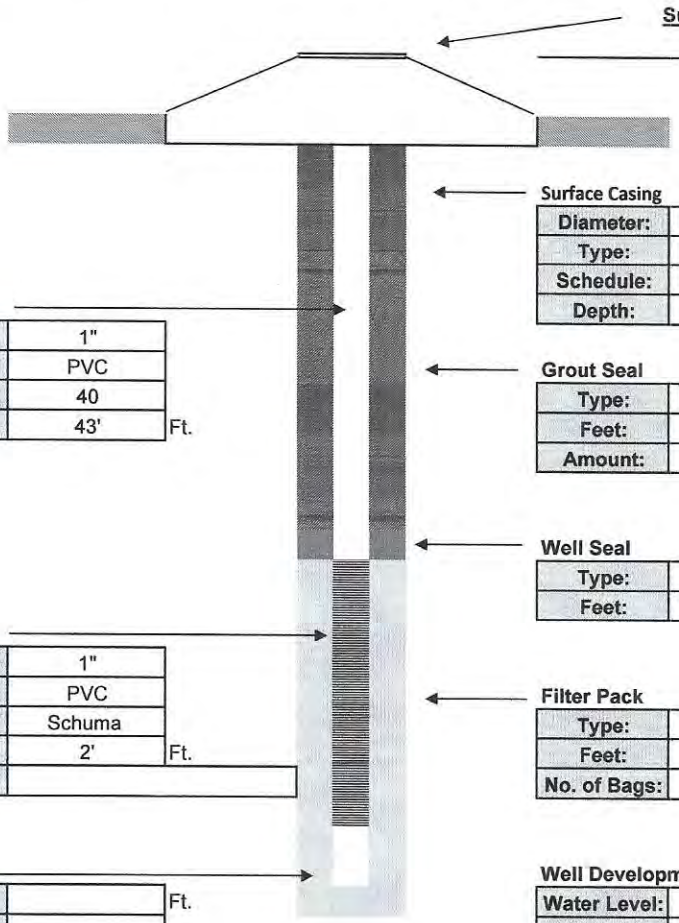
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 488
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	45'	2'	43'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		40'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	43' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	40'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

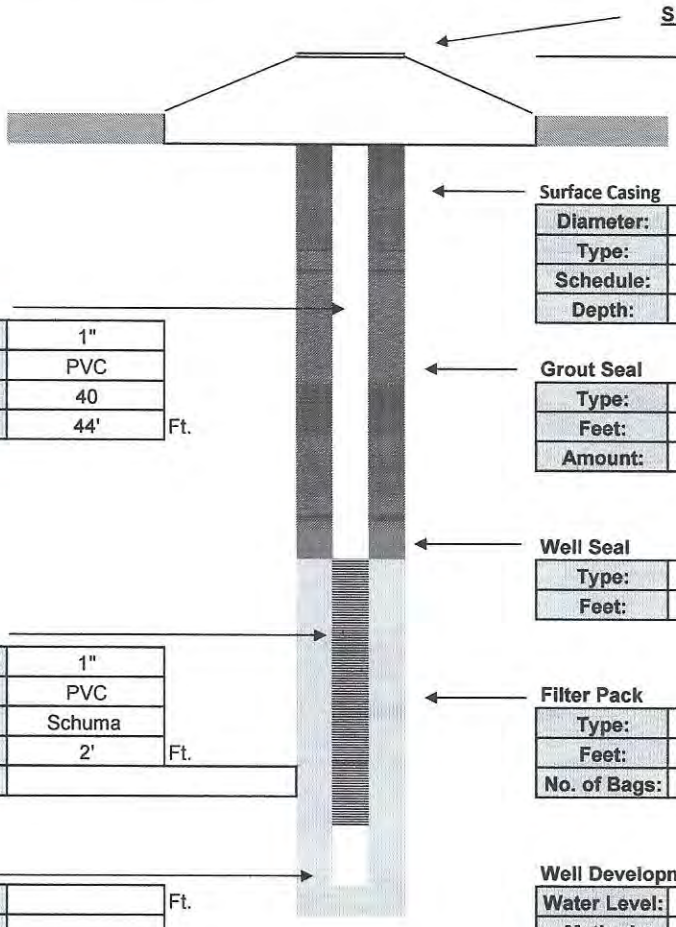
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 464
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	46'	2'	44'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		41'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	44' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	41'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

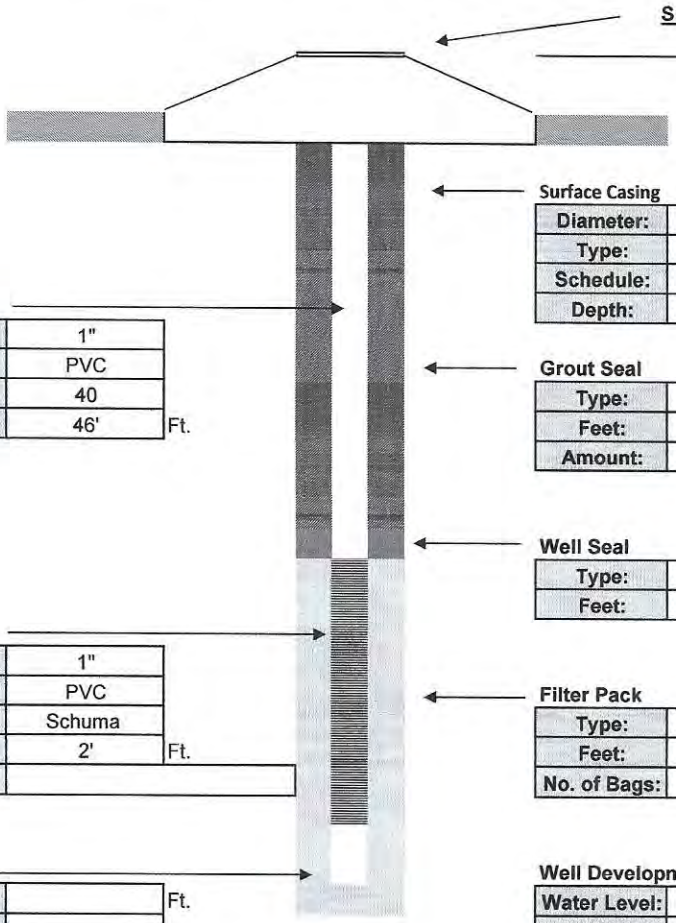
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 484
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	48'	2'	46'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		43'	Feet	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	46' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	43'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

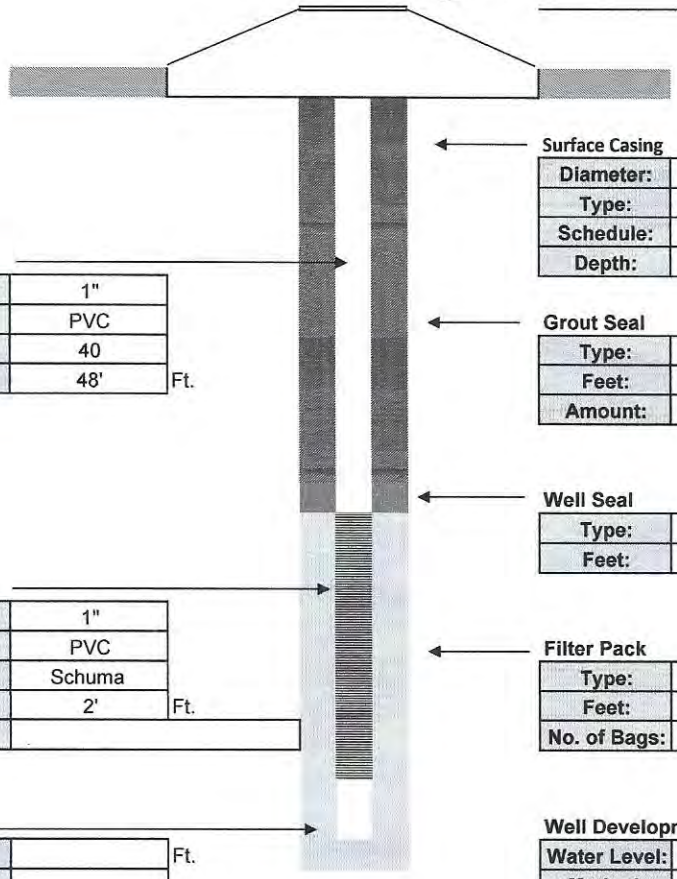
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 473
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	50'	2'	48'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		45'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	48' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	45'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

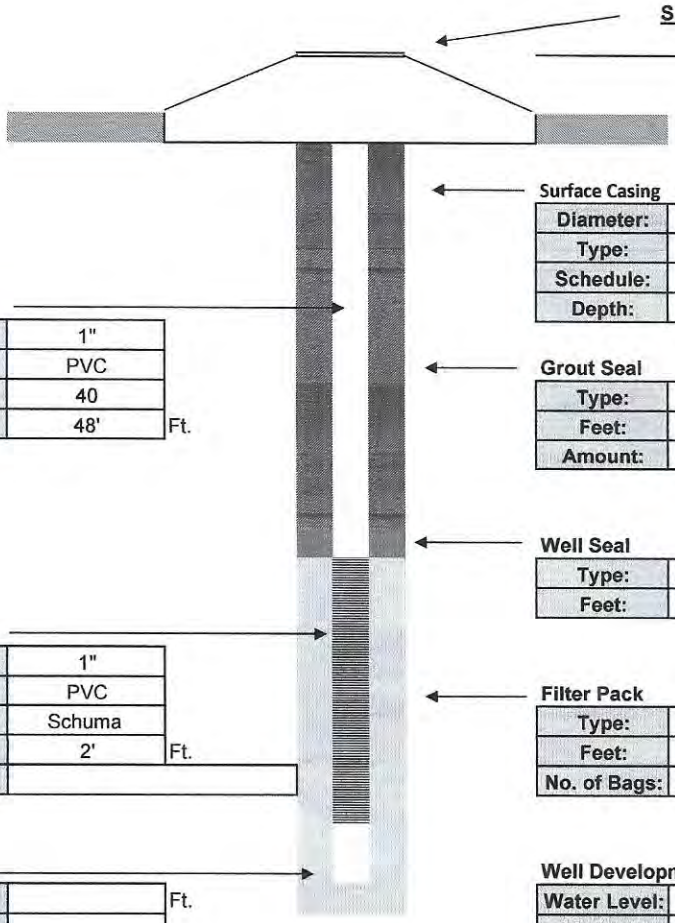
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 475
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	50'	2'	48'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		45'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	48' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	45'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

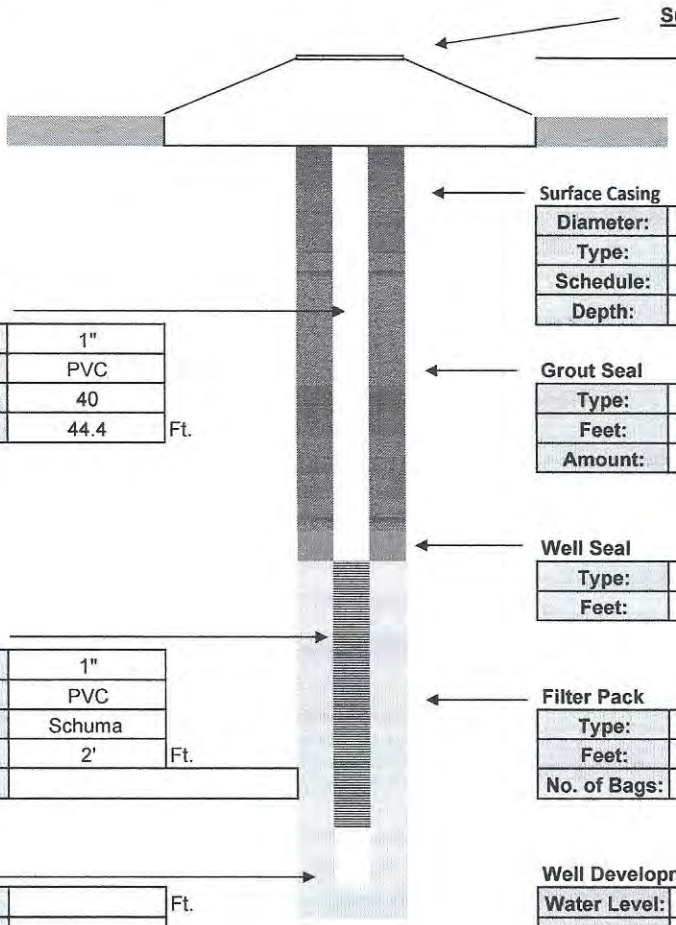
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 383 55°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	46.4	2'	44.4	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		41.4	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	44.4 Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	41.4
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Donald Huzzie
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

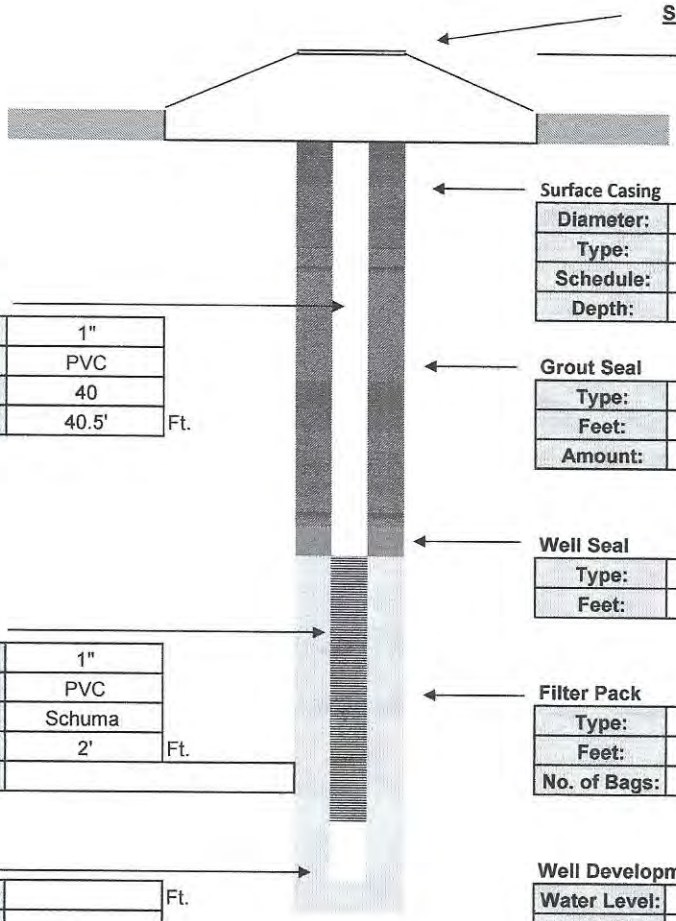
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 384 60°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	42.5'	2'	40.5'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		37.5'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	40.5' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	37.5'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	1/1/2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Donald Huzzie
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

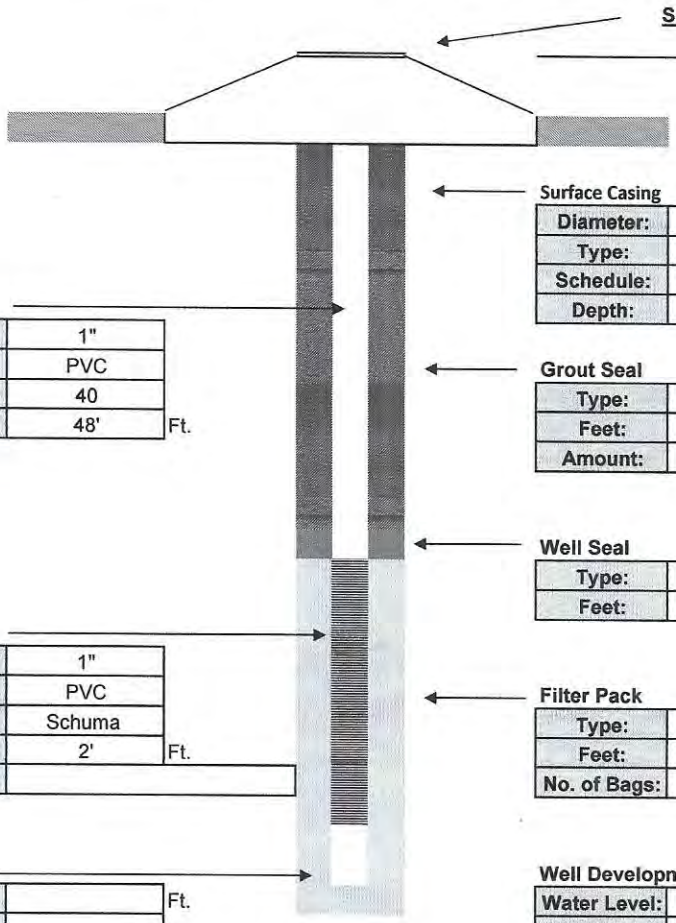
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 489 - 70.5° Angled Well
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	50'	2'	48'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		45'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	48' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	45'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Bryant
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

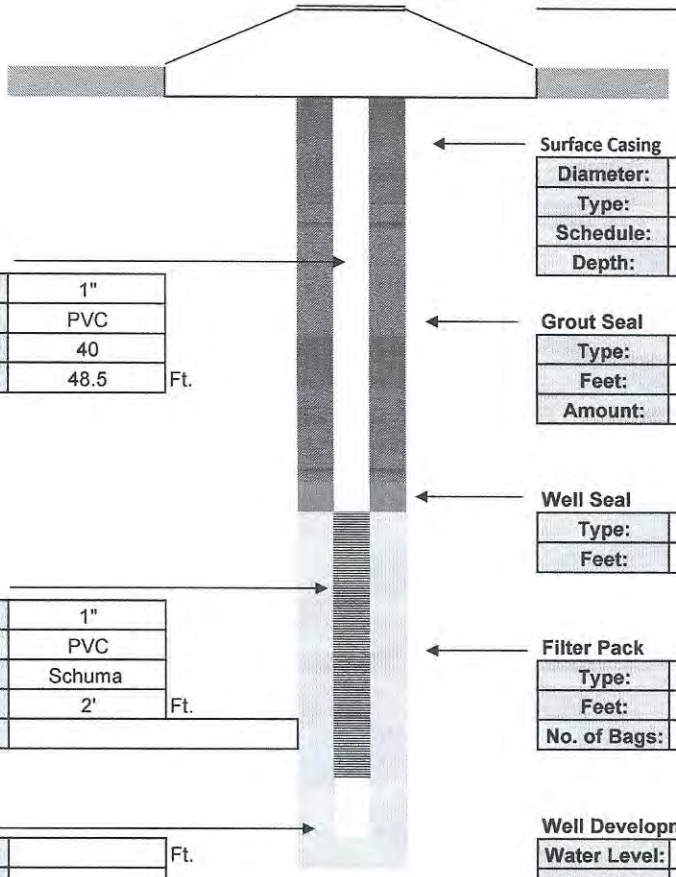
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 377 50°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	50.5	2'	48.5	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		45.5	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	48.5 Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	45.5
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	Donald Huzzie
Drill Rig:	SR 5

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

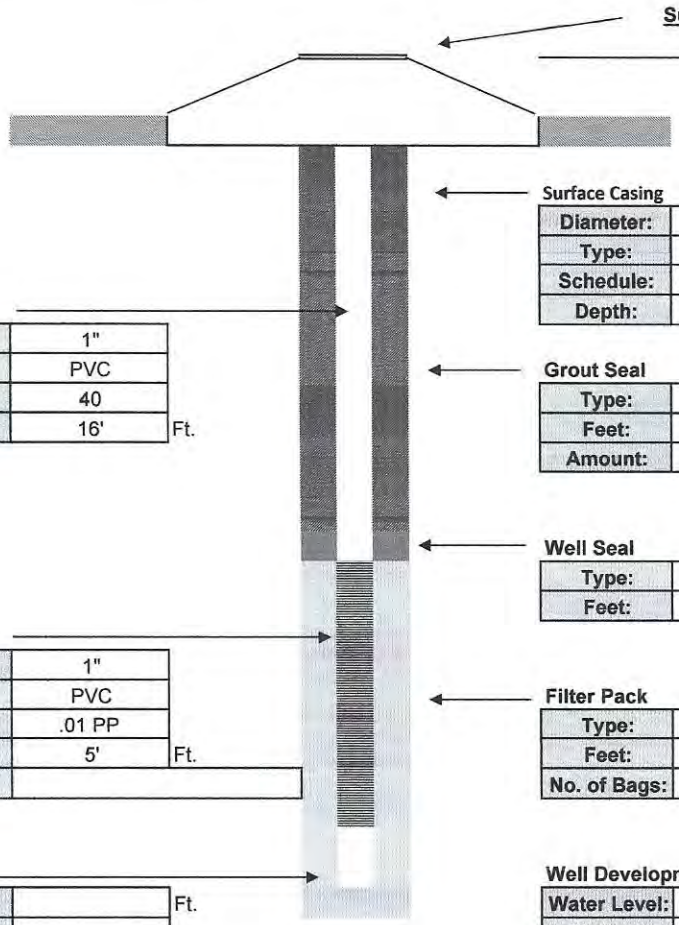
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 165
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	21'	5'	16'	0.75	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		12'	← Feet →	7'	2'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	16' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	12'
Amount:	0.75 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	5' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	7'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

STATE OF FLORIDA WELL COMPLETION REPORT

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

Date Stamp

Confirmation# 803061

Date:01/24/2023

Official Use Only

1. *Permit Number MW-192769-1 *CUP/WUP Number _____ *DID Number 537974 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 7 *Number of permitted wells not constructed, repaired, or abandoned 1
3. *Owner's Name United States of America 4.*Completion Date 01/13/2023 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283112.8927 Longitude 803342.9303
9. Data Obtained From: ___GPS __X__Map ___Survey Datum: ___NAD 27 __X__NAD 83 ___WGS 84

10. *Type of Work: __X__Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
__X__Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted __X__Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above __X__Below Land Surface *Flowing: ___Yes __X__No
15. *Casing Material: ___Black Steel ___Galvanized __X__PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 21 ft. Cased Depth 16 ft. *Open Hole: From ___To ___ft. *Screen: From 16 To 21 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:

Dia	1	in. From	0	ft. To	12	ft. No. of Bags	.75	Seal Material (Check One): ___Neat Cement ___Bentonite	X	Other Cement with Bentonite, < 5% by weight
Dia	1	in. From	12	ft. To	16	ft. No. of Bags	1	Seal Material (Check One): ___Neat Cement ___Bentonite	X	Other Sand
Dia	___	in. From	___	ft. To	___	ft. No. of Bags	___	Seal Material (Check One): ___Neat Cement ___Bentonite	___	Other ___
Dia	___	in. From	___	ft. To	___	ft. No. of Bags	___	Seal Material (Check One): ___Neat Cement ___Bentonite	___	Other ___
Dia	___	in. From	___	ft. To	___	ft. No. of Bags	___	Seal Material (Check One): ___Neat Cement ___Bentonite	___	Other ___

20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower _____ Pump Capacity (GPM) _____
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192769-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 165

WELL COMPLETION LOG

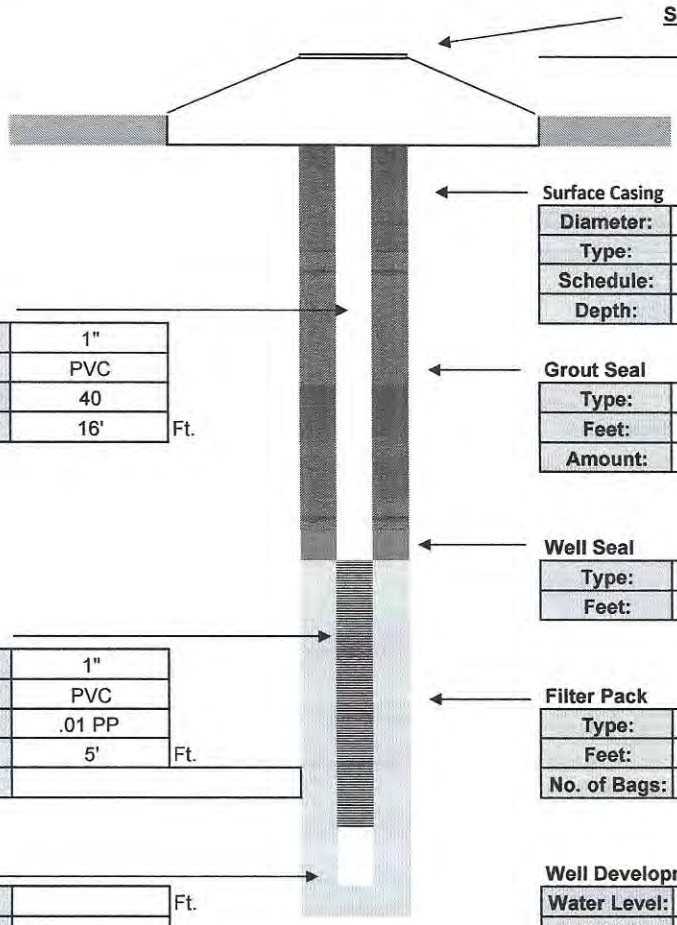
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 166
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	21'	5'	16'	0.75	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		12'	← Feet →	7'	2'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	16' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	12'
Amount:	0.75 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	5' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	7'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	Dave Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

STATE OF FLORIDA WELL COMPLETION REPORT

	Southwest
	Northwest
	St. Johns River
	South Florida
	Suwannee River
	DEP
X	Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Confirmation# 803068

Date:01/24/2023

Official Use Only

1. *Permit Number MW-192769-1 *CUP/WUP Number _____ *DID Number 537975 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 8 *Number of permitted wells not constructed, repaired, or abandoned 0
3. *Owner's Name United States of America 4.*Completion Date 01/20/2023 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283114.6829 Longitude 803346.812
9. Data Obtained From: ___GPS _X_ Map ___Survey Datum: ___NAD 27 _X_ NAD 83 ___WGS 84

10. *Type of Work: _X_ Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic	___Landscape Irrigation	___Agricultural Irrigation	___Site Investigation
___Bottled Water Supply	___Recreation Area Irrigation	___Livestock	_X_ Monitoring
___Public Water Supply (Limited Use/DOH)		___Nursery Irrigation	___Test
___Public Water Supply (Community or Non-Community/DEP)		___Commercial/Industrial	___Earth-Coupled Geothermal
___Class I Injection		___Golf Course Irrigation	___HVAC Supply
			___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted _X_ Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above _X_ Below Land Surface *Flowing: ___Yes _X_ No
15. *Casing Material: ___Black Steel ___Galvanized _X_ PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 21 ft. Cased Depth 16 ft. *Open Hole: From ___ To ___ ft. *Screen: From 16 To 21 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:
    Dia 1 in. From 0 ft. To 12 ft. No. of Bags .75 Seal Material (Check One):___Neat Cement ___Bentonite X Other Cement with Bentonite, < 5% by weight
    Dia 1 in. From 12 ft. To 16 ft. No. of Bags 1 Seal Material (Check One):___Neat Cement ___Bentonite X Other Sand
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower _____ Pump Capacity (GPM) _____
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate___ppm Chloride___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192769-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 166

WELL COMPLETION LOG

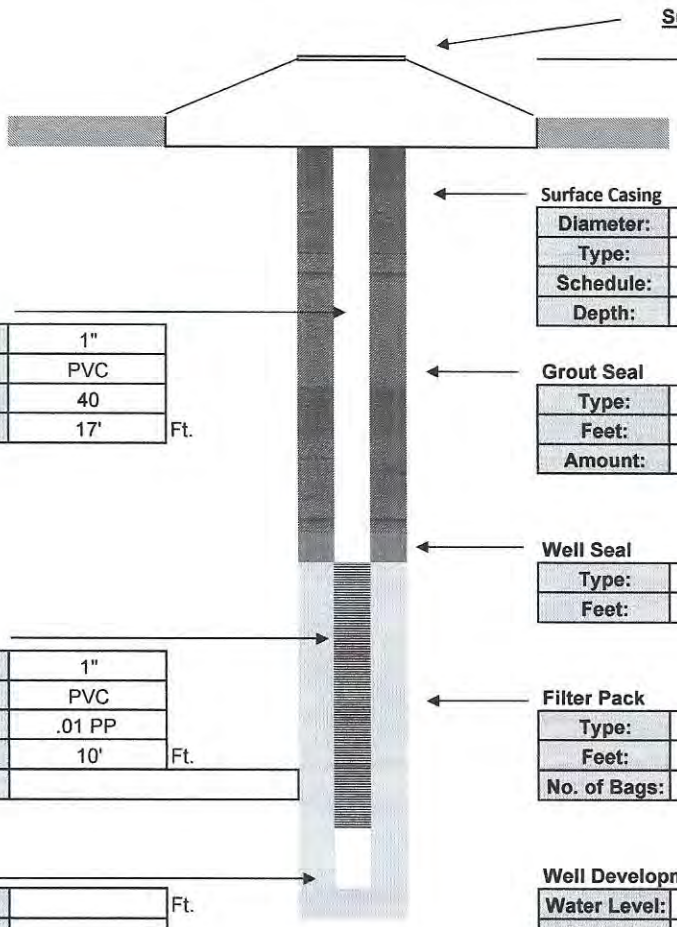
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 163
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	27'	10'	17'	0.75	1 / 50 lbs.	20/30	30/65
40 ←	Schedule	Slot Size: →	.01 PP		13'	← Feet →	12'	2'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	17' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	13'
Amount:	0.75 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	10' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	12'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

STATE OF FLORIDA WELL COMPLETION REPORT

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Confirmation# 803069

Date:01/24/2023

Official Use Only

1. *Permit Number MW-192770-1 *CUP/WUP Number _____ *DID Number 537977 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 6 *Number of permitted wells not constructed, repaired, or abandoned 0
3. *Owner's Name United States of America 4.*Completion Date 01/20/2023 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283112.8928 Longitude 803346.2113
9. Data Obtained From: ___GPS __X__Map ___Survey Datum: ___NAD 27 __X__NAD 83 ___WGS 84

10. *Type of Work: __X__Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
__X__Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted __X__Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above __X__Below Land Surface *Flowing: ___Yes __X__No
15. *Casing Material: ___Black Steel ___Galvanized __X__PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 27 ft. Cased Depth 17 ft. *Open Hole: From ___To ___ft. *Screen: From 17 To 27 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:

Dia 1 in.	From 0 ft.	To 13 ft.	No. of Bags .75	Seal Material (Check One):	___Neat Cement	___Bentonite	X	Other	Cement with Bentonite, < 5% by weight
Dia 1 in.	From 13 ft.	To 17 ft.	No. of Bags 1	Seal Material (Check One):	___Neat Cement	___Bentonite	X	Other	Sand
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite		Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite		Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite		Other	

20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower _____ Pump Capacity (GPM) _____
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
    *Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192770-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 163

WELL COMPLETION LOG

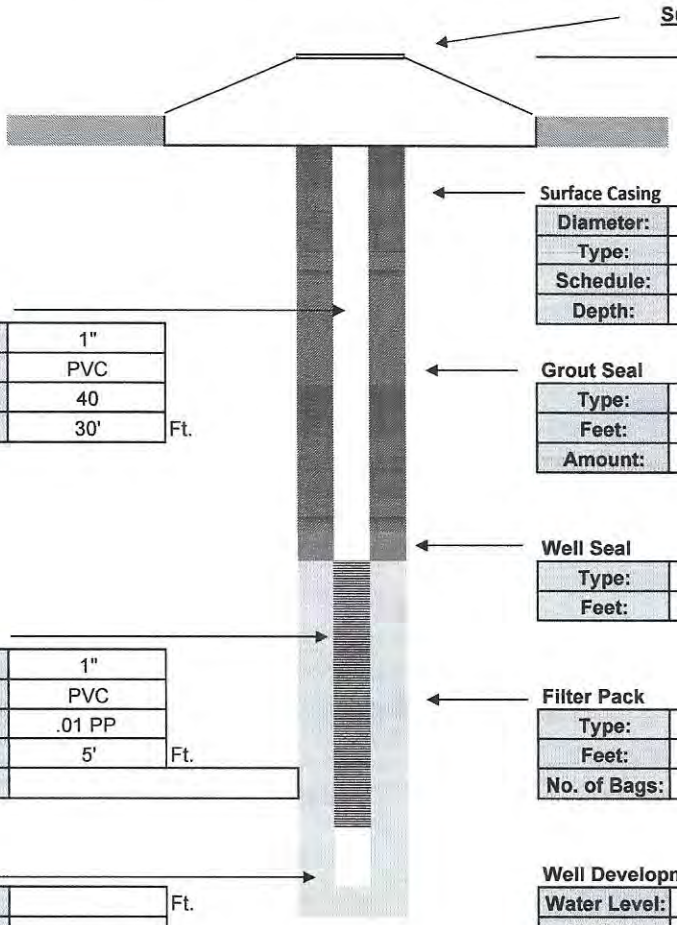
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Monitor
Well Number: IW 164
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: KSC, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	35'	5'	30'	1.5	1 / 50 lbs.	20/30	30/65
40	Schedule	Slot Size:	.01 PP		26'	Feet	7'	2'



Surface Completion
Flush

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	30' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	26'
Amount:	1.5 Bags

Well Seal

Type:	30/65
Feet:	2'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	.01 PP
Length:	5' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	7'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.5 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	January 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	David Galvan
Drill Rig:	SR 4

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

STATE OF FLORIDA WELL COMPLETION REPORT

[ ] Southwest
[ ] Northwest
[ ] St. Johns River
[ ] South Florida
[ ] Suwannee River
[ ] DEP
[X] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Confirmation# 803071

Date:01/24/2023

Official Use Only

1. *Permit Number MW-192771-1 *CUP/WUP Number _____ *DID Number 537978 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 7 *Number of permitted wells not constructed, repaired, or abandoned 0
3. *Owner's Name United States of America 4.*Completion Date 01/20/2023 5. Florida Unique ID _____
6. LC 34, CCSFS, FL 32920
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 6 Land Grant _____ *Township 23S *Range 38E
8. Latitude 283112.9249 Longitude 803346.3195
9. Data Obtained From: ___GPS [X] Map ___Survey Datum: ___NAD 27 [X] NAD 83 ___WGS 84

10. *Type of Work: [X] Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
[X] Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted [X] Sonic
    ___Horizontal Drilling ___Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level 4 ft. After 1 Hours at 1 GPM
14. *Measuring Point (Describe) ground surface Which is .4 ft. ___Above [X] Below Land Surface *Flowing: ___Yes [X] No
15. *Casing Material: ___Black Steel ___Galvanized [X] PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 35 ft. Cased Depth 30 ft. *Open Hole: From ___To ___ft. *Screen: From 30 To 35 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____

18. *Surface Casing Diameter and Depth:
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____

19. *Primary Casing Diameter and Depth:

Dia 1 in.	From 0 ft.	To 26 ft.	No. of Bags 1.5	Seal Material (Check One):	___Neat Cement	___Bentonite	[X] Other	Cement with Bentonite, < 5% by weight
Dia 1 in.	From 26 ft.	To 30 ft.	No. of Bags 1	Seal Material (Check One):	___Neat Cement	___Bentonite	[X] Other	Sand
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	
Dia ___in.	From ___ft.	To ___ft.	No. of Bags___	Seal Material (Check One):	___Neat Cement	___Bentonite	___Other	

20. *Liner Casing Diameter and Depth:
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____

21. *Telescope Casing Diameter and Depth:
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other _____

22. Pump Type (If known):
___Centrifugal ___Jet ___Submersible ___Turbine
Horsepower _____ Pump Capacity (GPM) _____
Pump Depth ___ft. Intake Depth ___ft.

23. Chemical Analysis (When Required):
Iron ___ppm Sulfate ___ppm Chloride ___ppm
___Laboratory Test ___Field Test Kit

24. Water Well Contractor:
*Contractor Name James P Hinst *License Number 9311 E-mail Address jim@drillprollc.com
*Contractor's Signature **James P Hinst** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Dave Longino

*Permit No. MW-192771-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	5 ft.	Color	Tan	Grain Size (F, M, C)	N/A	Material	Sand with Shell
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	

Comments:
GP WO 1022018
IW 164

WELL COMPLETION LOG

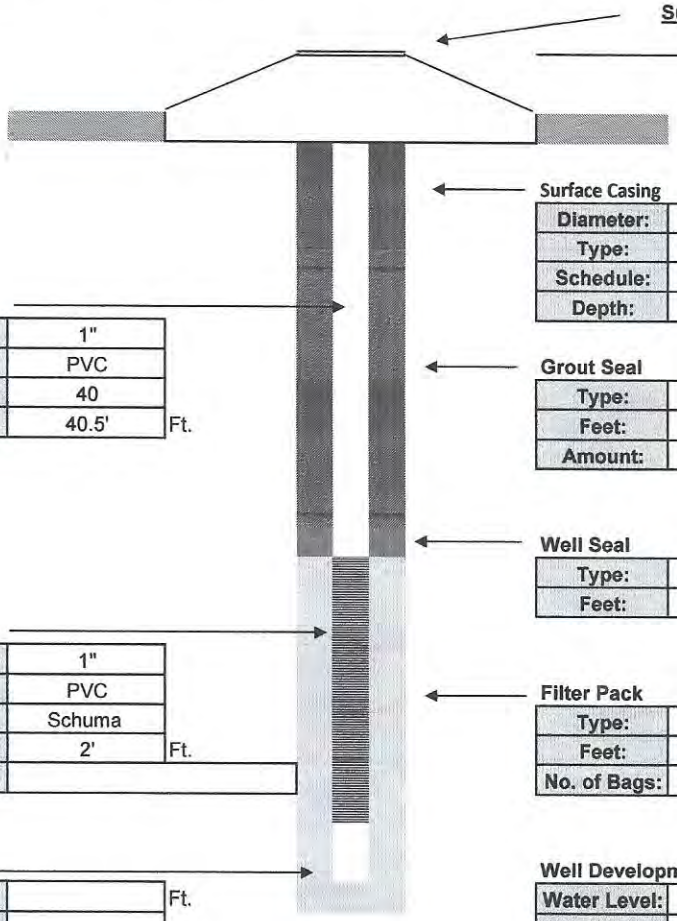
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 408 70°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	42.5'	2'	40.5'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		37.5'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"	
Type:	PVC	
Schedule:	40	
Length:	40.5'	Ft.

Grout Seal

Type:	I / II PORTLAND	
Feet:	37.5'	
Amount:	2	Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"	
Type:	PVC	
Slot:	Schuma	
Length:	2'	Ft.
Note:		

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:		Ft.
Type:		

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	Feb-23
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	NA
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

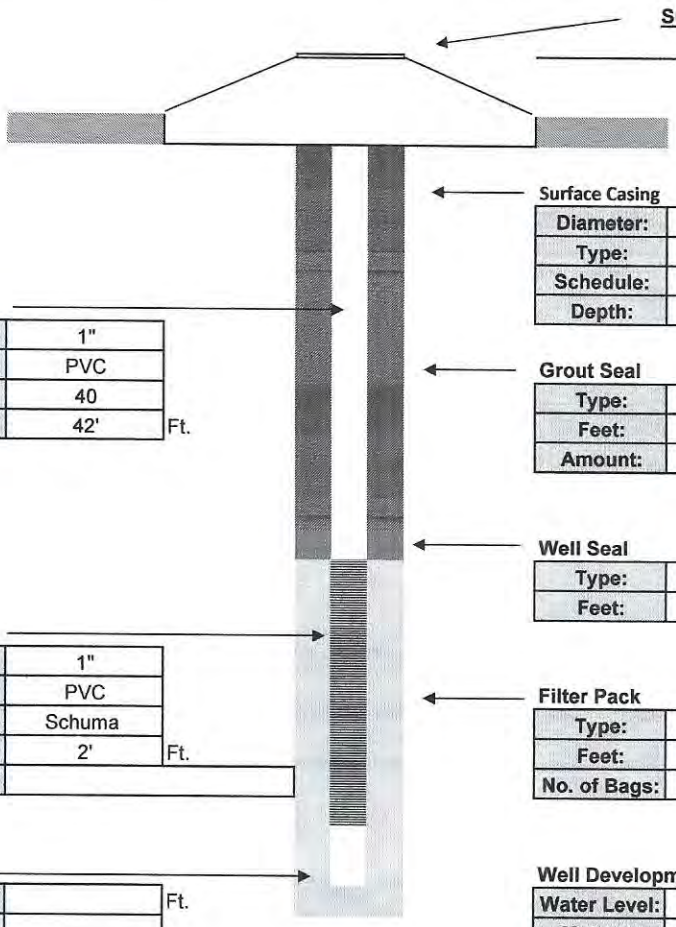
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 465 60°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	44'	2'	42'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		39'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	42' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	39'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	FEB 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

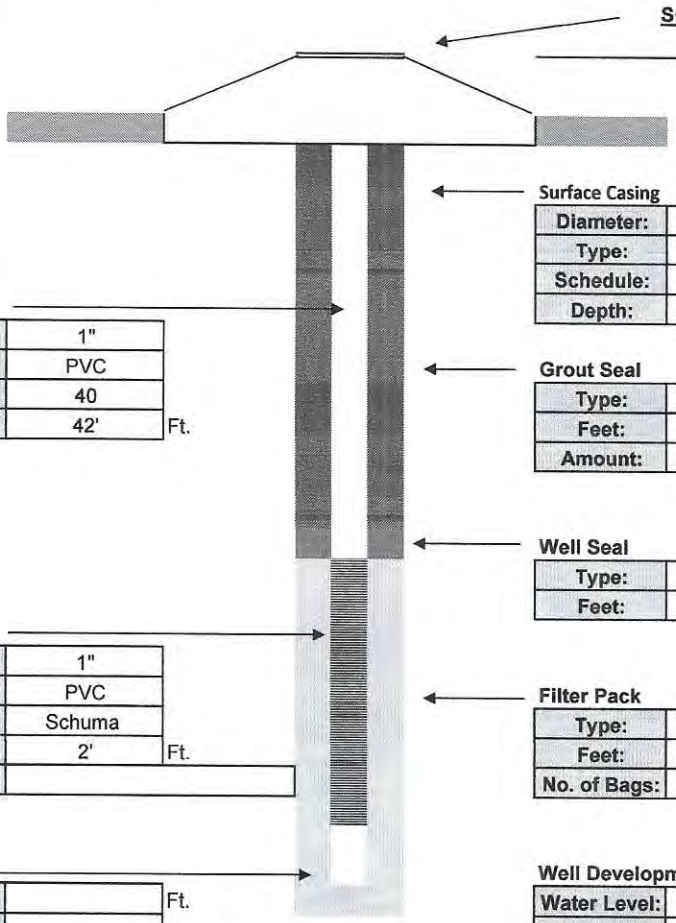
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 474 66°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	44'	2'	42'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		39'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	42' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	39'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	FEB 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

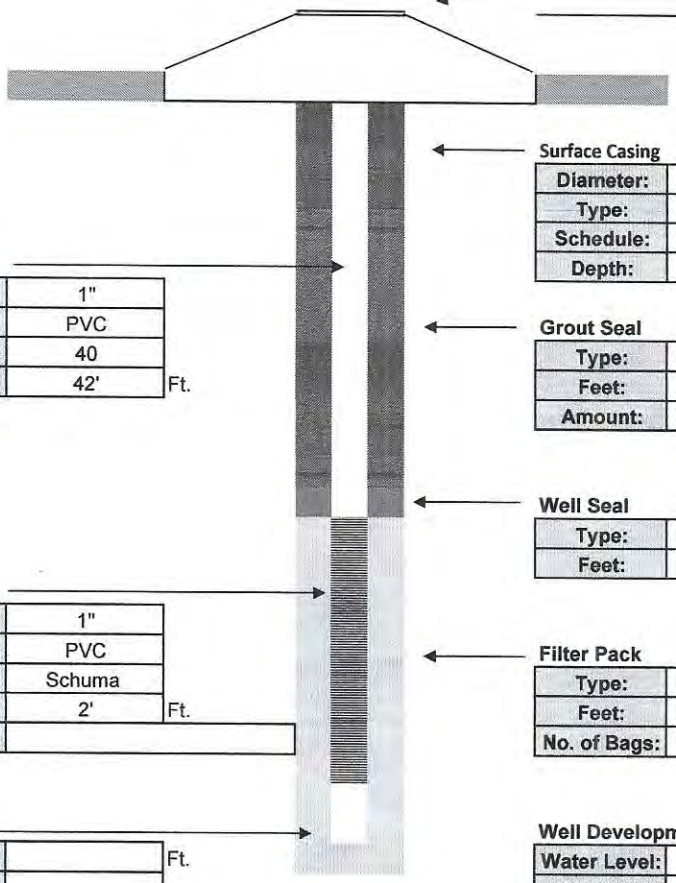
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 476 60°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	44'	2'	42'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		39'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	42' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	39'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	FEB 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

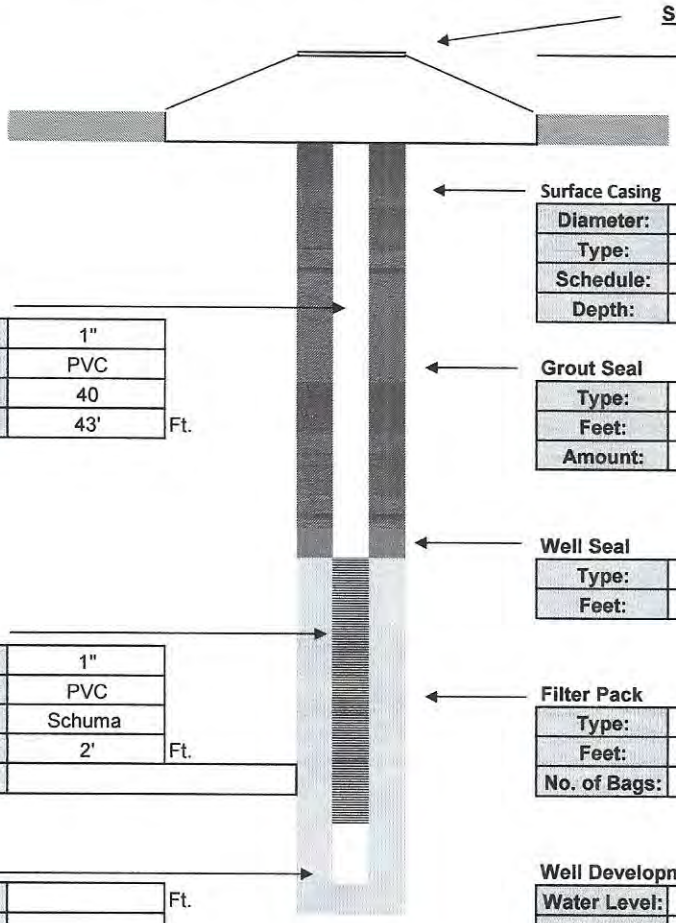
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 385 62.5°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	45'	2'	43'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		40'	Feet	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	43' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	40'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	FEB 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

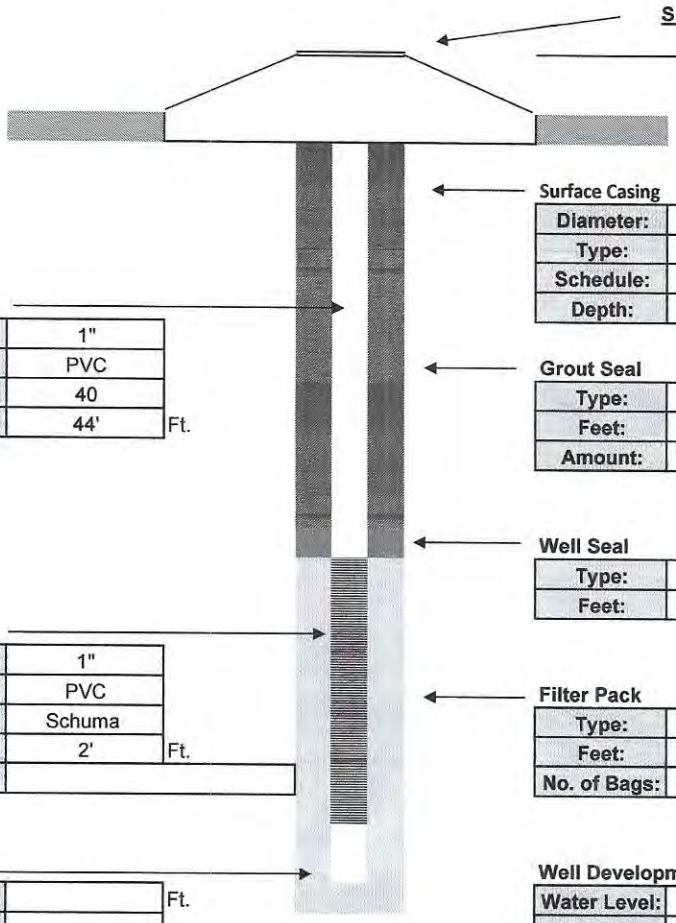
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 467 61°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	46'	2'	44'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		41'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	44' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	41'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	Feb 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

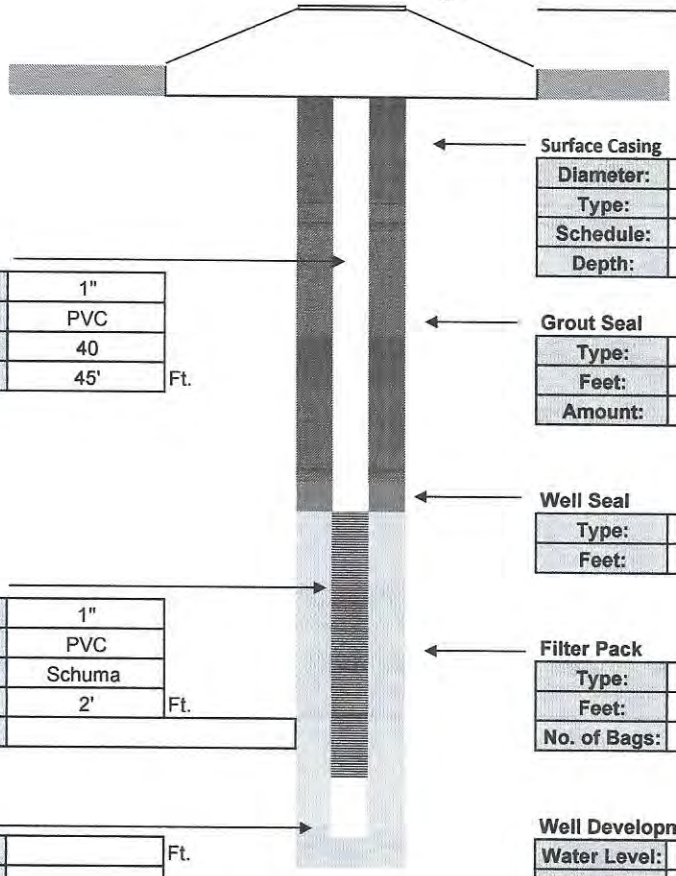
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 420 58°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	47'	2'	45'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		42'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	45' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	42'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	Feb 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

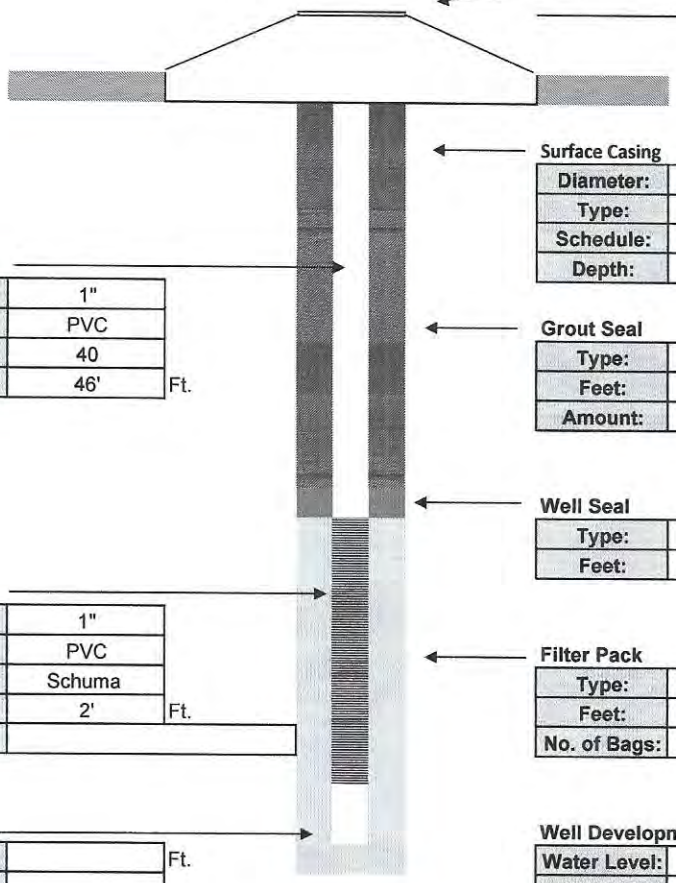
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 456 56.5°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	48'	2'	46'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		43'	Feet	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	46' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	43'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	Feb 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

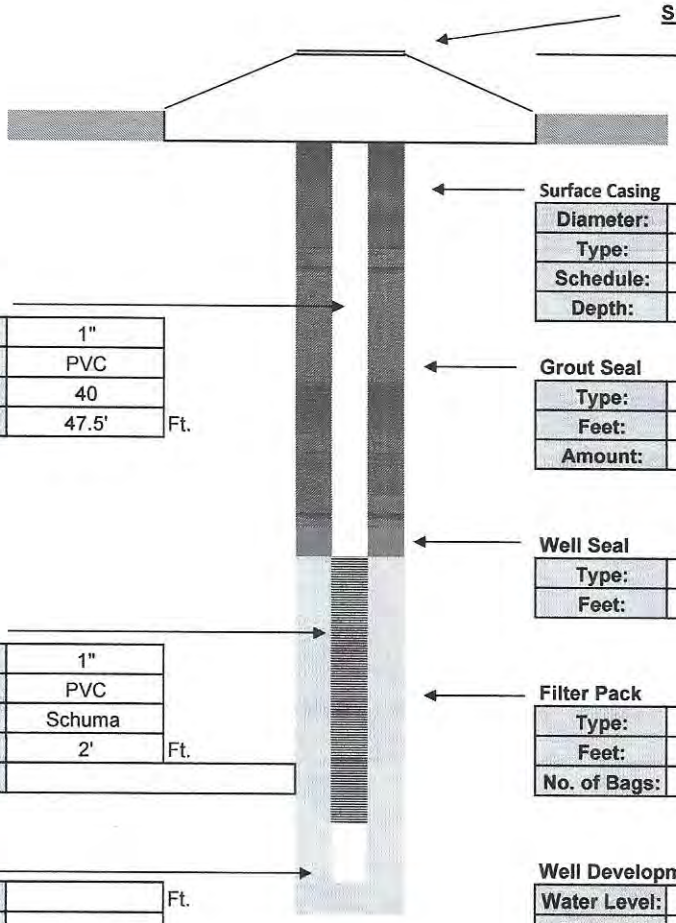
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 485 74°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	49.5'	2'	47.5'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		44.5'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	47.5' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	44.5'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	Fed 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

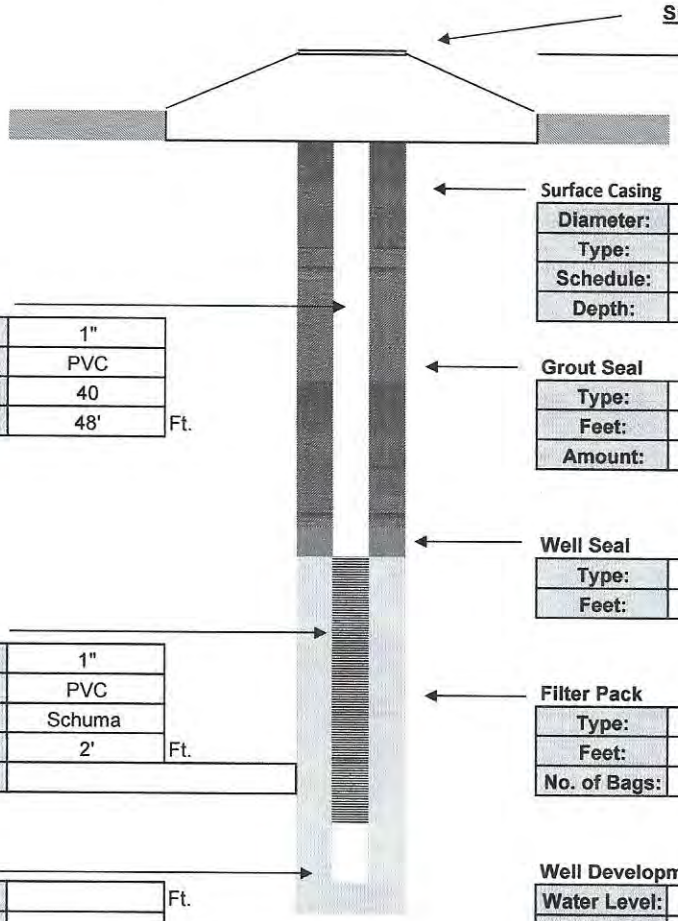
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 474 72°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	50'	2'	48'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		45'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	48' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	45'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	Feb 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

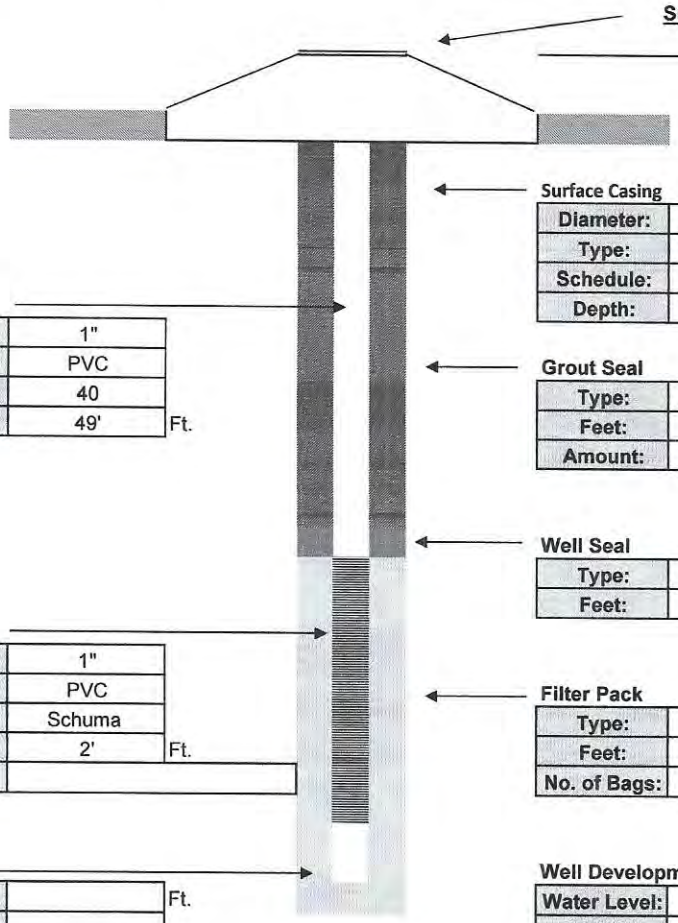
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 444 52°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	51'	2'	49'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		46'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	49' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	46'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	Feb 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

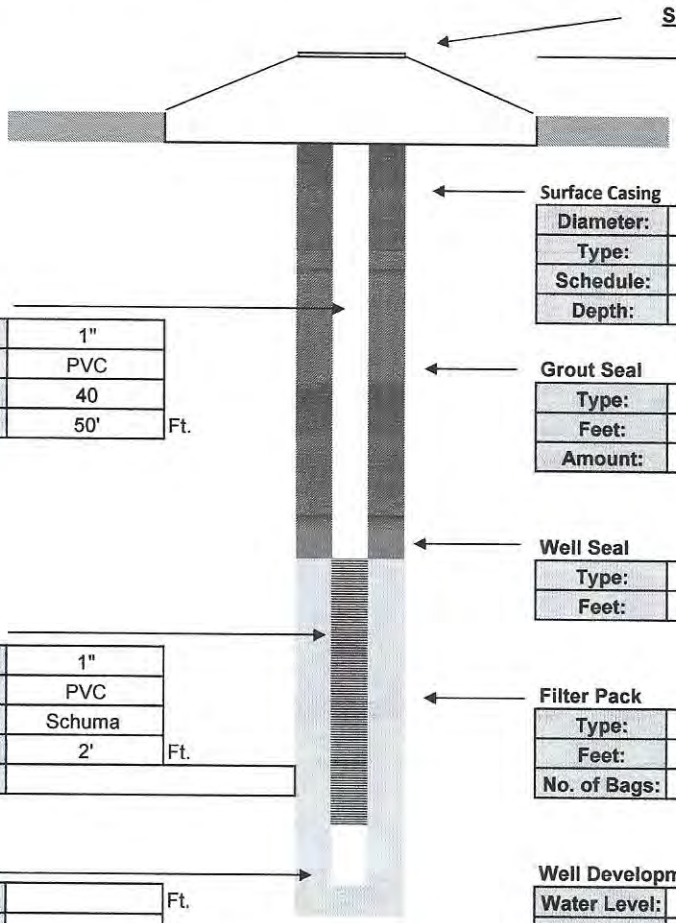
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 379 50.6°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	52'	2'	50'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		47'	Feet	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	50' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	47'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	Feb 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

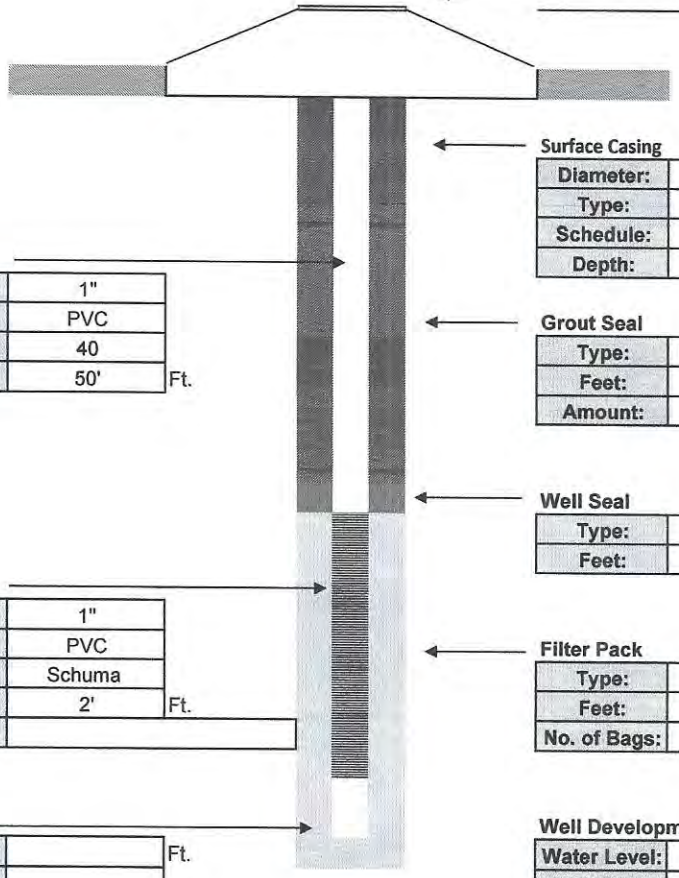
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 396 50.4°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	52'	2'	50'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		47'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	50' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	47'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	Feb 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

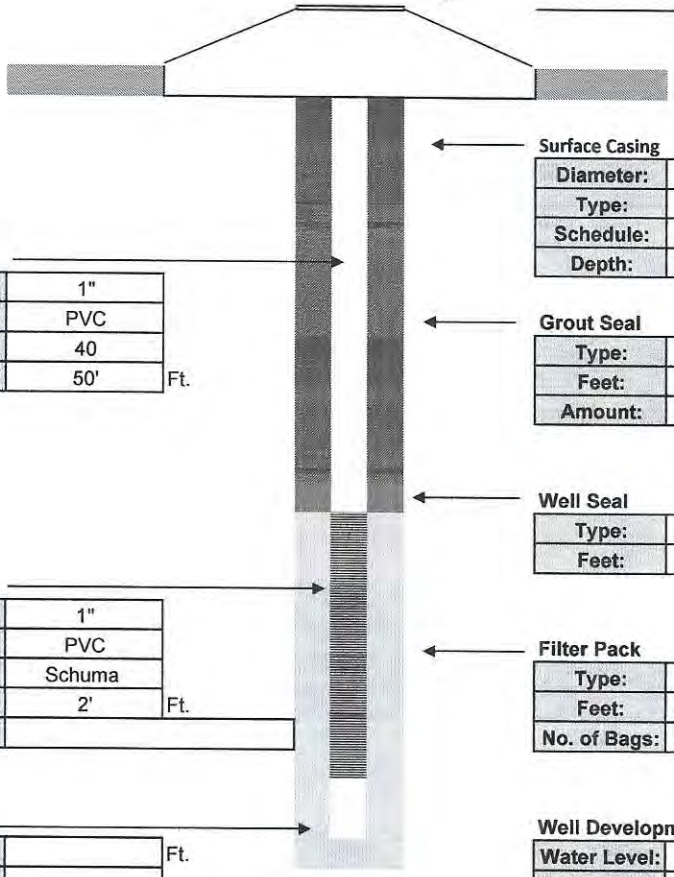
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 432 50°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	52'	2'	50'	2	1 / 50 lbs.	20/30	Bent. Pellets
40	Schedule	Slot Size:	Schuma		47'	Feet	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	50' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	47'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	Feb 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

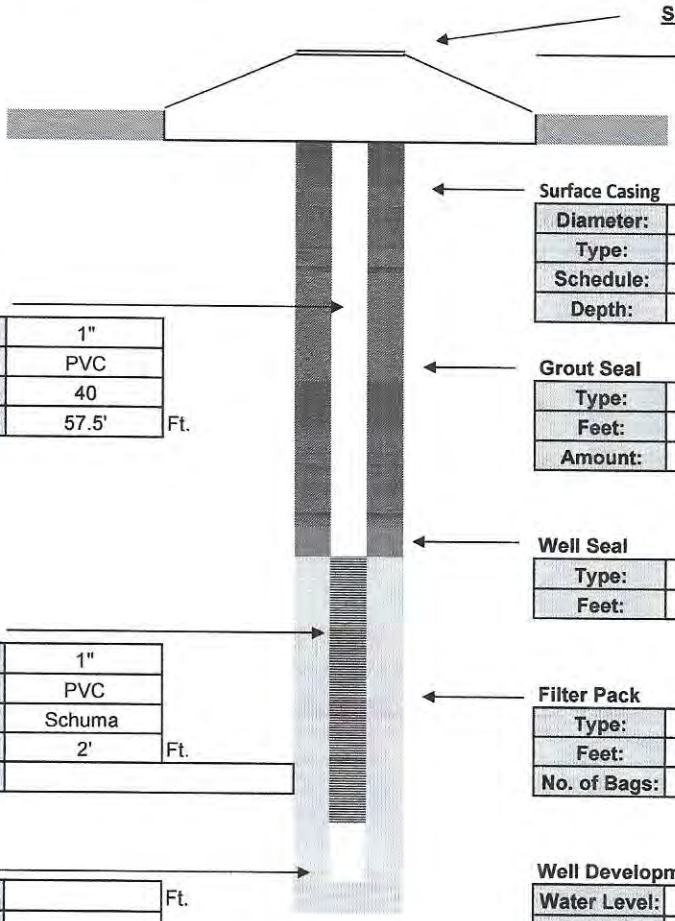
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 483 52°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	59.5'	2'	57.5'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		54.5'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	57.5' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	54.5'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	Fed 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

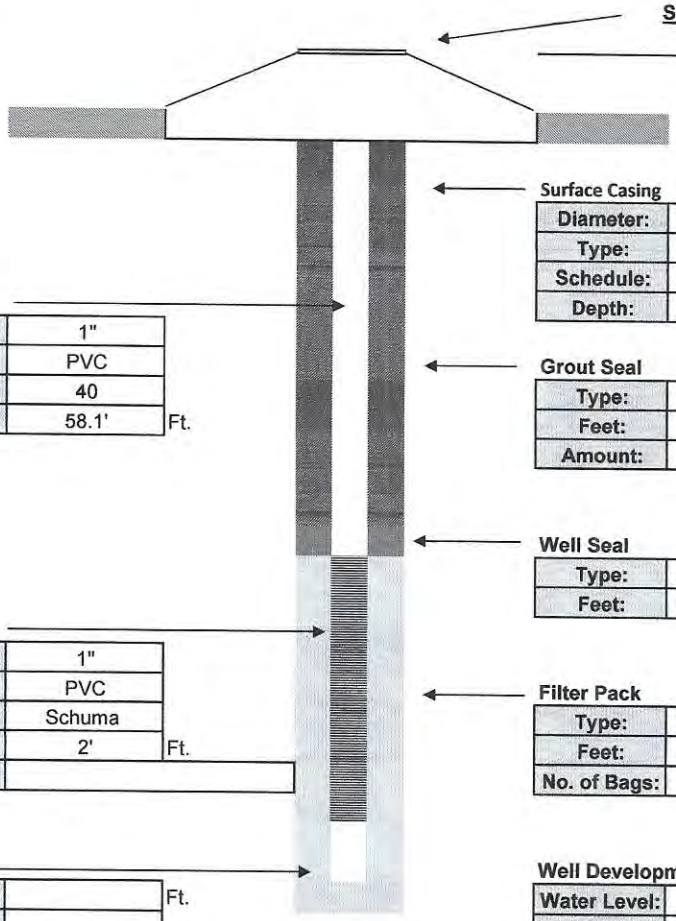
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 490 51.5°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	60.1'	2'	58.1'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		55.1'	← Feet →	2'	3'



Surface Completion
Stick Up

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	58.1' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	55.1'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	Fed 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

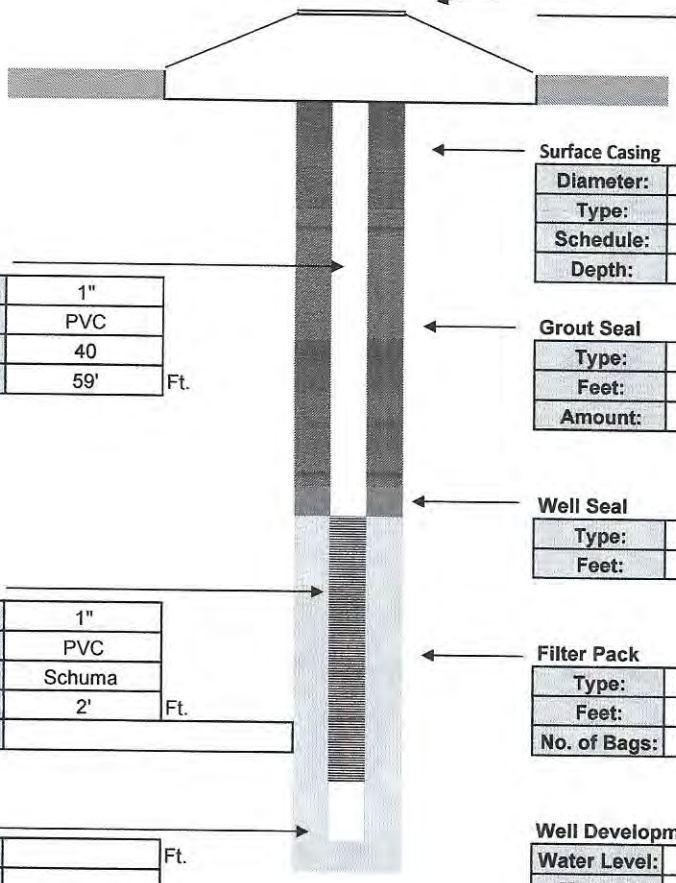
Water Mgmt. Dist.:
Permit Number:

Work Order: 1022018
Type of Well: Air Sparge
Well Number: AS 484 51.5°
Method Used: Sonic
Borehole Diaz. 4"

Site Information:
Name: LC 34
Address:
C,S,Z: CCSFS, FL
S/T/R:

Client / Consultant Information
Consultant: Tetra Tech
Field Rep: Chuck Sorden

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
1"	PVC	61'	2'	59'	2	1 / 50 lbs.	20/30	Bent. Pellets
40 ←	Schedule	Slot Size: →	Schuma		56'	← Feet →	2'	3'



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	1"
Type:	PVC
Schedule:	40
Length:	59' Ft.

Grout Seal

Type:	I / II PORTLAND
Feet:	56'
Amount:	2 Bags

Well Seal

Type:	Bent. Pellets
Feet:	3'

Well Screen

Diameter:	1"
Type:	PVC
Slot:	Schuma
Length:	2' Ft.
Note:	

Filter Pack

Type:	20/30
Feet:	2'
No. of Bags:	1 / 50 lbs.

Sump

Length:	Ft.
Type:	

Well Development

Water Level:	4'		
Method:	Honda		
Start:	Cloudy	Finish:	Clear
Time:	.25 Hr.		
GPM:	1		

Contractor Information

Contractor #:	9311
Completion:	Fed 2023
Driller:	David Longino
Lead Hand:	Joel Aponte
3rd Man:	
Drill Rig:	SR 7

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7885 / (407) 426-7586

APPENDIX F

HS 6 SAMPLING LOGS AND FIELD DOCUMENTATION
(PROVIDED IN ELECTRONIC VERSION ONLY)

HS 6 EXPANSION PRE-CONSTRUCTION DPT FIELD DOCUMENTATION
AUGUST 2022

Tetra Tech, Inc.

DPT GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Launch Complex 34 (LC34)
Project No.: 112G08985
Date: 08/17/2022

Sample ID: LC34-DPT0817
Location: DPT0817
Sampled By: Chuck Sorden

DPT SAMPLING DATA

LOCATION ID	LOCATION	DATE	TIME	DEPTH	ODOR	COLOR	COMMENTS
LC34-DPT0817	DPT0817	08/17/2022	0920	13'	None	Gray	
LC34-DPT0817	DPT0817	08/17/2022	0905	18'	None	Gray	
LC34-DPT0817	DPT0817	08/17/2022	0850	25'	None	Gray	
LC34-DPT0817	DPT0817	08/17/2022	0835	34'	None	Gray	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
V8260TCL42/V8260TCL42+	HCl/4°C	(2) 40 mL vials (HCl), (2) 40 mL vials (None)	X

OBSERVATIONS / NOTES

All intervals purged a minimum of five (5) screen volumes (1.5 L) prior to sample collection.
Hand auger five feet to clear utilities
Borehole abandoned via pressure grouting through boring rods
Rig, Rods, and associated tooling decon'd with pressurized steam

Circle if Applicable:

MS/MSD | Duplicate ID No.:



Tetra Tech, Inc.

DPT GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Launch Complex 34 (LC34)
Project No.: 112G08985
Date: 08/17/2022

Sample ID: LC34-DPT0819
Location: DPT0819
Sampled By: Chuck Sorden

DPT SAMPLING DATA

LOCATION ID	LOCATION	DATE	TIME	DEPTH	ODOR	COLOR	COMMENTS
LC34-DPT0819	DPT0819	08/17/2022	1055	13'	None	Gray	
LC34-DPT0819	DPT0819	08/17/2022	1040	18'	None	Gray	
LC34-DPT0819	DPT0819	08/17/2022	1025	25'	None	Gray	
LC34-DPT0819	DPT0819	08/17/2022	1010	34'	None	Gray	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
V8260TCL42/V8260TCL42+	HCl/4°C	(2) 40 mL vials (HCl), (2) 40 mL vials (None)	X

OBSERVATIONS / NOTES

All intervals purged a minimum of five (5) screen volumes (1.5 L) prior to sample collection.
Hand auger five feet to clear utilities
Borehole abandoned via pressure grouting through boring rods
Rig, Rods, and associated tooling decon'd with pressurized steam

Circle if Applicable:

MS/MSD	Duplicate ID No.:



Tetra Tech, Inc.

DPT GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Launch Complex 34 (LC34)
Project No.: 112G08985
Date: 08/17/2022

Sample ID: LC34-DPT0800
Location: DPT0800
Sampled By: Chuck Sorden

DPT SAMPLING DATA

LOCATION ID	LOCATION	DATE	TIME	DEPTH	ODOR	COLOR	COMMENTS
LC34-DPT0800	DPT0800	08/17/2022	1250	13'	None	Gray	
LC34-DPT0800	DPT0800	08/17/2022	1210	18'	None	Gray	
LC34-DPT0800	DPT0800	08/17/2022	1150	25'	None	Gray	
LC34-DPT0800	DPT0800	08/17/2022	1135	34'	None	Gray	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
V8260TCL42/V8260TCL42+	HCl/4°C	(2) 40 mL vials (HCl), (2) 40 mL vials (None)	X

OBSERVATIONS / NOTES

All intervals purged a minimum of five (5) screen volumes (1.5 L) prior to sample collection.
Hand auger five feet to clear utilities
Borehole abandoned via pressure grouting through boring rods
Rig, Rods, and associated tooling decon'd with pressurized steam

Circle if Applicable:

MS/MSD	Duplicate ID No.:



Tetra Tech, Inc.

DPT GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Launch Complex 34 (LC34)
Project No.: 112G08985
Date: 08/17/2022

Sample ID: LC34-DPT0826
Location: DPT0826
Sampled By: Chuck Sorden

DPT SAMPLING DATA

LOCATION ID	LOCATION	DATE	TIME	DEPTH	ODOR	COLOR	COMMENTS
LC34-DPT0826	DPT0826	08/17/2022	1430	13'	None	Gray	
LC34-DPT0826	DPT0826	08/17/2022	1415	18'	None	Gray	
LC34-DPT0826	DPT0826	08/17/2022	1400	25'	None	Gray	
LC34-DPT0826	DPT0826	08/17/2022	1345	34'	None	Gray	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
V8260TCL42/V8260TCL42+	HCl/4°C	(2) 40 mL vials (HCl), (2) 40 mL vials (None)	X

OBSERVATIONS / NOTES

All intervals purged a minimum of five (5) screen volumes (1.5 L) prior to sample collection.
Hand auger five feet to clear utilities
Borehole abandoned via pressure grouting through boring rods
Rig, Rods, and associated tooling decon'd with pressurized steam

Circle if Applicable:

MS/MSD	Duplicate ID No.:



Tetra Tech, Inc.

DPT GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Launch Complex 34 (LC34)
Project No.: 112G08985
Date: 08/18/2022

Sample ID: LC34-DPT0801
Location: DPT0801
Sampled By: Chuck Sorden

DPT SAMPLING DATA

LOCATION ID	LOCATION	DATE	TIME	DEPTH	ODOR	COLOR	COMMENTS
LC34-DPT0801	DPT0801	08/18/2022	0805	13'	None	Gray	
LC34-DPT0801	DPT0801	08/18/2022	0750	18'	None	Gray	
LC34-DPT0801	DPT0801	08/18/2022	0735	25'	None	Gray	
LC34-DPT0801	DPT0801	08/18/2022	0720	34'	None	Gray	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
V8260TCL42/V8260TCL42+	HCl/4°C	(2) 40 mL vials (HCl), (2) 40 mL vials (None)	X

OBSERVATIONS / NOTES

All intervals purged a minimum of five (5) screen volumes (1.5 L) prior to sample collection.
Hand auger five feet to clear utilities
Borehole abandoned via pressure grouting through boring rods
Rig, Rods, and associated tooling decon'd with pressurized steam

Circle if Applicable:

MS/MSD | Duplicate ID No.:



Tetra Tech, Inc.

DPT GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Launch Complex 34 (LC34)
Project No.: 112G08985
Date: 08/18/2022

Sample ID: LC34-DPT0464
Location: DPT0464
Sampled By: Chuck Sorden

DPT SAMPLING DATA

LOCATION ID	LOCATION	DATE	TIME	DEPTH	ODOR	COLOR	COMMENTS
LC34-DPT0464	DPT0464	08/18/2022	0940	13'	None	Gray	
LC34-DPT0464	DPT0464	08/18/2022	0925	18'	None	Gray	
LC34-DPT0464	DPT0464	08/18/2022	0910	25'	None	Gray	
LC34-DPT0464	DPT0464	08/18/2022	0855	34'	None	Gray	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
V8260TCL42/V8260TCL42+	HCl/4°C	(2) 40 mL vials (HCl), (2) 40 mL vials (None)	X

OBSERVATIONS / NOTES

All intervals purged a minimum of five (5) screen volumes (1.5 L) prior to sample collection.
Hand auger five feet to clear utilities
Borehole abandoned via pressure grouting through boring rods
Rig, Rods, and associated tooling decon'd with pressurized steam

Circle if Applicable:

MS/MSD	Duplicate ID No.:



Tetra Tech, Inc.

DPT GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Launch Complex 34 (LC34)
Project No.: 112G08985
Date: 08/18/2022

Sample ID: LC34-DPT0795
Location: DPT0795
Sampled By: Chuck Sorden

DPT SAMPLING DATA

LOCATION ID	LOCATION	DATE	TIME	DEPTH	ODOR	COLOR	COMMENTS
LC34-DPT0795	DPT0795	08/18/2022	1115	13'	None	Gray	
LC34-DPT0795	DPT0795	08/18/2022	1100	18'	None	Gray	
LC34-DPT0795	DPT0795	08/18/2022	1040	25'	None	Gray	
LC34-DPT0795	DPT0795	08/18/2022	1025	34'	None	Gray	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
V8260TCL42/V8260TCL42+	HCl/4°C	(2) 40 mL vials (HCl), (2) 40 mL vials (None)	X

OBSERVATIONS / NOTES

All intervals purged a minimum of five (5) screen volumes (1.5 L) prior to sample collection.
Hand auger five feet to clear utilities
Borehole abandoned via pressure grouting through boring rods
Rig, Rods, and associated tooling decon'd with pressurized steam

Circle if Applicable:

MS/MSD	Duplicate ID No.:



Tetra Tech, Inc.

DPT GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Launch Complex 34 (LC34)
Project No.: 112G08985
Date: 08/18/2022

Sample ID: LC34-DPT0787
Location: DPT0787
Sampled By: Chuck Sorden

DPT SAMPLING DATA

LOCATION ID	LOCATION	DATE	TIME	DEPTH	ODOR	COLOR	COMMENTS
LC34-DPT0787	DPT0787	08/18/2022	1315	13'	None	Gray	
LC34-DPT0787	DPT0787	08/18/2022	1300	18'	None	Gray	
LC34-DPT0787	DPT0787	08/18/2022	1245	25'	None	Gray	
LC34-DPT0787	DPT0787	08/18/2022	1205	34'	None	Gray	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
V8260TCL42/V8260TCL42+	HCl/4°C	(2) 40 mL vials (HCl), (2) 40 mL vials (None)	X

OBSERVATIONS / NOTES

All intervals purged a minimum of five (5) screen volumes (1.5 L) prior to sample collection.
Hand auger five feet to clear utilities
Borehole abandoned via pressure grouting through boring rods
Rig, Rods, and associated tooling decon'd with pressurized steam

Circle if Applicable:

MS/MSD | Duplicate ID No.:



Tetra Tech, Inc.

DPT GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Launch Complex 34 (LC34)
Project No.: 112G08985
Date: 08/18/2022

Sample ID: LC34-DPT0784
Location: DPT0784
Sampled By: Chuck Sorden

DPT SAMPLING DATA

LOCATION ID	LOCATION	DATE	TIME	DEPTH	ODOR	COLOR	COMMENTS
LC34-DPT0784	DPT0784	08/18/2022	1440	13'	None	Gray	
LC34-DPT0784	DPT0784	08/18/2022	1425	18'	None	Gray	
LC34-DPT0784	DPT0784	08/18/2022	1410	25'	None	Gray	
LC34-DPT0784	DPT0784	08/18/2022	1355	34'	None	Gray	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
V8260TCL42/V8260TCL42+	HCl/4°C	(2) 40 mL vials (HCl), (2) 40 mL vials (None)	X

OBSERVATIONS / NOTES

All intervals purged a minimum of five (5) screen volumes (1.5 L) prior to sample collection.
Hand auger five feet to clear utilities
Borehole abandoned via pressure grouting through boring rods
Rig, Rods, and associated tooling decon'd with pressurized steam

Circle if Applicable:

MS/MSD	Duplicate ID No.:



Tetra Tech, Inc.

DPT GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Launch Complex 34 (LC34)
Project No.: 112G08985
Date: 08/19/2022

Sample ID: LC34-DPT0782
Location: DPT0782
Sampled By: Chuck Sorden

DPT SAMPLING DATA

LOCATION ID	LOCATION	DATE	TIME	DEPTH	ODOR	COLOR	COMMENTS
LC34-DPT0782	DPT0782	08/19/2022	0830	13'	None	Gray	
LC34-DPT0782	DPT0782	08/19/2022	0815	18'	None	Gray	
LC34-DPT0782	DPT0782	08/19/2022	0800	25'	None	Gray	
LC34-DPT0782	DPT0782	08/19/2022	0745	34'	None	Gray	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
V8260TCL42/V8260TCL42+	HCl/4°C	(2) 40 mL vials (HCl), (2) 40 mL vials (None)	X

OBSERVATIONS / NOTES

All intervals purged a minimum of five (5) screen volumes (1.5 L) prior to sample collection.
Hand auger five feet to clear utilities
Borehole abandoned via pressure grouting through boring rods
Rig, Rods, and associated tooling decon'd with pressurized steam

Circle if Applicable:

MS/MSD	Duplicate ID No.:



08/17/2022 **LC34** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Fred Portofe	(FP)	P.G.	Tt
	Mickey Ritter	(MR)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI

Weather: Sunny – 80 degrees F
PPE: Level D
Health and Safety (HAS): Topics – PPE; Inclement weather; heat stress
Objective: Begin 516S 202208 DPT GW Investigation

0550: CS arrives at Driller hotel in Titusville to pick up TW
0650: CS meets FP at POL to show him to LC34
0705: Tt/TW arrive at LC34; MR already there. HAS Meeting; daily prep; unloading equipment and tooling
0805: Set up on LC34-DPT0817; hand clear 5'
0820: Drilling Commenced

0835: Sample Collected	LC34-DPT0817-034.0-20220817	(817)	Gray; No Odor
0850: Sample Collected	LC34-DPT0817-025.0-20220817	(817)	Gray; No Odor
0905: Sample Collected	LC34-DPT0817-018.0-20220817	(817)	Gray; No Odor
0920: Sample Collected	LC34-DPT0817-013.0-20220817	(817)	Gray; No Odor

0935: LC34-DPT0817 pressure grouted 36' to surface through rods
0940: Set up on LC34-DPT0819; hand clear 5'
0950: Drilling Commenced; using fresh rod/screens; will decon after second hole

1010: Sample Collected	LC34-DPT0819-034.0-20220817	(819)	Gray; No Odor
1025: Sample Collected	LC34-DPT0819-025.0-20220817	(819)	Gray; No Odor
1040: Sample Collected	LC34-DPT0819-018.0-20220817	(819)	Gray; No Odor
1055: Sample Collected	LC34-DPT0819-013.0-20220817	(819)	Gray; No Odor

1110: LC34-DPT0819 pressure grouted 36' to surface through rods;
1115: Set up on LC34-DPT0800; hand clear 5'
1120: Drilling Commenced; using fresh rods/screen; will decon after this hole

1135: Sample Collected	LC34-DPT0800-034.0-20220817	(800)	Gray; No Odor
1150: Sample Collected	LC34-DPT0800-025.0-20220817	(800)	Gray; No Odor
1210: Sample Collected	LC34-DPT0800-018.0-20220817	(800)	Gray; No Odor

- GPI taking lunch

1235: Drilling resumed

1250: Sample Collected	LC34-DPT0800-013.0-20220817	(800)	Gray; No Odor

1305: LC34-DPT0800 pressure grouted 36' to surface through rods; TW deconning
1320: Rig, rods, and tooling decon'd with steam
1325: Set up on LC34-DPT0826; Hand Clear 5'
1330: Drilling Commenced

1345: Sample Collected	LC34-DPT0826-034.0-20220817	(826)	Gray; No Odor
1400: Sample Collected	LC34-DPT0826-025.0-20220817	(826)	Gray; No Odor
1415: Sample Collected	LC34-DPT0826-018.0-20220817	(826)	Gray; No Odor
1430: Sample Collected	LC34-DPT0826-013.0-20220817	(826)	Gray; No Odor

1440: LC34-DPT0826 pressure grouted 36' to surface through rods
1445: Set up on LC34-DPT0801; hand clear 5'
1450: Phase II lightning warning in effect; all personnel secured in vehicles

1545: Phase II Terminated; resuming set up
1615: Site Secured; Tt/GPI offsite

08/18/2022 **LC34** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Aaron Kupper	(AK)	Engineer	Tt
	Mickey Ritter	(MR)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI

Weather: Sunny – 80 degrees F
PPE: Level D
Health and Safety (HAS): Topics – PPE; Inclement weather; heat stress
Objective: Complete LC34 202208 DPT GW Investigation

0640: Tt/GPI on site; HAS Meeting; Daily prep
0705: Drilling Commenced on LC34-DPT0801; previously hand cleared 5'

0720:	Sample Collected	LC34-DPT0801-034.0-20220818	(801)	Gray; No Odor
0735:	Sample Collected	LC34-DPT0801-025.0-20220818	(801)	Gray; No Odor
0750:	Sample Collected	LC34-DPT0801-018.0-20220818	(801)	Gray; No Odor
0805:	Sample Collected	LC34-DPT0801-013.0-20220818	(801)	Gray; No Odor

0820: LC34-DPT0801 pressure grouted 36' to surface through rods
0835: Set up on LC34-DPT0464; hand clear 5'
0840: Drilling Commenced; using fresh rods/screens

0855:	Sample Collected	LC34-DPT0464-034.0-20220818	(464)	Gray; No Odor

0900: AK on site; HAS Meeting

0910:	Sample Collected	LC34-DPT0464-025.0-20220818	(464)	Gray; No Odor
0925:	Sample Collected	LC34-DPT0464-018.0-20220818	(464)	Gray; No Odor
0940:	Sample Collected	LC34-DPT0464-013.0-20220818	(464)	Gray; No Odor

0955: LC34-DPT0464 pressure grouted 36' to surface through rods
1005: Set up on LC34-DPT0795; hand clear 5'
1010: Drilling Commenced; using fresh rods and screen

1025:	Sample Collected	LC34-DPT0795-034.0-20220818	(795)	Gray; No Odor
1040:	Sample Collected	LC34-DPT0795-025.0-20220818	(795)	Gray; No Odor
1100:	Sample Collected	LC34-DPT0795-018.0-20220818	(795)	Gray; No Odor
1115:	Sample Collected	LC34-DPT0795-013.0-20220818	(795)	Gray; No Odor

1130: LC34-DPT0795 pressure grouted 36' to surface through rods; TW deconning
1140: Rig, rods, and tooling decon'd with steam
1145: Set up on LC34-DPT0787; hand clear 5'
1150: Drilling Commenced

1205:	Sample Collected	LC34-DPT0787-034.0-20220818	(787)	Gray; No Odor

- GPI taking Lunch

1230: Drilling resumed

1245:	Sample Collected	LC34-DPT0787-025.0-20220818	(787)	Gray; No Odor
1300:	Sample Collected	LC34-DPT0787-018.0-20220818	(787)	Gray; No Odor
1315:	Sample Collected	LC34-DPT0787-013.0-20220818	(787)	Gray; No Odor

1330: LC34-DPT0787 pressure grouted 36' to surface through rods
1335: Set up on LC34-DPT0784; hand clear 5'
1340: Drilling Commenced; using fresh rod and screen

1355:	Sample Collected	LC34-DPT0784-034.0-20220818	(784)	Gray; No Odor
1410:	Sample Collected	LC34-DPT0784-025.0-20220818	(784)	Gray; No Odor
1425:	Sample Collected	LC34-DPT0784-018.0-20220818	(784)	Gray; No Odor

1440: Sample Collected LC34-DPT0784-013.0-20220818 (784) Gray; No Odor
1445: Phase II Lightning warning in effect; personnel secured in vehicles
1600: Still in Phase II; site secured; Tt/GPI offsite; Delivering Samples to SGS Courier

8/19/2022 **LC34** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Aaron Kupper	(AK)	Engineer	Tt
	Mickey Ritter	(MR)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI

Weather: Sunny – 80 degrees F
PPE: Level D
Health and Safety (HAS): Topics – PPE; Inclement weather; heat stress
Objective: Complete LC34 202208 DPT GW Investigation

0640: Tt/GPI on site; HAS Meeting; daily prep; preparing to grout LC34-DPT0784
0720: LC34-DPT0784 pressure grouted 36' to surface through rods
0725: Set up on LC34-DPT0782; hand clear 5'
0730: Drilling Commenced; using fresh rods and screen

0745:	Sample Collected	LC34-DPT0782-034.0-20220819	(782)	Gray; No Odor
0800:	Sample Collected	LC34-DPT0782-025.0-20220819	(782)	Gray; No Odor
0815:	Sample Collected	LC34-DPT0782-018.0-20220819	(782)	Gray; No Odor
0830:	Sample Collected	LC34-DPT0782-013.0-20220819	(782)	Gray; No Odor

0845: LC34-DPT0782 pressure grouted 36' to surface through rods
0905: Rig, rods, and tooling decon'd with steam; begin demob
0930: Demob complete; GPI offsite; CS/AK managing IDW at multiple sites
1230: CS/AK offsite

HS 6 PERFORMANCE MONITORING FIELD DOCUMENTATION
APRIL 2023

Tetra Tech, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: Launch Complex 34 - Hot Spot 6 **Project No.:** 112G08985
Location: Kennedy Space Center (KSC), FL **Personnel:** Rob Siegel
Weather Conditions: Cloudy/rain 5-10mph 75'F **Measuring Device:**
Tidally Influenced: Yes ____ No __X__ **Remarks:**

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)*	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
HS6-IW0057I	04/17/23	1421		28	8.45	NA		
HS6-IW0057S	|	1422		11	8.42	NA		
HS6-IW0108	|	1352		28	5.83	NA		
HS6-IW0123		1417		28	5.47	NA		
HS6-IW0124	|	1355		23	3.35	NA		
HS6-IW0125	|	1331		23	2.15	NA		
HS6-IW0126	|	1452		28	2.2	NA		
HS6-IW0127	|	1457		28	4.51	NA		
HS6-IW0128	|	1400		23	2.66	NA		
HS6-IW0129	|	1345		23	3.86	NA		
HS6-IW0130	|	1347		28	3.74	NA		
HS6-IW0131	|	1343		23	3.2	NA		
HS6-IW0132	|	1335		23	3.26	NA		
HS6-IW0133	|	1338		23	2.92	NA		
HS6-IW0134	|	1448		28	2.82	NA		
HS6-IW0135	|	1445		28	3.83	NA		
HS6-IW0136	|	1440		28	5.25	NA		
HS6-IW0137	|	1432		28	5.02	NA		
HS6-IW0138	|	1433		34	5.03	NA		
HS6-IW0139	|	1428		23	2.58	NA		
HS6-IW0140	|	1429		28	2.61	NA		
HS6-IW0141	|	1425		28	4.07	NA		
HS6-IW0142	|	1502		28	4.3	NA		
HS6-IW0143	|	1415		28	3.18	NA		
HS6-IW0144	|	1407		28	6.37	NA		
HS6-IW0145	|	1408		34	6.5	NA		
HS6-IW0146	|	1402		23	3.35	NA		
HS6-IW0147	04/17/23	1403		28	3.54	NA		

* All measurements to the nearest 0.01 foot

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW057I	SAMPLE ID: **LC34-IW0057I-025.5-20230419** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/19/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 8.40	CASING HEIGHT (feet als): 3.25	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 23-28

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 23	BOTTOM DEPTH (feet bls): 28

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.67 Liters. (0.005 x 38) + 0.475 = 0.67

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25.5	PURGING INITIATED AT: 0935	PURGING ENDED AT: 0954	TOTAL VOLUME PURGED (Liters): 5.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0945	3.0	3.0	300.0	9.20	6.76	24.8	4146.0	6.76/19.2%	0.48	-35.5	Clear
0950	1.5	4.5	|	9.20	6.76	24.8	4156.0	1.24	0.01	-45.5	|
0954	1.2	5.7	300.0	9.20	6.78	24.8	4151.0	1.07	0	-58.6	clear
0955	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel /Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 0955	SAMPLING ENDED AT: 1000
PUMP OR TUBING DEPTH IN WELL (feet): 25.5	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: HDPE & S	
FIELD DECONTAMINATION: **(**Y**)** New	FIELD-FILTERED: Y **(**N**)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(**N**)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
57i	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
57i	2	CG	40 ml	4°C			8260d	APP

REMARKS: After sample total depth check 30.85 ft toc sump purge clear to clear 0.50 gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW057S	SAMPLE ID: **LC34-IW0057S-008.0-20230419** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/19/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 8.38	CASING HEIGHT (feet als):3.30	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 5.08	WELL SCREEN INTERVAL DEPTH (feet bls): 1-11

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 5.8	BOTTOM DEPTH (feet bls): 11

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

0.888 Liters(11.0-3.30) X 0.15 =0.888

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.67 Liters. (0.005 x 38) + 0.475 = 0.67

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 8.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 8.0	PURGING INITIATED AT: 1015	PURGING ENDED AT: 1034	TOTAL VOLUME PURGED (Liters): 5.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1025	3.0	3.0	300.0	8.40	6.75	25.1	1990.0	0.61	0.72	-170.0	clear
1030	1.5	4.5	|	8.40	6.79	25.2	1932.0	0.60	0.23	-138.2	|
1034	1.2	5.7	300.0	8.40	6.80	25.2	1922.0	0.62	0.14	-135.0	clear
1035	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1035	SAMPLING ENDED AT: 1040
PUMP OR TUBING DEPTH IN WELL (feet): 8.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: HDPE-S	
FIELD DECONTAMINATION: **(**Y**)** New	FIELD-FILTERED: Y **(**N**)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(**N**)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
57s	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
57s	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth 12.70 ft from toc sump purge black to clear 0.30 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0108	SAMPLE ID: **LC34-IW0108-024.0-20230420** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/20/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.90	CASING HEIGHT (feet als): 2.5	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 20-28

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 20	BOTTOM DEPTH (feet bls): 28

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.67 Liters. (0.005 x 38) + 0.475 = 0.67

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 24	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24	PURGING INITIATED AT: 0840	PURGING ENDED AT: 0909	TOTAL VOLUME PURGED (Liters): 5.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0850	2.0	2.0	200.0	6.07	7.07	23.5	3978.0	4.85/57.8%	1.62	-9.0	Clear
0855	1.0	3.0	|	6.07	7.09	23.6	3967.0	4.81	0.08	-12.0	|
0900	1.0	4.0	|	6.07	7.09	23.6	3971.0	4.85	0.10	-14.0	|
0905	1.0	5.0	|	6.07	7.09	23.7	3967.0	5.17	0.05	-15.5	|
0909	0.8	5.8	200.0	6.07	7.09	23.6	3960.0	5.08/61%	0	-17.4	Clear
0910	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel /Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 0910	SAMPLING ENDED AT: 0905
PUMP OR TUBING DEPTH IN WELL (feet): 24.0	SAMPLE PUMP: FLOW RATE (mL per minute): 250.0	TUBING MATERIAL CODE: T, HDPE, & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
108	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
108	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth check 30.80 ft from toc sump purge black to clear 0.50 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0123	SAMPLE ID: **LC34-IW0123-024.0-20230420** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/20/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.50	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet 3.96bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 20-28

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 20	BOTTOM DEPTH (feet bls): 28

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.67 Liters. (0.005 x 38) + 0.475 = 0.67

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 24.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24.0	PURGING INITIATED AT: 1430	PURGING ENDED AT: 1449	TOTAL VOLUME PURGED (Liters): 3.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1440	2.0	2.0	200.0	5.65	6.71	26.4	6227.0	0.14	1.79	-137.2	Clear
1445	1.0	3.0	|	5.65	6.73	26.3	6153.0	0.11	0.55	-139.0	|
1449	0.8	3.8	200.0	5.65	6.73	26.5	6220.0	0.10	0.35	-139.2	Clear
1450	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel /Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1450	SAMPLING ENDED AT: 1455
PUMP OR TUBING DEPTH IN WELL (feet): 24.0	SAMPLE PUMP: FLOW RATE (mL per minute): 175.0	TUBING MATERIAL CODE: T & S	
FIELD DECONTAMINATION: **(**Y**)** N	FIELD-FILTERED: Y **(**N**)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(**N**)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
123	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
123	2	CG	40 ml	4°C			8260d	

REMARKS: after sample total depth check from 22.8 ft toc sump purge clear to clear 0.50 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0124	SAMPLE ID: **LC34-IW0124-018.0-20230420** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/20/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.40	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als):	WELL SCREEN INTERVAL DEPTH (feet bls): 13-23	
WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 13	BOTTOM DEPTH (feet bls): 23

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.63 Liters. (0.005 x 33) + 0.475 = 0.63

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18	PURGING INITIATED AT: 0735	PURGING ENDED AT: 084	TOTAL VOLUME PURGED (Liters): 4.35

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0745	1.5	1.50	150.0	3.48	6.72	23.7	3314.0	5.1/60.8%	9.11	+34.0	Clear
0750	0.75	2.25	|	3.48	6.73	23.6	3308.0	4.99	3.88	+23.6	|
0755	0.75	3.00	|	3.48	6.75	23.6	3309.0	5.04	3.22	+23.6	|
0800	0.75	3.75	|	3.48	6.77	23.6	3309.0	5.09	3.10	+23.7	|
0804	0.60	4.35	300.0	3.48	6.77	23.6	3322.0	5.03/60%	1.06	+13.2	clear
0805	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 0805	SAMPLING ENDED AT: 0810
PUMP OR TUBING DEPTH IN WELL (feet): 18.0	SAMPLE PUMP: FLOW RATE (mL per minute): 150.0	TUBING MATERIAL CODE: T & S	
FIELD DECONTAMINATION: **(**Y**)** N	FIELD-FILTERED: Y **(**N**)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(**N**)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
124	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
124	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth check 23.50 ft from toc sump purge clear to clear 0.20 gal
Micro bubbles
High Dissolved Oxygen from Air Sparging; All parameters stable. Sampled per FS2212

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0125	SAMPLE ID: **LC34-IW0125-018.0-20230418** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/18/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.22	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 13-23	
WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 13	BOTTOM DEPTH (feet bls): 23

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.64 Liters. (0.005 x 33) + 0.475 = 0.64

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.0	PURGING INITIATED AT: 0940	PURGING ENDED AT: 0959	TOTAL VOLUME PURGED (Liters): 5.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0950	3.0	3.0	300.0	2.27	7.18	22.65	9010.0	1.05	1.45	-162.5	Clear
0955	1.5	4.5	|	2.27	7.20	22.67	9020.0	0.96	0.75	-164.5	|
0959	1.2	5.7	300.0	2.27	7.21	22.70	9033.0	0.83	0.65	-159.0	clear
1000	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1000	SAMPLING ENDED AT: 1005
PUMP OR TUBING DEPTH IN WELL (feet): 18.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: Teflon, HDPE, & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
125	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
125	2	CG	40ml	4°C			8260d	APP

REMARKS: After sample total depth check 23.40 ft from toc sump purge clear to clear 0.20 gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0126	SAMPLE ID: **LC34-IW0126-024.0-20230420** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/20/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.25	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 20-28

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 20	BOTTOM DEPTH (feet bls): 28

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.67 Liters. (0.005 x 38) + 0.475 = 0.67

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 24.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24.0	PURGING INITIATED AT: 1750	PURGING ENDED AT: 1809	TOTAL VOLUME PURGED (Liters): 5.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1800	3.0	3.0	300.0	2.52	7.03	23.5	2237.0	0.17	1.03	-157.5	Clear
1805	1.5	4.5	|	2.52	7.05	23.5	2226.0	0.15	0.53	-159.0	|
1809	1.2	5.7	300.0	2.52	7.06	23.5	2222.0	0.13	0.46	-160.0	Clear
1810	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1810	SAMPLING ENDED AT: 1815
PUMP OR TUBING DEPTH IN WELL (feet): 24.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T, HDPE, & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
126	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
126	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth check 28.20 ft from toc sump purge gray to clear 0.50 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0127	SAMPLE ID: **LC34-IW0127-024.0-20230419** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/19/2023**

PURGING DATA

1STATIC DEPTH TO WATER (feet btoc): 4.55	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 20-28

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 20	BOTTOM DEPTH (feet bls): 28

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.67 Liters. (0.005 x 38) + 0.475 = 0.67

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 24	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24	PURGING INITIATED AT: 1455	PURGING ENDED AT: 1524	TOTAL VOLUME PURGED (Liters): 8.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1505	3.0	3.0	300.0	4.85	6.75	25.1	2147.0	2.34/28.1%	8.14	-106.3	Clear
1510	1.5	4.5	|	4.85	6.77	24.9	2149.0	2.08	3.45	-104.5	|
1515	1.5	6.0	|	4.85	6.78	25.0	2155.0	2.18	2.41	-101.5	|
1520	1.5	7.5	|	4.85	6.79	25.0	2157.0	2.22	1.84	-100.2	|
1524	1.2	8.7	300.0	4.85	6.78	24.8	2158.0	2.21/26.8%	0.81	-99.5	Clear
1525	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1525	SAMPLING ENDED AT: 1530

PUMP OR TUBING DEPTH IN WELL (feet): 24.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T, HDPE, & S

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
127	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
127	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth check 28.10 ft from toc sump purge clear to clear 0.30 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0128	SAMPLE ID: **LC34-IW0128-018.0-20230419** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/19/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc. 2.66	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 13-23

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 13	BOTTOM DEPTH (feet bls): 23

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

Liters1605

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.64 Liters. (0.005 x 33) + 0.475 = 0.64

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18	PURGING INITIATED AT: 1630	PURGING ENDED AT: 1659	TOTAL VOLUME PURGED (Liters): 8.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1640	3.0	3.0	300.0	2.78	6.89	24.4	5975.0	5.89/71%	0.89	-102.5	Clear
1645	1.5	4.5	|	2.78	6.92	24.7	5951.0	6.40	0.15	-79.0	|
1650	1.5	6.0	|	2.78	6.92	24.5	5946.0	6.47	0.03	-77.8	|
1655	1.5	7.5	|	2.78	6.92	24.6	5930.0	6.49	0	-77.1	|
1659	1.2	8.7	300.0	2.78	6.91	24.6	5902.0	6.54/79.7%	0	-76.5	Clear
1700	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1700	SAMPLING ENDED AT: 1705
PUMP OR TUBING DEPTH IN WELL (feet): 18.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T, HDPE, & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type:	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
128	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
128	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth check 23.20 ft from toc sump purge black to fouled removed hose 0.0 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0129	SAMPLE ID: **LC34-IW0129-018.0-20230418** Sample depth (ddd.d)=[bottom of screen (feet 18bls)-Top depth] x 0.5-bottom of screen (feet	DATE: **04/18/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc.: 3.87	CASING HEIGHT (feet als):	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 13-23

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 13	BOTTOM DEPTH (feet bls): 23

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.64 Liters. (0.005 x 33) + 0.475 = 0.64

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18	PURGING INITIATED AT: 1225	PURGING ENDED AT: 1244	TOTAL VOLUME PURGED (Liters): 5.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1235	3.0	3.0	300.0	3.92	7.25	23.71	6648.0	0.68	3.99	-107.0	clear
1240	1.5	4.5	|	3.92	7.25	23.74	6571.0	0.62	3.20	-110.0	|
1244	1.2	5.7	300.0	3.92	7.25	23.85	6568.0	0.60	1.93	-110.0	clear
1245	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1245	SAMPLING ENDED AT: 1250
PUMP OR TUBING DEPTH IN WELL (feet): 18.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: Teflon, HDPE, & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
129	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
129	2	CG	40 ml	4°C			8260d	APP

REMARKS: After sample total depth check 23.60 ft from toc sump purge pale brown/green to clear 0.30 gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

225SITE NAME: LC34		SITE LOCATION: Kennedy Space Center
LOC ID: LC34-IW0130	SAMPLE ID: **LC34-IW0130-024.0-20230418** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/18/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 20-28

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 20	BOTTOM DEPTH (feet bls): 28

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.67 Liters. (0.005 x 38) + 0.475 = 0.67

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 24	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24	PURGING INITIATED AT: 1300	PURGING ENDED AT: 1319	TOTAL VOLUME PURGED (Liters): 5.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1310	3.0	3.0	300.0	3.89	7.29	23.61	8477.0	0.58	2.77	-185.7	Clear
1315	1.5	4.5	|	3.89	7.28	23.66	8485.0	0.56	1.43	-177.0	|
1319	1.2	5.7	300.0	3.89	7.28	23.70	8461.0	0.54	0.76	-171.0	Clear
1320	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1320	SAMPLING ENDED AT: 1325
PUMP OR TUBING DEPTH IN WELL (feet): 24.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: Teflon, HDPE, & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
130	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
130	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth 26.40 ft check from toc sump purge clear to clear 0.50 gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0131	SAMPLE ID: **LC34-IW0131-018.0-20230418** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/18/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.24	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 13-23

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 13	BOTTOM DEPTH (feet bls): 23

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.64 Liters. (0.005 x 33) + 0.475 = 0.64

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.0	PURGING INITIATED AT: 1045	PURGING ENDED AT: 1104	TOTAL VOLUME PURGED (Liters): 5.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1055	3.0	3.0	300.0	3.30	7.35	22.87	6247.0	0.81	1.96	-120.0	Clear
1100	1.5	4.5	|	3.30	7.35	22.92	6241.0	0.75	1.32	-115.0	|
1104	1.2	5.7	300.0	3.30	7.35	22.92	6264.0	0.75	0.59	-113.0	clear
1105	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel/ tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1105	SAMPLING ENDED AT: 1110
PUMP OR TUBING DEPTH IN WELL (feet): 18.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: New HDPE & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
131	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
131	2	Cg	40 ML	4°C			8260d	APP

REMARKS: After sample total depth check 23.80 ft from toc sump purge black to clear 0.50 gal
Micro bubbles

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0132	SAMPLE ID: **LC34-IW0132-018.0-20230418** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/18/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.29	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 13-23

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 13	BOTTOM DEPTH (feet bls): 23

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.64 Liters. (0.005 x 33) + 04.75 = 0.64

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.0	PURGING INITIATED AT: 1130	PURGING ENDED AT: 1149	TOTAL VOLUME PURGED (Liters): 5.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1140	3.0	3.0	300.0	3.35	7.33	24.42	5360.0	0.74	3.46	-121.0	Clear
1145	1.5	4.5	|	3.35	7.32	24.56	5235.0	0.70	0.73	-121.0	|
1149	1.2	5.7	300.0	3.35	7.30	14.68	5142.0	0.66	0.62	-121.0	clear
1150	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1150	SAMPLING ENDED AT: 1155
PUMP OR TUBING DEPTH IN WELL (feet): 18.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: Teflon & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
132	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
132	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth check 23.60 ft.from toc sump purge black to clear 0.30 gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0133	SAMPLE ID: **LC34-IW0133-018.0-20230418** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/18/2023**

STATIC DEPTH TO WATER (feet btoc): 2.91	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 13-23	
WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 13	BOTTOM DEPTH (feet bls): 23

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.64 Liters. (0.005 x 33) + 0.475 = 0.64

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18	PURGING INITIATED AT: 0840	PURGING ENDED AT: 0859	TOTAL VOLUME PURGED (Liters): 5.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0850	3.0	3.0	300.0	2.97	7.35	22.18	7668.0	0.85	0.88	-202.0	Clear
0855	1.5	4.5	|	2.97	7.36	22.21	7674.0	0.85	0.79	-205.0	|
0859	1.2	5.7	300.0	2.97	7.36	22.23	7677.0	0.85	0.74	-210.0	Clear
0900	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 0900	SAMPLING ENDED AT: 0905
PUMP OR TUBING DEPTH IN WELL (feet): 18.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: Teflon, HDPE, & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
133	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
133	2	CG	40 ml	4°C			8260d	APP

REMARKS: After sample total depth check from 23.50 ft from toc sump purge black to clear 0.20 gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

05SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0134	SAMPLE ID: **LC34-IW0134-024.0-20230418** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/18/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.83	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 20-28

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 20	BOTTOM DEPTH (feet bls): 28

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.67 Liters. (0.005 x 38) + 0.475 = 0.67

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 24	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24	PURGING INITIATED AT: 1640	PURGING ENDED AT: 1659	TOTAL VOLUME PURGED (Liters): 5.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1650	3.0	3.0	300.0	3.05	7.41	24.39	2668.0	0.64	5.31	-88.8	Clear
1655	1.5	4.5	|	3.05	7.40	24.41	2603.0	0.57	2.99	-86.0	|
1659	1.2	5.7	300.0	3.05	7.40	24.37	2597.0	0.55	0.71	-85.3	Clear
1700	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel /Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1700	SAMPLING ENDED AT: 1705
PUMP OR TUBING DEPTH IN WELL (feet): 24.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: Teflon & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
134	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
134	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth check 28.30 ft from toc sump purge clear to clear 0.30 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

25SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0135	SAMPLE ID: **LC34-IW0135-024.0-20230420** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/20/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.90	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 20-28

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 20	BOTTOM DEPTH (feet bls): 28

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.67 Liters. (0.005 x 38) + 0.475 = 0.67

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 24	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24	PURGING INITIATED AT: 1140	PURGING ENDED AT: 1159	TOTAL VOLUME PURGED (Liters): 3.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1150	2.0	2.0	200.0	4.00	6.88	24.3	1845.0	0.15	0.43	-125.5	Clear
1155	1.0	3.0		4.00	6.87	24.3	1845.0	0.12	0.22	-125.0	
1159	0.8	3.8	200.0	4.00	6.88	24.4	1846.0	0.10	0.15	-124.5	Clear
1200	Collected	Sample									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1200	SAMPLING ENDED AT: 1205
PUMP OR TUBING DEPTH IN WELL (feet): 24.0	SAMPLE PUMP: FLOW RATE (mL per minute): 175.0	TUBING MATERIAL CODE: T & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
135	2	CG	40 ml	HCl/4°C	None	<2	SW-846 8260B	APP
135	2	CG	40ml	Ice				

REMARKS: after sample total depth check 27.90 ft from toc sump purge black to clear 0.50 gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0136	SAMPLE ID: **LC34-IW0136-024.0-20230419** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/19/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.28	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 20-28	
WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 20	BOTTOM DEPTH (feet bls): 28

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.67 Liters. (0.005 c 28) + 0.475 = 0.67

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 24	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24	PURGING INITIATED AT: 1415	PURGING ENDED AT: 1434	TOTAL VOLUME PURGED (Liters): 5.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1425	3.0	3.0	300.0	5.35	6.90	27.9	2626.0	0.60	1.06	-140.5	Clear
1430	1.5	4.5	|	5.35	6.90	27.9	2628.0	0.25	0.62	-141.0	|
1434	1.2	5.7	300.0	5.35	6.90	27.9	2629.0	0.29	0.45	-139.7	Clear
1435	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1435	SAMPLING ENDED AT: 1440
PUMP OR TUBING DEPTH IN WELL (feet): 24.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: HDPE, T, & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
136	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
136	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth check 27.9 ft from toc sump purge brown to clear 0.30 gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0137	SAMPLE ID: **LC34-IW0137-024.0-20230420** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/20/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.05	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 20-28

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 20	BOTTOM DEPTH (feet bls): 28

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.67 Liters. (0.005 x 38) + 0.475 = 0.67

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 24	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24	PURGING INITIATED AT: 1650	PURGING ENDED AT: 1709	TOTAL VOLUME PURGED (Liters): 3.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1700	2.0	2.0	200.0	5.19	7.14	25.4	2535.0	0.16	4.28	-168.0	CLEAR
1705	1.0	3.0	|	5.19	7.12	25.4	2600.0	0.11	0.39	-166.6	|
1709	0.8	3.8	200.0	5.19	7.10	25.3	2625.0	0.08	0	-166.5	Clear
1710	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel /Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1710	SAMPLING ENDED AT: 1715
PUMP OR TUBING DEPTH IN WELL (feet): 24.0	SAMPLE PUMP: FLOW RATE (mL per minute): 175.0	TUBING MATERIAL CODE: New HDPE & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
137	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
137	2	CG	40 ml	4°C			8260d	APP

REMARKS: Two full hose sets at about 30.0 ft each, one set HDPE & S and one set T & S stuck est 8 ft down well. Removed before sample purge
After sample total depth check 28.10 ft from toc sump clear to clear 0.50 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0138	SAMPLE ID: **LC34-IW0138-031.5-20230420** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/20/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.09	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 29 - 34

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 29	BOTTOM DEPTH (feet bls): 34

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.68 Liters. (0.005 x 40) + 0.475 = 0.68

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 31.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 31.5	PURGING INITIATED AT: 1600	PURGING ENDED AT: 1619	TOTAL VOLUME PURGED (Liters): 3.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1610	2.0	2.0	200.0	5.29	7.05	25.5	3695.0	0.21	5.69	-174.5	Clear
1615	1.0	3.0	|	5.29	7.04	25.8	3692.0	0.15	5.13	-180.0	|
1619	0.8	3.8	200.0	5.29	7.04	25.6	3590.0	0.13	2.66	-180.5	Clear
1620	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1620	SAMPLING ENDED AT: 1625
PUMP OR TUBING DEPTH IN WELL (feet): 31.5	SAMPLE PUMP: FLOW RATE (mL per minute): 175.0	TUBING MATERIAL CODE: T, HDPE, & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
138	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
138	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth check from 34.90 ft toc sump purge clear to clear 0.50 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0139	SAMPLE ID: **LC34-IW0139-018.0-20230418** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/18/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc. 2.58	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als):	WELL SCREEN INTERVAL DEPTH (feet bls): 13-23	
WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 13	BOTTOM DEPTH (feet bls): 23

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.64 Liters. (0.005 x 33) + 0.475 = 0.64

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.0	PURGING INITIATED AT: 1725	PURGING ENDED AT: 1745	TOTAL VOLUME PURGED (Liters): 8.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1735	3.0	3.0	300.0	2.63	7.40	23.80	3995.0	3.9/46.6%	2.00	-21.7	Clear
1740	1.5	4.5	|	2.63	7.40	23.81	4016.0	4.00	1.65	-16.1	|
1745	1.5	6.0	|	2.63	7.40	23.76	4024.0	4.26	0.71	-13.6	|
1750	1.5	7.5	|	2.63	7.39	23.75	4028.0	4.48	0.46	-12.4	|
1754	1.2	8.7	300.0	2.63	7.39	23.79	4031.0	4.6/55.0%	0.04	-12.1	clear
1755	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel /Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1755	SAMPLING ENDED AT: 1800
PUMP OR TUBING DEPTH IN WELL (feet): 18.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T, HDPE,& S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
139	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
139	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth check 22.90 ft from toc sump purge clear to clear 0.30 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0140	SAMPLE ID: **LC34-IW0140-024.0-20230418** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/18/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.66	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 20-28

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 20	BOTTOM DEPTH (feet bls): 28

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.67 Liters. (0.005 x 38) + 0.475 = 0.67

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 24.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24.0	PURGING INITIATED AT: 1815	PURGING ENDED AT: 1844	TOTAL VOLUME PURGED (Liters): 8.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1825	3.0	3.0	300.0	2.82	7.42	23.60	3218.0	4.5/53.0%	9.81	-12.4	Clear
1830	1.5	4.5	|	2.82	7.40	23.59	3198.0	4.26	5.69	-10.9	|
1835	1.5	6.0	|	2.82	7.40	23.60	3197.0	4.17	3.87	-11.1	|
1840	1.5	7.5	|	2.82	7.40	23.59	3197.0	4.05	1.21	-11.7	|
1844	1.2	8.7	300.0	2.82	7.40	23.60	3203.0	3.9/46.9%	0.06	-11.1	Clear
1845	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1845	SAMPLING ENDED AT: 1850
PUMP OR TUBING DEPTH IN WELL (feet): 24.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T, HDPE, & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
140	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
140	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth check 27.70 ft from toc sump purge clear to clear 0.30 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0141	SAMPLE ID: **LC34-IW0141-024.0-20230419** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/19/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.05	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 20-28

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 20	BOTTOM DEPTH (feet bls): 28

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.67 Liters. (0.005 x 38) + 0.475 = 0.67

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 24	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24	PURGING INITIATED AT: 1100	PURGING ENDED AT: 1129	TOTAL VOLUME PURGED (Liters): 8.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1110	3.0	3.0	300.0	4.37	7.10	25.4	4786.0	6.3/78.0%	0.46	-71.7	Clear
1115	1.5	4.5	|	4.37	7.09	25.7	4779.0	7.09	0.27	-73.6	|
1120	1.5	6.90	|	4.37	7.07	25.7	4773.0	7.08	0.17	-76.0	|
1125	1.5	7.5	|	4.37	7.07	25.9	4769.0	7.08	0.12	-77.0	|
1129	1.2	8.7	300.0	4.37	7.08	26.0	4766.0	7.08/72.2%	0.07	-77.7	clear
1130	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION Robert Siegel / Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1130	SAMPLING ENDED AT:1140
PUMP OR TUBING DEPTH IN WELL (feet): 24.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T, HDPE, & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
141	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
141	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth check 28.00 ft from toc sump purge black to clear 0.20 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0142	SAMPLE ID: **LC34-IW0142-024.0-20230419** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/19/2024**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.30	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 20-28

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 20	BOTTOM DEPTH (feet bls): 28

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.67 Liters. (0.005 x 38) + 0.475 = 0.67

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 24	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24	PURGING INITIATED AT: 1725	PURGING ENDED AT: 1754	TOTAL VOLUME PURGED (Liters): 8.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1735	3.0	3.0	300.0	4.50	7.28	24.7	4405.0	7.34/89.5%	2.43	-86.0	Clear
1740	1.5	4.5	|	4.50	7.28	24.8	4403.0	7.28	1.93	-84.5	|
1745	1.5	6.0	|	4.50	7.26	24.8	4397.0	7.27	1.50	-83.0	|
1750	1.5	7.5	|	4.50	7.25	24.7	4396.0	7.27	0.80	-82.0	|
1754	1.2	8.7	300.0	4.50	7.26	24.7	4400.0	7.26/88.0%	0.65	-81.5	Clear
1755	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel /Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1755	SAMPLING ENDED AT:1800
PUMP OR TUBING DEPTH IN WELL (feet): 24.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T, HDPE, & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
142	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
142	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth check 27.90 ft from toc sump purge clear to clear 0.40 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0143	SAMPLE ID: **LC34-IW0143-024.0-20230420** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/20/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.18	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 20-28

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 20	BOTTOM DEPTH (feet bls): 28

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.67 Liters. (0.005 x 38) + 0.475 = 0.67

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 24	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24	PURGING INITIATED AT: 1340	PURGING ENDED AT: 1359	TOTAL VOLUME PURGED (Liters): 3.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1350	2.0	2.0	200.0	3.26	6.91	26.7	2580.0	0.18	1.37	-126.0	clear
1355	1.0	3.0	|	3.26	6.91	26.8	2585.0	0.22	0.86	-127.2	|
1359	0.8	3.8	200.0	3.26	6.91	27.0	2590.0	0.22	0.13	-129.5	Clear
1400	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1400	SAMPLING ENDED AT: 1405
PUMP OR TUBING DEPTH IN WELL (feet): 24.0	SAMPLE PUMP: FLOW RATE (mL per minute): 175.0	TUBING MATERIAL CODE: T, HDPE, & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
143	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
143	2	CG	40 ml	4°C			8260d	APP

REMARKS: After sample total depth check 28.0 ft from toc sump purge clear to clear 0.30 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0144	SAMPLE ID: **LC34-IW0144-024.0-20230420** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/20/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 6.32	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 20-28

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 20	BOTTOM DEPTH (feet bls): 28

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.67 Liters. (0.005 x 38) + 0.475 = 0.67

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 24.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24.0	PURGING INITIATED AT: 0950	PURGING ENDED AT: 1019	TOTAL VOLUME PURGED (Liters): 5.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1000	2.0	2.0	200.0	6.43	6.92	25.2	4010.0	6.08/75%	9.80	-24.0	Clear
1005	1.0	3.0	|	6.43	6.92	25.3	3978.0	5.99	7.16	-26.0	|
1010	1.0	4.0	|	6.43	6.90	25.4	4008.0	5.95	4.51	-26.5	|
1015	1.0	5.0	|	6.43	6.91	25.5	4003.0	5.45	3.99	-27.8	|
1019	0.8	5.8	200.0	6.43	6.91	25.5	3990.0	4.98/61.5%	2.17	-28.5	clear
1020	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1020	SAMPLING ENDED AT: 1025
PUMP OR TUBING DEPTH IN WELL (feet): 24.0	SAMPLE PUMP: FLOW RATE (mL per minute): 175.0	TUBING MATERIAL CODE: T, HDPE, & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
144	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
144	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth check 27.90 ft from toc sump purge brown to clear 0.50 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0145	SAMPLE ID: **LC34-IW0145-031.5-20230420** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/20/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 6.48	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 29-34

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 29	BOTTOM DEPTH (feet bls): 34

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.70 Liters. (0.005 x 44) + 0.475 = 0.70

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 31.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 31.5	PURGING INITIATED AT: 1045	PURGING ENDED AT: 1104	TOTAL VOLUME PURGED (Liters):5.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1055	3.0	3.0	300.0	6.77	6.91	26.9	2820.0	1.20	0.40	-109.5	CLEAR
1100	1.5	4.5	|	6.77	6.92	26.9	2974.0	1.31	0.	-107.0	|
1104	1.2	5.7	300.0	6.77	6.92	26.9	2989.0	1.40	0	-106.5	Clear
1105	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: ROBERT Siegel / Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1105	SAMPLING ENDED AT:1110
PUMP OR TUBING DEPTH IN WELL (feet): 31.5	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T, HDPE, & S	
FIELD DECONTAMINATION: **(**Y**)** N	FIELD-FILTERED: Y **(**N**)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(**N**)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
145	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
145	2	CG	40ml	4°C			8260d	APP

REMARKS: black at start of sample purge
After sample total depth 34.50 ft from toc sump purge clear to clear 0.50 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0146	SAMPLE ID: **LC34-IW0146-018.0-20230419** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/19/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.30	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 13-23

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 13	BOTTOM DEPTH (feet bls): 23

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.64 Liters. (0.005 x 33) + 0.475 = 0.64

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.0	PURGING INITIATED AT: 1155	PURGING ENDED AT: 1224	TOTAL VOLUME PURGED (Liters): 8.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1205	3.0	3.0	300.0	5.35	7.17	25.7	2832.0	7.55/93.4%	1.97	-88.2	Clear
1210	1.5	4.5	|	5.35	7.17	25.9	2876.0	8.13	0.19	-91.5	|
1215	1.5	6.0	|	5.35	7.16	26.1	2884.0	8.18	0.10	-94.0	|
1220	1.5	7.5	|	5.35	7.16	26.3	2885.0	8.11	0.01	-95.7	|
1224	1.2	8.7	300.0	5.35	7.16	26.4	2890.0	8.09	0	-97.1	Clear
1225	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel /Tt	SAMPLER(S) SIGNATURES: Rob Siegel	SAMPLING INITIATED AT: 1225	SAMPLING ENDED AT:1230
PUMP OR TUBING DEPTH IN WELL (feet): 18.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T, HDPE, & S	
FIELD DECONTAMINATION: **(**Y**)** New	FIELD-FILTERED: Y **(**N**)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(**N**)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
146	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
146	2	CG	40 ml	4°C			8260d	APP

REMARKS: After sample total depth check 23.30 ft from toc sump purge clear to clear 0.20 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

SITE NAME: LC34	SITE LOCATION: Kennedy Space Center	
LOC ID: LC34-IW0147	SAMPLE ID: **LC34-IW0147-024.0-20230419** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **04/19/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.48	CASING HEIGHT (feet als): 0.5	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): 20-28

WELL DIAMETER (inches): 1.0	TUBING DIAMETER (inches): 3/16	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): 20	BOTTOM DEPTH (feet bls): 28

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.68 Liters. (0.005 x 38) + 0.475 = 0.68

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 24	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24	PURGING INITIATED AT: 1240	PURGING ENDED AT: 1309	TOTAL VOLUME PURGED (Liters): 1310

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1250	3.0	3.0	300.0	5.60	7.25	26.3	3331.0	9.26/116%	5.22	-104.0	Clear
1255	1.5	4.5	|	5.60	7.26	25.6	3345.0	9.40	1.16	-104.0	|
1300	1.5	6.0	|	5.60	7.26	26.1	3355.0	9.21	0.69	-101.0	|
1305	1.5	7.5	|	5.60	7.26	25.9	3356.0	8.77	0.59	-102.5	|
1309	1.2	8.7	300.0	5.60	7.26	25.7	3360.0	8.35/102%	0.46	-102.0	clear
1310	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.06

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel/Tt	SAMPLER(S) SIGNATURE(S): Rob Siegel	SAMPLING INITIATED AT: 1310	SAMPLING ENDED AT: 1315
PUMP OR TUBING DEPTH IN WELL (feet): 24.0	SAMPLE PUMP: FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T, HDPE, & S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE___ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
147	2	CG	40 ml	HCl/4°C	None	<2	8260d	APP
147	2	CG	40 ml	4°C			8260d	APP

REMARKS: after sample total depth check 28.0 ft from toc sump purge black to clear 0.40 gal
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Launch Complex 34 (LC34)
Project No.: 112G08985

[ ] Stream
[ ] Spring
[ ] Pond
[ ] Lake
[X] Other: Canal
[ ] QA Sample Type:

Sample ID No.: LC34-SW01001-000.5-202304
Sample Location: LC34-SW1001
Sampled By: Robert Siegel
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

		Color	pH	Cond.	Temp.	Turbidity	DO	ORP	Salinity
Date:	4/21/2023	(Visual)	(S.U.)	(µS/cm)	(^{0}C)	(NTU)	(mg/l)	(mV)	(ppt)
Time:	930								
Depth:	0.0-0.5	**Clear**	**7.51**	**2680**	**25.5**	**1.78**	**2.04**	**-118**	**1.28**
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
SW-846 8260B VOCs	HCL+Ice	2-40mL vials	X
8260d	Ice	2-40mL vials	

OBSERVATIONS / NOTES:

MAP:

See figure.

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Rob Siegel

Tetra Tech, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Launch Complex 34 (LC34)
Project No.: 112G08985

[ ] Stream
[ ] Spring
[ ] Pond
[ ] Lake
[X] Other: Canal
[ ] QA Sample Type:

Sample ID No.: LC34-SW01004-000.5-20230421
Sample Location: LC34-SW1002
Sampled By: Robert Siegel
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

		Color	pH	Cond.	Temp.	Turbidity	DO	ORP	Salinity
Date:	4/21.23	(Visual)	(S.U.)	(µS/cm)	(^{0}C)	(NTU)	(mg/l)	(mV)	(ppt)
Time:	1000								
Depth:	0-0.5	**Clear**	**7.28**	**2024**	**24.9**	**1.47**	**1.58**	**-128**	**1.03**
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
SW-846 8260B VOCs	HCL	3-40mL vials	X

OBSERVATIONS / NOTES:

MAP:

See figure.

Circle if Applicable:

MS/MSD
None

Duplicate ID No.: None

Signature(s):

Rob Siegel

Tetra Tech, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Launch Complex 34 (LC34)
Project No.: 112G08985

[ ] Stream
[ ] Spring
[ ] Pond
[ ] Lake
[X] Other: Canal
[ ] QA Sample Type:

Sample ID No.: LC34-SW01004-000.5-20230421
Sample Location: LC34-SW1004
Sampled By: Robert Siegel
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

		Color	pH	Cond.	Temp.	Turbidity	DO	ORP	Salinity
Date:	4/21/2023	(Visual)	(S.U.)	(µS/cm)	(^{0}C)	(NTU)	(mg/l)	(mV)	(ppt)
Time:	900								
Depth:	0-0.5								
Method:	Grab	Clear	7.9	3548	22.4	2.53	5.45	-94.8	1.,87

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
SW-846 8260B VOCs	HCL+ICE	2-40mL vials	X
8260d	ICE	2-40mL vials	X

OBSERVATIONS / NOTES:

MAP:

See figure

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Rob Siegel

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : KSC-NASA LC34 HS6

SITE NAME: LC34 HS6

PROJECT NO.: 112G08985

INSTRUMENT NAME/MODEL: YSI ProQuatro / LaMotte 2020t

MANUFACTURER: YSI / LaMotte

SERIAL NUMBER: **YSI s# 21d101766 / LaMotte s# 1914-4019**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.)			Cond. (µS/cm)	D.O. (mg/L)	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	7.03	*3.95*	10.02	1413	9.23	17.14	240	NA	0	9.89	***Lot # 210510d***	
4/17/2023	RSS pm ccv/cal-icv	*Post*	*X*	*X*	X	X	9.63	17.15	X	NA	X	X	***Exp. Date: 12/22***	pH = 4
		Pre	***X***	***X***	X	X	X	X	X	NA	X	X	***Lot # ogl758***	
4/18/2023	RSS pm ccv	*Post*	***7.11***	***4.03***	10.02	1425				NA			***Exp. Date: 12/22***	pH = 7
		Pre								NA			***Lot # 0gk984***	
	RSS am / pm ccv	*Post*								NA			***Exp. Date: 11/22***	pH = 10
		Pre											***Lot # 6151***	
	RSS am ccv/cal-icv	*Post*											***Exp. Date: 2/26***	Conductivity = 1413 µS/cm
		Pre											***Lot # 4801***	
	RSS pm ccv	*Post*											***Exp. Date: 11/24***	ORP = 238 mV
		Pre											***Lot # 21380129***	
	RSS am / pm ccv	*Post*											***Exp. Date: 4/23***	NTU=0
		Pre											***Lot # 22150177***	
	RSS am / pm ccv	*Post*											***Exp. Date: 5/23***	Ntu=10
		Pre												
		Post												
		Pre												
		Post												
		Pre												
		Post												

20

Location KSC NASA Date 4-17-23

Project / Client HS6 LC34

212ij Pb 01363 / 112 60 8985

overcast 0 to 5 mph 75°

Robert Siegel, Chris N Dan F Ronnie

0630 TT

0800 onsite Tailgate safety review with Chris N Dan F Ronnie gen review SOW

0900 start well locate

0945 light rain

1010 Pb 2 shut down Heavy Rain gen clean up w/ Trailers

1110 Pb 2 end gen set up restart locates

1230 all wells opened. start water levels

1300 Break 1330 onsite start water levels

1510 End water levels review with Chuck S gen clean store

1530 offsite 1616 TT

21

Location KSC NASA Date 4 17 23

Project / Client HS6 LC34

212ij Pb 01363 / 112 60 8985

Data Page

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Rite in the Rain

22

Location KSC NASA Date 4 18 23

Project / Client HSG LC34

212ig PB 01363 112 60 8985

Clear 0 wind

Robert Siegel Chris N Kyle H

0530 Cal Check

0615 TT 1716

0645 POL pickup supplies 1729

0700 TT

0715 onsite 1738 gen setup

Cal Check Tailgate

Safety with Chris N

Kyle Herd

0815 locate set up on iw 133

ref sample log

0915 Ice sample store water decon

End iw 133 setup start

iw 125 ref log

1015 Ice Sample Store water decon

End iw 125 setup start

iw 131

1115 Ice Sample store water decon

End iw 131 Setup start iw 132 ref Log

Location KSC NASA Date 4 18 23 23

Project / Client LC 34 HSG

212ig Pb 01363 / 112 60 8985

Clear 5 To 10 mph 75°

Robert Siegel

1200 Ice Sample Store water

decon End iw 132 locate

setup start iw 129 and 130

ref logs

1 Iced samples stored waters

decened End iw 129 and 130

1415 offsite 1615 onsite

restart Sampling setup start

iw 134 ref lg

1710 Ice Sample storewater decon

End iw 134 set up start

iw 139 Ref Log

1805 Ice Sample store water

decon setup start iw 140

Rite in the Rain

Location KSC NASA Date 4-18-23

Project / Client HS6 LC 34

212 ig Pb 01363 · 112G08985

Clear 0 wind 70°

Robert Siegel

1855 Ice sample store water decon End in 140

1915 update To Chuck

1920 offsite TT 1781

2015 Hotel 1812

Location KSC NASA Date 4-19-20

Project / Client HS6 LC34

212 ig Pb 01363 112G08985

Overcast 0 wind 62°

Robert Siegel

0600 Cal Checks

0630 TT 1812

0700 onsite POL 1825 pickup Ice check in with Chuck S

0730 onsite LC34 / 1834 gen setup

0800 setup start in 136 ref log

0825 YSI 556 screen Fail Stop sample

0830 offsite TT 1834 pickup YSI Pro meet with Chuck S

0900 onsite 1350 cal check setup start in 57° and S ref logs

1045 Samples Iced water Stored deconed End 57 inds

Rite in the Rain

Location KSC NASA Date 4 14 23

Project / Client HS6 LC34

212ig Pb 01363 / 112G08985

overcast 5 To 10 mph 75°

Robert Siegel

1050 setup start iw 141 ref log

1140 Ice sample store water decon End iw 141 Setup start iw 146 and 147 ref logs

1315 Ice samples store water decon ~~set up start iw 146 as~~ End iw 146 and 147 setup Cooler for Lab pick up sign/Hand off samples To Kyle H setup start iw 136 ref Log

1445 Ice Sample store water decon End iw 136 locate set up Start iw 127 ref log

Location KSC NASA Date 4·19·23

Project / Client HS6 LC34

212ig Pb 01363 / 112G0 8985

Clear 0 To 10 mph 80°

Robert Siegel

1535 Ice Sample store water decon End IW 1287 ~~ref logs~~ PS Setup Start IW 128 wL 2.66 Ref log Store all water at system pick up supplies

1710 Ice Sample store water decon End iw 128 Setup Start iw 142

1805 Ice Sample Store water decon End iw 142 Store all equipment Supplies water at system update Chuck S

1845 offsite 1850

1930 Hotel 1875

Rite in the Rain

Location KSC NASA Date 4 2023

Project / Client HS 6 LC 34

212ig Pb 01363 / 112 60 8985

Cloudy 0 to 5 mph 70°

Robert Siegel

0545 Cal Check

0615 TT

0645 onsite 1896 gen setup cal check

0720 setup start iw 124 ref log

0815 Ice sample store water decon End iw 124 setup start iw 108 ref logs

0910 Ice sample store water decon End iw 108 setup start iw 144 and 145 ref logs

1115 Samples Iced water stored decon End iw 144 and 145 ~~move all water to system~~ setup start iw 135 ref log

Location KSC NASA Date 4 2023

Project / Client HS6 LC34

212ig Pb 01363 / 112 60 8985

Some Clouds 0 to 5 mph 80°

Robert Siegel Dan F

Chris N Ron L Kyle H

1210 Ice sample store water decon End iw 135

Break for lunch

1310 onsite complete iw 135 setup start iw 143 ref log

1410 Ice sample store water decon End iw 143 setup start iw 123 ref log

1500 Ice sample store water decon meet Chris N Ron L Kyle H help relocate Sparge Manifold Trailer End Iw 123

1550 Setup Start iw 138 ref log

1630 Ice sample store water decon End iw 138 start iw 137 Ref log Open Review with Dan

Rite in the Rain

30

Location KSC NASA Date 4-20-23

Project / Client HS6 LC34

212y 06 01363 112608985

Some Clouds 0 to 5 mph 80°

Robert Steyer

1720 Ice sample store water decon End sw 137 Setup start sw 126 ref log

1820 Ice sample store water decon End sw 126 put all water in system Tmh gen decon store

1900 offsite 1896

1930 Break 1922

31

Location KSC NASA Date 4-21-23

Project / Client HS6 / LC34

212y 06 01363 / 112608985

Some Clouds 5 to 10 mph 70°

Robert Steyer Check S

0545 Cal load check out

0615 TT

0645 onsite gen set up cal check onsite Tailgate safety meet review SOW

0815 setup start sw 1004 ref log

0910 Ice sample decon End sw 1004 Setup start sw 1002 ref log

0940 Ice sample decon End sw 1002 setup start sw 1004 ref log

1010 Ice sample decon End sw 1002 gen decon store all equipment meet Don F and Check S gen review equipment swaps

1115 offsite 1943/1130 POC store gen

1145 TT

Rite in the Rain

32

Location KSC NASA Date 4-21-23

Project / Client LC39A HS6

2121g Pb 01363 112608985

Some Clouds 0 To 5 mph 83°

Robert Siegel

1145 TT

1200 onsite 1962 gen sign in locate well

1210 set up start work at. MW 24: screen 20 to 25 last Check at 20.20 WL 2.87 Flush Td 25.2 review with Try To pull xTra hose with wire none pump out with Large hose Brown To Clear M 1.0 Gal Full column cleared no catch review with Chuck S send Email To

1345 offsite 1963

1355 S16s store water

1400 TT

33

Location KSC NASA Date 4-21-23

Project / Client HS6 LC34

2121g Pb 01363 112608985

Some Clouds 0 To 5 mph 85°

Robert Siegel

1400 TT

1430 meet Lab for sample pick up 1975

1600 Break

Rite in the Rain

HS 6 PERFORMANCE MONITORING FIELD DOCUMENTATION
JULY 2023

Tetra Tech, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: Launch Complex 34 - Hot Spot 6 **Project No.:** 112G08985
Location: Kennedy Space Center (KSC), FL **Personnel:**
Weather Conditions: **Measuring Device:**
Tidally Influenced: Yes ____ No __X__ **Remarks:**

Well or Piezometer Number (LC34-)	Date	Time	Water Level Indicator Reading (feet)*	Screened Interval (feet)*	Elevation of Reference Point (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
IW0168	06/26/23	1557	1.63	17 to 27	5.33	NA		
IW0169	06/26/23	1556	1.74	30 to 35	5.44	NA		
IW0170	06/26/23	1554	1.33	17 to 27	4.92	NA		
IW0171	06/26/23	1555	1.39	30 to 35	5.01	NA		
IW0172	06/26/23	1552	1.16	17 to 27	4.60	NA		
IW0173	06/26/23	1551	1.08	30 to 35	4.62	NA		
IW0174	06/26/23	1548	2.66	16 to 21	5.97	NA		
IW0175	06/26/23	1547	3.08	30 to 35	6.39	NA		
IW0176	06/26/23	1546	4.01	16 to 21	7.2	NA		
IW0177	06/26/23	1549	1.30	16 to 21	4.78	NA		
IW0178	06/26/23	1552	1.00	16 to 21	4.49	NA		
IW0179	06/26/23	1604	1.52	17 to 27	5.27	NA		
IW0180	06/26/23	1605	1.51	30 to 35	5.27	NA		
IW0181	06/26/23	1606	3.69	17 to 27	7.47	NA		
IW0182	06/26/23	1607	3.59	30 to 35	7.39	NA		
IW0183	06/26/23	1608	4.10	17 to 27	7.88	NA		
IW0184	06/26/23	1609	4.07	30 to 35	7.85	NA		
IW0185	06/26/23	1603	1.63	16 to 21	5.22	NA		
IW0186	06/26/23	1610	1.45	16 to 21	5.1	NA		
IW0187	06/26/23	1413	2.59	16 to 21	6.3	NA		
IW0188				16 to 21	7.91	NA		

* All measurements to the nearest 0.01 foot

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0168**	SAMPLE ID: **LC34-IW0168-022.0-20230710** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/10/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.81	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **17 to 27**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **17**	BOTTOM DEPTH (feet bls): **27**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
8 Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.68 Liters (0.005 x 40) + 0.475 = 0.68

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 22.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 22.0	PURGING INITIATED AT: 11:06	PURGING ENDED AT: 11:16	TOTAL VOLUME PURGED (Liters): 2.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1112	1.2	1.2	200	1.97	7.11	27.9	743	0.20	3.54	-60.5	None
1114	0.4	1.6	200	1.97	7.09	27.8	745	0.21	7.60	-62.2	-
1116	0.4	2.0	200	1.97	7.09	28.0	744	0.22	6.78	-63.0	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1117	SAMPLING ENDED AT: 1122

PUMP OR TUBING DEPTH IN WELL (feet): 22.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0169**	SAMPLE ID: **LC34-IW0169-032.5-20230707** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/07/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.48	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **30 to 35**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **30**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.70 Liters (0.005 x 45) + 0.475 = 0.70

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 32.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 32.5	PURGING INITIATED AT: 13:06	PURGING ENDED AT: 13:18	TOTAL VOLUME PURGED (Liters): 2.4

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
13:14	1.6	1.6	200	2.50	7.80	27.7	1682	0.06	5.01	-248.0	None
13:16	0.4	2.0	200	2.50	7.80	27.7	1687	0.06	4.90	-253.6	-
13:18	0.4	2.4	200	2.50	7.81	27.6	1691	0.06	5.21	-255.4	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 13:19	SAMPLING ENDED AT: 13:24

PUMP OR TUBING DEPTH IN WELL (feet): 32.5	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**		SITE LOCATION: **Kennedy Space Center (KSC), Florida**
LOCATION ID: **IW0170**	SAMPLE ID: **LC34-IW0170-022.0-20230710** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/ 10/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.52	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **17 to 27**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **17**	BOTTOM DEPTH (feet bls): **27**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.68 Liters (0.005 x 40) + 0.475 = 0.68

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 22.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 22.0	PURGING INITIATED AT: 11:50	PURGING ENDED AT: 12:01	TOTAL VOLUME PURGED (Liters): 2.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
11:56	1.2	1.2	200	1.62	6.81	25.7	3124	0.16	3.87	-13.0	None
11:58	0.4	1.6	200	1.62	6.81	25.7	3115	0.16	2.76	-14.4	-
12:00	0.4	2.0	200	1.62	6.81	25.6	3156	0.16	2.59	-15.0	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 12:01	SAMPLING ENDED AT: 12:06
PUMP OR TUBING DEPTH IN WELL (feet): 22.0	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0171**	SAMPLE ID: **LC34-IW0171-032.5-20230710** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/10/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.60	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **30 to 35**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **30**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.70 Liters (0.005 x 45) + 0.475 = 0.70

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 32.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 32.5	PURGING INITIATED AT: 12:01	PURGING ENDED AT: 12:10	TOTAL VOLUME PURGED (Liters): 3.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
12:06	1.8	1.8	300	1.75	7.48	26.2	1792	0.14	15.2	-102.2	None
12:08	0.6	2.4	300	1.75	7.49	26.3	1788	0.13	8.80	-112.3	-
12:10	0.6	3.0	300	1.75	7.49	26.3	1784	0.13	9.20	-117.7	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 12:11	SAMPLING ENDED AT: 12:16
PUMP OR TUBING DEPTH IN WELL (feet): 32.5	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0172**	SAMPLE ID: **LC34-IW0172-022.0-20230710** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/ 10/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.42	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **17 to 27**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **17**	BOTTOM DEPTH (feet bls): **27**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.68 Liters (0.005 x 40) + 0.475 = 0.68

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 22.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 22.0	PURGING INITIATED AT: 1020	PURGING ENDED AT: 1032	TOTAL VOLUME PURGED (Liters): 3.6

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1028	2.4	2.4	300	2.52	7.07	26.2	860	0.15	3.51	-34.7	None
1030	0.6	3.0	300	2.52	7.08	26.1	866	0.14	3.09	-35.3	-
1032	0.6	3.6	300	2.52	7.08	26.1	899	0.14	3.04	-36.2	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: NatalE Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1032	SAMPLING ENDED AT: 1037
PUMP OR TUBING DEPTH IN WELL (feet): 22.0	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0173**	SAMPLE ID: **LC34-IW0173-032.5-20230710** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/ 10/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.45	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **30 to 35**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **30**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.70 Liters (0.005 x 45) + 0.475 = 0.70

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 32.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 32.5	PURGING INITIATED AT: 1040	PURGING ENDED AT: 1052	TOTAL VOLUME PURGED (Liters): 3.6

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1048	2.4	2.4	300	2.65	7.45	26.4	1864	0.11	1.43	-156.7	None
1050	0.6	3.0	300	2.65	7.45	26.5	1863	0.11	1.60	-161.1	-
1052	0.6	3.6	300	2.65	7.46	26.5	1862	0.12	1.21	-162.8	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1053	SAMPLING ENDED AT: 1058

PUMP OR TUBING DEPTH IN WELL (feet): 32.5	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0174**	SAMPLE ID: **LC34-IW0174-018.5-20230710** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/10/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.01	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **16 to 21**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **16**	BOTTOM DEPTH (feet bls): **21**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.65 Liters (0.005 x 35) + 0.475 = 0.65

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	PURGING INITIATED AT: 9:34	PURGING ENDED AT: 9:44	TOTAL VOLUME PURGED (Liters): 2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
9:40	1.2	1.2	200	3.10	6.53	26.3	2040	0.19	1.86	-34.4	none
9:42	0.4	1.6	200	3.10	6.53	26.3	2017	0.19	1.65	-35.1	-
9:44	0.4	2.0	200	3.10	6.53	26.3	2014	0.19	1.24	-35.3	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 9:45	SAMPLING ENDED AT: 9:50
PUMP OR TUBING DEPTH IN WELL (feet): 18.5	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE00 NAME: **Launch Complex 34 (LC34)**		SITE LOCATION: **Kennedy Space Center (KSC), Florida**
LOCATION ID: **IW0175**	SAMPLE ID: **LC34-IW0175-032.5-20230710** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/10/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.44	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **30 to 35**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **30**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.70 Liters (0.005 x 45) + 0.475 = 0.70

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 32.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 32.5	PURGING INITIATED AT: 9:15	PURGING ENDED AT: 9:26	TOTAL VOLUME PURGED (Liters): 2.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
9:22	1.4	1.4	200	3.84	7.07	26.2	2110	0.18	1.64	-136.2	none
9:24	0.4	1.8	200	3.84	7.08	26.2	2085	0.18	1.75	-138.8	-
9:26	0.4	2.2	200	3.84	7.12	26.1	2095	0.21	2.91	-140.6	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 9:27	SAMPLING ENDED AT: 9:32
PUMP OR TUBING DEPTH IN WELL (feet): 32.5	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS: TD = 35.06' BTOC

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0176**	SAMPLE ID: **LC34-IW0176-018.5-20230710** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/10/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.35	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 4.35	WELL SCREEN INTERVAL DEPTH (feet bls): **16 to 21**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **16**	BOTTOM DEPTH (feet bls): **21**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.65 Liters (0.005 x 35) + 0.475 = 0.65

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	PURGING INITIATED AT: 15:26	PURGING ENDED AT: 15:42	TOTAL VOLUME PURGED (Liters): 3.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
15:36	2.0	2.0	200	4.42	6.84	27.0	4870	0.08	3.58	-20.6	None
15:38	0.4	2.4	200	4.42	6.85	27.0	5159	0.08	2.33	-20.6	-
15:40	0.4	2.8	200	4.42	6.86	26.8	5207	0.08	2.06	-21.0	-
15:42	0.4	3.2	200	4.42	6.86	26.9	5224	0.08	2.07	-21.5	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 15:43	SAMPLING ENDED AT: 15:48
PUMP OR TUBING DEPTH IN WELL (feet): 18.5	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0177**	SAMPLE ID: **LC34-IW0177-018.5-20230710** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/10/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.69	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **16 to 21**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **16**	BOTTOM DEPTH (feet bls): **21**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.65 Liters (0.005 x 35) + 0.475 = 0.65

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	PURGING INITIATED AT: 9:57	PURGING ENDED AT: 10:08	TOTAL VOLUME PURGED (Liters):

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
10:04	2.1	2.1	300	1.71	6.65	27.4	3388	0.21	3.39	-2.2	none
10:06	0.6	2.7	300	1.71	6.65	27.3	3397	0.24	3.91	-3.7	-
10:08	0.6	3.3	300	1.71	6.65	27.3	3407	0.35	6.8	-4.8	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 10:10	SAMPLING ENDED AT: 10:15
PUMP OR TUBING DEPTH IN WELL (feet): 18.5	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0178**	SAMPLE ID: **LC34-IW0178-018.5-2023** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/ 10/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.11	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **16 to 21**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **16**	BOTTOM DEPTH (feet bls): **21**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.65 Liters (0.005 x 35) + 0.475 = 0.65

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	PURGING INITIATED AT: 11:28	PURGING ENDED AT: 11:38	TOTAL VOLUME PURGED (Liters): 2.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
11:34	1.2	1.2	200	1.32	6.92	25.9	1192	0.19	1.99	-48.0	None
11:36	0.4	1.6	200	1.32	6.96	25.9	1229	0.19	1.96	-47.9	-
11:38	0.4	2.0	200	1.32	6.92	25.9	1260	0.19	1.79	-47.1	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 11:39	SAMPLING ENDED AT: 11:44
PUMP OR TUBING DEPTH IN WELL (feet): 18.5	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0179**	SAMPLE ID: **LC34-IW0179-022.0-20230710** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/10/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.89	CASING HEIGHT (feet als):	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **17 to 27**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **17**	BOTTOM DEPTH (feet bls): **27**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.68 Liters (0.005 x 40) + 0.475 = 0.68

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 22.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 22.0	PURGING INITIATED AT: 13:28	PURGING ENDED AT: 13:44	TOTAL VOLUME PURGED (Liters): 3.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
13:38	2.0	2.0	200	1.92	6.99	27.9	758	0.18	5.30	-50.2	None
13:40	0.4	2.4	200	1.92	6.98	27.5	758	0.09	2.40	-55.5	-
13:42	0.4	2.8	200	1.92	6.97	27.7	755	0.10	2.08	-56.5	-
13:44	0.4	3.2	200	1.92	7.00	27.7	758	0.09	2.09	-56.9	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 13:45	SAMPLING ENDED AT: 13:40
PUMP OR TUBING DEPTH IN WELL (feet): 22.0	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0180**	SAMPLE ID: **LC34-IW0180-032.5-20230710** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: 07/10/**2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.88	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **30 to 35**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **30**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.70 Liters (0.005 x 45) + 0.475 = 0.70

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 32.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 32.5	PURGING INITIATED AT: 13:52	PURGING ENDED AT: 14:04	TOTAL VOLUME PURGED (Liters): 3.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
13:58	2.0	2.0	200	1.95	7.54	28.0	1379	0.07	2.95	-70.2	None
14:00	0.4	2.4	200	1.95	7.54	28.3	1378	0.09	2.42	-72.2	-
14:02	0.4	2.8	200	1.95	7.52	28.3	1393	0.08	2.16	-75.6	-
14:04	0.4	3.2	200	1.95	7.52	28.2	1412	0.09	1.98	-79.2	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 14:05	SAMPLING ENDED AT: 14:10
PUMP OR TUBING DEPTH IN WELL (feet): 32.5	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0181**	SAMPLE ID: **LC34-IW0181-022.0-20230710** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/ 10/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.01	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **17 to 27**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **17**	BOTTOM DEPTH (feet bls): **27**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.68 Liters (0.005 x 40) + 0.475 = 0.68

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 22.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 22.0	PURGING INITIATED AT: 12:40	PURGING ENDED AT: 12:52	TOTAL VOLUME PURGED (Liters): 2.4

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
12:48	1.6	1.6	200	4.09	7.06	27.1	588	0.13	2.47	-70.4	None
12:50	0.4	2.0	200	4.09	7.06	27.0	578	0.14	1.82	-65.7	-
12:52	0.4	2.4	200	4.09	7.06	27.0	587	0.13	5.96	-63.0	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 12:53	SAMPLING ENDED AT: 12:58
PUMP OR TUBING DEPTH IN WELL (feet): 22.0	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**		SITE LOCATION: **Kennedy Space Center (KSC), Florida**
LOCATION ID: **IW0182**	SAMPLE ID: **LC34-IW0182-032.5-20230710** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/ 10/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.92	CASING HEIGHT (feet als):	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **30 to 35**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **30**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.70 Liters (0.005 x 45) + 0.475 = 0.70

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 32.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 32.5	PURGING INITIATED AT: 13:00	PURGING ENDED AT: 13:11	TOTAL VOLUME PURGED (Liters): 3.3

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
13:05	1.5	1.5	300	4.06	7.53	27.1	1051	0.13	4.04	-40.9	None
13:07	0.6	2.1	300	4.06	7.54	26.9	1053	0.13	3.33	-44.9	-
13:09	0.6	2.7	300	4.06	7.54	26.9	1069	0.13	3.09	-45.7	-
13:11	0.6	3.3	300	4.06	7.54	26.9	1067	0.13	2.67	-46.3	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 13:12	SAMPLING ENDED AT: 13:17

PUMP OR TUBING DEPTH IN WELL (feet): 32.5	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0183**	SAMPLE ID: **LC34-IW0183-022.0-20230710** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/10/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.44	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 4.44	WELL SCREEN INTERVAL DEPTH (feet bls): **17 to 27**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **17**	BOTTOM DEPTH (feet bls): **27**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.68 Liters (0.005 x 40) + 0.475 = 0.68

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 22.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 22.0	PURGING INITIATED AT: 14:22	PURGING ENDED AT: 14:32	TOTAL VOLUME PURGED (Liters): 2.4

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
14:28	1.2	1.2	300	4.50	6.92	26.8	720	0.09	15.0	-43.2	None
14:30	0.6	1.8	300	4.50	6.92	26.7	712	0.09	7.32	-43.2	-
14:32	0.6	2.4	300	4.50	6.92	26.8	712	0.09	5.03	-43.2	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 14:33	SAMPLING ENDED AT: 14:38
PUMP OR TUBING DEPTH IN WELL (feet): 22.0	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0184**	SAMPLE ID: **LC34-IW0184-032.5-20230710** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/10/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.48	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 4.48	WELL SCREEN INTERVAL DEPTH (feet bls): **30 to 35**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **30**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.70 Liters (0.005 x 45) + 0.475 = 0.70

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 32.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 32.5	PURGING INITIATED AT: 14:38	PURGING ENDED AT: 14:48	TOTAL VOLUME PURGED (Liters): 3.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
14:42	1.2	1.2	300	4.63	7.59	26.7	920	0.10	11.8	-39.1	None
14:44	0.6	1.8	300	4.63	7.57	27.0	939	0.09	5.04	-42.5	-
14:46	0.6	2.4	300	4.63	7.55	27.1	948	0.09	4.99	-44.3	-
14:48	0.6	3.0	300	4.63	7.55	27.1	988	0.09	4.80	-45.6	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 14:49	SAMPLING ENDED AT: 14:54
PUMP OR TUBING DEPTH IN WELL (feet): 32.5	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0185**	SAMPLE ID: **LC34-IW0185-018.5-20230710** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/10/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.90	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 1.90	WELL SCREEN INTERVAL DEPTH (feet bls): **16 to 21**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **16**	BOTTOM DEPTH (feet bls): **21**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.65 Liters (0.005 x 35) + 0.475 = 0.65

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	PURGING INITIATED AT: 15:00	PURGING ENDED AT: 15:13	TOTAL VOLUME PURGED (Liters): 3.6

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
15:08	2.4	2.4	300	2.01	6.93	28.0	693	0.12	6.22	-21.9	None
15:10	0.6	3.0	300	2.01	6.93	27.8	697	0.10	5.75	-26.3	-
15:12	0.6	3.6	300	2.01	6.94	27.9	699	0.09	4.97	-27.6	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 15:13	SAMPLING ENDED AT: 15:18
PUMP OR TUBING DEPTH IN WELL (feet): 18.5	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0186**	SAMPLE ID: **LC34-IW0186-018.5-202307072023** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/07/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.93	CASING HEIGHT (feet als):	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **16 to 21**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **16**	BOTTOM DEPTH (feet bls): **21**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.63 Liters (0.005 x 31) + 0.475 = 0.65

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	PURGING INITIATED AT: 12:28	PURGING ENDED AT: 12:44	TOTAL VOLUME PURGED (Liters): 3.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1238	2.0	2.0	200	1.95	7.13	28.8	734	0.10	10.16	-117	None
12:40	0.4	2.4	200	1.95	7.12	28.4	728	0.11	9.10	-115	-
12:42	0.4	2.8	200	1.95	7.12	28.5	775	0.10	6.43	-115	-
12:44	0.4	3.2	200	1.95	7.12	28.5	775	0.1	6.14	-115	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 12:45	SAMPLING ENDED AT: 12:50
PUMP OR TUBING DEPTH IN WELL (feet): 18.5	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**	SITE LOCATION: **Kennedy Space Center (KSC), Florida**	
LOCATION ID: **IW0187**	SAMPLE ID: **LC34-IW0187-018.5-20230707** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/07/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.07	CASING HEIGHT (feet als):	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **16 to 21**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **16**	BOTTOM DEPTH (feet bls): **21**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.65 Liters (0.005 x 35) + 0.475 = 0.65

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	PURGING INITIATED AT: 11:56	PURGING ENDED AT: 1210	TOTAL VOLUME PURGED (Liters): 2.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1206	2.0	2.0	200	3.22	7.35	26.2	988	0.08	4.51	-135.4	None
1208	0.4	2.4	200	3.22	7.36	26.1	984	0.08	5.33	-135.9	-
1210	0.5	2.8	200	3.22	7.36	26.1	1000	0.08	6.22	-135.7	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri/Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:12:11	SAMPLING ENDED AT: 12:16

PUMP OR TUBING DEPTH IN WELL (feet): 18.5	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Launch Complex 34 (LC34)**		SITE LOCATION: **Kennedy Space Center (KSC), Florida**
LOCATION ID: **IW0188**	SAMPLE ID: **LC34-IW0188-018.5-20230707** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **07/0/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.64	CASING HEIGHT (feet als):	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **16 to 21**

WELL DIAMETER (inches): **1**	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **16**	BOTTOM DEPTH (feet bls): **21**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.65 Liters (0.005 x 35) + 0.475 = 0.65

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	PURGING INITIATED AT: 11:32	PURGING ENDED AT: 11:40	TOTAL VOLUME PURGED (Liters): 1.6

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
11:36	0.8	0.8	200	4.76	7.26	27.3	3124	0.08	6.70	-140.5	None
11:38	0.4	1.2	200	4.77	7.32	27.2	3069	0.08	5.36	-147.5	-
11:40	0.4	1.6	200	4.77	7.35	27.1	3032	0.08	4.78	-150.2	-

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Natalie Volk & Fabbri /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 11:42	SAMPLING ENDED AT: 11:47
PUMP OR TUBING DEPTH IN WELL (feet): 18.5	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: _____	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	HCl/4°C	NONE	<2	8260 (MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NONE	See Above	8260 (MOD) NASA LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : Launch Complex 34
SITE NAME: LC34
PROJECT NO.: 112G08985

INSTRUMENT NAME/MODEL YSI, ProQuatro. /. LaMotte 2020t
MANUFACTURER: YSI. / LaMotte
SERIAL NUMBER: **YSI s# 21D101770 LaMotte s#2650**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)	pH (S.U.)				Cond. (µS/cm)	D.O. (mg/L)	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*7.00*	*4.00*	10.00	1413	10.61	23.3	223	NA	0.06	7.2	***Lot # CO923A***	
7/10/2023	NAV	***Post***											***Exp. Date:***	pH = 4
													Lot # CO623D	
													Exp. Date:	pH = 7
													Lot # G1122C	
													Exp. Date: 01/24	pH = 10
													Lot # 8199	
													Exp. Date: 10/27	Conductivity = 1413 µS/cm
													Lot # 21K100461	
													Exp. Date:	ORP = 238 mV
													Lot #	
													Exp. Date:	NTU=0
													Lot #	
													Exp. Date:	Ntu=10

07/07/2023 LC34 112G08985

Personnel:	Natalie Fabbri	(NF)	Env. Scientist	Tt
	Natalie Volk	(NV)	engineer	Tt

Weather: Sunny and 80°F
PPE: Level D
Objective: Complete LC34 GW monitoring event

1005 met with Dan		
1115 arrived at LC34		
1130 Purging IW0188		
1142 Sample Collected	LC34-IW0188-018.5-20230707	8260 (MOD) NASA LC34
1155 purging IW0187		
1211 Sample collected	LC34-IW0187-018.5-20230707	8260 (MOD) NASA LC34
1228 Purging IW0186		
1245 Sample Collected	LC34-IW0186-018.5-20230707	8260 (MOD) NASA LC34
1306 Purging IW0169		
1319 Sample Collected	LC34-IW0169-032.5-20230707	8260 (MOD) NASA LC34
1325 phase 2		
1330 qa/qc, dump idw		
1445 dropped off samples		
1515 offsite		

07/10/2023 LC34 112G08985

Personnel:	Natalie Fabbri	(NF)	Env. Scientist	Tt
	Natalie Volk	(NV)	engineer	Tt

Weather: Sunny and 80°F
PPE: Level D
Objective: Complete LC34 GW monitoring event
0700 NV NF Arrived onsite.
7005 calibrating, gathering supplies, getting carts for sampling.

0915 purging IW0175		
0927 Sample Collected	LC34-IW0175-032.5-20230710	8260 (MOD) NASA LC34
0934 Purging IW0174		
0945 Sample Collected	LC34-IW0174-018.5-20230710	8260 (MOD) NASA LC34
0955 Purging IW0177		
1010 Sample collected	LC34-IW0177-018.5-20230710	8260 (MOD) NASA LC34
1020 Purging IW0172		
1035 Sample Collected	LC34-IW0172-022.0-20230710	8260 (MOD) NASA LC34
1040 Purging IW0713		
1053 Sample Collected	LC34-IW0173-032.5-20230710	8260 (MOD) NASA LC34
1106 Purging IW0168		
1117 Sample collected	LC34-IW0168-022.0-20230710	8260 (MOD) NASA LC34
1128 Purging IW0178		
1139 Sample Collected	LC34-IW0178-018.5-20230710	8260 (MOD) NASA LC34
1150 Purging IW0170		
1201 Sample Collected	LC34-IW0170-022.0-20230710	8260 (MOD) NASA LC34
1201 Purging IW0171		
1211 Sample Collected	LC34-IW0171-032.5-20230710	8260 (MOD) NASA LC34
1240 Purging IW0181		
1253 sample collected	LC34-IW0181-022.0-20230710	8260 (MOD) NASA LC34
1300 Purging IW0182		
1312 Sample Collected	LC34-IW0182-032.5-20230710	8260 (MOD) NASA LC34
1328 Purging IW0179		
1345 Sample Collected	LC34-IW0179-022.0-20230710	8260 (MOD) NASA LC34
1352 Purging IW0180		
1405 Sample Collected	LC34-IW0180-032.5-20230710	8260 (MOD) NASA LC34
1422 Purging IW0183		
1433 Sample Collected	LC34-IW0183-022.0-20230710	8260 (MOD) NASA LC34
1438 Purging IW0184		
1449 Sample Collected	LC34-IW0184-032.5-20230710	8260 (MOD) NASA LC34
1500 Purging IW0185		
1513 Sample Collected	LC34-IW0185-018.5-20230710	8260 (MOD) NASA LC34
1526 Purging IW0176		
1546 Sample Collected	LC34-IW0176-018.5-20230710	8260 (MOD) NASA LC34

1600 qa/qc at LC34

HS 6 PERFORMANCE MONITORING FIELD DOCUMENTATION
NOVEMBER 2023

Tetra Tech, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: Launch Complex 34 - Hot Spot 6 **Project No.:** 112G08985
Location: Kennedy Space Center (KSC), FL **Personnel:** CS / NV
Weather Conditions: **Measuring Device:**
Tidally Influenced: Yes ____ No __X__ **Remarks:**

Well or Piezometer Number	Date	Time	Water Level Indicator Reading (feet)*	Total Well Depth (feet)*	Elevation of Reference Point (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
HS6-IW0057I	11/27/23	1449	6.76	28		NA		
HS6-IW0057S	11/27/23	1448	6.76	11		NA		
HS6-IW0108	11/27/23	1437	4.42	28		NA		
HS6-IW0123	11/27/23	1457	3.69	28		NA		
HS6-IW0124	11/27/23	1439	2.1	23		NA		
HS6-IW0125	11/27/23	1413	1.12	23		NA		
HS6-IW0126	11/27/23	1506	0.39	28		NA		
HS6-IW0127	11/27/23	1444	3.1	28		NA		
HS6-IW0128	11/27/23	1442	1.49	23		NA		
HS6-IW0129	11/27/23	1434	2.86	23		NA		
HS6-IW0130	11/27/23	1435	2.73	28		NA		
HS6-IW0131	11/27/23	1433	2.22	23		NA		
HS6-IW0132	11/27/23	1432	2.24	23		NA		
HS6-IW0133	11/27/23	1411	1.71	23		NA		
HS6-IW0134	11/27/23	1514	0.93	28		NA		
HS6-IW0135	11/27/23	1513	1.96	28		NA		
HS6-IW0136	11/27/23	1512	3.45	28		NA		
HS6-IW0137	11/27/23	1510	3.15	28		NA		
HS6-IW0138	11/27/23	1509	3.18	34		NA		
HS6-IW0139	11/27/23	1503	0.71	23		NA		
HS6-IW0140	11/27/23	1502	0.80	28		NA		
HS6-IW0141	11/27/23	1505	2.29	28		NA		
HS6-IW0142	11/27/23	1447	2.78	28		NA		
HS6-IW0143	11/27/23	1501	1.36	28		NA		
HS6-IW0144	11/27/23	1454	4.53	28		NA		
HS6-IW0145	11/27/23	1455	4.66	34		NA		
HS6-IW0146	11/27/23	1452	3.69	23		NA		
HS6-IW0147	11/27/23	1453	3.81	28		NA		

* All measurements to the nearest 0.01 foot

Tetra Tech, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: Launch Complex 34 - Hot Spot 6 **Project No.:** 112G08985
Location: Kennedy Space Center (KSC), FL **Personnel:** CS / NV
Weather Conditions: **Measuring Device:**
Tidally Influenced: Yes ____ No __X__ **Remarks:**

Well or Piezometer Number (LC34-)	Date	Time	Water Level Indicator Reading (feet)*	Screened Interval (feet)*	Elevation of Reference Point (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
IW0168	11/27/23	1526	1.37	17 to 27	5.33	NA		
IW0169	11/27/23	1527	1.52	30 to 35	5.44	NA		
IW0170	11/27/23	1524	1.05	17 to 27	4.92	NA		
IW0171	11/27/23	1525	1.15	30 to 35	5.01	NA		
IW0172	11/27/23	1521	0.86	17 to 27	4.60	NA		
IW0173	11/27/23	1520	0.88	30 to 35	4.62	NA		
IW0174	11/27/23	1518	2.31	16 to 21	5.97	NA		
IW0175	11/27/23	1517	2.76	30 to 35	6.39	NA		
IW0176	11/27/23	1516	3.61	16 to 21	7.2	NA		
IW0177	11/27/23	1519	1.03	16 to 21	4.78	NA		
IW0178	11/27/23	1521	0.65	16 to 21	4.49	NA		
IW0179	11/27/23	1529	1.28	17 to 27	5.27	NA		
IW0180	11/27/23	1530	1.28	30 to 35	5.27	NA		
IW0181	11/27/23	1535	3.40	17 to 27	7.47	NA		
IW0182	11/27/23	1534	3.32	30 to 35	7.39	NA		
IW0183	11/27/23	1532	3.85	17 to 27	7.88	NA		
IW0184	11/27/23	1531	3.81	30 to 35	7.85	NA		
IW0185	11/27/23	1528	1.31	16 to 21	5.22	NA		
IW0186	11/27/23	1533	1.08	16 to 21	5.1	NA		
IW0187	11/27/23	1537	2.19	16 to 21	6.3	NA		
IW0188	11/27/23	1538	3.76	16 to 21	7.91	NA		

* All measurements to the nearest 0.01 foot

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0057S	Sample ID: LC34-IW0057S-007.3-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 6.80	Casing Height (ft als): 3.3	Static Depth to Water (ft bls) = DTW -Casing Height: 3.5	Well Screen Interval Depth (ft bls): 1 to 11		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 0	Bottom Depth: 11	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

1.125 Liters 0 - 3.5 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.425 = vol x3 **0.475** Liters 0 + 0.005 X + 0.475

Initial Pump or Tubing Depth in Well (feet): 7.25	Final Pump or Tubing Depth in Well (feet): 7.3	Purging Initiated At: 9:20	Purging Ended At: 9:34	Total Vol. Purged (Liters): 2.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:30	2	2	200	6.84	7.12	24.4	2420	0.85	8.35	-42.1	Clear
9:32	0.4	2.4	200	6.84	7.12	24.6	2367	0.92	7.5	-15.3	Clear
9:34	0.4	2.8	200	6.84	7.12	24.6	2354	0.92	7.11	-17.4	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 9:35	Sampling Ended At: 9:40
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 7.3	Sample Pump Flow Rate (mL per minute):	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0057I	Sample ID: LC34-IW0057I-025.5-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 6.72	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 6.72		Well Screen Interval Depth (ft bls): 23 to 28	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 23	Bottom Depth: 28	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.192 Liters 23 - 6.72 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

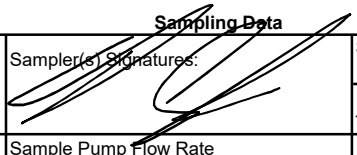
Initial Pump or Tubing Depth in Well (feet): 25.5	Final Pump or Tubing Depth in Well (feet): 25.5	Purging Initiated At: 9:00	Purging Ended At: 9:14	Total Vol. Purged (Liters): 2.8

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:10	2	2	200	7.58	7.00	24.7	5280	0.25	0.86	-77.7	Clear
9:12	0.4	2.4	200	7.58	6.99	24.8	5257	0.23	4.19	-93.1	Clear
9:14	0.4	2.8	200	7.58	6.99	24.7	5229	0.22	1.52	-98.4	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 9:15	Sampling Ended At: 9:20
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 25.5	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0108	Sample ID: LC34-IW0108-024.0-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 4.40	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 4.4	Well Screen Interval Depth (ft bls): 20 to 28		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 20	Bottom Depth: 28	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.54 Liters 20 - 4.4 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

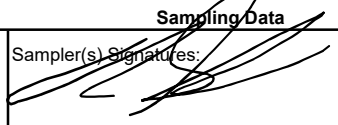
Initial Pump or Tubing Depth in Well (feet): 24	Final Pump or Tubing Depth in Well (feet): 24	Purging Initiated At: 11:35	Purging Ended At: 12:07	Total Vol. Purged (Liters): 6.4	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:45	2	2	200	4.61	7.29	23.5	5459	3.48	0.42	10.7	Clear
11:55	2	4	200	4.61	7.30	23.5	5468	3.13	6.51	21.0	Clear
12:05	2	6	200	4.61	7.30	23.4	5460	3.05	6.03	26.1	Clear
12:07	0.4	6.4	200	4.61	7.30	23.4	5434	2.98	4.19	28.0	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 12:10	Sampling Ended At: 12:15
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 24	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID: High D.O. From air sparging. All parameters stable. Sampled per FS2212

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0123	Sample ID: LC34-IW0123-024.0-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 3.75	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 3.75	Well Screen Interval Depth (ft bls): 20 to 28		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 20	Bottom Depth: 28	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.6375 Liters 20 - 3.75 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

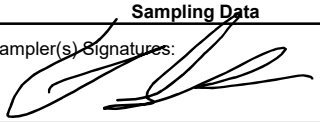
Initial Pump or Tubing Depth in Well (feet): 24	Final Pump or Tubing Depth in Well (feet): 24	Purging Initiated At: 12:15	Purging Ended At: 12:29	Total Vol. Purged (Liters): 2.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
12:25	2	2	200	3.93	6.94	25.4	9862	0.26	13.55	-40.5	Clear
12:27	0.4	2.4	200	3.93	6.94	25.3	9853	0.22	15.15	-42.6	Clear
12:29	0.4	2.8	200	3.93	6.94	25.3	9928	0.18	18.56	-46.1	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 12:30	Sampling Ended At: 12:35
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 24	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0124	Sample ID: LC34-IW0124-018.0-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.14	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.14		Well Screen Interval Depth (ft bls): 13 to 23	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 13	Bottom Depth: 23	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.129 Liters 13 - 2.14 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.92 = vol x3 **0.64** Liters 0 + 0.005 X 33 + 0.475

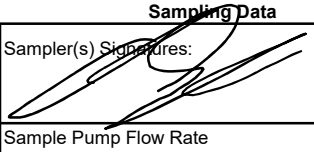
Initial Pump or Tubing Depth in Well (feet): 18	Final Pump or Tubing Depth in Well (feet): 18	Purging Initiated At: 12:20	Purging Ended At: 12:44	Total Vol. Purged (Liters): 4.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
12:30	2	2	200	2.18	7.14	23.2	3704	1.88	22.5	38.5	Cloudy
12:40	2	4	200	2.18	7.12	23.2	3241	1.64	17.43	44.9	Clear
12:42	0.4	4.4	200	2.18	7.12	23.2	3272	1.60	17.65	45.8	Clear
12:44	0.4	4.8	200	2.18	7.11	23.2	3290	1.58	14.28	46.1	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 12:45	Sampling Ended At: 12:50
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 18	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0125	Sample ID: LC34-IW0125-018.0-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.17	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.17		Well Screen Interval Depth (ft bls): 13 to 23	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 13	Bottom Depth: 23	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.2745 Liters 13 - 1.17 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.92 = vol x3 **0.64** Liters 0 + 0.005 X 33 + 0.475

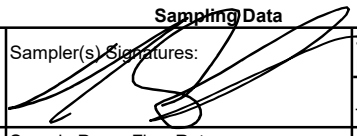
Initial Pump or Tubing Depth in Well (feet): 18	Final Pump or Tubing Depth in Well (feet): 18	Purging Initiated At: 9:20	Purging Ended At: 9:35	Total Vol. Purged (Liters): 3

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:30	2	2	200	1.19	7.05	23.4	9328	0.19	0.19	-84.5	Clear
9:32	0.4	2.4	200	1.19	7.05	23.2	9305	0.18	0.02	-84.8	Clear
9:35	0.6	3	200	1.19	7.05	23.3	9281	0.18	0.61	-86.6	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 9:40	Sampling Ended At: 9:45
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 18	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0126	Sample ID: LC34-IW0126-024.0-20231130		Date: 11/30/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 0.50	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 0.5	Well Screen Interval Depth (ft bls): 20 to 28		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 20	Bottom Depth: 28	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

4.125 Liters 20 - 0.5 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

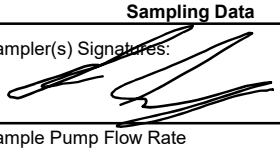
Initial Pump or Tubing Depth in Well (feet): 24	Final Pump or Tubing Depth in Well (feet): 24	Purging Initiated At: 10:35	Purging Ended At: 10:49	Total Vol. Purged (Liters): 2.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:45	2	2	200	0.61	7.19	23.5	2398	0.13	14.79	-148.0	Clear
10:47	0.4	2.4	200	0.61	7.19	23.5	2391	0.13	16.01	-148.2	Clear
10:49	0.4	2.8	200	0.61	7.19	23.5	2415	0.13	15.7	-148.6	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 10:50	Sampling Ended At: 10:55
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 24	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0127	Sample ID: LC34-IW0127-024.0-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 3.11	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 3.11		Well Screen Interval Depth (ft bls): 20 to 28	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 20	Bottom Depth: 28	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.7335 Liters 20 - 3.11 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

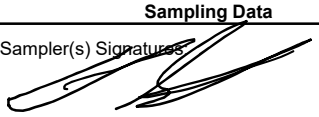
Initial Pump or Tubing Depth in Well (feet): 24	Final Pump or Tubing Depth in Well (feet): 24	Purging Initiated At: 13:20	Purging Ended At: 13:34	Total Vol. Purged (Liters): 2.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
13:30	2	2	200	3.23	7.11	23.6	2465	0.16	13.51	9.2	Clear
13:32	0.4	2.4	200	3.23	7.10	23.6	2465	0.15	9.62	12.5	Clear
13:34	0.4	2.8	200	3.23	7.10	23.5	2473	0.13	15.63	16.6	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 13:35	Sampling Ended At: 13:40
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 24	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type: 7

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0128	Sample ID: LC34-IW0128-018.0-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.43	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.43	Well Screen Interval Depth (ft bls): 13 to 23		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 13	Bottom Depth: 23	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.2355 Liters 13 - 1.43 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.92 = vol x3 **0.64** Liters 0 + 0.005 X 33 + 0.475

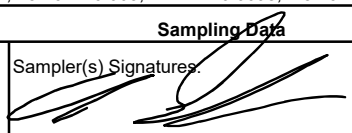
Initial Pump or Tubing Depth in Well (feet): 18	Final Pump or Tubing Depth in Well (feet): 18	Purging Initiated At: 12:55	Purging Ended At: 13:09	Total Vol. Purged (Liters): 2.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
13:05	2	2	200	1.63	7.05	23.7	6307	0.40	15.84	29.4	Clear
13:07	0.4	2.4	200	1.63	7.06	23.6	6185	0.44	17.64	41.2	Clear
13:09	0.4	2.8	200	1.63	7.06	23.7	6158	0.44	13.17	41.9	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 13:10	Sampling Ended At: 13:15
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 18	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0129	Sample ID: LC34-IW0129-018.0-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.82	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.82		Well Screen Interval Depth (ft bls): 13 to 23	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 13	Bottom Depth: 23	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.027 Liters 13 - 2.82 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.92 = vol x3 **0.64** Liters 0 + 0.005 X 33 + 0.475

Initial Pump or Tubing Depth in Well (feet): 18	Final Pump or Tubing Depth in Well (feet): 18	Purging Initiated At: 10:50	Purging Ended At: 11:04	Total Vol. Purged (Liters): 2.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:00	2	2	200	2.90	7.09	22.5	8467	0.31	16.52	-60.4	Clear
11:02	0.4	2.4	200	2.90	7.09	22.6	8429	0.27	12.33	-62.0	Clear
11:04	0.4	2.8	200	2.90	7.09	22.4	8340	0.28	13.49	-62.3	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 11:05	Sampling Ended At: 11:10
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 18	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0130	Sample ID: LC34-IW0130-024.0-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.57	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.57		Well Screen Interval Depth (ft bls): 20 to 28	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 20	Bottom Depth: 28	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.8145 Liters 20 - 2.57 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

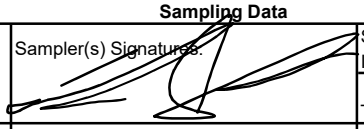
Initial Pump or Tubing Depth in Well (feet): 24	Final Pump or Tubing Depth in Well (feet): 24	Purging Initiated At: 11:10	Purging Ended At: 11:24	Total Vol. Purged (Liters): 2.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:20	2	2	200	2.87	7.17	22.9	9416	0.13	2.8	-167.9	Clear
11:22	0.4	2.4	200	2.87	7.17	22.7	9358	0.13	5.81	-163.5	Clear
11:24	0.4	2.8	200	2.87	7.17	22.8	9346	0.13	6.52	-158.8	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 11:25	Sampling Ended At: 11:30
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 24	Sample Pump Flow Rate (mL per minute):	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0131	Sample ID: LC34-IW0131-018.0-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.26	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.26		Well Screen Interval Depth (ft bls): 13 to 23	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 13	Bottom Depth: 23	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.111 Liters 13 - 2.26 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.92 = vol x3 **0.64** Liters 0 + 0.005 X 33 + 0.475

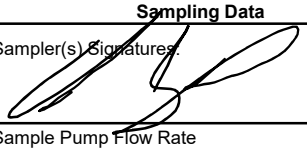
Initial Pump or Tubing Depth in Well (feet): 18	Final Pump or Tubing Depth in Well (feet): 18	Purging Initiated At: 10:20	Purging Ended At: 10:35	Total Vol. Purged (Liters): 3	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:30	2	2	200	2.30	7.13	23.2	8562	0.17	18.12	-51.1	Clear
10:32	0.4	2.4	200	2.30	7.13	23.1	8516	0.15	13.12	-51.1	Clear
10:35	0.6	3	200	2.30	7.12	23.2	8587	0.14	15.66	-51.0	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 10:40	Sampling Ended At: 10:45
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 18	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0132	Sample ID: LC34-IW0132-018.0-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.27	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.27		Well Screen Interval Depth (ft bls): 13 to 23	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 13	Bottom Depth: 23	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.1095 Liters 13 - 2.27 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.92 = vol x3 **0.64** Liters 0 + 0.005 X 33 + 0.475

Initial Pump or Tubing Depth in Well (feet): 18	Final Pump or Tubing Depth in Well (feet): 18	Purging Initiated At: 9:50	Purging Ended At: 10:07	Total Vol. Purged (Liters): 3.4	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:00	2	2	200	2.29	7.06	23.0	7242	0.21	4.28	-49.8	Clear
10:02	0.4	2.4	200	2.29	7.05	23.6	7413	0.18	9.31	-51.4	Clear
10:05	0.6	3	200	2.29	7.05	23.7	7407	0.15	11.17	-52.2	Clear
10:07	0.4	3.4	200	2.29	7.05	23.5	7369	0.17	14.31	-51.9	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 10:10	Sampling Ended At: 10:15
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 18	Sample Pump Flow Rate (mL per minute):	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0133	Sample ID: LC34-IW0133-018.0-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.76	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.76		Well Screen Interval Depth (ft bls): 13 to 23	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 13	Bottom Depth: 23	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.186 Liters 13 - 1.76 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.92 = vol x3 **0.64** Liters 0 + 0.005 X 33 + 0.475

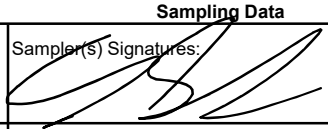
Initial Pump or Tubing Depth in Well (feet): 18	Final Pump or Tubing Depth in Well (feet): 18	Purging Initiated At: 8:50	Purging Ended At: 9:08	Total Vol. Purged (Liters): 3.6	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:00	2	2	200	1.84	7.15	23.0	10251	0.19	17.4	-79.2	Clear
9:05	1	3	200	1.84	7.16	22.8	10175	0.19	12.4	-84.2	Clear
9:08	0.6	3.6	200	1.84	7.16	22.8	10260	0.19	14.47	-85.6	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 9:10	Sampling Ended At: 9:15
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 18	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0134	Sample ID: LC34-IW0134-024.0-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.03	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.03	Well Screen Interval Depth (ft bls): 20 to 28		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 20	Bottom Depth: 28	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

4.0455 Liters 20 - 1.03 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

Initial Pump or Tubing Depth in Well (feet): 24	Final Pump or Tubing Depth in Well (feet):	Purging Initiated At: 14:00	Purging Ended At: 14:14	Total Vol. Purged (Liters): 2.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
14:10	2	2	200	1.20	7.04	24.3	4197	0.24	19.45	-36.3	Clear
14:12	0.4	2.4	200	1.20	7.05	24.4	4170	0.19	15.21	-30.0	Clear
14:14	0.4	2.8	200	1.20	7.05	24.3	4155	0.18	16.76	-28.3	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 14:15	Sampling Ended At: 14:20
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet):	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0135	Sample ID: LC34-IW0135-024.0-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.04	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.04	Well Screen Interval Depth (ft bls): 20 to 28		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 20	Bottom Depth: 28	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.894 Liters 20 - 2.04 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

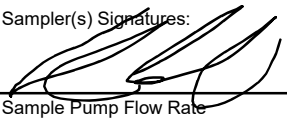
Initial Pump or Tubing Depth in Well (feet): 24	Final Pump or Tubing Depth in Well (feet): 24	Purging Initiated At: 13:10	Purging Ended At: 13:44	Total Vol. Purged (Liters): 6.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
13:20	2	2	200	2.18	7.23	25.2	2357	5.92	8.59	68.8	Clear
13:30	2	4	200	2.18	7.21	25.4	2357	5.75	19.34	85.0	Clear
13:40	2	6	200	2.18	7.20	25.6	2370	5.62	10.67	89.3	Clear
13:42	0.4	6.4	200	2.18	7.20	25.6	2365	5.44	2.7	89.7	Clear
13:44	0.4	6.8	200	2.18	7.20	25.6	2356	5.58	6.67	90.7	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 13:45	Sampling Ended At: 13:50
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 24	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID: High dissolved oxygen from air sparging. All parameters stable. Sampled per FS2212.

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0136	Sample ID: LC34-IW0136-024.0-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 3.53	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 3.53		Well Screen Interval Depth (ft bls): 20 to 28	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 20	Bottom Depth: 28	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.6705 Liters 20 - 3.53 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

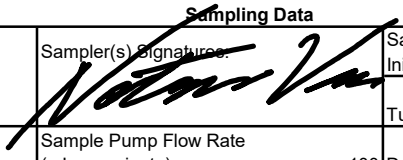
Initial Pump or Tubing Depth in Well (feet):	Final Pump or Tubing Depth in Well (feet):	Purging Initiated At:	Purging Ended At:	Total Vol. Purged (Liters):
24	24	8:45	9:04	5.7

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
8:58	3.9	3.9	300	3.65	6.88	25.8	3609	2.89	1.11	98.6	None
9:00	0.6	4.5	300	3.65	6.88	26.2	3640	2.86	0.27	98.2	None
9:02	0.6	5.1	300	3.65	6.88	26.1	3635	2.83	2.84	97.8	None
9:04	0.6	5.7	300	3.65	6.88	26.2	3640	2.72	0.39	96.8	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 9:05	Sampling Ended At: 9:10
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 24	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID: High do from air sparging

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0137	Sample ID: LC34-IW0137-024.0-20231130		Date: 11/30/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 3.25	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 3.25		Well Screen Interval Depth (ft bls): 20 to 28	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 20	Bottom Depth: 28	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.7125 Liters 20 - 3.25 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

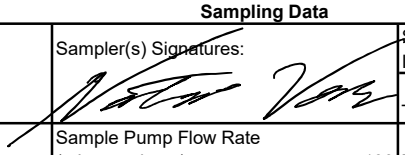
Initial Pump or Tubing Depth in Well (feet): 24	Final Pump or Tubing Depth in Well (feet): 24	Purging Initiated At: 11:00	Purging Ended At: 11:21	Total Vol. Purged (Liters): 6.3	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:12	3.6	3.6	300	3.40	7.07	25.0	2591	3.06	1.92	68.0	None
11:14	0.6	4.2	300	3.40	7.07	25.2	2606	2.72	7.93	67.3	None
11:16	0.6	4.8	300	3.40	7.07	25.1	2598	2.68	5.68	66.0	None
11:21	1.5	6.3	300	3.40	7.07	25.1	2591	2.68	2.01	65.1	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 11:23	Sampling Ended At: 11:28
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 24	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N

Field Filtered: Y (N) Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID: DO high from air sparging, probe was checked , no trapped bubbles

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0138	Sample ID: LC34-IW0138-031.5-20231130		Date: 11/30/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 3.31	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 3.31		Well Screen Interval Depth (ft bls): 29 to 34	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 29	Bottom Depth: 34	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

4.6035 Liters 29 - 3.31 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.085 = vol x3 **0.695** Liters 0 + 0.005 X 44 + 0.475

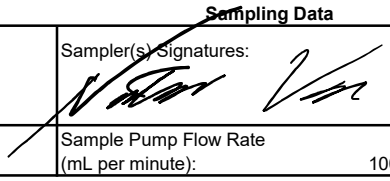
Initial Pump or Tubing Depth in Well (feet): 31.5	Final Pump or Tubing Depth in Well (feet): 31.5	Purging Initiated At: 11:35	Purging Ended At: 11:53	Total Vol. Purged (Liters): 5.4

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:47	3.6	3.6	300	3.49	7.24	24.9	3781	2.04	6.8	50.6	None
11:49	0.6	4.2	300	3.49	7.24	24.9	3777	1.82	6.75	49.9	None
11:51	0.6	4.8	300	3.49	7.23	24.9	3777	1.86	8.09	49.2	None
11:53	0.6	5.4	300	3.49	7.24	24.9	3772	1.85	4.52	47.9	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 11:55	Sampling Ended At: 12:00
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 31.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N
Field Filtered: Y (N)	Filter Size (µm): NA	Filtration Equipment Type: NA	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID: DO high from air sparging, probe was checked , no trapped bubbles

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0139	Sample ID: LC34-IW0139-018.0-20231130		Date: 11/30/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 0.81	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 0.81		Well Screen Interval Depth (ft bls): 13 to 23	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 13	Bottom Depth: 23	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.3285 Liters 13 - 0.81 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

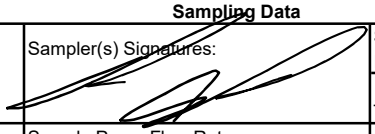
Initial Pump or Tubing Depth in Well (feet):	Final Pump or Tubing Depth in Well (feet):	Purging Initiated At:	Purging Ended At:	Total Vol. Purged (Liters):
18	18	12:10	12:35	7.5

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
12:20	3	3	300	0.87	7.15	25.5	3022	2.41	5.52	26.2	Clear
12:30	3	6	300	0.87	7.14	25.5	3114	2.41	3.21	30.6	Clear
12:35	1.5	7.5	300	0.87	7.13	25.4	3217	2.23	5.38	30.6	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 12:40	Sampling Ended At: 12:45
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 18	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID: High dissolved oxygen from air sparging. All parameters stable. Sampled per FS2212

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0140	Sample ID: LC34-IW0140-024.0-20231130		Date: 11/30/1934

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 0.89	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 0.89		Well Screen Interval Depth (ft bls): 20 to 28	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 20	Bottom Depth: 28	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

4.0665 Liters 20 - 0.89 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

Initial Pump or Tubing Depth in Well (feet): 24	Final Pump or Tubing Depth in Well (feet): 24	Purging Initiated At: 12:11	Purging Ended At: 12:27	Total Vol. Purged (Liters): 4.8

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
12:23	3.6	3.6	300	1.09	7.09	25.0	4211	0.16	13.7	-15.6	None
12:25	0.6	4.2	300	1.09	7.09	25.1	4205	0.15	8.75	-12.2	None
12:27	0.6	4.8	300	1.09	7.09	25.0	4214	0.17	14.2	-12.0	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 12:30	Sampling Ended At: 12:35
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 24	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N

Field Filtered: Y (N) Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0141	Sample ID: LC34-IW0141-024.0-20231130		Date: 11/30/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.38	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.38	Well Screen Interval Depth (ft bls): 20 to 28		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 20	Bottom Depth: 28	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.843 Liters 20 - 2.38 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

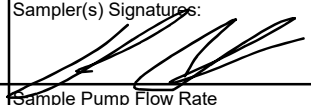
Initial Pump or Tubing Depth in Well (feet): 24	Final Pump or Tubing Depth in Well (feet): 24	Purging Initiated At: 10:00	Purging Ended At: 10:14	Total Vol. Purged (Liters): 2.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:10	2	2	200	2.68	7.08	25.1	5315	0.32	12.36	-91.9	Clear
10:12	0.4	2.4	200	2.68	7.06	25.1	5236	0.30	3.85	-106.9	Clear
10:14	0.4	2.8	200	2.68	7.07	25.3	5196	0.33	4.93	-100.7	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 10:15	Sampling Ended At: 10:20
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 24	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0142	Sample ID: LC34-IW0142-024.0-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.80	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.8	Well Screen Interval Depth (ft bls): 20 to 28		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 20	Bottom Depth: 28	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.78 Liters 20 - 2.8 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

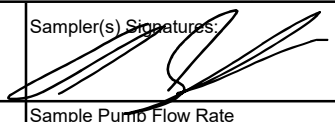
Initial Pump or Tubing Depth in Well (feet): 24	Final Pump or Tubing Depth in Well (feet): 24	Purging Initiated At: 13:45	Purging Ended At: 13:59	Total Vol. Purged (Liters): 2.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
13:55	2	2	200	2.88	7.32	23.9	4722	0.39	13.72	58.1	Clear
13:57	0.4	2.4	200	2.88	7.32	23.9	4684	0.30	12.23	59.8	Clear
13:59	0.4	2.8	200	2.88	7.32	24.0	4697	0.27	10.63	60.6	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 14:00	Sampling Ended At: 14:05
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 24	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0143	Sample ID: LC34-IW0143-024.0-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.40	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.4		Well Screen Interval Depth (ft bls): 20 to 28	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 20	Bottom Depth: 28	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.99 Liters 20 - 1.4 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

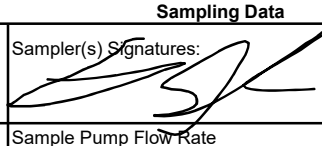
Initial Pump or Tubing Depth in Well (feet): 24	Final Pump or Tubing Depth in Well (feet): 24	Purging Initiated At: 11:30	Purging Ended At: 12:04	Total Vol. Purged (Liters): 6.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:40	2	2	200	1.48	7.19	24.9	4044	8.12	17.44	60.9	Clear
11:50	2	4	200	1.48	7.21	25.0	4030	8.07	7.35	74.9	Clear
12:00	2	6	200	1.48	7.21	25.0	4008	7.88	15.08	91.0	Clear
12:02	0.4	6.4	200	1.48	7.20	25.1	4047	7.83	4.17	92.2	Clear
12:04	0.4	6.8	200	1.48	7.20	25.2	4047	7.96	2.28	91.5	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 12:05	Sampling Ended At: 12:10
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 24	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID: High dissolved oxygen from air sparging. All parameters stable. Sampled per FS2212

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0144	Sample ID: LC34-IW0144-024.0-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 4.59	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 4.59		Well Screen Interval Depth (ft bls): 20 to 28	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 20	Bottom Depth: 28	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.5115 Liters 20 - 4.59 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

Initial Pump or Tubing Depth in Well (feet): 24	Final Pump or Tubing Depth in Well (feet): 24	Purging Initiated At: 10:40	Purging Ended At: 10:54	Total Vol. Purged (Liters): 2.8

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:50	2	2	200	4.66	7.05	26.0	4106	0.25	15.7	216.0	Clear
10:52	0.4	2.4	200	4.66	7.05	25.9	4072	0.22	16.39	229.5	Clear
10:54	0.4	2.8	200	4.66	7.05	26.0	4079	0.21	16.04	230.8	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 10:55	Sampling Ended At: 11:00
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 24	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0145	Sample ID: LC34-IW0145-031.5-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 4.72	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 4.72		Well Screen Interval Depth (ft bls): 29 to 34	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 29	Bottom Depth: 34	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

4.392 Liters 29 - 4.72 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.085 = vol x3 **0.695** Liters 0 + 0.005 X 44 + 0.475

Initial Pump or Tubing Depth in Well (feet): 31.5	Final Pump or Tubing Depth in Well (feet): 31.5	Purging Initiated At: 11:05	Purging Ended At: 11:19	Total Vol. Purged (Liters): 2.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:15	2	2	200	4.97	7.10	25.5	3833	0.22	12.66	-153.9	Clear
11:17	0.4	2.4	200	4.97	7.09	25.4	3823	0.19	10.03	-144.4	Clear
11:19	0.4	2.8	200	4.97	7.09	25.4	3827	0.19	15.75	-140.4	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 11:20	Sampling Ended At: 11:25
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 31.5	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0146	Sample ID: LC34-IW0146-018.0-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 3.74	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 3.74		Well Screen Interval Depth (ft bls): 13 to 23	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 13	Bottom Depth: 23	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

2.889 Liters 13 - 3.74 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.085 = vol x3 **0.695** Liters 0 + 0.005 X 44 + 0.475

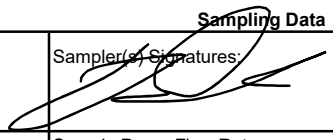
Initial Pump or Tubing Depth in Well (feet): 18	Final Pump or Tubing Depth in Well (feet): 18	Purging Initiated At: 10:05	Purging Ended At: 10:19	Total Vol. Purged (Liters): 2.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:15	2	2	200	3.79	7.28	25.0	3078	1.37	15.2	175.6	Clear
10:17	0.4	2.4	200	3.79	7.28	25.1	3087	1.24	8.56	190.9	Clear
10:19	0.4	2.8	200	3.79	7.28	25.1	3085	1.20	13.63	194.6	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 10:20	Sampling Ended At: 10:25
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 18	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0147	Sample ID: LC34-IW0147-024.0-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 3.72	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 3.72	Well Screen Interval Depth (ft bls): 20 to 28		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 20	Bottom Depth: 28	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.642 Liters 20 - 3.72 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

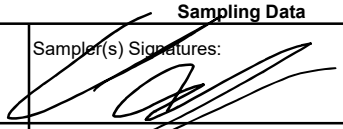
Initial Pump or Tubing Depth in Well (feet): 24	Final Pump or Tubing Depth in Well (feet): 24	Purging Initiated At: 9:45	Purging Ended At: 9:59	Total Vol. Purged (Liters): 2.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:55	2	2	200	3.88	7.30	24.7	3857	0.48	6.83	106.4	Clear
9:57	0.4	2.4	200	3.88	7.29	24.8	3871	0.44	11.18	89.7	Clear
9:59	0.4	2.8	200	3.88	7.30	24.9	3865	0.38	11.05	82.2	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 10:00	Sampling Ended At: 10:05
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 24	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0168	Sample ID: LC34-IW0168-022.0-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.46	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.46		Well Screen Interval Depth (ft bls): 17 to 27	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 17	Bottom Depth: 27	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.831 Liters 17 - 1.46 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

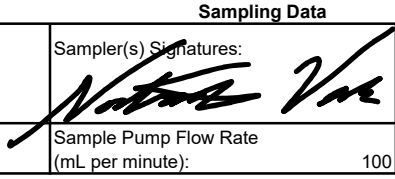
Initial Pump or Tubing Depth in Well (feet): 22	Final Pump or Tubing Depth in Well (feet): 22	Purging Initiated At: 11:21	Purging Ended At: 11:33	Total Vol. Purged (Liters): 3.6	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:29	2.4	2.4	300	1.62	7.39	24.0	852	0.18	2.32	-178.0	None
11:31	0.6	3	300	1.62	7.40	24.2	852	0.18	2.44	-177.6	None
11:33	0.6	3.6	300	1.62	7.40	24.2	858	0.18	2.37	-177.4	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 11:35	Sampling Ended At: 11:40
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 22	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N

Field Filtered: Y (N) Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0169	Sample ID: LC34-IW0169-032.5-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.60	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.6		Well Screen Interval Depth (ft bls): 30 to 35	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 30	Bottom Depth: 35	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

5.01 Liters 30 - 1.6 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.1 = vol x3 **0.7** Liters 0 + 0.005 X 45 + 0.475

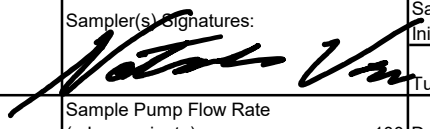
Initial Pump or Tubing Depth in Well (feet): 32.5	Final Pump or Tubing Depth in Well (feet): 32.5	Purging Initiated At: 10:52	Purging Ended At: 11:08	Total Vol. Purged (Liters): 4.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:04	3.6	3.6	300	1.71	7.25	24.1	2370	0.07	12.2	-312.9	None
11:06	0.6	4.2	300	1.71	7.25	23.9	2378	0.06	9.6	-315.3	None
11:08	0.6	4.8	300	1.71	7.25	24.0	2391	0.06	3.33	-316.6	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 11:10	Sampling Ended At: 11:15
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 32.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N

Field Filtered: Y (N) Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID: Micro bubbling observed in unpreserved and preserved vials

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0170	Sample ID: LC34-IW0170-022.0-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.12	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.12	Well Screen Interval Depth (ft bls): 17 to 27		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 17	Bottom Depth: 27	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.882 Liters 17 - 1.12 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.995 = vol x3 **0.665** Liters 0 + 0.005 X 38 + 0.475

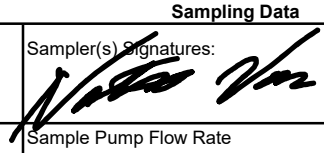
Initial Pump or Tubing Depth in Well (feet): 22	Final Pump or Tubing Depth in Well (feet): 22	Purging Initiated At: 9:54	Purging Ended At: 10:08	Total Vol. Purged (Liters): 4.2	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:04	3	3	300	1.21	6.97	24.0	3448	0.23	8.5	-97.9	None
10:06	0.6	3.6	300	1.21	6.98	24.0	3454	0.17	14.4	-104.2	None
10:08	0.6	4.2	300	1.21	6.98	24.1	3464	0.12	8.44	-103.2	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 10:10	Sampling Ended At: 10:15
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 22	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y N	Field Decontamination: Y N
Field Filtered: Y N	Filter Size (µm): NA	Filtration Equipment Type: NA	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0171	Sample ID: LC34-IW0171-032.5-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.21	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.21		Well Screen Interval Depth (ft bls): 30 to 35	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 30	Bottom Depth: 35	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

5.0685 Liters 30 - 1.21 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.1 = vol x3 **0.7** Liters 0 + 0.005 X 45 + 0.475

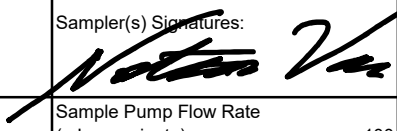
Initial Pump or Tubing Depth in Well (feet): 32.5	Final Pump or Tubing Depth in Well (feet): 32.5	Purging Initiated At: 10:18	Purging Ended At: 10:32	Total Vol. Purged (Liters): 4.2

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:26	2.4	2.4	300	1.52	7.21	23.1	2676	1.70	4.95	26.1	None
10:28	0.6	3	300	1.52	7.21	23.2	2693	1.62	7	25.9	None
10:30	0.6	3.6	300	1.52	7.22	23.2	2686	1.53	3.57	23.0	None
10:32	0.6	4.2	300	1.52	7.22	23.1	2661	1.51	4.58	20.3	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 10:35	Sampling Ended At: 10:40
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 32.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0172	Sample ID: LC34-IW0172-022.0-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 0.92	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 0.92		Well Screen Interval Depth (ft bls): 17 to 27	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 17	Bottom Depth: 27	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.912 Liters 17 - 0.92 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.98 = vol x3 **0.66** Liters 0 + 0.005 X 37 + 0.475

Initial Pump or Tubing Depth in Well (feet): 22	Final Pump or Tubing Depth in Well (feet): 22	Purging Initiated At: 12:25	Purging Ended At: 12:37	Total Vol. Purged (Liters): 3.6	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
12:33	2.4	2.4	300	1.06	7.06	24.3	1613	0.31	6.81	-77.4	None
12:35	0.6	3	300	1.06	7.06	24.2	1609	0.31	8.98	-77.6	None
12:37	0.6	3.6	300	1.06	7.06	24.2	1607	0.32	8.98	-78.2	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 12:40	Sampling Ended At: 12:45
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 22	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N
Field Filtered: (Y) N	Filter Size (µm): NA	Filtration Equipment Type: NA	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0173	Sample ID: LC34-IW0173-032.5-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.00	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1	Well Screen Interval Depth (ft bls): 30 to 35		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 30	Bottom Depth: 35	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

5.1 Liters 30 - 1 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.1 = vol x3 **0.7** Liters 0 + 0.005 X 45 + 0.475

Initial Pump or Tubing Depth in Well (feet): 32.5	Final Pump or Tubing Depth in Well (feet): 32.5	Purging Initiated At: 12:48	Purging Ended At: 13:01	Total Vol. Purged (Liters): 3.9

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
12:57	2.7	2.7	300	1.25	7.30	23.2	2664	0.71	12.3	-15.7	None
12:59	0.6	3.3	300	1.25	7.31	23.3	2663	0.69	10.6	-17.0	None
13:01	0.6	3.9	300	1.26	7.32	23.1	2644	0.68	9.73	-17.8	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 13:03	Sampling Ended At: 13:08
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 32.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N
Field Filtered: Y (N)	Filter Size (µm): NA	Filtration Equipment Type: NA	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID: Micro bubbles observed in preserved and unpreserved

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0174	Sample ID: LC34-IW0174-018.5-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.36	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.36		Well Screen Interval Depth (ft bls): 16 to 21	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 16	Bottom Depth: 21	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

2.796 Liters 16 - 2.36 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.89 = vol x3 **0.63** Liters 0 + 0.005 X 31 + 0.475

Initial Pump or Tubing Depth in Well (feet):	Final Pump or Tubing Depth in Well (feet):	Purging Initiated At:	Purging Ended At:	Total Vol. Purged (Liters):
18.5	18.5	13:43	13:56	3.9

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
13:52	2.7	2.7	300	2.47	7.07	24.3	1683	0.22	0.82	-129.4	None
13:54	0.6	3.3	300	2.47	7.07	24.3	1686	0.18	0.23	-129.1	None
13:56	0.6	3.9	300	2.47	7.07	24.1	1682	0.16	0.04	-128.3	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 14:00	Sampling Ended At: 14:05
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 18.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y N	Field Decontamination: Y N
Field Filtered: Y N	Filter Size (µm): NA	Filtration Equipment Type: NA	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0175	Sample ID: LC34-IW0175-032.5-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.82	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.82		Well Screen Interval Depth (ft bls): 30 to 35	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 30	Bottom Depth: 35	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

4.827 Liters 30 - 2.82 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.1 = vol x3 **0.7** Liters 0 + 0.005 X 45 + 0.475

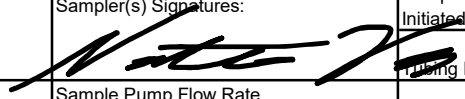
Initial Pump or Tubing Depth in Well (feet): 32.5	Final Pump or Tubing Depth in Well (feet): 32.5	Purging Initiated At: 13:18	Purging Ended At: 13:33	Total Vol. Purged (Liters): 4.5

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
13:29	3.3	3.3	300	3.41	7.28	23.7	2765	0.87	2.1	-30.4	None
13:31	0.6	3.9	300	3.41	7.28	23.8	2763	0.86	3	-37.9	None
13:33	0.6	4.5	300	3.41	7.29	23.7	2760	0.87	0.7	-44.8	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 13:35	Sampling Ended At: 13:40
		Tubing Material Code:	Teflon
Pump or Tubing Depth in Well (feet): 32.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N
Field Filtered: Y (N)	Filter Size (µm): NA	Filtration Equipment Type: NA	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0176	Sample ID: LC34-IW0176-018.5-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 3.68	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 3.68	Well Screen Interval Depth (ft bls): 16 to 21		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 16	Bottom Depth: 21	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

2.598 Liters 16 - 3.68 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.89 = vol x3 **0.63** Liters 0 + 0.005 X 31 + 0.475

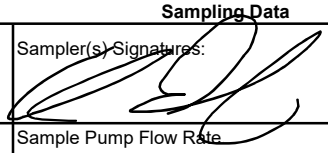
Initial Pump or Tubing Depth in Well (feet): 18.5	Final Pump or Tubing Depth in Well (feet): 18.5	Purging Initiated At: 12:40	Purging Ended At: 12:59	Total Vol. Purged (Liters): 2.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
12:50	2	2	200	3.75	7.06	24.1	6323	0.20	14.38	-76.4	Clear
12:52	0.4	2.4	200	3.75	7.06	24.3	6235	0.18	19.34	-78.6	Clear
12:54	0.4	2.8	200	3.75	7.06	24.3	6291	0.17	7.98	-79.3	Clear

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Chuck Sorden /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 13:00	Sampling Ended At: 13:05
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 18.5	Sample Pump Flow Rate (mL per minute): 200	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): Filtration Equipment Type:

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0177	Sample ID: LC34-IW0177-018.5-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.09	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.09	Well Screen Interval Depth (ft bls): 16 to 21		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 16	Bottom Depth: 21	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

2.9865 Liters 16 - 1.09 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.89 = vol x3 **0.63** Liters 0 + 0.005 X 31 + 0.475

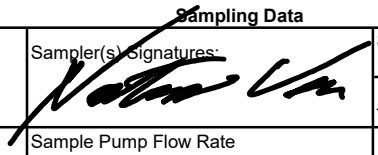
Initial Pump or Tubing Depth in Well (feet): 18.5	Final Pump or Tubing Depth in Well (feet): 18.5	Purging Initiated At: 9:25	Purging Ended At: 9:38	Total Vol. Purged (Liters): 3.9	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:34	2.7	2.7	300	1.19	6.97	24.8	2675	0.27	0.02	-139.4	None
9:36	0.6	3.3	300	1.19	6.97	24.7	2671	0.22	4.23	-137.5	None
9:38	0.6	3.9	300	1.19	6.97	24.7	2681	0.21	6.95	-136.2	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 9:40	Sampling Ended At: 9:45
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 18.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y N	Field Decontamination: Y N

Field Filtered: Y N Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0178	Sample ID: LC34-IW0178-018.5-20231128		Date: 11/28/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 0.74	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 0.74		Well Screen Interval Depth (ft bls): 16 to 21	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 16	Bottom Depth: 21	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.039 Liters 16 - 0.74 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.89 = vol x3 **0.63** Liters 0 + 0.005 X 31 + 0.475

Initial Pump or Tubing Depth in Well (feet): 18.5	Final Pump or Tubing Depth in Well (feet): 18.5	Purging Initiated At: 11:52	Purging Ended At: 12:05	Total Vol. Purged (Liters): 3.9	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
12:01	2.7	2.7	300	0.89	7.25	24.2	1501	0.30	0.02	-167.8	None
12:03	0.6	3.3	300	0.89	7.25	24.2	1493	0.30	0.45	-167.7	None
12:05	0.6	3.9	300	0.89	7.25	24.2	1487	0.30	0.02	-167.6	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 12:07	Sampling Ended At: 12:12
		Tubing Material Code: Teflon	
Pump or Tubing Depth in Well (feet): 18.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N
Field Filtered: Y (N)	Filter Size (µm): NA	Filtration Equipment Type: NA	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0179	Sample ID: LC34-IW0179-022.0-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.32	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.32		Well Screen Interval Depth (ft bls): 17 to 27	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 17	Bottom Depth: 27	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.852 Liters 17 - 1.32 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.98 = vol x3 **0.66** Liters 0 + 0.005 X 37 + 0.475

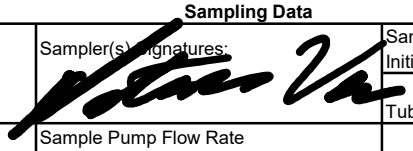
Initial Pump or Tubing Depth in Well (feet): 22	Final Pump or Tubing Depth in Well (feet): 22	Purging Initiated At: 11:51	Purging Ended At: 12:05	Total Vol. Purged (Liters): 4.2	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
12:01	3	3	300	1.53	7.20	24.9	1371	0.15	8.07	-16.3	None
12:03	0.6	3.6	300	1.53	7.19	24.9	1375	0.17	10.6	-16.6	None
12:05	0.6	4.2	300	1.53	7.19	24.9	1368	0.17	10.2	-16.9	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 12:07	Sampling Ended At: 12:12
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 22	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N
Field Filtered: Y (N)	Filter Size (µm): NA	Filtration Equipment Type: NA	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0180	Sample ID: LC34-IW0180-032.5-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.39	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.39		Well Screen Interval Depth (ft bls): 30 to 35	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 30	Bottom Depth: 35	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

5.0415 Liters 30 - 1.39 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.1 = vol x3 **0.7** Liters 0 + 0.005 X 45 + 0.475

Initial Pump or Tubing Depth in Well (feet): 32.5	Final Pump or Tubing Depth in Well (feet): 32.5	Purging Initiated At: 11:24	Purging Ended At: 11:38	Total Vol. Purged (Liters): 4.2	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:34	3	3	300	1.73	7.65	24.2	1856	0.02	0.4	-173.3	None
11:36	0.6	3.6	300	1.73	7.65	24.2	1853	0.02	3.61	-165.3	None
11:38	0.6	4.2	300	1.73	7.66	24.3	1856	0.02	1.08	-175.5	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 11:40	Sampling Ended At: 11:45
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 32.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N

Field Filtered: Y (N) Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0181	Sample ID: LC34-IW0181-022.0-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 3.51	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 3.51		Well Screen Interval Depth (ft bls): 17 to 27	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 17	Bottom Depth: 27	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.5235 Liters 17 - 3.51 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.98 = vol x3 **0.66** Liters 0 + 0.005 X 37 + 0.475

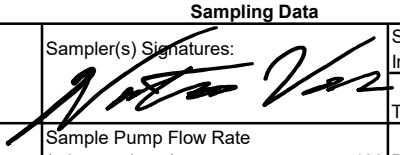
Initial Pump or Tubing Depth in Well (feet): 22	Final Pump or Tubing Depth in Well (feet): 22	Purging Initiated At: 9:41	Purging Ended At: 9:55	Total Vol. Purged (Liters): 4.2

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:49	2.4	2.4	300	3.58	7.16	24.2	831	0.12	1.78	-49.4	None
9:51	0.6	3	300	3.58	7.16	24.4	832	0.11	3.01	-53.8	None
9:53	0.6	3.6	300	3.58	7.17	24.5	833	0.12	2.61	-59.3	None
9:55	0.6	4.2	300	3.58	7.17	24.4	829	0.11	1.88	-51.0	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 9:57	Sampling Ended At: 10:02
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 22	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N

Field Filtered: Y (N) Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0182	Sample ID: LC34-IW0182-032.5-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 3.43	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 3.43	Well Screen Interval Depth (ft bls): 30 to 35		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 30	Bottom Depth: 35	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

4.7355 Liters 30 - 3.43 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.1 = vol x3 **0.7** Liters 0 + 0.005 X 45 + 0.475

Initial Pump or Tubing Depth in Well (feet): 32.5	Final Pump or Tubing Depth in Well (feet): 32.5	Purging Initiated At: 10:06	Purging Ended At: 10:17	Total Vol. Purged (Liters): 3.3	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:13	2.1	2.1	300	3.60	7.81	24.3	1235	0.09	14.4	-182.6	None
10:15	0.6	2.7	300	3.60	7.81	24.2	1234	0.08	8.67	-182.3	None
10:17	0.6	3.3	300	3.60	7.81	24.2	1235	0.08	12.8	-182.3	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 10:20	Sampling Ended At: 10:25
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 32.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N

Field Filtered: Y (N) Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0183	Sample ID: LC34-IW0183-022.0-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 3.94	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 3.94		Well Screen Interval Depth (ft bls): 17 to 27	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 17	Bottom Depth: 27	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.459 Liters 17 - 3.94 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.98 = vol x3 **0.66** Liters 0 + 0.005 X 37 + 0.475

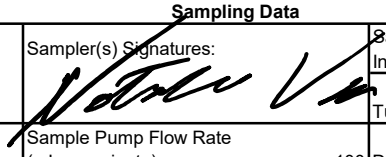
Initial Pump or Tubing Depth in Well (feet): 22	Final Pump or Tubing Depth in Well (feet): 22	Purging Initiated At: 10:33	Purging Ended At: 10:44	Total Vol. Purged (Liters): 3.3

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:40	2.1	2.1	300	4.03	7.17	25.0	1316	0.28	6.5	-18.3	None
10:42	0.6	2.7	300	4.03	7.16	24.8	1306	0.29	13.4	-17.1	None
10:44	0.6	3.3	300	4.03	7.17	24.9	1309	0.30	6.56	-16.5	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 10:45	Sampling Ended At: 10:50
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 22	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N
Field Filtered: Y (N)	Filter Size (µm): NA	Filtration Equipment Type: NA	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0184	Sample ID: LC34-IW0184-032.5-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 3.97	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 3.97		Well Screen Interval Depth (ft bls): 30` to 35	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 30	Bottom Depth: 35	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

4.6545 Liters 30 - 3.97 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.1 = vol x3 **0.7** Liters 0 + 0.005 X 45 + 0.475

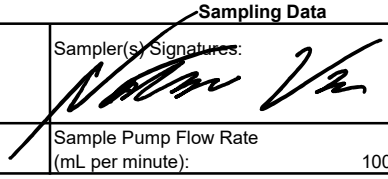
Initial Pump or Tubing Depth in Well (feet): 32.5	Final Pump or Tubing Depth in Well (feet): 32.5	Purging Initiated At: 10:55	Purging Ended At: 11:09	Total Vol. Purged (Liters): 4.2	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:05	3	3	300	4.03	7.60	24.8	1470	0.08	1.32	-161.3	None
11:07	0.6	3.6	300	4.03	7.59	24.8	1471	0.09	1.15	-160.5	None
11:09	0.6	4.2	300	4.03	7.59	24.8	1465	0.10	1.78	-158.5	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 11:10	Sampling Ended At: 11:15
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 32.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N
Field Filtered: Y (N)	Filter Size (µm): NA	Filtration Equipment Type: NA	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0185	Sample ID: LC34-IW0185-018.5-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.42	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.42		Well Screen Interval Depth (ft bls): 16 to 21	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 16	Bottom Depth: 21	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

2.937 Liters 16 - 1.42 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.89 = vol x3 **0.63** Liters 0 + 0.005 X 31 + 0.475

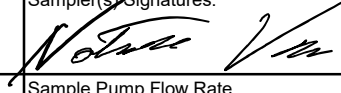
Initial Pump or Tubing Depth in Well (feet): 18.5	Final Pump or Tubing Depth in Well (feet): 18.5	Purging Initiated At: 12:31	Purging Ended At: 12:48	Total Vol. Purged (Liters): 5.1	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
12:44	3.9	3.9	300	1.52	7.22	25.4	774	0.02	5.92	-134.3	None
12:46	0.6	4.5	300	1.52	7.23	25.5	773	0.03	3.14	-132.0	None
12:48	0.6	5.1	300	1.52	7.22	25.5	774	0.04	3.6	-129.1	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 12:50	Sampling Ended At: 12:55
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 18.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N
Field Filtered: Y (N)	Filter Size (µm): NA	Filtration Equipment Type: NA	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0186	Sample ID: LC34-IW0186-018.5-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.18	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.18	Well Screen Interval Depth (ft bls): 16 to 21		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 16	Bottom Depth: 21	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

2.973 Liters 16 - 1.18 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.89 = vol x3 **0.63** Liters 0 + 0.005 X 31 + 0.475

Initial Pump or Tubing Depth in Well (feet): 18.5	Final Pump or Tubing Depth in Well (feet): 18.5	Purging Initiated At: 13:05	Purging Ended At: 13:19	Total Vol. Purged (Liters): 4.2	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
13:15	3	3	300	1.24	7.13	25.6	1064	0.05	15.4	-54.8	None
13:17	0.6	3.6	300	1.24	7.14	25.4	1058	0.05	11.2	-56.7	None
13:19	0.6	4.2	300	1.24	7.13	25.5	1061	0.05	9.37	-58.3	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 13:20	Sampling Ended At: 13:25
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 18.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N

Field Filtered: Y (N) Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0187	Sample ID: LC34-IW0187-018.5-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.27	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.27		Well Screen Interval Depth (ft bls): 16 to 21	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 16	Bottom Depth: 21	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

2.8095 Liters 16 - 2.27 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.89 = vol x3 **0.63** Liters 0 + 0.005 X 31 + 0.475

Initial Pump or Tubing Depth in Well (feet): 18.5	Final Pump or Tubing Depth in Well (feet): 18.5	Purging Initiated At: 13:44	Purging Ended At: 13:58	Total Vol. Purged (Liters): 4.2	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
13:54	3	3	300	2.41	7.29	25.4	2529	0.01	17.4	-167.0	None
13:56	0.6	3.6	300	2.41	7.29	25.2	2518	0.01	11.1	-165.8	None
13:58	0.6	4.2	300	2.41	7.29	25.1	2505	0.02	5.36	-165.7	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 14:00	Sampling Ended At: 14:05
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 18.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N

Field Filtered: Y (N) Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC34)		Site Location: Kennedy Space Center (KSC), Florida	
Location ID: IW0188	Sample ID: LC34-IW0188-018.5-20231129		Date: 11/29/2023

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 3.85	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 3.85		Well Screen Interval Depth (ft bls): 16 to 21	
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: PP	Top Depth: 16	Bottom Depth: 21	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

2.5725 Liters 16 - 3.85 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.89 = vol x3 **0.63** Liters 0 + 0.005 X 31 + 0.475

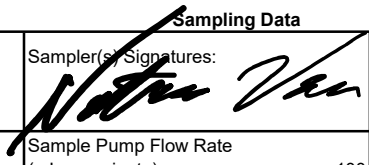
Initial Pump or Tubing Depth in Well (feet): 18.5	Final Pump or Tubing Depth in Well (feet): 18.5	Purging Initiated At: 9:10	Purging Ended At: 9:23	Total Vol. Purged (Liters): 3.9	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:19	2.7	2.7	300	3.96	7.48	24.8	2312	0.17	3.06	-192.3	None
9:21	0.6	3.3	300	3.96	7.48	24.9	2329	0.17	2.12	-191.5	None
9:23	0.6	3.9	300	3.96	7.48	24.9	2314	0.16	1.5	-190.8	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 9:25	Sampling Ended At: 9:30
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 18.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: Y (N)	Field Decontamination: (Y) N
Field Filtered: Y (N)	Filter Size (µm): NA	Filtration Equipment Type: NA	

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	None	<2	8260D-(MOD) NASA LC34 Custom List	APP
2	2	CG	40 mL	4°C	NA	See Above	8260D-(MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. **SURFACE WATER SAMPLE LOG SHEET**

Project Site Name:	Launch Complex 34 (LC34)	Sample ID No.:	LC34-SW1001-000.5-20231130
Project No.:	112G08985	Sample Location:	LC34-SW1001
		Sampled By:	C. Sorden
		C.O.C. No.:	
Type of Waterbody:	Canal		
Type of Sample:	Low Concentration		
QA Sample Type:	None		
Duplicate ID:			
Sampling Equipment:	Pump / Tubing		

SAMPLING DATA:

		Color	pH	Cond.	Temp.	Turbidity	DO	ORP	Salinity
Date:	11/30/2023								
Time:	11:30	(Visual)	(S.U.)	(µS/cm)	(^{0}C)	(NTU)	(mg/l)	(mV)	(ppt)
Depth:	0.0-0.5	**Clear**	**7.63**	**2286.2**	**19.4**	**2.23**	**6.79**	**-25.4**	**1.34**
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
8260D-(MOD) NASA LC34 Custom List	HCl/4°C	2-40 mL Clear Glass Vials	X
8260D-(MOD) NASA LC34 Custom List	4°C	2-40 mL Clear Glass Vials	X

OBSERVATIONS / NOTES:

Coordinates:

Latitude:
Longitude:

Comments:

MAP:

See figure.

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech, Inc. **SURFACE WATER SAMPLE LOG SHEET**

Project Site Name:	Launch Complex 34 (LC34)	Sample ID No.:	LC34-SW1002-000.5-20231130
Project No.:	112G08985	Sample Location:	LC34-SW1002
		Sampled By:	C. Sorden
		C.O.C. No.:	
Type of Waterbody:	Canal		
Type of Sample:	Low Concentration		
QA Sample Type:	None		
Duplicate ID:			
Sampling Equipment:	Pump / Tubing		

SAMPLING DATA:

		Color	pH	Cond.	Temp.	Turbidity	DO	ORP	Salinity
Date:	11/30/2023	(Visual)	(S.U.)	(µS/cm)	(^{0}C)	(NTU)	(mg/l)	(mV)	(ppt)
Time:	11:50								
Depth:	0.0-0.5	**Clear**	**7.74**	**2332.5**	**20.0**	**0.79**	**9.13**	**14.1**	**1.35**
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
8260D-(MOD) NASA LC34 Custom List	HCl/4°C	2-40 mL Clear Glass Vials	X
8260D-(MOD) NASA LC34 Custom List	4°C	2-40 mL Clear Glass Vials	X

OBSERVATIONS / NOTES:

Coordinates:

Latitude:
Longitude:

Comments:

MAP:

See figure.

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech, Inc. **SURFACE WATER SAMPLE LOG SHEET**

Project Site Name:	Launch Complex 34 (LC34)	Sample ID No.:	LC34-SW1004-000.5-20231130
Project No.:	112G08985	Sample Location:	LC34-SW1004
		Sampled By:	C. Sorden
		C.O.C. No.:	
Type of Waterbody:	Canal		
Type of Sample:	Low Concentration		
QA Sample Type:	None		
Duplicate ID:			
Sampling Equipment:	Pump / Tubing		

SAMPLING DATA:

		Color	pH	Cond.	Temp.	Turbidity	DO	ORP	Salinity
Date:	11/30/2023								
Time:	11:10	(Visual)	(S.U.)	(µS/cm)	(^{0}C)	(NTU)	(mg/l)	(mV)	(ppt)
Depth:	0.0-0.5	**Clear**	**8.30**	**2147**	**18.5**	**0**	**10.95**	**-63.9**	**1.28**
Method:	Grab								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
8260D-(MOD) NASA LC34 Custom List	HCl/4°C	2-40 mL Clear Glass Vials	X
8260D-(MOD) NASA LC34 Custom List	4°C	2-40 mL Clear Glass Vials	X

OBSERVATIONS / NOTES:

Coordinates:

Latitude:
Longitude:

Comments:

MAP:

See figure.

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : Launch complex 34. Hot spot 6
SITE NAME: LC34 HS6
PROJECT NO.: 112G08985

INSTRUMENT 1 : YSI ProQuatro SN# Head-21D101770/Cable-PQ01
INSTRUMENT 2: Geotech turbidimeter SN# 23054681
Other/Rental:

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.) 7	4	10	Cond. (µS/cm)	D.O. (%)	mg/L	Temp. °C	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (20) (NTUs)	Calibration Standard Type	Calibration Standard Value	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	*7.07*	*3.98*	9.95	1430	101.7	9.16	20.6	215.2	-	0.02	20.4	pH	4	*Lot # C0923A*	Calibration verified
11/27/2023	NAV	*Post*									-					*Exp. Date 03/09/2025*	
		Pre	*7.16*	*4.10*	10.12	1413	103.6	10.58	14.5	224.3	-	0.02	19.6	pH	7	*Lot # C0623D*	Calibration verified
11/28/2023	NAV	*Post*									-					*Exp. Date 03/06/2025*	
		Pre	*7.10*	*4.11*	10.07	1450	104.4	11.35	11.5	228.1	-	0.02	19.4	pH	10	*Lot # B2123A*	Calibration verified
11/29/2023	NAV	*Post*									-					*Exp. Date 08/21/2024*	
		Pre	7.11	4.13	10.01	1508	104.3	10.69	14.2	223.7	-	0.02	20.1	Cond. (µS/cm)	1413	*Lot # 8199*	Conductivity calibrated
11/30/2023	NAV	*Post*				1416					-					*Exp. Date 10/01/2027*	
		Pre												ORP mV	223	*Lot # 21K100461*	
		Post														*Exp. Date*	
		Pre												Turbidity	0	*Lot #*	
		Post														*Exp. Date*	
		Pre												Turbidity	10	*Lot #*	
		Post														*Exp. Date*	
		Pre															
		Post															
		Pre															
		Post															
		Pre															
		Post															

Additional Comments:

FDEP Acceptance criteria: DO +/- 0.3 mg/L, SPC +/- 5% , ORP +/- 10mV, pH +/- 0.2 SU, NTU (0.1-10) +/- 10%, (11-40) +/- 8%, (41-100) +/- 6.5%, (>100) +/- 5%

Project Number: 112G08985 **Project Name:** launch complex 34, hot spot 6

Date: 11/27/23 **Weather:** cloudy, humid, cool

Personnel: Natalie Volk (NAV) (Engineer), Chuck Sorden (CS) (Geologist)

Health and Safety: stinging insects, weather

PPE: Choose an item. **Objective:** complete LC34 HS6 sampling and water levels

Equipment: Choose an item. Choose an item. Choose an item. Choose an item.

Field Notes:

0715 NAV on base. Calibrate equipment

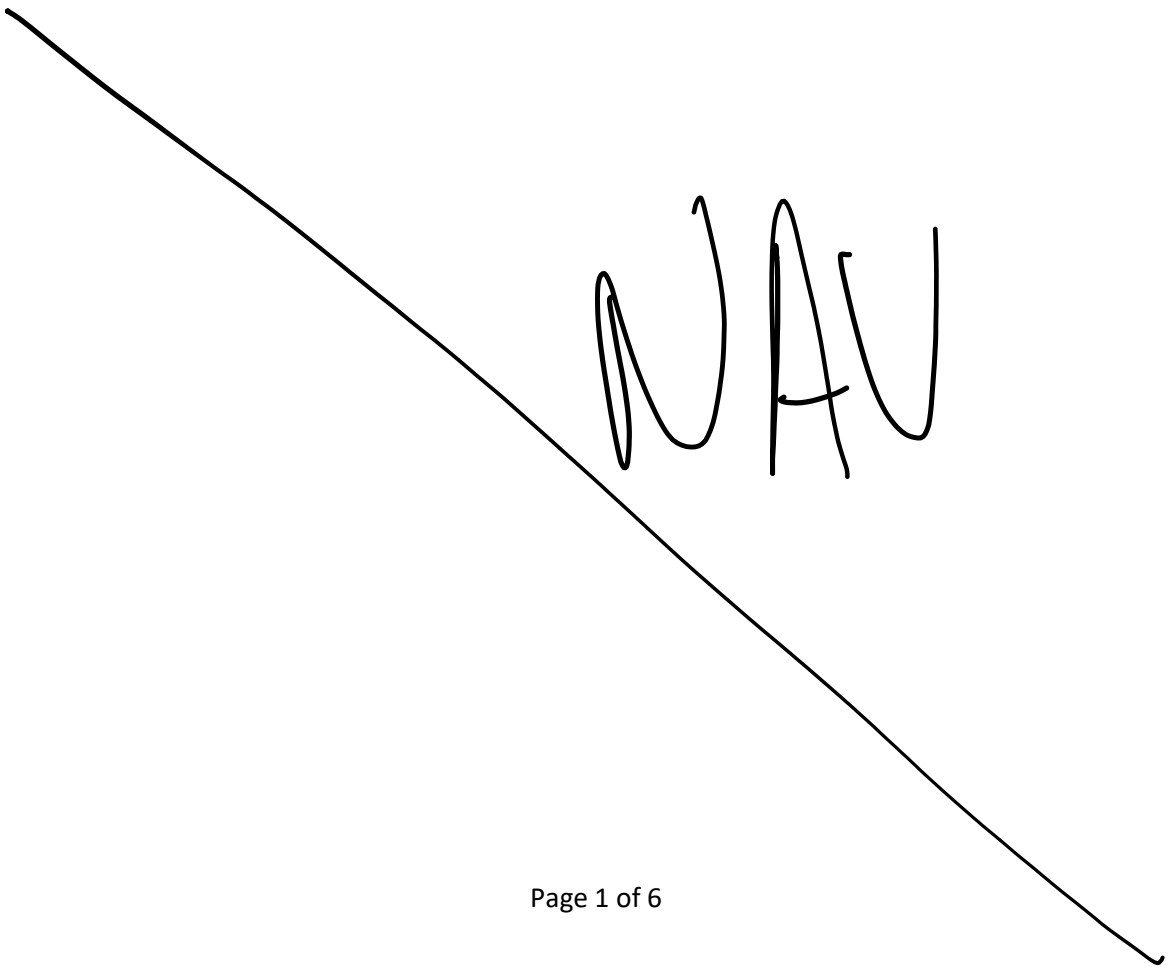
0750 CS on base. Team up in one vehicle for WL as only CS truck will make it through woody/wet area in back

0910 on-site (LC34) opening wells for WL gauging

1230 begin collecting DTW measurements

1545 finish DTW measurements, off site

1600 off base



Date: 11/28/23 **Weather:** cloudy, humid, cool

Personnel: Natalie Volk (NAV) (Engineer), Chuck Sorden (CS) (Geologist)

Health and Safety: stinging insects, weather

PPE: Choose an item. **Objective:** complete LC34 HS6 sampling and water levels

Equipment: Choose an item. Choose an item. Choose an item. Choose an item.

Field Notes:

0800 NAV and CS on base. Calibrate equipment

0830 on-site (LC34) begin groundwater sampling as 2 teams

0845 begin purge IW136

0905 Collect sample	LC34-IW0136-024.0-20231128	8260D MOD LC34 Custom list

0925 begin purge IW177

0940 Collect sample	LC34-IW0136-024.0-20231128	8260D MOD LC34 Custom List

0954 begin purge IW0170

1010 Collect sample	LC34-IW0170-022.0-20231128	8260D MOD LC34 Custom List

1018 Begin purge IW0171

1035 Collect sample	LC34-IW0171-032.5-20231128	8260D MOD LC34 Custom List

1052 begin purge IW0169

1110 Collect sample	LC34-IW0169-032.5-20231128	8260D MOD LC34 Custom List

1121 Begin purge IW0168

1135 Collect sample	LC34-IW0168-022.0-20231128	8260D MOD LC34 Custom List

1152 begin purge IW0178

1207 collect sample	LC34-IW0178-018.5-20231128	8260D MOD LC34 Custom List

1225 begin purge IW0172

1240 Collect sample	LC34-IW0172-022.0-20231128	8260D MOD LC34 Custom List

1248 Begin purge IW0173

1303 Collect sample	LC34-IW0173-032.5-20231128	8260D MOD LC34 Custom List

1318 Begin purge IW0175

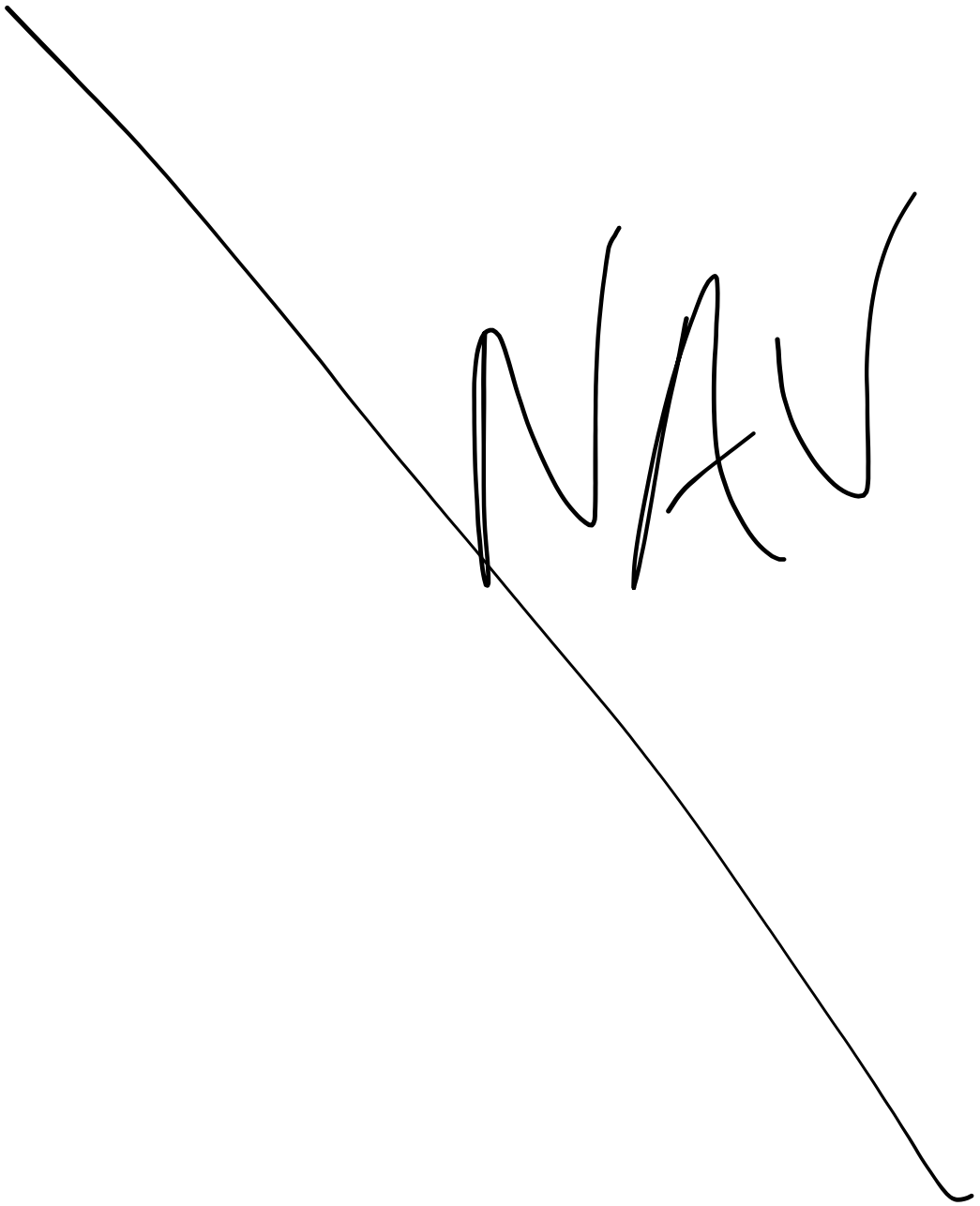
1335 Collect sample	LC34-IW0175-032.5-20231128	8260D MOD LC34 Custom List

1343 Begin purge IW0174

1400 Collect sample LC34-IW0174-018.5-20231128 8260D MOD LC34 Custom List

1415 finish groundwater sampling for day, take purge water IDW to system, clean and secure site

1500 off site/off-base



Date: 11/29/23 **Weather:** humid, cool

Personnel: Natalie Volk (NAV) (Engineer), Chuck Sorden (CS) (Geologist)

Health and Safety: stinging insects, weather

PPE: Choose an item. **Objective:** complete LC34 HS6 sampling and water levels

Equipment: Choose an item. Choose an item. Choose an item. Choose an item.

Field Notes:

0730 on base (NAV and CS), calibrate and pack equipment

0830 on-site begin groundwater sampling

0910 begin purge IW0188

0925 Collect sample	LC34-IW0188-018.5-20231128	8260D MOD LC34 Custom List

0941 begin purge IW0181

0957 Collect sample	LC34-IW0181-022.0-20231129	8260D MOD LC34 Custom List

1006 Begin purge IW0182

1020 Collect sample	LC34-IW182-032.5-20231129	8260D MOD LC34 Custom List

1033 begin purge IW0183

1045 Collect sample	LC34-IW0183-022.0-20231129	8260D MOD LC34 Custom List

1055 Begin purge IW0184

1100 Collect sample	LC34-IW0184-032.5-20231129	8260D MOD LC34 Custom List

1124 begin purge IW0180

1140 Collect sample	LC34-IW0180-032.5-20331129	8260MOD LC34 Custom List

1151 Begin purge IW0179

1207 Collect sample	LC34-IW0179-022.0-20231129	8260D MOD LC34 Custom List

1231 begin purge IW0185

1250 Collect sample	LC34-IW0185-018.5-20231129	8260D MOD LC34 Custom List

1305 begin purge IW0186

1320 Collect sample	LC34-IW0186-018.5-20231129	8260D MOD LC34 Custom List

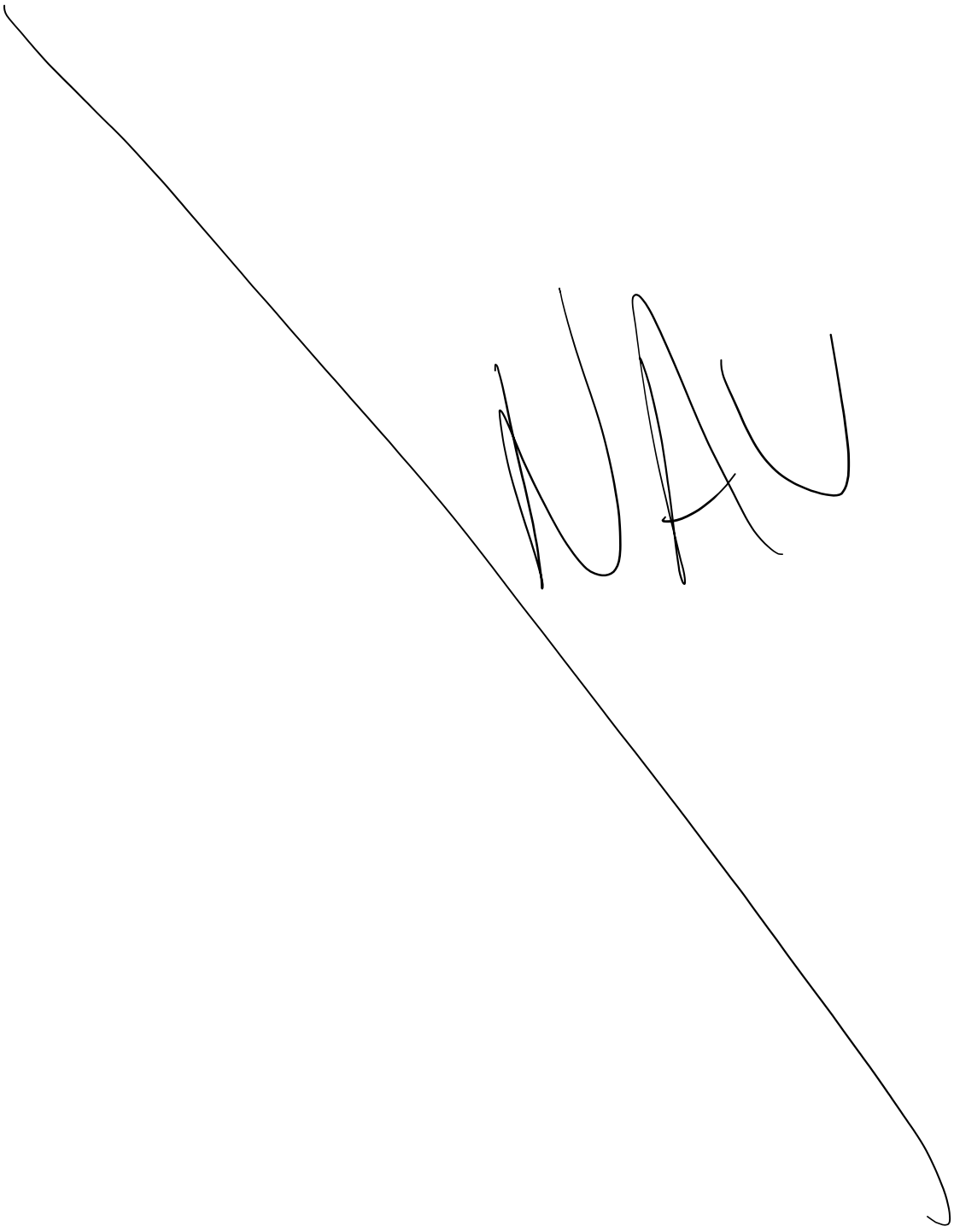
1344 begin purge IW0187

1400 Collect sample	LC34-IW0187-018.5-20231129	8260D MOD LC34 Custom List

1410 finish groundwater sampling

Take IDW to system

1515 off base/off site



Date: 11/30/23 **Weather:** sunny, humid, cool

Personnel: Natalie Volk (NAV) (Engineer), Chuck Sorden (CS) (Geologist)

Health and Safety: stinging insects, weather

PPE: Choose an item. **Objective:** complete LC34 HS6 sampling and water levels

Equipment: Choose an item. Choose an item. Choose an item. Choose an item.

Field Notes:

1050 NAV on-site

1100 begin purge IW0137

1123 Collect sample	LC34-IW0137-024.0-20231130	8260D MOD LC34 Custom List

1135 Begin purge IW0138

1155 Collect sample	LC34-IW0138-024.0-20231130	8260D MOD LC34 Custom List

1211 begin purge IW0140

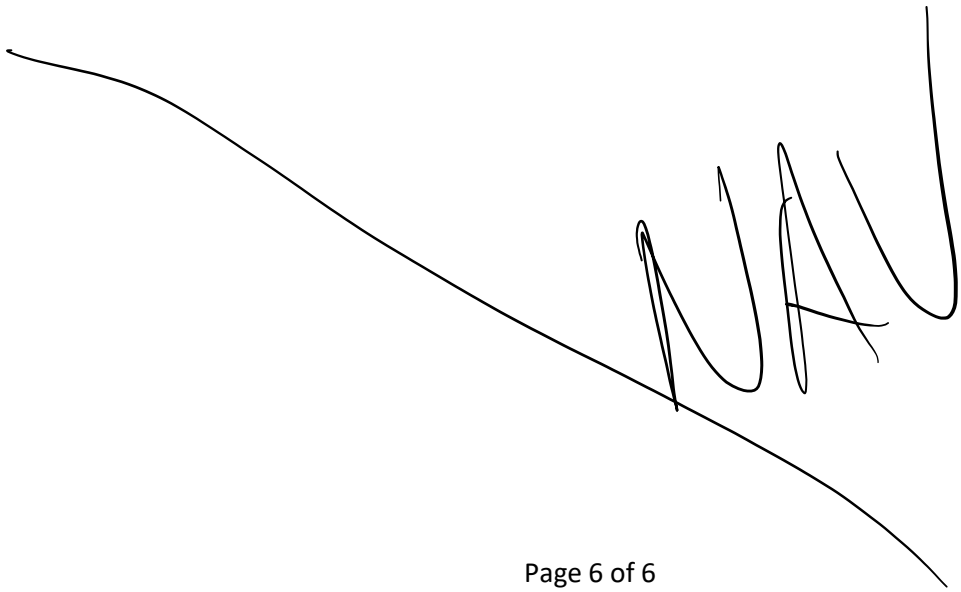
1230 Collect sample	LC34-IW0140-024.0-20231130	8260D MOD LC34 Custom List

1240 conclude groundwater sampling at site

1245 Take IDW to system

1300 Off sit, unload equipment

1330 off base



11/28/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Natalie Volk	(NAV)	Engineer	Tt
Weather:	Sunny – 53 degrees F			
PPE:	Level D			

Objective: Begin LC34 HS6 3 & 4 Performance Monitoring Sampling Event

0720:	Tt at CHP; calibration of equipment/daily prep		
0830:	Tt arrives at LC34; setting up		
0850:	CS purging LC34-IW0133		
0905:	NAV Collected	LC34-IW0136-024.0-20231128	8260D Custom
0908:	Purging Complete on IW0133		
0910:	CS Collected	LC34-IW0133-018.0-20231128	8260D Custom
0920:	CS Purging LC34-IW0125		
0935:	Purging Complete on IW0125		
0940:	CS Collected	LC34-IW0125-018.0-20231128	8260D Custom
0940:	NAV Collected	LC34-IW0177-018.5-20231128	8260D Custom
0950:	CS Purging LC34-IW0132		
1007:	Purging Complete on IW0132		
1010:	NAV Collected	LC34-IW0170-022.0-20231128	8260D Custom
1010:	CS Collected	LC34-IW0132-018.0-20231128	8260D Custom
1020:	CS Purging LC34-IW0131		
1035:	Purging Complete on IW0131		
1035:	NAV Collected	LC34-IW0171-032.5-20231128	8260D Custom
1040:	CS Collected	LC34-IW0131-018.0-20231128	8260D Custom
1050:	CS Purging LC34-IW0129		
1104:	Purging Complete on LC34-IW0129		
1105:	CS Collected	LC34-IW0129-018.0-20231128	8260D Custom
1110:	NAV Collected	LC34-IW0169-032.5-20231128	8260D Custom
1110:	CS Purging LC34-IW0130		
1124:	Purging Complete on IW0129		
1125:	CS Collected	LC34-IW0130-024.0-20231128	8260D Custom
1135:	CS Puring LC34-IW0108		
1135:	NAV Collected	LC34-IW0168-022.0-20231128	8260D Custom
1207:	Purging Complete on IW0108; high D.O. From air sparging; sampled per FS2212		
1207:	NAV Collected	LC34-IW0178-018.5-20231128	8260D Custom
1210:	CS Collected	LC34-IW0108-024.0-20231128	8260D Custom
1220:	CS Purging LC34-IW0124		
1240:	NAV Collected	LC34-IW0172-022.0-20231128	8260D Custom
1244:	Purging Complete on IW0124		
1245:	CS Collected	LC34-IW0124-018.0-20231128	8260D Custom
1255:	CS Purging LC34-IW0128		
1303:	NAV Collected	LC34-IW0173-032.5-20231128	8260D Custom
1309:	Purging Complete on IW0128		
1310:	CS Collected	LC34-IW0128-018.0-20231128	8260D Custom
1320:	CS Purging LC34-IW0127		
1334:	Purging Complete on IW0127		
1335:	CS Collected	LC34-IW0127-024.0-20231128	8260D Custom

11/28/2023	**LC34 HS6**	**112G08985**
1335: NAV Collected	LC34-IW0175-032.5-20231128	8260D Custom
1345: CS Purging LC34-IW0142		
1359: Purging Complete on IW0142		
1400: CS Collected	LC34-IW0142-024.0-20231128	8260D Custom
1400: NAV Collected	LC34-IW0174-018.5-20231128	8260D Custom

- Sampling Complete for the day

1430: Site secured; Tt offsite to CHP to secure equipment and samples

11/29/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Natalie Volk	(NAV)	Engineer	Tt
Weather:	Sunny – 53 degrees F			
PPE:	Level D			

Objective: Continue LC34 HS6 3 & 4 Performance Monitoring Sampling Event

0730:	Tt at CHP; calibrating equipment/daily prep		
0830:	Tt arrives at LC34; setting up		
0900:	CS purging LC34-IW0057I		
0914:	Purging Complete onIW0057I		
0915:	CS Collected	LC34-IW0057I-025.5-20231129	8260D Custom
0920:	CS Purging LC34-IW0057S		
0925:	NAV Collected	LC34-IW0188-018.5-20231129	8260D Custom
0934:	Purging Complete on IW0057S		
0935:	CS Collected	LC34-IW0057S-007.3-20231129	8260D Custom
0945:	CS Purging LC34-IW0147		
0957:	NAV Collected	LC34-IW0181-022.0-20231129	8260D Custom
0959:	PurgingComplete on IW0147		
1000:	CS Collected	LC34-IW0147-024.0-20231129	8260D Custom
1005:	CS Purging LC34-IW0146		
1019:	Purging Complete on IW0146		
1020:	CS Collected	LC34-IW0146-018.0-20231129	8260D Custom
1020:	NAV Collected	LC34-IW0182-032.5-20231129	8260D Custom
1040:	CS Purging LC34-IW0144		
1045:	NAV Collected	LC34-IW0183-022.0-20231129	8260D Custom
1054:	Purging Complete on IW0144		
1055:	CS Collected	LC34-IW0144-018.0-20231129	8260D Custom
1105:	CS Purging LC34-IW0145		
1110:	NAV Collected	LC34-IW0184-032.5-20231129	8260D Custom
1119:	Purging Complete on IW0145		
1120:	CS Collected	LC34-IW0145-031.5-20231129	8260D Custom
1130:	CS Purging LC34-IW0143		
1140:	NAV Collected	LC34-IW0180-032.5-20231129	8260D Custom
1204:	Purging Complete on IW0143		
1205:	CS Collected	LC34-IW0143-024.0-20231129	8260D Custom
1207:	NAV Collected	LC34-IW0179-022.0-20231129	8260D Custom
1215:	CS Purging LC34-IW0123		
1229:	Purging Complete on IW0123		
1230:	CS Collected	LC34-IW0123-024.0-20231129	8260D Custom
1240:	CS Purging LC34-IW0176		
1250:	NAV Collected	LC34-IW0185-018.5-20231129	8260D Custom
1259:	Purging Complete on IW0176		
1300:	CS Collected	LC34-IW0176-018.5-20231129	8260D Custom
1310:	CS Purging LC34-IW0135		
1320:	NAV Collected	LC34-IW0186-018.5-20231129	8260D Custom

11/29/2023 **LC34 HS6** **112G08985**

1344: Purging Complete on IW0135; High D.O from air sparging; all parameters stable; sampled per FS2212

1345: CS Collected	LC34-IW0135-024.0-20231129	8260D Custom
1400: NAV Collected	LC34-IW0187-018.5-20231129	8260D Custom
1400: CS Purging LC34-IW0134		
1414: Purging Complete on IW0134		
1415: Sample Collected	LC34-IW0134-024.0-20231129	8260D Custom
1500: offsite		

11/30/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Natalie Volk	(NAV)	Engineer	Tt
Weather:	Sunny – 53 degrees F			
PPE:	Level D			

Objective: Continue LC34 HS6 3 & 4 Performance Monitoring Sampling Event

0730: Tt at CHP; calibrating equipment/daily prep; sampling 39A first
0830: Tt arrives at LC34; setting up
0930: CS at LC34; setting up
1000: CS purging LC34-IW0141
1014: Purging complete on IW0141
1015: CS Collected LC34-IW0141-024.0-20231130
1035: CS Purging LC34-IW0126
1049: Purging Complete on IW0126
1050: CS Collected LC34-IW0126-024.0-20231130
1110: CS collected LC34-SW1004-000.5-20231130
1123: NAV Collected LC34-IW0137-024.0-20231130
1130: CS Collected LC34-SW1001-000.5-20231130
1150: CS Collected LC34-SW1002-000.5-20231130
1155: NAV collected LC34-IW0138-031.5-20231130
1210: CS Purging LC34-IW0139
1230: NAV Collected LC34-IW0140-024.0-20231130
1235: Purging complete on IW0139
1240: CS collected LC34-IW0139-018.0-20231130

HS 6 PERFORMANCE MONITORING FIELD DOCUMENTATION
FEBRUARY 2024

Tetra Tech, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: Launch Complex 34 - Hot Spot 6
Project No.: 112G08985
Location: Kennedy Space Center (KSC), FL
Personnel: Nv nf
Weather Conditions:
Measuring Device: Heron skinny dipper
Tidally Influenced: Yes ____ No __X__
Remarks:

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)*	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
IW0168	02/14/24	1034			2.25	NA		
IW0169	02/14/24	1035			2.39	NA		
IW0170	02/14/24	1036			1.65	NA		
IW0171	02/14/24	1037			2.01	NA		
IW0172	02/14/24	1039			1.75	NA		
IW0173	02/14/24	1040			1.79	NA		
IW0174	02/14/24	1044			3.17	NA		
IW0175	02/14/24	1043			3.64	NA		
IW0176	02/14/24	1044			4.45	NA		
IW0177	02/14/24	1041			1.81	NA		
IW0178	02/14/24	1038			1.54	NA		
IW0179	02/14/24	1049			2.11	NA		
IW0180	02/14/24	1050			2.09	NA		
IW0181	02/14/24	1023			4.2	NA		
IW0182	02/14/24	1024			4.09	NA		
IW0183	02/14/24	1026			4.65	NA		
IW0184	02/14/24	1025			4.63	NA		
IW0185	02/14/24	1027			2.15	NA		
IW0186	02/14/24	1021			1.82	NA		
IW0187	02/14/24	1030			2.89	NA		
IW0188	02/14/24	1031			4.44	NA		
						NA		
						NA		
						NA		
						NA		
						NA		
						NA		
						NA		

* All measurements to the nearest 0.01 foot

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)		Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0168	Sample ID: LC34-IW0168-022.0-20240215		Date: 2/15/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.29	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.29	Well Screen Interval Depth (ft bls): 17 to 27		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 17	Bottom Depth: 27	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.7065 Liters 27 - 2.29 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.025 = vol x3 **0.675** Liters 0 + 0.005 X 40 + 0.475

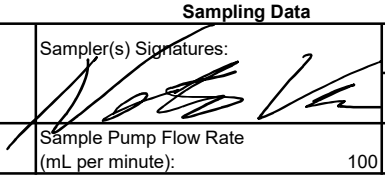
Initial Pump or Tubing Depth in Well (feet): 22	Final Pump or Tubing Depth in Well (feet): 22	Purging Initiated At: 9:49	Purging Ended At: 10:06	Total Vol. Purged (Liters): 4.1	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:56	2.1	2.1	300	2.60	7.02	24.3	1617	0.04	23.4	-73.2	None
10:02	1.2	3.3	200	2.48	7.08	23.9	1622	0.13	19.2	-77.2	None
10:04	0.4	3.7	200	2.46	7.03	23.8	1592	0.17	17.6	-77.4	None
10:06	0.4	4.1	200	2.46	7.03	23.8	1587	0.15	16.2	-78.5	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 10:07	Sampling Ended At: 10:11
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 22	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
1	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)		Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0169	Sample ID: LC34-IW0169-032.5-20240215		Date: 2/15/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.40	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.4	Well Screen Interval Depth (ft bls): 30 to 35		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 30	Bottom Depth: 35	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

4.89 Liters 35 - 2.4 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.1 = vol x3 **0.7** Liters 0 + 0.005 X 45 + 0.475

Initial Pump or Tubing Depth in Well (feet): 32.5	Final Pump or Tubing Depth in Well (feet): 32.5	Purging Initiated At: 10:12	Purging Ended At: 10:22	Total Vol. Purged (Liters): 3.6	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:20	2.4	2.4	300	2.79	7.06	23.9	1891	0.07	15.5	-322.4	None
10:22	0.6	3	300	2.79	7.08	23.9	1917	0.07	12.8	-323.2	None
10:22	0	3	300	2.79	7.08	24.0	1953	0.06	10.7	-322.9	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 10:23	Sampling Ended At: 10:27
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 32.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)		Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0170	Sample ID: LC34-IW0170-022.0-20240214		Date: 2/14/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.95	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.95	Well Screen Interval Depth (ft bls): 17 to 27		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 17	Bottom Depth: 27	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.7575 Liters 27 - 1.95 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.025 = vol x3 **0.675** Liters 0 + 0.005 X 40 + 0.475

Initial Pump or Tubing Depth in Well (feet): 22	Final Pump or Tubing Depth in Well (feet): 22	Purging Initiated At: 14:21	Purging Ended At: 14:32	Total Vol. Purged (Liters): 3.3	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
14:28	2.1	2.1	300	2.05	6.94	23.5	2747	0.12	7.18	-51.3	None
14:30	0.6	2.7	300	2.05	6.93	23.6	2753	0.18	15	-52.4	None
14:32	0.6	3.3	300	2.05	6.93	23.6	2757	0.22	7.34	-53.4	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 14:33	Sampling Ended At: 14:37
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 22	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
1	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)		Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0171	Sample ID: LC34-IW0171-032.5-20240214		Date: 2/14/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.02	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.02	Well Screen Interval Depth (ft bls): 30 to 35		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 30	Bottom Depth: 35	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

4.947 Liters 35 - 2.02 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.1 = vol x3 **0.7** Liters 0 + 0.005 X 45 + 0.475

Initial Pump or Tubing Depth in Well (feet): 32.5	Final Pump or Tubing Depth in Well (feet): 32.5	Purging Initiated At: 14:40	Purging Ended At: 14:53	Total Vol. Purged (Liters): 3.9	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
14:47	2.1	2.1	300	2.30	7.27	22.3	2468	1.75	10.6	18.3	None
14:49	0.6	2.7	300	2.30	7.27	22.4	2471	1.67	6.54	16.4	None
14:51	0.6	3.3	300	2.30	7.28	22.6	2477	1.61	4.31	15.0	None
14:53	0.6	3.9	300	2.30	7.28	22.5	2465	1.55	4.26	13.2	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 14:54	Sampling Ended At: 15:00
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 32.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)	Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0172	Sample ID: LC34-IW0172-022.0-20240215	Date: 2/15/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.75	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.75	Well Screen Interval Depth (ft bls): 17 to 27		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 17	Bottom Depth: 27	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.7875 Liters 27 - 1.75 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.1 = vol x3 **0.7** Liters + 0.005 X 45 + 0.475

Initial Pump or Tubing Depth in Well (feet): 22	Final Pump or Tubing Depth in Well (feet): 22	Purging Initiated At: 10:52	Purging Ended At: 11:03	Total Vol. Purged (Liters): 3.3	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:59	2.1	2.1	300	1.88	7.04	24.1	1256	1.41	15.7	-140.0	None
11:01	0.6	2.7	300	1.88	7.03	24.2	1256	1.40	11.3	-138.4	None
11:03	0.6	3.3	300	1.88	7.03	24.1	1260	1.39	9.61	-137.5	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 11:04	Sampling Ended At: 11:08
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 22	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)		Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0173	Sample ID: LC34-IW0173-032.5-20240215		Date: 2/15/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.90	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.9	Well Screen Interval Depth (ft bls): 30 to 35		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 30	Bottom Depth: 35	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

4.965 Liters 35 - 1.9 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.1 = vol x3 **0.7** Liters 0 + 0.005 X 45 + 0.475

Initial Pump or Tubing Depth in Well (feet): 32.5	Final Pump or Tubing Depth in Well (feet): 32.5	Purging Initiated At: 11:11	Purging Ended At: 11:21	Total Vol. Purged (Liters): 3.5	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:17	2.1	2.1	350	2.30	7.27	24.2	2470	1.52	11.9	-73.6	None
11:19	0.7	2.8	350	2.30	7.29	24.2	2459	1.50	12.1	-75.9	None
11:21	0.7	3.5	350	2.30	7.26	24.2	2466	1.45	7.1	-82.7	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 11:21	Sampling Ended At: 11:25
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 32.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)	Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0174	Sample ID: LC34-IW0174-022.0-20240214	Date: 2/14/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 3.20	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 3.2	Well Screen Interval Depth (ft bls): 17 to 27		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 17	Bottom Depth: 27	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.57 Liters 27 - 3.2 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.025 = vol x3 **0.675** Liters 0 + 0.005 X 40 + 0.475

Initial Pump or Tubing Depth in Well (feet): 22	Final Pump or Tubing Depth in Well (feet): 22	Purging Initiated At: 13:59	Purging Ended At: 14:10	Total Vol. Purged (Liters): 3.3	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
14:06	2.1	2.1	300	3.30	6.98	24.4	1801	0.02	8.68	-124.0	None
14:08	0.6	2.7	300	3.30	6.98	24.4	1811	0.04	5.64	-125.4	None
14:10	0.6	3.3	300	3.30	6.98	24.5	1818	0.08	2.19	-126.0	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 14:11	Sampling Ended At: 14:15
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 22	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
1	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)	Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0175	Sample ID: LC34-IW0175-032.5-20240214	Date: 2/14/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 3.71	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 3.71	Well Screen Interval Depth (ft bls): 30 to 35		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 30	Bottom Depth: 35	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

4.6935 Liters 35 - 3.71 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.1 = vol x3 **0.7** Liters 0 + 0.005 X 45 + 0.475

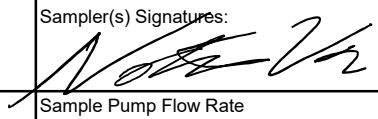
Initial Pump or Tubing Depth in Well (feet): 32.5	Final Pump or Tubing Depth in Well (feet): 32.5	Purging Initiated At: 13:42	Purging Ended At: 13:54	Total Vol. Purged (Liters): 3.6	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
13:50	2.4	2.4	300	4.36	7.25	24.7	2591	1.30	5.85	-35.2	None
13:52	0.6	3	300	4.36	7.24	24.7	2622	1.30	4.48	-31.9	None
13:54	0.6	3.6	300	4.37	7.25	24.8	2623	1.32	4.28	-34.0	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 13:55	Sampling Ended At: 13:59
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 32.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
1	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)		Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0176	Sample ID: LC34-IW0176-018.5-20240215		Date: 2/15/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 4.46	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 4.46	Well Screen Interval Depth (ft bls): 16 to 21		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 16	Bottom Depth: 21	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

2.481 Liters 21 - 4.46 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.89 = vol x3 **0.63** Liters + 0.005 X 31 + 0.475

Initial Pump or Tubing Depth in Well (feet): 18.5	Final Pump or Tubing Depth in Well (feet): 18.5	Purging Initiated At: 11:50	Purging Ended At: 12:01	Total Vol. Purged (Liters): 3.85	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:57	2.45	2.45	350	4.62	6.29	24.3	3806	0.36	7.94	-64.1	None
11:59	0.7	3.15	350	4.62	6.92	24.4	3888	0.36	7.09	-68.4	None
12:01	0.7	3.85	350	4.62	6.92	24.3	3882	0.23	6.13	-72.4	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 12:02	Sampling Ended At: 12:06
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 18.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
1	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)	Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0177	Sample ID: LC34-IW0177-018.5-20240215	Date: 2/15/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.77	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.77	Well Screen Interval Depth (ft bls): 16 to 21		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 16	Bottom Depth: 21	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

2.8845 Liters 21 - 1.77 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.89 = vol x3 **0.63** Liters + 0.005 X 31 + 0.475

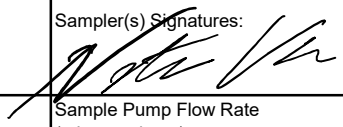
Initial Pump or Tubing Depth in Well (feet): 18.5	Final Pump or Tubing Depth in Well (feet): 18.5	Purging Initiated At: 11:31	Purging Ended At: 11:40	Total Vol. Purged (Liters): 3.15	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:36	1.75	1.75	350	2.05	6.86	24.5	2078	0.39	4.52	-91.1	None
11:38	0.7	2.45	350	2.05	6.87	24.5	2061	0.50	3.49	-90.0	None
11:40	0.7	3.15	350	2.05	6.87	24.6	2041	0.56	4.15	-90.6	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 11:41	Sampling Ended At: 11:45
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 18.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
1	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)	Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0178	Sample ID: LC34-IW0178-018.5-20240215	Date: 2/15/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 1.55	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 1.55	Well Screen Interval Depth (ft bls): 16 to 21		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 16	Bottom Depth: 21	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

2.9175 Liters 21 - 1.55 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.89 = vol x3 **0.63** Liters + 0.005 X 31 + 0.475

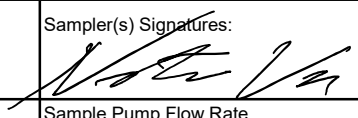
Initial Pump or Tubing Depth in Well (feet): 18.5	Final Pump or Tubing Depth in Well (feet): 18.5	Purging Initiated At: 10:33	Purging Ended At: 10:44	Total Vol. Purged (Liters): 3.3	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
10:40	2.1	2.1	300	1.73	7.15	23.7	1439	0.22	0.1	-220.3	None
10:42	0.6	2.7	300	1.73	7.12	23.8	1422	0.25	0.28	-221.3	None
10:44	0.6	3.3	300	1.73	7.13	23.8	144	0.27	0.47	-221.9	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 10:45	Sampling Ended At: 10:50
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 18.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
1	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)		Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0179	Sample ID: LC34-IW0179-022.0-20240214		Date: 2/14/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.11	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.11	Well Screen Interval Depth (ft bls): 17 to 27		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 17	Bottom Depth: 27	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.7335 Liters 27 - 2.11 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.025 = vol x3 **0.675** Liters + 0.005 X 40 + 0.475

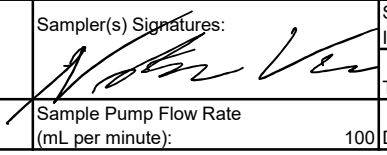
Initial Pump or Tubing Depth in Well (feet): 22	Final Pump or Tubing Depth in Well (feet): 22	Purging Initiated At: 11:10	Purging Ended At: 11:22	Total Vol. Purged (Liters): 3.6	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:18	2.4	2.4	300	2.26	7.08	24.2	1264	1.06	11.6	-0.9	None
11:20	0.6	3	300	2.26	7.09	24.3	1270	1.08	11.9	-0.7	None
11:22	0.6	3.6	300	2.26	7.09	24.3	1266	1.07	13.2	3.1	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 11:23	Sampling Ended At: 11:27
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 22	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
1	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)		Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0180	Sample ID: LC34-IW0180-032.5-20240214		Date: 2/14/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.09	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.09	Well Screen Interval Depth (ft bls): 30 to 35		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 30	Bottom Depth: 35	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

4.9365 Liters 35 - 2.09 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.1 = vol x3 **0.7** Liters + 0.005 X 45 + 0.475

Initial Pump or Tubing Depth in Well (feet): 32.5	Final Pump or Tubing Depth in Well (feet): 32.5	Purging Initiated At: 10:53	Purging Ended At: 11:04	Total Vol. Purged (Liters): 3.3	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:00	2.1	2.1	300	2.49	7.52	24.2	1894	0.06	5.38	-200.3	None
11:02	0.6	2.7	300	2.49	7.53	24.3	1897	0.06	3.82	-202.0	None
11:04	0.6	3.3	300	2.49	7.54	24.3	1887	0.08	4.41	-203.4	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 11:05	Sampling Ended At: 11:09
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 32.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)		Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0181	Sample ID: LC34-IW0181-022.0-20240214		Date: 2/14/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 4.15	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 4.15	Well Screen Interval Depth (ft bls): 17 to 27		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 17	Bottom Depth: 27	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.4275 Liters 27 - 4.15 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.025 = vol x3 **0.675** Liters + 0.005 X 40 + 0.475

Initial Pump or Tubing Depth in Well (feet): 22	Final Pump or Tubing Depth in Well (feet): 22	Purging Initiated At: 12:56	Purging Ended At: 13:08	Total Vol. Purged (Liters): 3.6	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
13:04	2.4	2.4	300	4.25	7.08	24.2	825	0.25	1.87	-31.8	None
13:06	0.6	3	300	4.25	7.08	24.2	828	0.26	2.56	-32.5	None
13:08	0.6	3.6	300	4.25	7.08	24.1	831	0.36	1.81	-34.2	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 13:09	Sampling Ended At: 13:13
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 22	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
1	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)		Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0182	Sample ID: LC34-IW0182-032.5-20240214		Date: 2/14/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 4.02	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 4.02	Well Screen Interval Depth (ft bls): 30 to 35		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 30	Bottom Depth: 35	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

4.647 Liters 35 - 4.02 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.1 = vol x3 **0.7** Liters + 0.005 X 45 + 0.475

Initial Pump or Tubing Depth in Well (feet): 32.5	Final Pump or Tubing Depth in Well (feet): 32.5	Purging Initiated At: 12:37	Purging Ended At: 12:51	Total Vol. Purged (Liters): 4.2	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
12:47	3	3	300	4.26	7.72	24.4	1130	0.01	2.72	-179.2	None
12:49	0.6	3.6	300	4.26	7.72	24.3	1130	0.02	2.7	-179.3	None
12:51	0.6	4.2	300	4.26	7.71	24.3	1126	0.02	1.79	-179.4	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 12:52	Sampling Ended At: 12:56
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 32.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)	Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0183	Sample ID: LC34-IW0183-022.0-20240214	Date: 2/14/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 4.66	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 4.66	Well Screen Interval Depth (ft bls): 17 to 27		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 17	Bottom Depth: 27	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

3.351 Liters 27 - 4.66 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.025 = vol x3 **0.675** Liters + 0.005 X 40 + 0.475

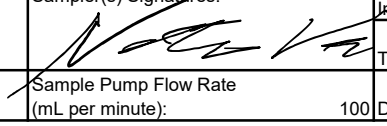
Initial Pump or Tubing Depth in Well (feet): 22	Final Pump or Tubing Depth in Well (feet): 22	Purging Initiated At: 11:54	Purging Ended At: 12:05	Total Vol. Purged (Liters): 3.3	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
12:01	2.1	2.1	300	4.75	7.17	24.9	1509	2.23	4.73	-1.5	None
12:03	0.6	2.7	300	4.75	7.17	25.0	1515	2.21	4.78	4.8	None
12:05	0.6	3.3	300	4.75	7.16	25.0	1509	2.19	3.59	6.5	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 12:06	Sampling Ended At: 12:10
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 22	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID: High DO, air sparging

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)		Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0184	Sample ID: LC34-IW0184-032.5-20240214		Date: 2/14/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 4.60	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 4.6	Well Screen Interval Depth (ft bls): 30 to 35		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 30	Bottom Depth: 35	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

4.56 Liters 35 - 4.6 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

2.1 = vol x3 **0.7** Liters + 0.005 X 45 + 0.475

Initial Pump or Tubing Depth in Well (feet): 32.5	Final Pump or Tubing Depth in Well (feet): 32.5	Purging Initiated At: 11:33	Purging Ended At: 11:46	Total Vol. Purged (Liters): 3.9	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
11:40	2.1	2.1	300	4.89	7.52	24.9	1407	0.34	2.68	-169.2	None
11:42	0.6	2.7	300	4.89	7.51	25.0	1411	0.06	5.62	-166.6	None
11:44	0.6	3.3	300	4.89	7.51	24.9	1417	0.04	12.9	-165.8	None
11:46	0.6	3.9	300	4.89	7.51	24.9	1422	0.05	8.77	-164.5	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 11:47	Sampling Ended At: 11:51
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 32.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
1	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)		Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0185	Sample ID: LC34-IW0185-018.5-20240214		Date: 2/14/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.09	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.09	Well Screen Interval Depth (ft bls): 16 to 21		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 16	Bottom Depth: 21	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

2.8365 Liters 21 - 2.09 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.89 = vol x3 **0.63** Liters + 0.005 X 31 + 0.475

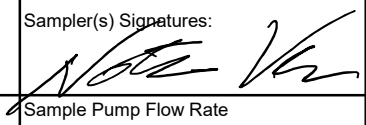
Initial Pump or Tubing Depth in Well (feet): 18.5	Final Pump or Tubing Depth in Well (feet): 18.5	Purging Initiated At: 13:19	Purging Ended At: 13:30	Total Vol. Purged (Liters): 3.3	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
13:26	2.1	2.1	300	2.32	7.09	24.3	691	0.02	11.6	-47.9	None
13:28	0.6	2.7	300	2.32	7.08	24.2	689	0.04	9.15	-50.5	None
13:30	0.6	3.3	300	2.32	7.09	24.3	691	0.09	7.85	-58.9	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 13:31	Sampling Ended At: 13:35
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 18.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
1	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name:	Launch Complex 34 (LC 34)	Site Location:	Cape Canaveral Space Force Station (CCSFS), Florida		
Location ID:	IW0186	Sample ID:	LC34-IW0186-018.5-20240214	Date:	2/14/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls)	1.81	Casing Height (ft als)	NA	Static Depth to Water (ft bls) = DTW -Casing Height:	1.81	Well Screen Interval Depth (ft bls):	16 to 21
Well Diameter (in)	1	Tubing Diameter (in)	0.19	Purge Pump Type or Bailer:	APP	Top Depth: 16	Bottom Depth: 21

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

2.8785 Liters 21 - 1.81 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.89 = vol x3 **0.63** Liters + 0.005 X 31 + 0.475

Initial Pump or Tubing Depth in Well (feet):	18.5	Final Pump or Tubing Depth in Well (feet):	18.5	Purging Initiated At:	12:15
Purging Ended At:	12:26	Total Vol. Purged (Liters):	3.3		

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
12:22	2.1	2.1	300	1.90	7.15	23.9	841	0.39	19.7	-32.4	None
12:24	0.6	2.7	300	1.90	7.15	24.0	818	0.47	13.9	-34.0	None
12:26	0.6	3.3	300	1.90	7.15	23.9	824	0.45	10.8	-35.0	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation	Sampler(s) Signatures:	Sampling Initiated At: 12:27	Sampling Ended At: 12:31
Natalie Volk /Tetra Tech		Tubing Material Code:	HDPE
Pump or Tubing Depth in Well (feet): 18.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)		Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0187	Sample ID: LC34-IW0187-018.5-20240215		Date: 2/15/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 2.90	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 2.9	Well Screen Interval Depth (ft bls): 16 to 21		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 16	Bottom Depth: 21	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

2.715 Liters 21 - 2.9 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.89 = vol x3 **0.63** Liters + 0.005 X 31 + 0.475

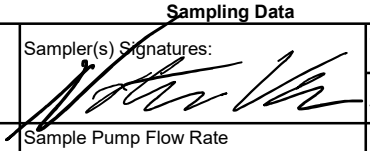
Initial Pump or Tubing Depth in Well (feet): 18.5	Final Pump or Tubing Depth in Well (feet): 18.5	Purging Initiated At: 9:18	Purging Ended At: 9:34	Total Vol. Purged (Liters): 4.8	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:26	2.4	2.4	300	3.00	7.15	23.4	2156	0.15	11.2	-165.2	None
9:28	0.6	3	300	3.00	7.14	23.4	2234	0.25	8.62	-164.4	None
9:30	0.6	3.6	300	3.00	7.15	23.5	2261	0.05	3.34	-164.7	None
9:32	0.6	4.2	300	3.00	7.16	23.6	2267	0.05	2.83	-164.6	None
9:34	0.6	4.8	300	3.00	7.16	23.6	2266	0.05	2.77	-164.2	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures: 	Sampling Initiated At: 9:35	Sampling Ended At: 9:40
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 18.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
1	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

Tetra Tech, Inc. FDEP Groundwater Sampling Sheet

Site Name: Launch Complex 34 (LC 34)		Site Location: Cape Canaveral Space Force Station (CCSFS), Florida	
Location ID: IW0188	Sample ID: LC34-IW0188-018.5-20240215		Date: 2/15/2024

Sample depth (ddd.d) = [bottom of screen (feet bls) - top depth] x 0.5-bottom of screen (feet bls)

PURGING DATA

Static Depth to Water (ft bls): 4.46	Casing Height (ft als): NA	Static Depth to Water (ft bls) = DTW -Casing Height: 4.46	Well Screen Interval Depth (ft bls): 16 to 21		
Well Diameter (in): 1	Tubing Diameter (in): 0.19	Purge Pump Type or Bailer: APP	Top Depth: 16	Bottom Depth: 21	

Well Volume Purge: 1 Well Volume = (Total Well Depth - Static Depth to Water) X Well Capacity

2.481 Liters 21 - 4.46 X 0.15

Equipment Volume Purge: 1 Equipment Vol. = Pump volume + (Tubing Capacity X Tubing Length) + Flow Cell Volume

1.89 = vol x3 **0.63** Liters + 0.005 X 31 + 0.475

Initial Pump or Tubing Depth in Well (feet): 18.5	Final Pump or Tubing Depth in Well (feet): 18.5	Purging Initiated At: 8:55	Purging Ended At: 9:06	Total Vol. Purged (Liters): 3.3	

Time	Volume Purged (Liters)	Cumul. Volume Purged (Liters)	Purge Rate (mlpm)	Depth to Water (feet)	pH (standard units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTUs)	ORP (mV)	Color (describe)
9:02	2.1	2.1	300	4.62	7.30	24.0	1942	0.05	2.92	-183.1	None
9:04	0.6	2.7	300	4.62	7.31	24.1	1951	0.05	3	-184.6	None
9:06	0.6	3.3	300	4.62	7.31	24.1	1964	0.04	2.83	-184.7	None

Well Capacity (Liters Pet Foot): 0.75" = 0.076; **1"** = 0.15; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26

Tubing Inside Dia. Capacity (Liters/ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

Sampling Data

Sampled by (Print) / Affiliation: Natalie Volk /Tetra Tech	Sampler(s) Signatures:	Sampling Initiated At: 9:07	Sampling Ended At: 9:11
		Tubing Material Code: HDPE	
Pump or Tubing Depth in Well (feet): 18.5	Sample Pump Flow Rate (mL per minute): 100	Duplicate: No	Field Decontamination: Yes

Field Filtered: No Filter Size (µm): NA Filtration Equipment Type: NA

Sample Container Specification				Sample Preservation (including Wet Ice)			Intended Analysis and/or Method	Sampling Equipment Code
Sample ID Code	# Containers	Material Code	Volume	Preservative Used (Including Wet Ice)	Total Volume Added in Field (mL)	Final pH		
1	2	CG	40 mL	HCL/4°C	-	<2	8260D - (MOD) NASA LC34 Custom List	APP
1	2	CG	40 mL	4°C	-	See Above	8260D - (MOD) NASA LC34 Custom List	APP

Remarks or QA/QC ID:

Stabilization Criteria: pH: + 0.2 units Temperature: + 0.2 oC Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Material Codes: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

Sampling /Purging Equipment Codes: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : KSC-NASA LC34 HS6

SITE NAME: LC34 HS6

PROJECT NO.: 112G08985

INSTRUMENT NAME/MODEL: YSI ProQuatro / LaMotte 2020t

MANUFACTURER: YSI / LaMotte

SERIAL NUMBER: **YSI s# 21d101766 / LaMotte s# 1914-4019**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)	pH (S.U.)				Cond. (µS/cm)	D.O. (mg/L)	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
		Pre	7.00	*3.99*	10.01	1415	92.1	13.4	240	-	0.02	10.02	***Lot # 210510d***	
2/14/2024	Nf	*Post*					9.58						***Exp. Date: 12/22***	pH = 4
		Pre	7	3.99	9.99	1412	97.4	14.1	233		0.02	10.02	***Lot # ogl758***	
2/15/2024	Nf	*Post*					9.98						***Exp. Date: 12/22***	pH = 7
		Pre											***Lot # 0gk984***	
		Post											***Exp. Date: 11/22***	pH = 10
		Pre											***Lot # 6151***	
		Post											***Exp. Date: 2/26***	Conductivity = 1413 µS/cm
		Pre											***Lot # 4801***	
		Post											***Exp. Date: 11/24***	ORP = 238 mV
		Pre											***Lot # 21380129***	
		Post											***Exp. Date: 4/23***	NTU=0
		Pre											***Lot # 22150177***	
		Post											***Exp. Date: 5/23***	Ntu=10
		Pre												
		Post												
		Pre												
		Post												
		Pre												
		Post												

Date: 2/14/2024 **Weather:** 64 and cloudy

Personnel: Natalie Fabbri and Natalie Volk

Health and Safety: SSHASP; PPE; IDW

PPE: Level D **Objective:** Begin LC34 Sampling Event

Equipment: YSI/LAMOTTE

0745 nf arrived at CHP, gathering equipment and calibrating.

0840 nv arrived at chp

0900 getting gas for equipment

0920 arrived at LC34 and began water levels.

1053 purging IW0180

1105 sample collected	LC34-IW0180-032.5-20240214	8260D LC34 Custom

1110 purging IW0179

1123 sample collected	LC34-IW0179-022.0-20240214	8260D LC34 Custom

1133 purging IW0184

1147 Sample collected	LC34-IW0184-032.5-20240214	8260D LC34 Custom

1154 purging IW0183

1206 Sample collected	LC34-IW0183-022.0-20240214	8260D LC34 Custom

1215 purging IW0186

1227 Sample collected	LC34-IW0186-018.5-20240214	8260D LC34 Custom

1237 purging IW0182

1250 Sample collected	LC34-IW0182-032.5-20240214	8260D LC34 Custom

1255 purging IW0181

1309 Sample collected	LC34-IW0181-022.0-20240214	8260D LC34 Custom

1319 purging IW0185

1330 Sample collected	LC34-IW0185-018.5-20240214	8260D LC34 Custom

1342 purging IW0175

1355 Sample collected	LC34-IW0175-032.5-20240214	8260D LC34 Custom

1359 purging IW0174

1411 Sample collected	LC34-IW0174-022.0-20240214	8260D LC34 Custom

1421 purging IW0170		
1433 Sample collected	LC34-IW0170-022.0-20240214	8260D LC34 Custom
1440 purging IW0171		
1500 sample collected	LC34-IW0170-032.5-20240214	8260D LC34 Custom
1520 arrived at CHP, put away equipment, site secured		
1530 Tt offsite		

Date: 2/15/2024 **Weather:** 64 and cloudy

Personnel: Natalie Fabbri and Natalie Volk

Health and Safety: SSHASP; PPE; IDW

PPE: Level D **Objective:** Begin LC34 Sampling Event

Equipment: YSI/LAMOTTE

0745 nf nv arrived at CHP, gathering equipment and calibrating.

0840 arrived at LC34

0855 purging IW0188

0907 sample collected	LC34-IW0188-018.5-20240215	8260D LC34 Custom
0918 purging IW0187		
0935 sample collected	LC34-IW0187-018.5-20240215	8260D LC34 Custom
0949 purging IW0168		
1007 sample collected	LC34-IW0168-022.0-20240215	8260D LC34 Custom
1012 purging IW0169		
1023 Sample collected	LC34-IW0169-032.5-20240215	8260D LC34 Custom
1033 purging IW0178		
1045 Sample collected	LC34-IW0178-018.5-20240215	8260D LC34 Custom
1052 purging IW0172		
1104 Sample collected	LC34-IW0172-022.0-20240215	8260D LC34 Custom
1111 purging IW0173		
1121 Sample collected	LC34-IW0173-032.5-20240215	8260D LC34 Custom
1131 purging IW0177		
1141 Sample collected	LC34-IW0177-018.5-20240215	8260D LC34 Custom
1150 purging IW0176		
1210 Sample collected	LC34-IW0176-018.5-20240215	8260D LC34 Custom

APPENDIX G

HS 6 PHASE TWO EXPANSION WELL INSTALLATION RECORDS
(PRVIDED IN ELECTRONIC VERSION ONLY)

AIR SPARGE AND MONITORING WELL INSTALLATION FIELD NOTES

10/17/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Partly Cloudy 780 degrees F

Health and Safety (HAS): Topics: SSHASP; PPE; IDW

PPE: Level D

Objective: Begin Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion

*Tetra Tech note: See end of record for monitoring well ID modifications.

0800: CS at LC34 with Dan Forester (DF) going over utility markings as well as threatened or endangered species locations

0830: CS received call from DL, GPI just leaving shop

1030: GPI on site; HAS Meeting; unloading equipment and supplies; rig/equipment inspections; daily prep

1150: Set up on AS0304; GPI offsite for lunch

1230: GPI on site; getting water for rig; hand clear 5'

1250: Drilling Commenced

1310: Pulling Core 35' to 45'

1340: Core Pulled, setting well 40' TD; no layer 4 observed in core.

-Lithology is as follows:

- 35' -45': Gray Soft SAND – FINE TO VERY FINE; little to some silt; little shell in beds; trace clay (SP/SM) Shelly from 39' to 41

1405: Well set – Screen 38-40; 20/30 sand – 37.5-40; bentonite 34.5-37.5;

1420: Hydration Complete; grouting borehole

1430: Installation Complete

1445: Set up on AS0305; hand clear 5'

1450: Drilling Commenced

1505: Pulling Core 30'-40'

1520: Core Pulled; setting well 39'TD

1530: Well set; hydrating

1545: Hydration Complete; grouting borehole

1600: Installation Complete

1615: Site secured; Tt/GPI offsite

NO ALTERATION BEYOND
10/18/2022 @ 1615

10/18/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Partly Cloudy 73 degrees F

Health and Safety (HAS): Topics: SSHASP; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; Daily prep
0730: Set up on LC34-AS0306; hand clear 5'
0740: Drilling Commenced
0755: Pulling Core 30'-40'
0810: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-35: SHELL; little to some sand – fine to very fine; trace to little silt
    - 35-37.5: SAND – FINE TO VERY FINE; little shell and silt
    - 37.5-38.5: SHELL; little sand – very fine and silt; trace clay
    - 38.5-40: SAND – MEDIUM TO VERY FINE; little to some shell; little silt; trace clay

0825: Well set; begin hydration
0840: Hydration complete; grouting borehole
0855: installation Complete
0900: Set up on LC34-AS0307; hand clear 5'
0905: Drilling Commenced
0925: Pulling Core 30' to 40'
0940: Core Pulled; setting well 40' TD

- Lithology is as follows:
    - 30-31.5: SAND – MEDIUM TO VERT FINE; little to some shell
    - 31.5-35.5: SHELL; little to some sand – medium to very fine; trace silt
    - 35.5-36.5: SAND – FINE TO VERY FINE; little shell; trace to little silt
    - 36.5-38: SHELL; little sand – fine to very fine and silt
    - 38-40: SAND – FINE TO VERY FINE: little to some silt

0950: Well set; begin hydration
1015: Hydration Complete; grouting borehole
1030: Installation Complete
1035: Set up on LC34-AS0308; hand clear 5'
1045: Drilling Commenced
1100: Pulling Core 30' to 40'
1110: Core Pulled; setting well 40'TD

- Lithology is as follows:
    - 30-33.5: Gray Soft SHELL;little to some sand – medium to very fine; trace to little silt
    - 33.5-35: Gray soft SAND – FINE TO VERY FINE; little silt; trace to little shell
    - 35–38.5: Gray Soft SHELL; little to some sand – fine to very fine: little silt; trace clay
    - 38.5-40: Gray Soft SAND – FINE TO VERY FINE; little silt; trace to little shell

1125: Well set; begin hydration; GPI taking Lunch

1205: GPI on site; hydration complete, grouting borehole.
1220: Installation Complete
1230: Set up on LC34-AS0312; Hand clear 5'
1240: Drilling Commenced
1300: Pulling Core 30' to 40'
1310: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-34: SHELL; little to some sand – medium to very fine; trace silt
    - 34-35: SAND – FINE TO VERY FINE; little silt; trace shell
    - 35-35.5: SILT AND CLAY; little to some sand – very fine; trace shell
    - 35.5-38: SHELL; little to some sand – medium to very fine; trace to little silt
    - 38-40: SAND – FINE TO VERY FINE; little silt; trace shell

1325: Well Set; begin hydration
1340: Hydration Complete; grouting borehole
1355: Installation Complete
1415: Set up on AS0311; hand clear 5'
1440: Drilling Commenced
1505: Pulling core 30' to 40'
1550: Core pulled; NO RECOVERY; setting well default depth of 40' TD
1605: Well set; begin hydration
1625: Hydration complete; grouting borehole
1640: Installation Complete
1700: Site Secured; Tt offsite

NO ALTERATION BEYOND
10/18/2022 @ 1615



10/19/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Mostly Cloudy, 56 degrees F

Health and Safety (HAS): Topics: SSHASP; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; daily prep
0750: Set up on AS0315; hand clear 5'
0800: Unknown pipe identified during hand clearing appears to be coming from abandoned man hole behind the three sided structure; moving location 3.5' east in an attempt to avoid pipe
0820: Pulling core 30' to 40'
0835: Core pulled; clayey zone encountered at 35' to 38'; spoke with Mark Jonnet (MJ) – Tt PM; setting well 35' TD

- Lithology is as follows:
    - 30-32: SAND – FINETO VERY FINE; little silt and shell
    - 32–34.5: SHELL; little to some sand – fine to very fine; little silt; trace clay
    - 34.5-35.0: SAND – FINE TO VERY FINE; little to some shell; little silt; trace clay
    - 35-35.5: CLAY; little to some silt; little sand – very fine; trace shell
    - 35.5-37.5: SHELL with interbedded with CLAY; little to some sand – medium to very fine and silt; sticky, soft
    - 37.5-38: CLAY; moderately firm; little silt; trace shell and sand – very fine
    - 38-40: SHELL; little sand – medium to very fine

0850: Well set; begin hydration
0910: Hydration Complete; grouting borehole
0925: Installation Complete
0935: Set up on AS0314; hand clear 5'
0940: Drilling Commenced
0955: Pulling core 30' to 40'
1005: Core Pulled; setting well 39' TD

- Lithology is as follows:
    - 30-32: SHELL; little to some sand – fine to very fine; little silt
    - 32-36: SAND – FINE TO VERY FINE: little shell and silt
    - 36-37.5: GRAY TO DARK GRAY SHELL; little sand – fine to very fine and silt
    - 37.5-38.5: SHELL; little clay and sand – very fine and silt
    - 38.5-39.5: CLAY; soft; little to some silt; little sand – very fine and shell
    - 39.5-40.0: SAND – MEDIUM TO VERY FINE; little to some clay; little silt and shell

1020: Well set; begin hydration
1040: Hydration complete; grouting borehole
1055: Installation Complete
1105: Set up on AS0317; hand clear 5'; unable to set up on AS0313 due to location in swale between parking areas. Will use SR5 to install
1110: Drilling Commenced

1125: Pulling Core 30’ to 40’
1140: Core pulled; setting well 39’ TD
- Lithology is as follows:
    - 30-32: SHELL; little to some sand – fine to very fine; little silt
    - 32-36: SAND – FINE TO VERY FINE: little shell and silt
    - 36-37.5: GRAY TO DARK GRAY SHELL; little sand – fine to very fine and silt
    - 37.5-38.5: SHELL; little clay and sand – very fine and silt
    - 38.5-39.5: CLAY; soft; little to some silt; little sand – very fine and shell
    - 39.5-40.0: SAND – MEDIUM TO VERY FINE; little to some clay; little silt and shell

1155: Well set; begin hydration; GPI taking lunch
1230: GPI on site; grouting borehole
1245: Installation Complete
1255: Set up on AS0324; hand clear 5’
1300: Drilling Commenced
1320: Pulling Core 30’ to 40’
1335: Core pulled; setting well 38’TD
- Lithology is as follows:
    - 30-31: SHELL; little to some sand – fine to very fine; trace silt
    - 31-35: SAND – FINE TO VERY FINE; little shell and silt
    - 35-37: SHELL; little to some sand – fine to very fine; little silt
    - 37-38: SAND – MEDIUM TO VERY FINE: little shell; silt, and clay
    - 38-40: SAND – FINE TO VERY FINE: some clay; little to some silt; little shell

1350: Well set; begin hydration
1410: Hydration complete; grouting borehole
1430: Installation Complete
1435: Set up on AS0341; hand clear 5’
1445: Drilling Commenced
1515: Pulling core 30’ to 40’
1540: Core pulled; setting well 38’ TD
- Lithology is as follows:
    - 30-31: SHELL; little to some sand – fine to very fine; trace silt
    - 31-34: SAND – FINE TO VERY FINE; little shell and silt
    - 34-36: SHELL; little to some sand – fine to very fine; little silt
    - 36-38: SHELL; some sand – fine to very fine; little to some silt; trace clay
    - 38-39: SAND – FINE TO VERY FINE; some clay; little to some silt; trace shell
    - 39-40: SAND – MEDIUM TO VERY FINE: little to some silt; little clay; and shell

1555: Well set; begin hydration
1615: Hydration Complete; grouting borehole
1635: Installation Complete
1650: Site Secured; Tt/GPI off site

NO ALTERATION BEYOND
10/19/2022 @ 1650

10/20/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Mostly Cloudy, 56 degrees F

Health and Safety (HAS): Topics: SSHASP; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; daily prep
0735: Set up on AS0354; hand clear 5'
0750: Drilling Commenced
0805: Pulling Core 30' to 40'
0815: Core Pulled; setting well 40' TD

- Lithology is as follows:
    - 30-32.5: SAND – FINE TO VERY FINE; little silt and shell
    - 32.5-38: SHELL; little to some sand – fine to very fine; trace to little silt
    - 38-39: SAND – FINE TO VERY FINE; little to some silt; little shell; trace clay; thin clay lens at 39
    - 39-40: SAND – MEDIUM TO VERY FINE; little to some shell fragments from small pebble to coarse grained size

0825: Well set; begin hydration
0845: hydration Complete; grouting borehole
0900: Installation Complete
0905: Drilling Commenced on AS0366; previously hand cleared 5'
0920: Pulling Core 30' to 40'
0935: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-32.5: SAND – FINE TO VERY FINE; little silt and shell
    - 32.5-36: SHELL; little to some sand – fine to very fine; trace to little silt
    - 36-37: SHELL; little to some sand – fine to very fine and silt; little clay
    - 37-39: SHELL; little sand – fine to very fine and silt
    - 39-40: SAND – MEDIUM TO VERY FINE; little to some shell fragments from small pebble to coarse grained size

0950: Well set; begin hydration
1005: Hydration Complete; grouting borehole
1020: Installation Complete
1030: Drilling Commenced on AS0375; previously hand cleared 5'
1045: Pulling core 30' to 40'
1100: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-33: SAND – FINE TO VERY FINE; little silt and shell
    - 33-36: SHELL; little to some sand – fine to very fine; trace to little silt
    - 36-37: SHELL; little to some sand – fine to very fine and silt; little clay
    - 37-38: SAND – FINE TO VERY FINE; little silt; trace to little shell

  - 38-40: SAND – MEDIUM TO VERY FINE; little to some shell fragments from small pebble to coarse grained size

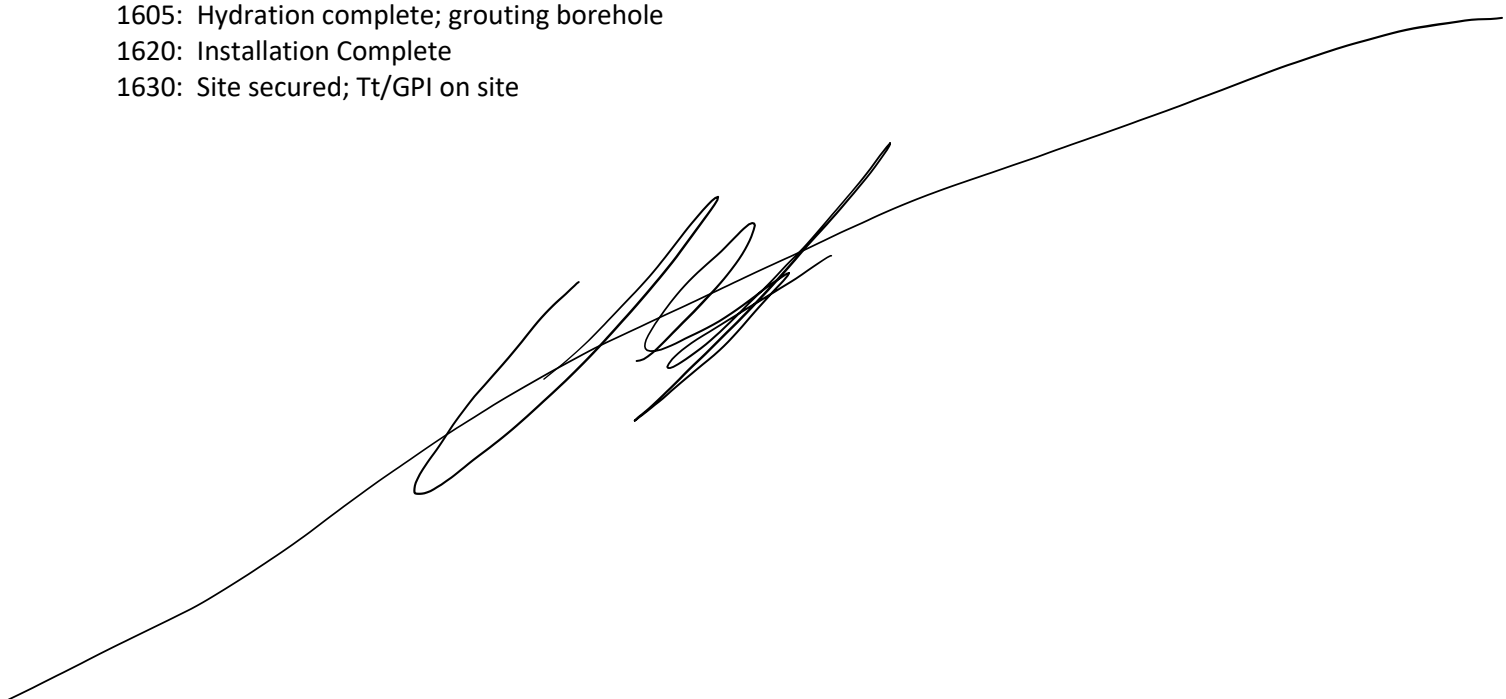
1120: Well set; begin hydration
1140: Hydration Complete; grouting borehole
1155: Installation Complete
1205: Drilling Commenced on AS0374; previously hand cleared 5'
1220: Pulling Core 30' to 40'
1235: Core pulled; setting well 40'

- Lithology is as follows:
  - 30-33: SAND – FINE TO VERY FINE: little to some silt; trace clay; little shell
  - 33-37: SHELL; little sand – fine to very fine and silt; trace clay
  - 37-40: SAND – MEDIUM TO VERY FINE; little to some pebble to coarse grain sized shell fragments

1245: Well set; begin hydration
1300: Hydration complete; grouting borehole
1315: Installation Complete
1325: Drilling Commenced on AS0376; previously hand cleared 5'
1340: Pulling Core 30' to 40'
1355: No Recovery; setting well 40' TD
1410: Well set; begin hydration
1425: Hydration complete; grouting borehole
1435: Installation Complete
1445: Drilling commenced on AS0373; previously hand cleared 5'
1505: Pulling core 30' to 40'
1530: Core pulled; setting well 38' TD

- Lithology is as follows:
  - 30-33.5: SAND – FINE TO VERY FINE: little to some silt; trace clay; little shell
  - 33-37.5: SHELL; little sand – fine to very fine and silt; trace clay
  - 37.5-38.5: SHELL; little to some sand – fine to very fine and silt; little clay
  - 38.5-40: SAND – MEDIUM TO VERY FINE; little to some pebble to coarse grain sized shell fragments

1545: Well set; begin hydration
1605: Hydration complete; grouting borehole
1620: Installation Complete
1630: Site secured; Tt/GPI on site



10/21/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Mostly Cloudy, 56 degrees F

Health and Safety (HAS): Topics: SSHASP; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0650: Tt/GPI on site; HAS meeting; daily prep
0725: Set up on AS0364; hand clear 5'
0735: Drilling commenced
0750: Pulling core 30' to 40'
0805: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-32.5: SAND – FINE TO VERY FINE: little silt and shell
    - 32.5-33.5: SHELL; little sand – fine to very fine and silt; trace clay
    - 33.5-36: SHELL; little sand – fine to very fine
    - 36-37: SHELL; little sand – fine to very fine, silt, and clay
    - 37-40: SAND – MEDIUM TO VERY FINE; little to some pebble to coarse grain sized shell fragments

0820: Well set; begin hydration
0835: Hydration Complete; grouting borehole
0845: Installation Complete
0850: Drilling Commenced on AS0352; previously hand cleared 5'
0905: Pulling Core 30' to 40'
0920: Core pulled; setting well 39'

- Lithology is as follows:
    - 30-33: SHELL; little to some sand – fine to very fine; little silt
    - 33-35: SAND – FINE TO VERY FINE: little silt and shell
    - 35-39.5: SHELL; little sand – fine to very fine; little to some silt trace clay
    - 39.5-40: SAND – MEDIUM TO VERY FINE; little silt

0935: Well set; begin hydration
0955: Hydration complete; grouting borehole
1010: Installation Complete
1015: Set up on AS0365; hand clear 5'
1020: Drilling Commenced
1035: Pulling core 30' to 40'
1045: Core pulled; setting well 40'

- Lithology is as follows:
    - 30-32.5: SAND – FINE TO VERY FINE: little silt and shell
    - 32.5-33.5: SHELL; little sand – fine to very fine and silt; trace clay
    - 33.5-36: SHELL; little sand – fine to very fine
    - 36-37: SHELL; little sand – fine to very fine, silt, and clay

    - 37-40: SAND – MEDIUM TO VERY FINE; little to some pebble to coarse grain sized shell fragments

1100: Well set; begin hydration
1125: Hydration Complete; grouting borehole
1140: Installation Complete
1150: Drilling AS0353; previously hand cleared 5’
1210: Pulling core 30’ to 40’
1225: Core pulled; setting well 40’ TD

- Lithology is as follows:
    - 30-37: Gray to Dark Gray SHELL; little sand – fine to very fine and silt
    - 37-38: SHELL; little to some silt; little sand – very fine; trace clay
    - 38-40: SAND – MEDIUM TO VERY FINE; trace to little silt and shell

1240: Well set; begin hydration
1300: Hydration complete; grouting borehole
1320: Installation complete; GPI offloading water tank off of flatbed, conducting materials inventory
1400: Site secured; Tt/GPI offsite

10/24/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI

Weather: Sunny 73 degrees F

Health and Safety (HAS): Topics: SSHASP; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0800: CS on site
0905: GPI on site; HAS Meeting; daily prep; unloading materials and supplies
1000: Set up on LC34-AS0367; hand clear 5'
1015: Drilling Commenced
1035: Pulling Core 30' to 40'
1045: Joel Aponte (JA) with GPI on site
1050: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-32: SAND – FINE TO VERY FINE; little silt and shell
    - 32-35: SHELL; little sand – fine to very fine and silt
    - 35-38: SHELL; little to some sand – fine to very fine and silt; trace clay
    - 38-40: SHELL; little sand – medium to very fine; trace silt

1105: well set; begin hydration/well development
1120: GPI offsite for lunch
1205: GPI on site; hydration/development complete; grouting borehole
1220: Installation Complete
1230: Drilling Commenced on AS0368; previously hand cleared 5'
1245: Pulling core 30' to 40'
1300: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-31: SAND – FINE TO VERY FINE; little silt and shell
    - 31-38: SHELL; little to some sand – fine to very fine; little silt
    - 38-39: CLAY; little sand – fine to very fine, silt, and shell
    - 39-40: SAND – MEDIUM TO VERY FINE; little to some shell

1315: Well set; begin hydration/development
1335: hydration/development complete; grouting borehole
1350: Installation Complete
1400: Drilling commenced on AS0369; previously hand cleared 5'
1430: Pulling Core 30' to 40'
1455: Core pulled; convoluted recovery. Core layers became jumbled. Unable to photo or log. Lithology appears similar based on what was recovered. Setting well 38' TD based on AS0368
1515: Well set; begin hydration/development
1535: Hydration/Development Complete; grouting borehole
1555: Installation Complete
1610: Set up on AS0370; hand clear 5'
1630: Site secured; Tt/GPI offsite

10/25/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Sunny 66 degrees F

Health and Safety (HAS): Topics: Hydration; Slips-Trips-Falls; PPE

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; Daily Prep
0730: Unable to get rig to position with pipe trailer properly due to swale slope near AS0370; moving to set up on AS0371 and will complete AS0370 with SR-5
0740: Set up on AS0371; hand clear 5'
0750: Drilling Commenced
0800: Pulling Core 30' to 40'
0815: Core pulled; setting well 36' TD

- Lithology is as follows:
    - 30-33: SAND – FINE TO VERY FINE; little silt and shell
    - 33-36: SHELL; little to some sand – fine to very fine and silt; trace to little clay
    - 36-37: CLAY; little sand – very fine and silt; trace shell
    - 37-40: SAND – MEDIUM TO VERY FINE: little to some shell; little silt and clay; sticky

0825: Well set; begin hydration/development
0840: Hydration/development complete; grouting borehole
0850: Installation Complete
0900: Drilling Commenced on AS0372; previously hand cleared 5'
0915: Pulling core 30' to 40'
0930: Core Pulled; setting well 37'

- Lithology is as follows:
    - 30-35: SAND – FINE TO VERY FINE; little silt and shell
    - 35-37: Gray to dark gray SHELL; little to some sand – very fine and silt; trace clay
    - 37-38; CLAY; little sand – very fine and silt; trace to little shell
    - 38-40: SHELL; little to some sand – medium to very fine; little silt; trace to little clay

0940: Well set; begin hydration/development
0955: hydration/development complete; grouting borehole
1010: Installation Complete
1015: Drilling commenced on AS0363; previously hand cleared 5'
1030: Pulling Core 30' to 40'
1045: Core pulled; setting well 35' TD

- Lithology is as follows:
    - 30-35: SAND – FINE TO VERY FINE; little silt and shell
    - 35-36: SILT AND CLAY; little sand – very fine; trace shell
    - 36-40: SHELL; little to some sand – fine to very fine; little silt; trace clay

1100: Well set; begin hydration/development
1115: Hydration/development complete; grouting borehole
1125: Installation complete

1200: Drilling commenced on AS0361; previously hand cleared 5'
1220: Pulling core 30' to 40'
1230: Core Pulled; setting well 34' TD

- Lithology is as follows:
    - 30-34: SAND – FINE TO VERY FINE; little silt and shell
    - 34-36: CLAY; firm 34-34.5; little to some silt; little sand – very fine and shell
    - 36-40: SHELL; little to some sand – fine to very fine and silt; little clay in beds and throughout

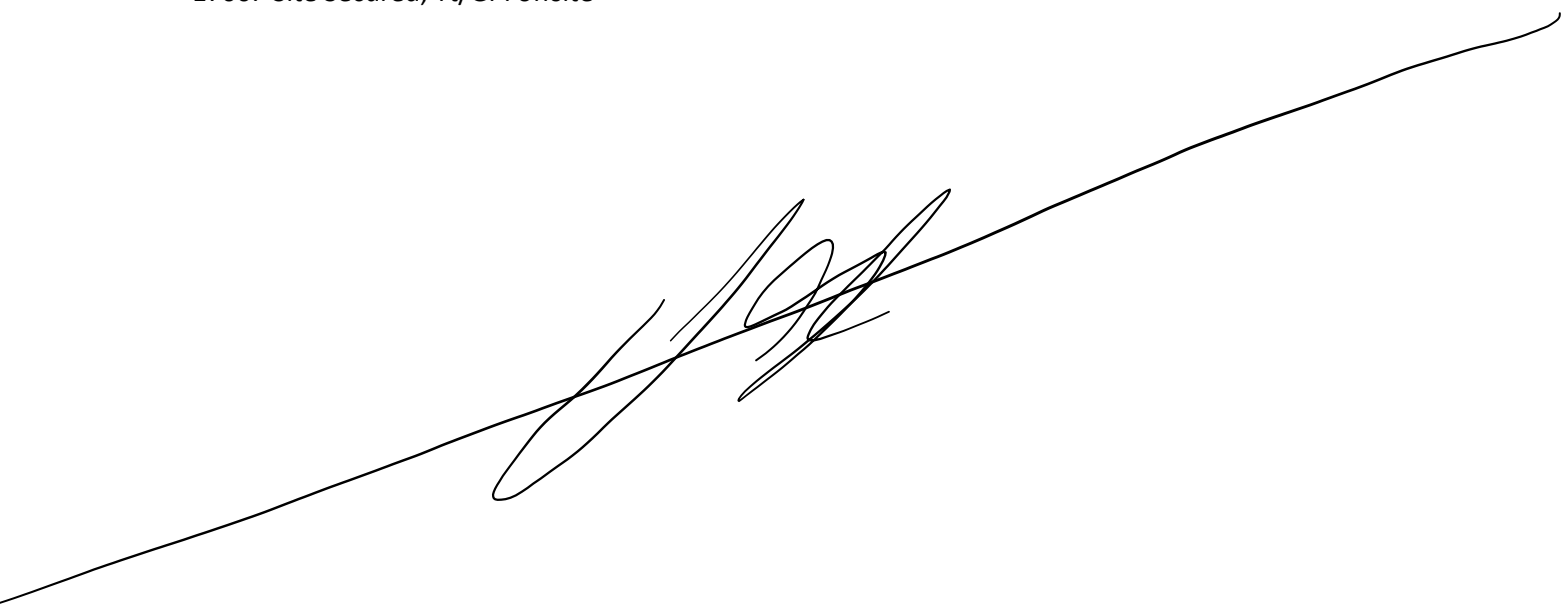
1245: Well set; begin hydration/development
1300: Hydration/development complete; grouting borehole
1310: Installation Complete
1320: Drilling Commenced on AS0360; previously hand cleared 5'
1340: Pulling Core 30' to 40'
1355: Core pulled; setting well 37' TD

- Lithology is as follows:
    - 30-34: SAND – FINE TO VERY FINE; little silt and shell; trace clay
    - 34-37: SHELL; little sand – fine to very fine and silt; trace clay
    - 37-38: CLAY; little sand – very fine, silt, and shell
    - 38-39.5: SHELL; little to some sand – very fine, silt, and clay
    - 39.5-40: SHELL; little to some sand – medium to very fine

1405: Well Set; begin hydration/development
1435: Hydration/development complete; grouting borehole
1450: Installation Complete
1505: Drilling commenced on AS0359; previously hand cleared 5'
1535: Pulling Core 30' to 40'
1555: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-34: SAND – FINE TO VERY FINE; little silt and shell
    - 34-38: SHELL; little to some sand – medium to very fine; little silt; trace clay
    - 38-39.5: CLAY; little to some silt; little sand – very fine; trace shell
    - 39.5-40: SAND – MEDIUM TO VERY FINE; little shell; trace clay

1610: Well set; begin hydration/development
1630: Hydration/Development Complete; grouting borehole
1650: Installation Complete; moving rig up top for repairs in the morning
1700: Site Secured; Tt/GPI offsite



10/26/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Sunny 66 degrees F

Health and Safety (HAS): Topics: Hydration; Slips-Trips-Falls; PPE

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0745: Tt/GPI on site; HAS Meeting; daily prep; JA/TW Developing wells from week one
0830: Claude Harriet (CH) – GPI mechanic on site to replace head slide pucks on rig
1115: Rig repaired; CH offsite; moving rig back to field to resume drilling
1130: Set up on AS0370; hand clear 5'
1135: Drilling Commenced
1150: Pulling core 30'-40'
1200: CS offsite for EOR training at KSC
1300: CS on site; resuming pulling core 30' to 40'
1320: Core pulled; setting well 39'

- Lithology is as follows:
    - 30-31: SHELL; little sand – fine to very fine and silt
    - 31-36: SAND – FINE TO VERY FINE; little silt and shell
    - 36-39: SHELL; little to some sand – fine to very fine; little silt; trace clay
    - 39-40: SAND – MEDIUM TO VERY FINE; little clay and shell

1335: Well set; begin hydration/development
1355: Hydration/Development Complete; grouting borehole
1410: Installation Complete
1420: Drilling Commenced on AS0358; previously hand cleared 5'
1440: Pulling Core 30' to 40'
1450: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-35: SAND – FINE TO VERY FINE; little silt and shell
    - 35-38: SHELL; little to some sand – very fine and silt; trace to little clay
    - 38-39.5: SHELL AND SAND – FINE TO VERY FINE; little to some clay in beds and throughout and silt; little sand – very fine
    - 39.5-40: SHELL; little to some sand – medium to very fine

1510: Well set; begin hydration/development
1530: Hydration/Development complete; grouting borehole
1550: Installation Complete
1610: Site secured; Tt/GPI offsite

10/27/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Sunny 66 degrees F

Health and Safety (HAS): Topics: Hydration; Slips-Trips-Falls; PPE

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS meeting; daily prep
0720: Set up on AS0357; hand clear 5'
0730: Drilling Commenced
0750: Pulling Core 30' to 40'
0805: Core pulled; setting well 38; TD

- Lithology is as follows:
    - 30-32: SAND – FINE TO VERY FINE; little silt and shell
    - 32-38: SHELL; little sand – fine to very fine and silt; trace clay
    - 38-40: SHELL; little sand – very fine and silt; little clay

0820: Well set; begin hydration/development
0835: Hydration/development complete; grouting borehole
0850: Installation Complete
0900: Drilling Commenced on AS0356; previously hand cleared 5'
0905: Blown hydraulic line on table; Spill contained with visquene/oil absorbent pads. Diagnosing/troubleshooting
0930: Hose removed; GPI offsite to Central Hydraulic in Cocoa to get new hose made
1105: GPI on site; replacing hose
1245: Hose repair complete; drilling resumed on AS0356
1305: Pulling Core 30' to 40'
1320: Core pulled; setting well 36' TD

- Lithology is as follows:
    - 30-40: SHELL; little to some sand – fine to very fine; silt, and clay; sticky

1340: Well set; begin hydration/development
1405: Hydration/development complete; grouting borehole
1425: Installation complete
1445: Site secured; Tt/GPI offsite



10/28/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Sunny 66 degrees F

Health and Safety (HAS): Topics: Hydration; Slips-Trips-Falls; PPE

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS meeting; daily prep
0720: Set up on AS0355; hand clear 5'
0730: Drilling Commenced
0745: Pulling core 30' to 40'
0755: Core pulled; setting well 37' TD

- Lithology is as follows:
    - 30-33: SAND – FINE TO VERY FINE; little silt and shell; clay lens 31.25-31.75
    - 33-35: SHELL; little to some sand – medium to very fine; trace to little silt
    - 35-37: SAND – MEDIUM TO VERY FINE; little shell; trace to little silt and clay
    - 37-38: SHELL; little to some sand – fine to very fine: little silt and clay
    - 38-40: SAND – MEDIUM TO VERY FINE; some shell in pebble to coarse size

0810: Well set; begin hydration/development
0825: Hydration/Development Complete; grouting borehole
0840: Installation Complete
0845: Drilling commenced on AS0342; previously hand cleared 5'
0900: Pulling Core 30' to 40'
0915: Core pulled; setting well 37' TD

- Lithology is as follows:
    - 30-32: SAND -FINE TO VERY FINE; little silt and shell
    - 32-33: SILT AND CLAY
    - 33-37: SHELL; little to some sand – fine to very fine; little silt; trace to little clay
    - 37-38: SHELL; some sand – very fine; silt, and clay
    - 38-40: SAND – MEDIUM TO VERY FINE; little to some shell

0925: Well set; begin hydration/development
0940: Hydration/Development Complete; grouting borehole
0955: Installation Complete
1000: Drilling commenced on AS0343; previously hand cleared 5'
1015: Pulling core 30' to 40'
1025: Core pulled; setting well 35' TD

- Lithology is as follows:
    - 30-31.5: SAND – FINE TO VERY FINE; little silt and shell
    - 31.5-32: SILT; some clay
    - 32-35: SHELL; little sand – fine to very fine AND SILT; trace to little clay
    - 35-38.5SHELL AND CLAY; little to some sand – very fine and silt
    - 38-40: SAND – MEDIUM TO VERY FINE; little to some shell

1050: Well set; begin hydration/development

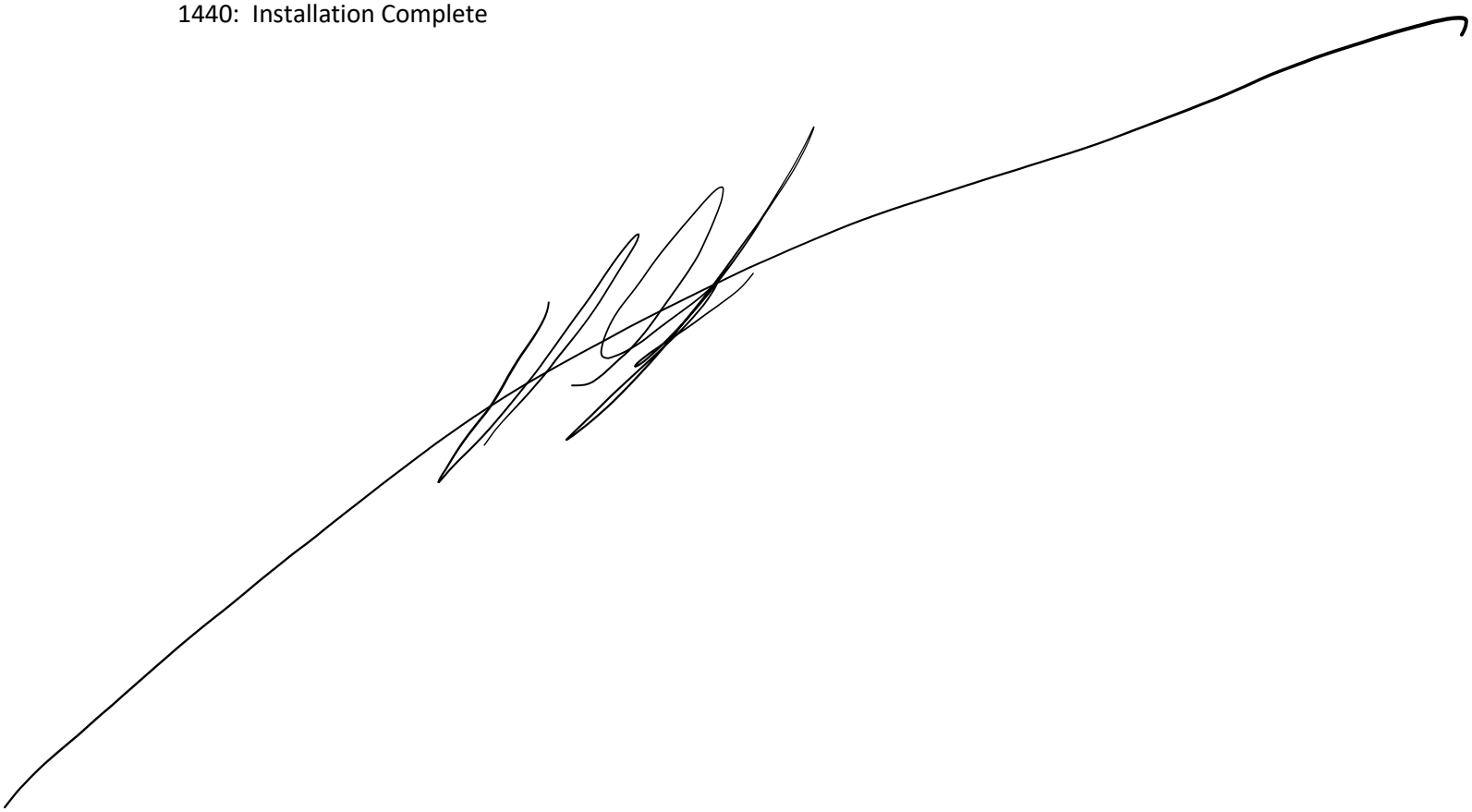
1110: Hydration/development complete; grouting borehole
1130: Installation Complete
1135: Drilling Commenced on AS0344; previously hand cleared 5'
1150: Pulling Core 30' to 40'
1200: Core pulled; setting well 35' TD

- Lithology is as follows:
    - 30-35: SHELL; little to some sand – fine to very fine and silt; trace to little clay; silty31-32
    - 35-39: SHELL; little to some clay interbedded and throughout; little sand – fine to vert fine and silt
    - 39-40: SAND – MEDIUM TO VERY FINE; little to some shell in pebble to coarse size; trace clay

1215: Well set; begin hydration/development
1230: Hydration/development complete; grouting borehole
1245: Installation Complete
1255: Drilling Commenced on AS0345; previously hand cleared 5'
1315: Pulling Core 30' to 40'
1335: Core pulled setting well 38' TD

- Lithology is as follows:
    - 30-31: SHELL; little sand – fine to very fine and silt
    - 31-35: SAND – FINE TO VERY FINE; little to some shell; little silt
    - 35-38: SHELL; little sand – fine to very fine and silt
    - 38-40: SHELL; little to some clay interbedded and throughout; little sand – fine to vert fine and silt

1355: Well set; begin hydration/development
1420: Hydration/Development Complete; grouting borehole
1440: Installation Complete



10/31/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Sunny 66 degrees F

Health and Safety (HAS): Topics: Hydration; Slips-Trips-Falls; PPE

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0800: CS on site
1025: TW/JA on site; HAS Meeting; daily prep; unloading materials
1100: Set up on AS0346; hand clear 5'
1110: Drilling Commenced
1135: Pulling Core 30' to 40'
- Unable to log or photograph core; core was damaged during transport (Dropped) when trying to reposition

1155: Core pulled; setting well 36' TD
1215: Well set; begin hydration/development; GPI offsite for lunch
1300: GPI on site; hydration/development complete; grouting borehole
1320: Installation Complete
1340: Drilling commenced on AS0348 (Skipping AS0347 due to need for clearing); previously hand cleared 5'
1405: Pulling Core 30' to 40'
1425: Core pulled; setting well 40'
- Lithology is as follows:
    - 30-36: SAND – FINE TO VERY FINE; little silt and shell; silty clay lens at 36'
    - 36-39: SHELL; little sand – very fine and silt; trace clay
    - 39-40: SAND – MEDIUM TO VERY FINE; little to some pebble to coarse shell fragments

1440: Well set; begin hydration/development
1500: hydration/development complete; grouting borehole
1520: Installation Complete
1530: Drilling Commenced on AS0349; previously hand cleared 5'
1550: Pulling Core 30' to 40'
- Lithology is as follows:
    - 30-37: SAND – FINE TO VERY FINE; little silt and shell; silty clay lens at 36'
    - 37-39: SHELL; little sand – very fine and silt; trace clay
    - 39-40: SAND – MEDIUM TO VERY FINE; little to some pebble to coarse shell fragments

1625: Well set; begin hydration/development
- Will grout boring in the am

1645: Site secured; Tt/GPI offsite

11/01/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Sunny 66 degrees F

Health and Safety (HAS): Topics: Hydration; Slips-Trips-Falls; PPE

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS meeting; daily prep
0750: Grouting borehole on AS0349
0810: Installation Complete
0820: Set up on AS0350; hand clear 5'
0830: Drilling Commenced
0855: Pulling Core 30' to 40'
0915: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-32: SHELL; little sand – medium to very fine
    - 32-38.5: SAND – FINE TO VERY FINE; little to some shell; little silt; dense clay bed 38-38.25
    - 38.5-40: SHELL; little sand – fine to very fine

0920: CS had drillers on wrong stake. Drillers were on Location D instead of AS0350. Will be setting the deep well (IW0155) screened 30'-35'; Mark Jonnet (MJ) – Tt PM was notified of the mistake.
1000: Setting MW after launch
1015: Well set:

- Screen: 30' -35'
- 20/30 Sand: 36'-29.5'
- 30/65 Sand: 29.5'27.5'

- Grouting Borehole

1035: Installation Complete
1045: Drilling Commenced on AS0351; previously hand cleared 5'
1110: Pulling Core 30' to 40'
1120: CCSFS Explosive Ordinance Disposal (EOD) crew alerted Tt that they are requesting us to stand down UFN due to potential suspect items located on the beach near LC34
1150: EOD stated all clear; drilling resumed; pulling core 30' to 40'
1200: Core pulled; setting well 39' TD

- Lithology is as follows:
    - 30-37: SAND – FINE TO VERY FINE; little silt and shell
    - 37-39: SHELL; little sand – fine to very fine and silt; trace clay
    - 39-40: SAND – MEDIUM TO VERY FINE; little to some pebble to coarse sized shell; trace to little clay

1215: Well set; begin hydration/development
1235: Hydration/development complete; grouting borehole
1250: Installation Complete
1300: Set up on AS0332; hand clear 5'
1310: Drilling Commenced
1335: Pulling Core 30' to 40'

1355: Core pulled; setting well 39’ TD

- Lithology is as follows:
    - 30-37: SAND – FINE TO VERY FINE; little to some shell; little silt; shell bed 33-34; silt lens 37’
    - 37-39: SHELL; little sand – fine to very fine and silt
    - 39-40: SILT; trace to little clay and sand – very fine

1415: Well set; begin hydration/development
1430: Hydration/development complete; grouting borehole
1445: Installation Complete
1455: Drilling Commenced on AS0331; previously hand cleared 5’
1515: Pulling Core 30’ to 40’
1535: No recovery; setting 39’ based on AS0332
1555: Well set; begin hydration/development
1615: Hydration/development complete; grouting borehole
1635: Installation complete
1650: Site secured; Tt/GPI offsite



11/02/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Sunny 66 degrees F

Health and Safety (HAS): Topics: Hydration; Slips-Trips-Falls; PPE

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; daily prep
0750: Set up on AS0330; hand clear 5'
0800: Drilling Commenced
0820: Pulling Core 30' to 40'
0840: Core pulled; setting well 36' TD

- Lithology is as follows:
    - 30-34: SAND – FINE TO VERY FINE; little silt and shell
    - 34.5-36: SHELL; little sand – very fine and silt
    - 36-37: CLAY; little sand – very fine and silt; trace to little shell
    - 37-39: SHELL; little sand – very fine and silt; trace clay
    - 39-40: SAND – MEDIUM TO VERY FINE; little to some pebble to coarse shell fragments

0900: Well set; begin hydration/development
0920: hydration/development complete; grouting borehole
0935: Installation Complete
0945: Drilling Commenced on AS0329; previously hand cleared 5'
1000: Pulling Core 30' to 40'
1020: Core pulled; setting well 36' TD

- Lithology is as follows:
    - 30-34: SAND – FINE TO VERY FINE; little silt and shell
    - 34.5-36: SHELL; little sand – very fine and silt
    - 36-37: CLAY; little sand – very fine and silt; trace to little shell
    - 37-39: SHELL; little sand – very fine and silt; trace clay
    - 39-40: SAND – MEDIUM TO VERY FINE; little to some pebble to coarse shell fragments

1035: Well set; begin hydration/development
1050: hydration/development complete; grouting borehole
1105: Installation Complete
1115: Drilling Commenced on AS0328; previously hand cleared 5'
1130: Pulling Core 30' to 40'
1145: Core pulled; setting well 36'

- Lithology is as follows:
    - 30-34: SAND – FINE TO VERY FINE; little silt and shell
    - 34.5-36: SHELL; little sand – very fine and silt
    - 36-37: CLAY; little sand – very fine and silt; trace to little shell
    - 37-39: SHELL; little sand – very fine and silt; trace clay
    - 39-40: SAND – MEDIUM TO VERY FINE; little to some pebble to coarse shell fragments

1205: Well set; begin hydration/development

- GPI taking lunch

1245: GPI on site; hydration/development complete; grouting borehole
1305: Installation Complete
1315: Drilling Commenced on AS0327; previously hand cleared 5'
1330: Pulling Core 30' to 40'
1355: Core pulled; setting well 37' TD

- Unable to log or properly photo document the core; core came out of core barrel too fast and bunched up causing the core to become convoluted.

1415: Well set; begin hydration/development
1435: Hydration/development complete; grouting borehole
1455: Installation Complete
1515: Drilling Commenced on AS0326; previously hand cleared 5'
1540: Pulling Core 30' to 40'
1605: Core pulled; setting well 35' TD

- Lithology is as follows:
    - 30-33: SAND – FINE TO VERY FINE; little silt and shell
    - 33-33.25: CLAY; little silt
    - 33.25-35: SHELL; little sand – fine to very fine and silt
    - 35-38.5: SHELL; little to some silt; little clay and sand – very fine
    - 38.5-40.0 SAND – MEDIUM TO VERY FINE; little silt and shell; trace clay

1625: Well set; begin hydration/development
1640: hydration/development complete; grouting borehole
1655: Installation Complete
1710: Site secured; Tt/GPI offsite



11/03/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI
	David Galvan	(DG)	Tech	GPI

Weather: Sunny 66 degrees F

Health and Safety (HAS): Topics: Hydration; Slips-Trips-Falls; PPE

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; daily prep; JA repairing tremmie pipe cam lock fitting
0815: Set up on AS0320; hand clear 5'
0825: Drilling Commenced
0840: Pulling Core 30' to 40'
0900: Core Pulled; setting well 37' TD

- Lithology is as follows:
    - 30-32.5: SHELL; little sand – fine to very fine
    - 32.5-35: SAND – FINE TO VERY FINE; little silt and shell
    - 35-37: SHELL; little sand – very fine and silt
    - 37-39: CLAY; little sand – very fine and silt
    - 39-40: SAND – MEDIUM TO VERY FINE; little silt and shell; trace clay

0915: Well set; begin hydration/development
0935: Hydration/Development Complete; grouting borehole
0950: Installation Complete
1000: Drilling Commenced on AS0321; previously hand cleared 5'
1020: Pulling Core 30' to 40'
1040: Core pulled; setting well 34.5' TD

- Lithology is as follows:
    - 30-33: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 33-34.5: SHELL; little sand – very fine and silt
    - 34.5-39: CLAY; little to some silt; little sand – fine to very fine and shell; clay in beds and throughout
    - 39-40: SAND – MEDIUM TO VERY FINE; little silt and shell; trace clay

1100: Well set; begin hydration/development
1120: Hydration/Development Complete; grouting borehole
1140: Installation Complete
1150: Drilling Commenced on AS0322; previously hand cleared 5'
1210: Pulling Core 30' to 40'
1225: Core pulled; setting well 36' TD

- Lithology is as follows:
    - 30-31.5: SHELL; little to some sand – fine to very fine
    - 31.5-34.5: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 34.5-36: SHELL; little sand – very fine and silt
    - 36-40: SILT; trace to little sand – very fine

1245: Well set; begin hydration/development

- GPI Taking Lunch

1330: GPI on site; hydration/development complete; grouting borehole
1355: Installation Complete
1405: Set up on AS0347; hand clear 5'
1410: Drilling Commenced
1430: Pulling Core 30' to 40'
1445: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-31.5: SHELL; little sand – fine to very fine
    - 31.5-35: SAND – FINE TO VERY FINE; little silt and shell
    - 37-37: SHELL; little sand – very fine and silt
    - 37-39.5: SAND – VERY FINE; some clay and silt; little shell
    - 39.5-40: SAND – MEDIUM TO VERY FINE; little silt and shell; trace clay

1505: Well set; begin hydration/development
1520: Hydration/development complete; grouting borehole
1540: Set up on AS0333; hand clear 5'
1555: Drilling Commenced
1610: Pulling Core 30' to 40'
1630: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-35.5: SAND – FINE TO VERY FINE; little silt and shell; clay bed 35.5-35.75. Appears to be anomalous
    - 35.5-38: SHELL; little sand – very fine and silt; trace clay
    - 38-39.5: SAND – FINE TO VERY FINE; little to some clay in beds and throughout and silt; little shell
    - 39.5-40: SHELL; little to some sand – medium to very fine; trace clay

1650: Well set; begin hydration/development
1710: Will grout in the morning; site secured; Tt/GPI offsite

11/04/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI
	David Galvan	(DG)	Tech	GPI

Weather: Sunny 75 degrees F

Health and Safety (HAS): Topics: Hydration; Slips-Trips-Falls; PPE

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: CS on site
0745: GPI on site; JA stated that CCSFS scanned his badge at the gate and guard stated his badge was invalid. He went to CCSFS badging office to check, badge was good. Verified drivers license, re-scanned badge, and GPI was allowed to enter base. HAS Meeting; daily prep
0830: Grouting AS0333
0850: Installation Complete
0900: Set up on AS0350; hand clear 5'
0910: Drilling Commenced
0930: Pulling Core 30' to 40'
0945: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-31: SHELL; little sand – fine to very fine
    - 31-35: SAND – FINE TO VERY FINE; little silt and shell
    - 35-38: SHELL; little sand – fine to very fine and silt
    - 38-40: SAND – MEDIUM TO VERY FINE; little to some pebble to coarse sized shell; trace silt and clay (clay 38-39.5)

1005: Well set; begin hydration/development
1025: Hydration/development complete; grouting borehole
1045: Installation Complete
1055: Drilling Commenced on AS0362; previously hand cleared 5'
1115: Pulling Core 30' to 40'
1135: Core pulled; setting well 39'

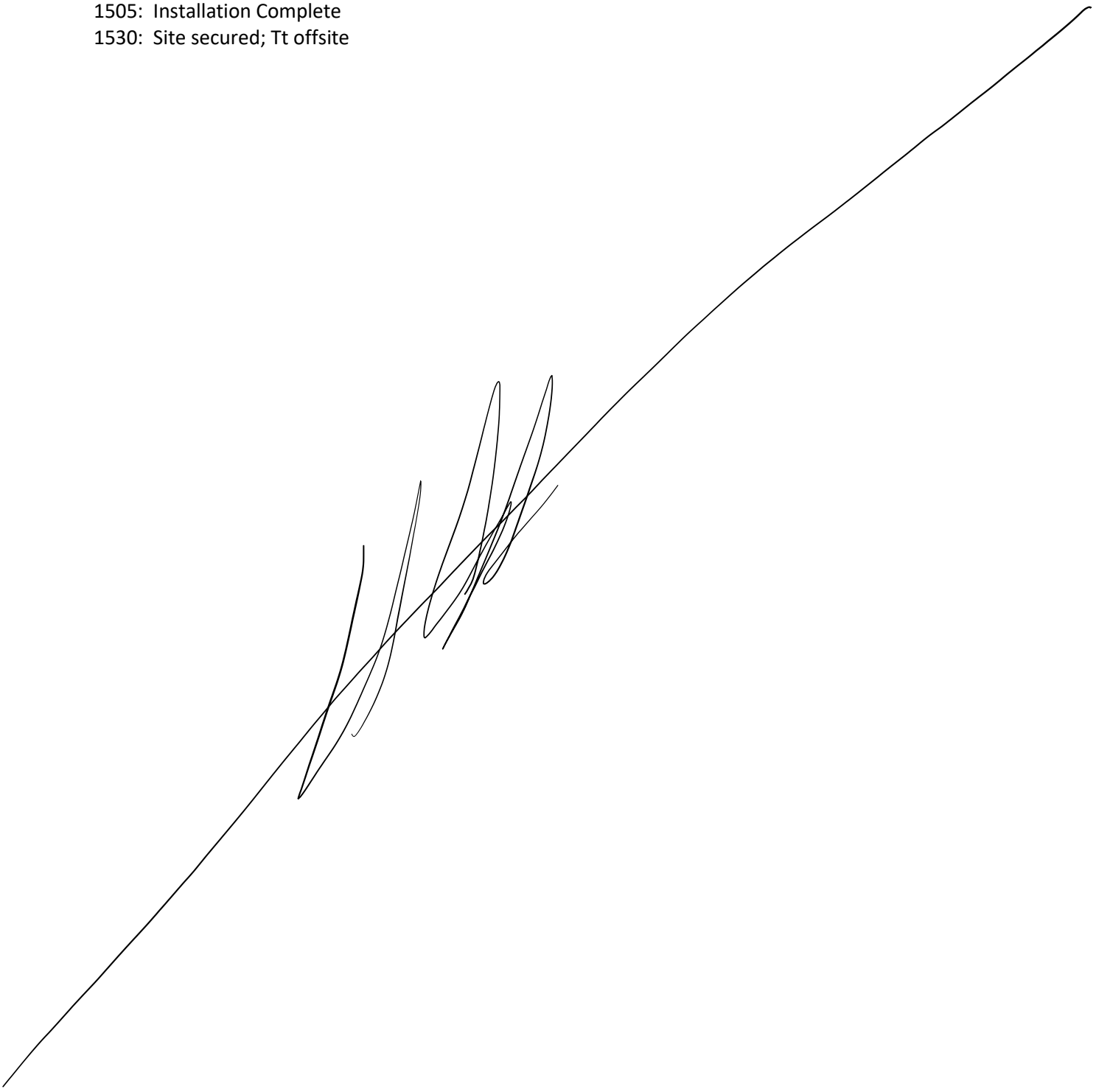
- Lithology is as follows:
    - 30-35: SAND – FINE TO VERY FINE; little to some silt and shell
    - 35-39: SHELL; little sand – fine to very fine and silt
    - 39-40: SAND – MEDIUM TO VERY FINE; little to some pebble to coarse sized shell; trace silt and clay (clay 38-39.5); slightly cohesive

1155: Well set; begin hydration/development
1225: Hydration/development complete; grouting borehole
1245: Installation Complete
1305: Set up on AS0325; hand clear 5'
1315: Drilling Commenced
1335: Pulling Core 30' to 40'
1400: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-32: SHELL; little sand – fine to very fine

- 32-36: SAND – FINE TO VERY FINE; little silt and shell
- 36-38: SHELL; little sand – very fine and silt; trace clay
- 38-39.5: SHELL; little to some silt; little clay and sand – very fine
- 39.5-40: SAND – MEDIUM TO VERY FINE; little to some pebble to coarse sized shell; trace silt and clay (clay 38-39.5); slightly cohesive

1420: Well set; begin hydration/development
1445: Hydration/development complete; grouting borehole
1505: Installation Complete
1530: Site secured; Tt offsite



11/07/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Partly Cloudy 73 degrees F

Health and Safety (HAS): Topics: SSHASP; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0830: Tt/GPI on site; HAS meeting; daily prep
0915: Set up on AS0323; hand clear 5'
0935: Drilling Commenced
0950: Pulling Core 30' to 40'
1000: Core pulled; setting well 37' TD

- Lithology is as follows:
    - 30-33: SHELL; little sand – fine to very fine and silt
    - 33-37: SAND – FINE TO VERY FINE; little to some shell; little silt
    - 37-38: CLAY; little shell, silt, and sand – very fine
    - 38-40: SHELL; little to some sand – medium to very fine; trace clay

1010: Well set; begin hydration/development
1030: Hydration/development complete; grouting borehole
1045: Installation Complete; inclement weather approaching; GPI going ahead and taking lunch
1145: GPI on site
1155: Set up on AS0340; hand clear 5'
1200: Drilling Commenced
1220: Pulling Core 30' to 40'
1235: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-32: SHELL; little sand – fine to very fine and silt
    - 32-36: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 36-38: SHELL; little sand – fine to very fine and silt
    - 38-40: SAND – MEDIUM TO VERY FINE; little to some shell and silt; little clay; sticky

1250: Well set; begin hydration/development
1305: Hydration/development complete; grouting borehole
1320: Installation Complete
1325: Set up on MW location A (IW0148 and IW0149); hand clear 5'
1335: Drilling Commenced on IW0149
1350: Setting well 30' to 35' screen
1405: Well set:

- Screen: 30' -35'
- 20/30 Sand: 36'-29.5'
- 30/65 Sand: 29.5'27.5'

- Grouting Borehole

1420: Installation Complete
1425: Drilling Commenced on IW0148; setting well screen 17' to 27'

1440: Setting well screen 17’ to 27’
1450: Well set:
- Screen: 17’ -27’
- 20/30 Sand: 27’-16.5’
- 30/65 Sand: 16.5’-14.5’

- Grouting Borehole

1505: Installation Complete
1515: Drilling Commenced on MW Location B(IW0150 and IW0151); drilling IW0151 first
1535: Setting well 35’ TD
1550: Well set:
- Screen: 30’ -35’
- 20/30 Sand: 36’-29.5’
- 30/65 Sand: 29.5’27.5’

- Grouting Borehole

1605: Installation Complete
1630: Site secured; Tt/GPI offsite



11/08/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Clear 80 degrees F windy

Health and Safety (HAS): Topics: SSHASP; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; daily prep; discussing hurricane preparedness at the site
0805: Set up on IW0150; hand clear 5'; setting well screen 17' to 27'
0810: Drilling Commenced
0820: Setting well screen 17' to 27'
0830: Well set:
- Screen: 17' -27'
- 20/30 Sand: 27'-16.5'
- 30/65 Sand: 16.5'-14.5'

- Grouting Borehole

0840: Installation Complete
0850: Drilling Commenced on MW Location G (IW0158); previously hand cleared 5'; setting screen 16' to 21'
0910: Setting well screen 16' to 21'
0920: Well set:
- Screen: 16' -21'
- 20/30 Sand: 21'-15.5'
- 30/65 Sand: 15.5'-13.5'

- Grouting Borehole

0930: Installation Complete
0940: Set up on MW Location C (IW0152 and IW0153); hand clear 5'; installing IW0153 first
0950: Drilling Commenced
1005: setting well screen 30' to 35'
1015: Well set:
- Screen: 30' -35'
- 20/30 Sand: 36'-29.5'
- 30/65 Sand: 29.5'27.5'

- Grouting Borehole

1035: Installation Complete
1040: Drilling Commenced on IW0152; setting well 17' to 27'
1055: Setting well screen 17' to 27'
1110: Well set:
- Screen: 17' -27'
- 20/30 Sand: 27'-16.5'
- 30/65 Sand: 16.5'-14.5'

- Grouting Borehole

1125: Installation Complete

- GPI taking quick lunch

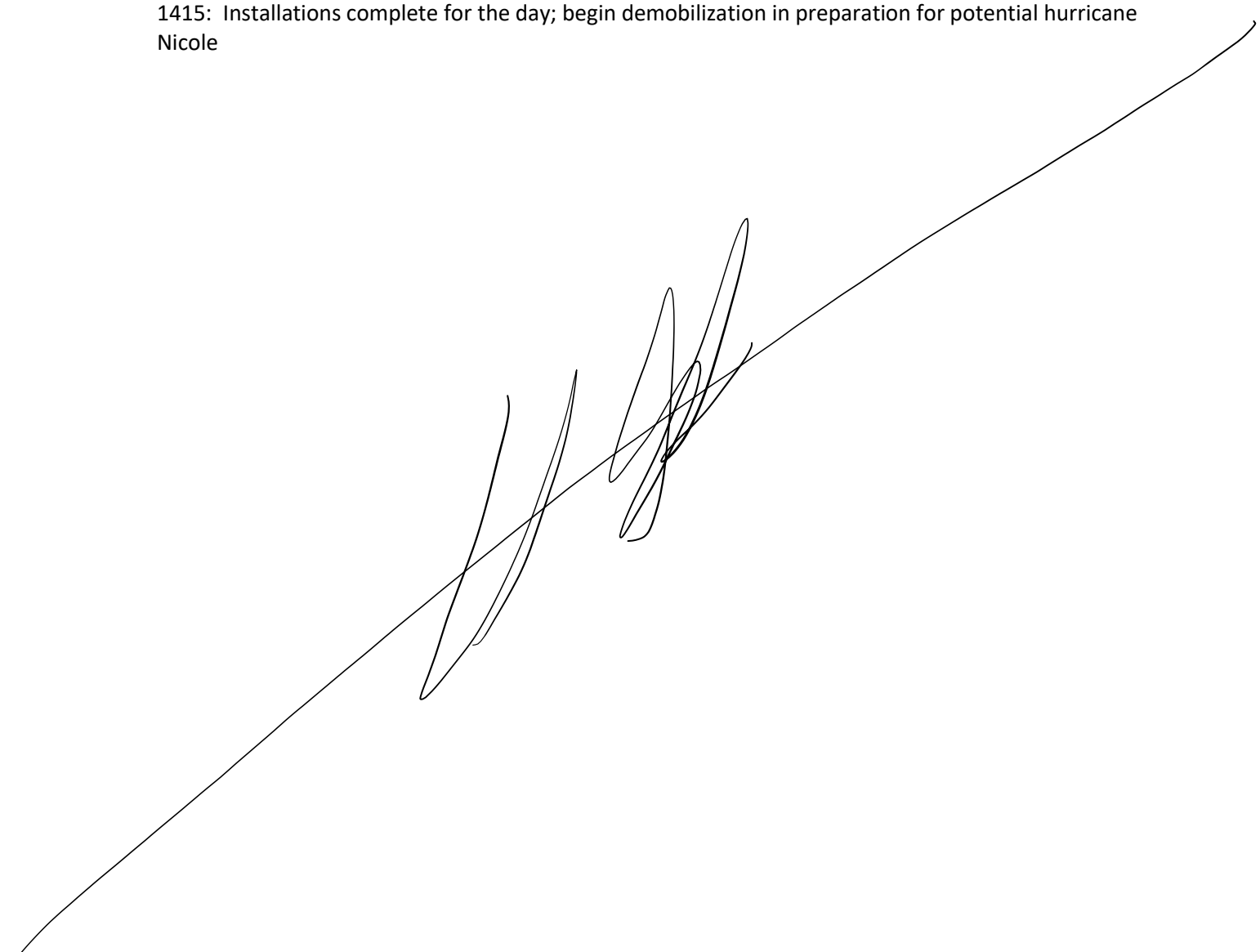
1200: Set up on IW0154 at Location D; hand clear 5'
1210: Drilling Commenced
1225: Setting well Screen 16' to 21'
1240: Well set:
    - Screen: 16' -21'
    - 20/30 Sand: 21'-15.5'
    - 30/65 Sand: 15.5'-13.5'

- Grouting Borehole

1300: Installation Complete
1310: Set up on MW Location F (IW0157); setting well screen 16;' to 21'
1320: Drilling Commenced
1335: Setting well screen 16' to 21'
1350: Well set:
    - Screen: 16' -21'
    - 20/30 Sand: 21'-15.5'
    - 30/65 Sand: 15.5'-13.5'

- Grouting Borehole

1410: Installation Complete
1415: Installations complete for the day; begin demobilization in preparation for potential hurricane Nicole



12/01/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Clear 76 degrees F windy

Health and Safety (HAS): Topics: SSHASP; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

1145: CS on site; Evaluating site post Hurricane Nicole; GPI will be on site shortly as they had to get inspected at CCSFS main gate
1215: GPI on site
1230: GPI grabbing lunch at CCSFS cafeteria
1305: GPI on site; HAS Meeting; unloading tooling, equipment, materials, and supplies; daily prep
1335: Set up on LC34-AS0318; hand clear 5'
1350: Drilling Commenced; pulling Core 30' to 40'
1410: Pulling Core 30' to 40'
1435: Core Pulled; setting well 37' TD

- Lithology is as follows:
    - 30-33: SHELL; little to some sand – coarse to very fine
    - 33-35: SAND – MEDIUM TO VERY FINE; little to some silt; trace to little shell; trace clay
    - 35-37: Gray to dark gray shell; little sand – fine to very fine
    - 37-40: SAND – FINE TO VERY FINE; little to some silt; trace to little clay and shell

1450: Well set; begin hydration/development
1505: Hydration Complete; grouting borehole
1520: Installation Complete
1530: Drilling Commenced on AS0313
1545: Pulling Core 30' to 40'
1600: Core Pulled; setting well 38' TD

- Lithology is as follows:
    - 30-31.5: SHELL; little sand – fine to very fine and silt
    - 31.5-35: SAND – FINE TO VERY FINE; little silt; trace shell
    - 35-38: SHELL; little sand – very fine and silt
    - 38-39: SAND – VERY FINE; little to some silt; trace to little clay
    - 39-40: SAND – MEDIUM TO VERY FINE; little shell and silt

1615: Well Set; begin hydration/development
1630: Hydration Complete; grouting borehole
1645: Installation Complete
1700: Site Secured; Tt/GPI offsite



12/02/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Terry Winstead	(TW)	Tech	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Clear 76 degrees F windy

Health and Safety (HAS): Topics: SSHASP; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; daily prep
0800: Set up on AS0301; hand clear 5'
0815: Drilling Commenced
0850: Pulling Core 30' to 40'
0925: Core pulled; setting well 35' TD

- Lithology is as Follows:
    - 30-33: SHELL; little to some sand – fine to very fine; little silt
    - 33-34.5: Sand – fine to very fine; little silt and shell
    - 34.5-35: SHELL; little sand – fine to very fine, silt, and clay
    - 35-35.5: CLAY; dense; little silt and shell
    - 35.5-37.5: SHELL; little sand – fine to very fine, silt, and clay
    - 37.5-40: SAND – VERY FINE AND SILT; dense tight formation

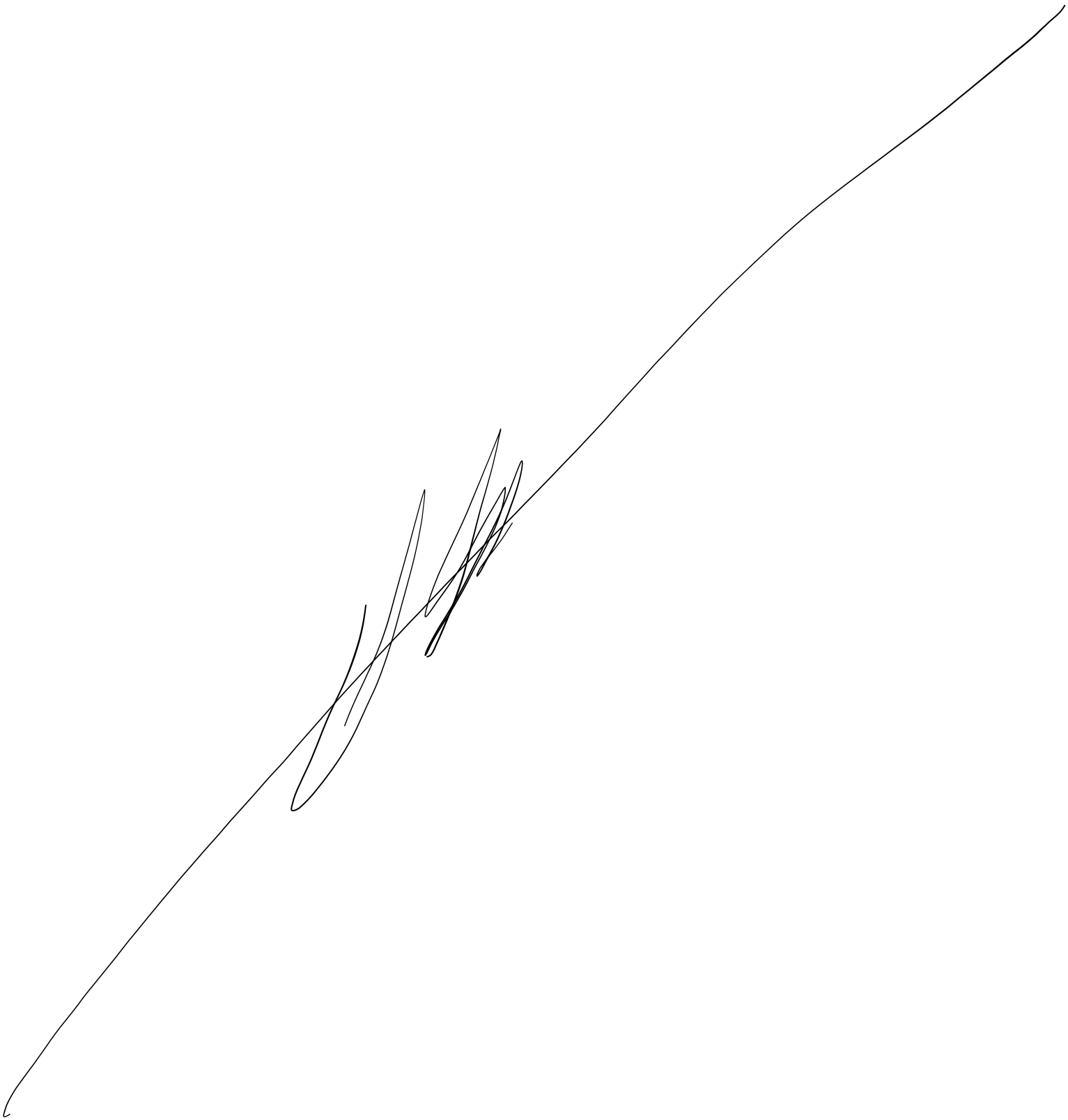
0945: Well set; begin hydration/development
1000: Hydration/development complete; grouting borehole
1015: Installation Complete; DL changing pipe table jaws
1045: repair complete; Drilling commenced on LC34-AS0302; previously hand cleared 5'
1115: Pulling Core 30' to 40'
1135: Core pulled; setting well 36' TD

- Lithology is as follows:
    - 30-34: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 34-36: SHELL; little to some silt; little sand – fine to very fine; trace clay
    - 36-38: SAND VERY FINE AND SILT; dense tight formation
    - 38-40: SAND COARSE TO FINE AND SHELL in coarse to pebble size

1200: Well set; begin hydration/development; GPI also taking lunch
1240: Hydration/development complete; grouting borehole
1255: Installation Complete
1310: Drilling Commenced on AS0303; location changed from angle well to vertical well after conversation with Mark Jonnet. Location hand cleared 5'
1340: Pulling Core 30' to 40'
1400: Core pulled; setting well 37' TD

- Lithology is as follows:
    - 30-32.5: SHELL; little sand – fine to very fine and silt
    - 32.5-35.0: SAND – FINE TO VERY FINE; little silt and shell
    - 35-37: SHELL; little sand – fine to very fine and silt; trace to little clay 36.5-37
    - 37-40: SAND – FINE TO VERY FINE AND SILT; trace shell and clay

1420: Well set; begin hydration/development
1440: Hydration/development complete; grouting borehole
1500: Installation complete; GPI conducting materials Inventory, offloading tank off of flatbed to gather materials for next week.
1535: Site Secure; Tt/GPI offsite



12/05/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Clear 76 degrees F windy

Health and Safety (HAS): Topics: Heat stress/hydration; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0730: CS at CCB assisting with MW sampling and resupplying crew
0830: CS at LC34; awaiting arrival of drillers
0950: GPI on site; unloading materials, putting tank back on truck for water; HAS Meeting; daily prep
1030: Set up on LC34-AS0309; Originally proposed to be an angle well but converted to vertical well
1040: Drilling Commenced
1110: Pulling Core 30' to 40'
1125: Core pulled; setting well 37' TD

- Lithology is as follows:
    - 30-33.5: SHELL; some sand – medium to very fine: trace silt
    - 33.5-35: SAND – FINE TO VERY FINE; little silt and shell
    - 35-37: SHELL; little sand – fine to very fine and silt
    - 37-40: SAND – MEDIUM TO VERY FINE; little to some silt; trace to little clay; little to some clay 37-38.5

1140: Well set; begin hydration/development; GPI offsite for lunch
1220: GPI on site; hydration/development complete; grouting borehole
1240: Installation complete; moving rig and equipment to install the eastern most wells across swale; using mud mats and a portable tank to drill well and access
1310: Set up on AS0338; hand clear 5'
1335: Drilling Commenced
1400: Pulling Core 30' to 40'
1410: Core pulled; No clay; setting well 40' TD

- Lithology is as follows:
    - 30-35: SAND – FINE TO VERY FINE; little silt and shell
    - 35-40: SHELL; little sand – medium to very fine; trace silt and clay 37-38

1430: Well set; begin hydration/development
1450: Hydration/development complete; grouting borehole
1510: Installation Complete
1520: Drilling Commenced on AS0337; previously hand cleared 5'
1605: Pulling Core
1620: Core pulled; no clay observed; small silt zone at 37'; no issue; will set 40' in am; mosquitos are absolutely unbearable and are not responding to bug spray; unable to Photo core due to core being damaged during transport

- Lithology is as follows:
    - 30-35: SAND – FINE TO VERY FINE; little silt and shell; silty zone 34-34.5
    - 35-40: SHELL; little sand – medium to very fine; trace silt and 37-38

1630: Site secured; Tt/GPI offsite

12/06/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Clear 76 degrees F windy

Health and Safety (HAS): Topics: Heat stress/hydration; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; Daily Prep
0745: Setting AS0337 40' TD
0805: Well set; begin hydration/development
0825: Hydration/development complete; grouting borehole
0845: Installation Complete
0900: Set up on IW0156 at Location E; hand clear 5'; proposed screen depth of 16' to 21'
0915: Drilling Commenced
0940: Setting well 16' to 21'
0950: Well set; grouting borehole

- Screen: 16'-21'
- 20/30 Sand: 21'-15'
- 30/65 Sand: 15'-13'
- Portland to surface

1005: Installation Complete
1015: Setting up on AS0334. Moved entry point 5' along road on distance arc from termination point to gain better access for rig because of palm tree; hand clear 5'; propose setting well 73.6 degrees, 41.7 (42') length; attempting to pull core 32' to 42'
1040: Drilling commenced
1100: Pulling Core 32' to 42'
1125: Core pulled; setting well 39' length

- Lithology is as follows:
    - 32-35 Length: SHELL; little to some sand – fine to very fine; little silt
    - 35-38.5 length: SAND – FINE TO VERY FINE; little silt and shell
    - 38-39 length: SHELL; little sand – fine to very fine and silt; trace clay
    - 39-39.5 length: CLAY; little sand — very fine and silt
    - 39.5-42 length: SHELL; little to some sand – fine to very fine and silt; trace to little clay

1140: Well set; begin hydration/development
1200: Hydration/development complete; grouting borehole
1225: Installation Complete

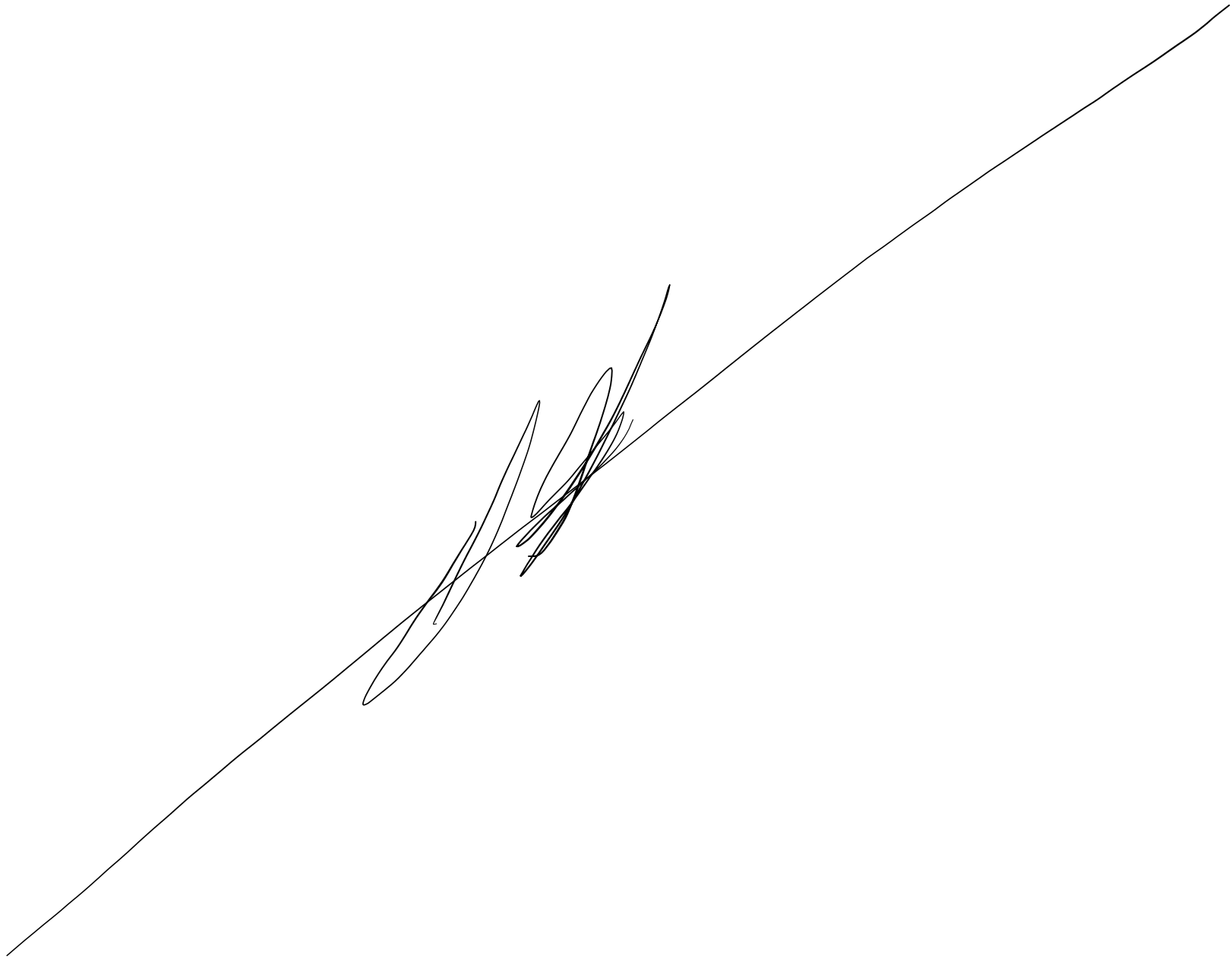
- GPI taking lunch

1255: GPI on site; setting up on LC34-AS0336; hand clear 5'
1315: Drilling Commenced
1350: Pulling Core 30' to 40'
1405: Core pulled; setting well 39' TD

- Lithology is as follows:
    - 30-31.5: SHELL; little to some sand – fine to very fine; little silt

- 31.5-35: SAND – FINE TO VERY FINE; little to some silt; trace to little shell; trace clay
- 35-39: SHELL; little to some sand – fine to very fine; little silt; trace clay
- 39-39.5: CLAY; little sand – very fine and silt
- 39.5-40: SHELL; little sand – fine to very fine

1420: Well set; begin hydration/development
1440: Hydration/development complete; grouting borehole
1500: Installation complete
1515: Set up on AS0335; recalculated angle and hypotenuse to achieve a total depth of 38' rather than 40' based on surrounding wells. Unable to pull core on this hole due to angle. Proposed angle – 64.7 (65 degrees); proposed length – 42'
1525: Drilling Commenced
1550: Setting well
1610: Well set; will develop and grout in the morning; mosquitos are out of control
1630: Site secured; Tt/GPI offsite



12/07/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Clear 76 degrees F windy

Health and Safety (HAS): Topics: Heat stress/hydration; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; daily prep
0740: Begin development on AS0335
0755: Development complete; grouting borehole
0815: Installation complete on AS0335
0830: Setting up on AS0316; location is currently on mound of soil unable to be accessed with rig. Converting well into an angle well. 18' horizontal offsetting; based on average set depth of surrounding wells; will propose setting at 36'
0840: Confirmed with PM that proposed depth is adequate; New angle is 63.43 degrees (63 degrees), 40.25' (40') hypotenuse length.
0845: Drilling Commenced; setting well 63 degrees, 40.5' which should set well at 36.1' BLS at targeted termination point
0930: Setting well 40.5'
0950: Well set; begin hydration/development
1010: hydration/development complete; grouting borehole
1025: Installation Complete
1035: Set up on LC34-AS0310; moved entry point 5' off of proposed entry as it was too close to the building for work. New calculated angle is 57 degrees with a hypotenuse length 47.7 or 48'. Average of surrounding wells is 39.7 so still setting with original proposed depth of 40'
1045: Drilling Commenced
1125: Setting well 48' Length; O-Ring blew on hose fitting; spill contained with visquene. GPI repairing hose
1145: Repair complete
1155: Well set; begin hydration/development
1200: GPI taking lunch
1230: Hydration/development complete; grouting borehole
1300: Installation complete
1400: Set up on AS0339; proposed to PM to set total depth to 38' BLS based on surrounding well information; PM agreed; new angle = 51 degrees, 49' hypotenuse length.
1410: Drilling Commenced
1450: Issue with cylinder that was replaced last week; GPI troubleshooting
1600: Drilling resumed; repair complete
1615: At depth; setting well 49' hypotenuse length
1635: Well set; will hydrate and grout in the am
1650: Site secured; Tt/GPI offsite

12/08/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Clear 76 degrees F windy

Health and Safety (HAS): Topics: Heat stress/hydration; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; daily prep; GPI replacing pin on pipe jaws
0800: Repair complete; Developing well
0820: Development complete; grouting borehole
0840: Installation Complete
0855: Set up on AS0319; hand clear 5'
0905: Drilling Commenced
0925: Pulling Core 30' to 40'
0940: Core pulled; setting well 37' TD

- Lithology is as follows:
    - 30-33: SHELL; little sand – fine to very fine and silt
    - 33-35: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 37-37: Gray to dark gray SHELL; little silt and sand – very fine
    - 37-39: CLAY; little to some sand – very fine, silt, and shell
    - 39-40: SHELL; little sand – medium to very fine; trace silt and clay

1000: Well set; begin hydration/development
1020: hydration/development complete; grouting borehole
1040: Installation complete

- AS and MW Installation complete east of the blockhouse; begin mobilizing equipment, tooling, and materials to West of blockhouse

1130: Set up on AS0395; hand clear 5'

- GPI taking Lunch

1200: Drilling Commenced on AS0395
1225: Pulling Core 30' to 40'
1240: Core pulled; setting well 36' TD

- Lithology is as follows:
    - 30-35: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 35-36.5: SHELL; little sand – fine to very fine and silt
    - 36.5-39: SHELL; little to some clay, silt, and sand – fine to very fine
    - 39-40: SHELL; little to some sand – medium to very fine

1255: Well set; begin hydration/development
1315: Hydration/development complete; grouting borehole
1335: Installation Complete
1340: Set up on AS0394; hand clear 5'
1345: Drilling Commenced
1410: Pulling core 30' to 40'
1425: Core pulled; setting well 38'

- Lithology is as follows:

- 30-32: SAND – FINE TO VERY FINE; little silt and shell
- 32-37.5: SAND – MEDIUM TO VERY FINE interbedded with SHELL, CLAY, and SILT
- 37.5-40: SHELL; some sand – coarse to very fine

1445: Well set; begin hydration/development
1505: Hydration/development complete; grouting borehole
1525: Installation complete
1535: Set up on AS0393; hand clear 5'
1545: Drillijng Commecned
1605: pulllig Core 30-40'
1620: Core pulled; setting well 38'

- Lithology is as follows:
  - 30-34: SAND – FINE TO VERY FINE; little to some silt; little shell
  - 34-38.5: SAND – FINE TO VERY FINE interbedded with SHELL, CLAY, and SILT
  - 38.5-40: SHELL; some sand – coarse to very fine

1640: Well set; will develop and grout in the am
1700: Site secured; Tt/GPI offsite



12/09/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Clear 76 degrees F windy

Health and Safety (HAS): Topics: Heat stress/hydration; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting daily prep
0735: Begin development on AS0393
0750: Development complete; grouting borehole
0810: Installation complete
0820: Set up on AS0392; hand clear 5'
0830: Drilling Commenced
0850: Pulling Core 30' to 40'
0910: Core Pulled; setting well 38'

- Lithology is as Follows:
    - 30-32: SAND – COARSE TO VERY FINE
    - 32-33.5: sand – fine to very fine; little to some silt; little shell;
    - 33.5-35: SAND – VERY FINE; little to some silt; trace clay and shell
    - 35-40: INTERBEDDED SHELL, SILT, CLAY, AND SAND – VERY FINE

0925: Well set; begin hydration/development
0945: Hydration/development complete; grouting borehole
1005: Installation Complete
1015: Set up on AS0391; hand clear 5'
1020: Drilling Commenced
1040: Pulling Core 30' to 40'
1055: Core pulled; setting well 39' TD

- Lithology is as follows:
    - 30-32.5: SHELL; little sand – fine to very fine and silt
    - 32.5-35: SAND – FINE TO VERY FINE; little to some silt; little shell; trace clay
    - 35-37: SHELL; little sand – very fine and silt; trace clay
    - 37-39: SAND – FINE TO VERY FINE; little to some silt; little shell and clay
    - 39-40: SHELL; little to some sand – fine to very fine; trace clay

1115: Well set; begin hydration/development

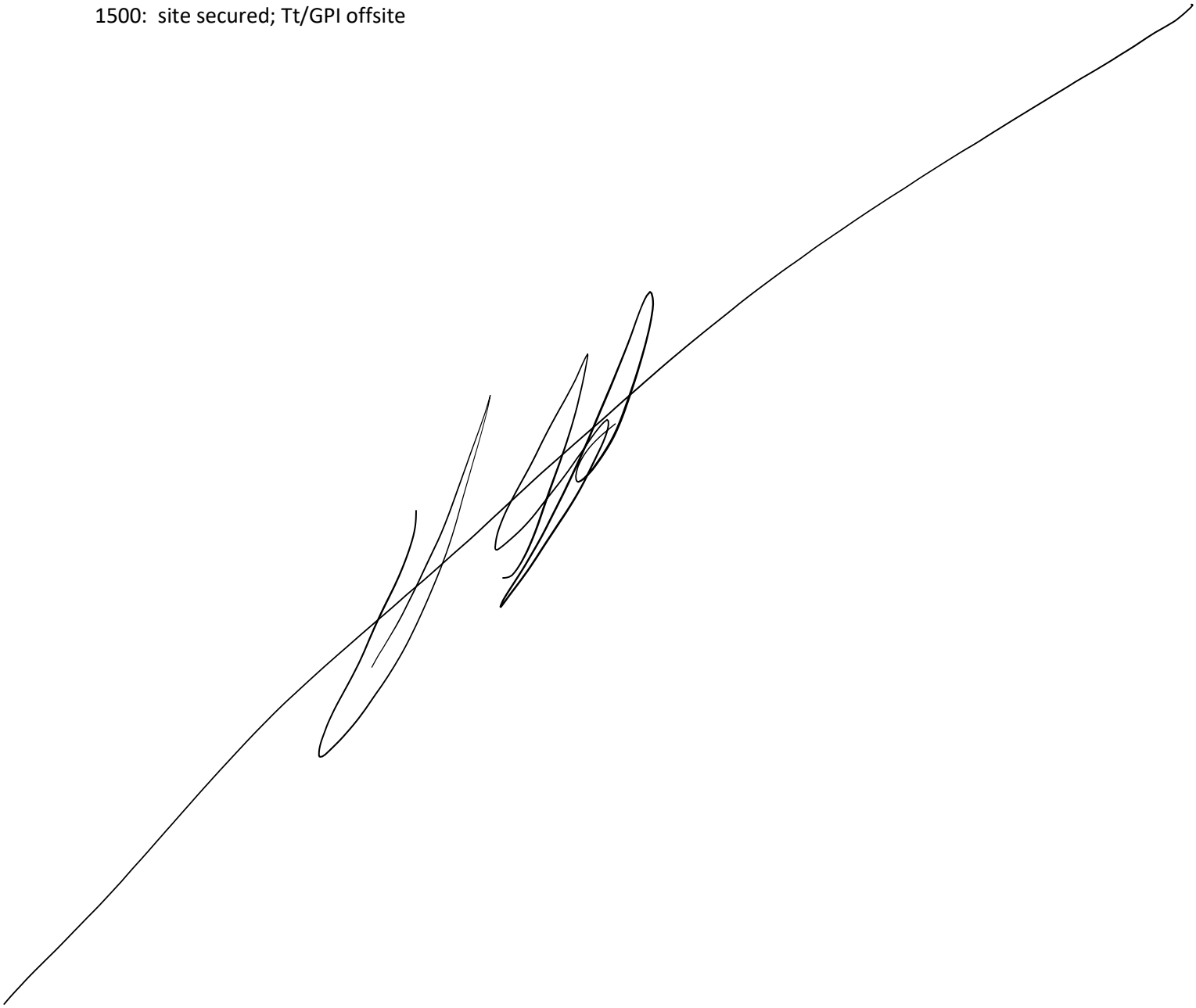
- GPI taking lunch

1155: hydration/development complete; grouting borehole
1215: Installation complete
1225: Set up on AS0390; hand clear 5'
1235: Drilling Commenced
1255: Pulling Core 30' to 40'
1315: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-33: SHELL; little to Somme sand – fine to very fine; little silt
    - 33-35: SAND – FINE TO VERY FINE; little to some silt; little shell

- 35-36: SHELL; little to some sand – fine to very fine and silt
- 36-38: SAND – FINE TO VERY FINE; little to some silt; little shell and clay; interbedded
- 38-39: SAND – VERY FINE; little to some silt and clay; moderately dense
- 39-40: SAND – MEDIUM TO VERY FINE and COARSE TO VERY COARSE GRAINED SHELL

1335: Well set; begin hydration/development
1355: hydration/development complete; grouting borehole
1415: Installation Complete
1435: Set up on AS0389; will begin drilling after repairs on rig on Monday
1500: site secured; Tt/GPI offsite



12/12/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	Mickey Ritter	(MR)	Driller	GPI
	Christian Dodd	(CD)	Driller	GPI
	Tyree Sanders	(TS)	Tech	GPI
	Donald Huzzie	DH)	Tech	GPI
	Cory O'Brien	(COB)	Geologist	Tt
	Natalie Fabbri	(NF)	Env. Sci.	Tt
	Rob Siegel	(RS)	Tech	Tt

Weather: Clear 62 degrees F windy

Health and Safety (HAS): Topics: SSHASP; Heat stress/hydration; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion. Begin Annual DNAPL Source Zone (DSZ) DPT GW Sampling Event

0730: Tt on site; in-house HAS Meeting; Calibrating PID; daily prep
0915: GPI on site; Full HAS Meeting with Tt/GPI crew; Explanation of tasks; pre work decon with PID verification; DL/JA repairing sonic rig (Fuel filter and jaw cylinder
1100: Sonic Rig Operational; DL/JA Offsite for lunch
1145: DL/JA on site
1200: Drilling Commenced on AS0389; previously hand cleared 5'
1220: Pulling core 30' to 40'
1235: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-32: SHELL; little to some sand – fine to very fine
    - 32-35: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 35-39: SHELL; little to some sand – very fine and silt; trace to little clay
    - 39-40: SAND – MEDIUM TO VERY FINE AND SHELL; little silt

1250: Well set; begin hydration/development
1310: Hydration/development complete; grouting borehole
1330: Installation Complete
1335: Drilling Commenced on AS0388; previously hand cleared 5'
1405: Pulling Core 30' to 40'
1420: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-33: SHELL; little to some sand – fine to very fine
    - 33-35: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 35-38: SHELL; little to some sand – very fine and silt; trace to little clay
    - 38-40: SAND – MEDIUM TO VERY FINE AND SHELL; little silt

1435: Well set; begin hydration/development
1455: Hydration/Development complete; grouting borehole
1515: Installation Complete
1525: Drilling commenced on AS0382; previously hand cleared 5'
1545: Pulling core 30' to 40'

12/12/2022 **LC34 HS6** **112G08985**

1600: Core pulled; setting well 40' TD

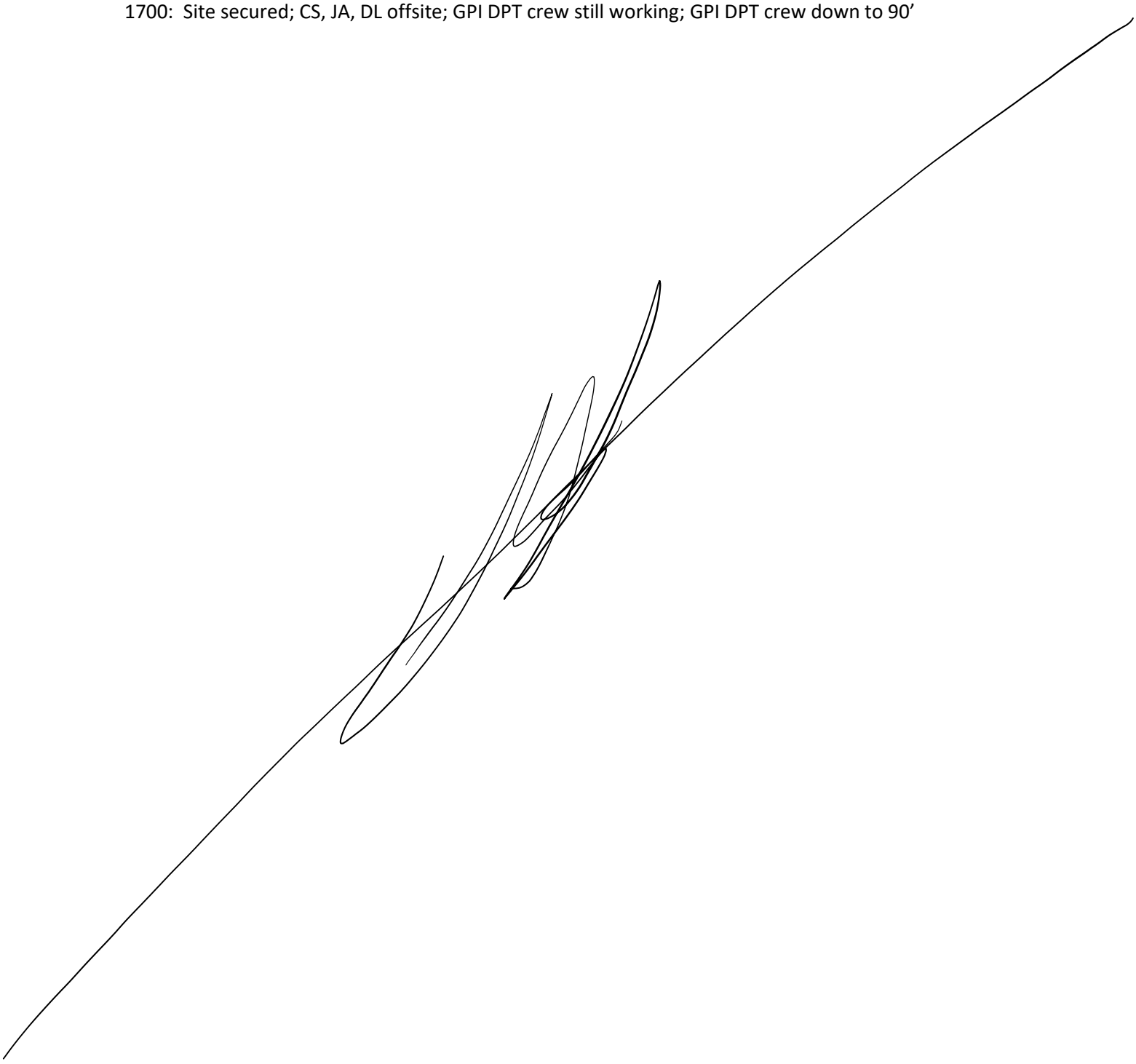
- Lithology is as follows:
    - 30-33: SHELL; little to some sand – fine to very fine
    - 33-35: SAND – FINE TO VERY FINE; little to some silt and shell
    - 35-38: SHELL; little to some sand – very fine and silt; trace to little clay
    - 38-40: SAND – MEDIUM TO VERY FINE AND SHELL; little silt

1615: Well set; begin hydration/development

1635: Hydration/development complete; grouting borehole

1655: Installation complete

1700: Site secured; CS, JA, DL offsite; GPI DPT crew still working; GPI DPT crew down to 90'



12/13/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	Mickey Ritter	(MR)	Driller	GPI
	Christian Dodd	(CD)	Driller	GPI
	Tyree Sanders	(TS)	Tech	GPI
	Donald Huzzie	DH)	Tech	GPI
	Cory O'Brien	(COB)	Geologist	Tt
	Natalie Fabbri	(NF)	Env. Sci.	Tt
	Rob Siegel	(RS)	Tech	Tt
	Aaron Kupper	(AK)	Chem Eng.	Tt

Weather: Partly Cloudy 66 degrees F windy

Health and Safety (HAS): Topics: SSHASP; Heat stress/hydration; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion. Continue Annual DNAPL Source Zone (DSZ) DPT GW Sampling Event

0650: Tt/GPI on site; HAS Meeting; daily prep; Drilling resumed on 595 and 598
0740: DL/JA/TS (Sonic Crew) set up on AS0381; hand clear 5'
0745: Drilling Commenced
0805: Pulling Core 30' to 40'
0820: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-33: SHELL; little to some sand – fine to very fine
    - 33-35: SAND – FINE TO VERY FINE; little to some silt and shell
    - 35-38: SHELL; little to some sand – very fine and silt; trace to little clay
    - 38-40: SAND – MEDIUM TO VERY FINE AND SHELL; little silt

0835: Well set; begin hydration/development
0855: Hydration/development complete; grouting borehole
0915: Installation Complete
0925: Drilling Commenced on AS0380; hand cleared 5'
0945: Pulling Core 30' to 40'
0955: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-32: SHELL; little to some sand – fine to very fine
    - 32-35: SAND – FINE TO VERY FINE; little to some silt and shell
    - 35-38: SHELL; little to some sand – very fine and silt; trace clay
    - 38-40: SAND – MEDIUM TO VERY FINE AND SHELL; little silt

1015: Well set; begin hydration/development
1045: hydration/development complete; long hydration due to heavy rain; grouting borehole
1105: Installation complete
1120: Set up on AS0378. Moved away from curb 1'; hand clear 5'
1125: Drilling Commenced
1145: Pulling Core 30' to 40'
1205: Core pulled; setting well 40'; same lithology as AS0380

- Lithology is as follows:

- 30-32: SHELL; little to some sand – fine to very fine
- 32-35: SAND – FINE TO VERY FINE; little to some silt and shell
- 35-38: SHELL; little to some sand – very fine and silt; trace to little clay; silty clay bed 35-36
- 38-40: SAND – MEDIUM TO VERY FINE AND SHELL; little silt

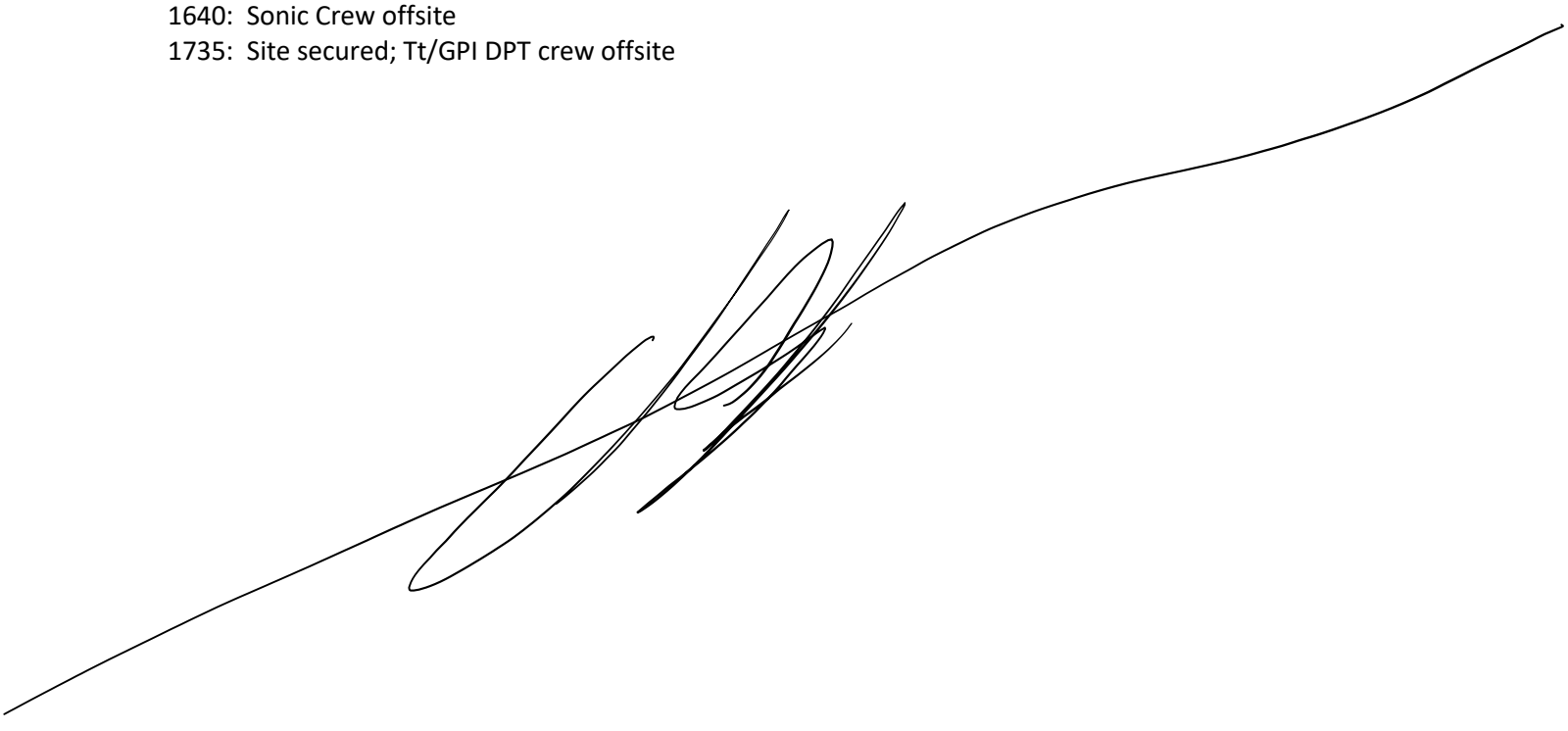
1225: Well set; begin hydration/development
1245: Hydration/development complete; grouting borehole
1300: Installation Complete; unable to photo document AS0378 core due to heavy rain
1305: Set up on AS0387; hand clear 5'
1310: Drilling Commenced
1330: Pulling Core 30' to 40'
1345: Core pulled; setting well 40' TD

- Lithology is as follows:
  - 30-33: SHELL; little to some sand – fine to very fine
  - 33-35: SAND – FINE TO VERY FINE; little to some silt and shell
  - 35-38.5: SHELL; little to some sand – very fine and silt; trace clay
  - 38.5-40: SAND – MEDIUM TO VERY FINE AND SHELL; little silt

1400: Well Set; begin hydration/development
1420: Hydration/development complete; grouting borehole
1440: Installation Complete
1450: Drilling Commenced on AS0398; previously hand cleared 5'
1510: Pulling Core 30' to 40'
1525: Core pulled; setting well 40'

- Lithology is as follows:
  - 30-33: SHELL; little to some sand – fine to very fine
  - 33-35: SAND – FINE TO VERY FINE; little to some silt and shell
  - 35-38.5: SHELL; little to some sand – very fine and silt; trace clay
  - 38.5-40: SAND – MEDIUM TO VERY FINE AND SHELL; little silt

1545: Well set; begin hydration/development
1605: hydration/development complete; grouting borehole
1620: installation Complete
1640: Sonic Crew offsite
1735: Site secured; Tt/GPI DPT crew offsite



12/14/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	Mickey Ritter	(MR)	Driller	GPI
	Christian Dodd	(CD)	Driller	GPI
	Tyree Sanders	(TS)	Tech	GPI
	Bryant Evans	(BE)	Tech	GPI
	Donald Huzzie	DH)	Tech	GPI
	Cory O'Brien	(COB)	Geologist	Tt
	Natalie Fabbri	(NF)	Env. Sci.	Tt
	Rob Siegel	(RS)	Tech	Tt
	Aaron Kupper	(AK)	Chem Eng.	Tt

Weather: Partly Cloudy 66 degrees F windy

Health and Safety (HAS): Topics: SSHASP; inclement Weather; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion. Continue Annual DNAPL Source Zone (DSZ) DPT GW Sampling Event

0645: GPI DPT crew on site with Tt
0700: CS on site; HAS Meeting; Daily prep
0730: Sonic crew set up on AS0399; hand clear 5'
0735: Drilling Commenced
0800: Pulling Core 30' to 40'
0815: Core pulled; setting well 38'

- Lithology is as follows:
    - 30-33: SHELL; little sand – fine to very fine and silt
    - 33-36: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 36-38: SHELL; little sand – fine to very fine and silt; trace clay
    - 38-40: SAND – MEDIUM TO VERY FINE; little silt and clay

0830: Well set; begin hydration/development
0845: Hydration/development complete; grouting borehole
0900: Installation Complete
0905: Drilling Commenced on AS0400; Previously hand cleared 5'
0925: Pulling Core 30' to 40'
0940: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-33: SHELL; little to some sand – fine to very fine
    - 33-36: SAND – FINE TO VERY FINE; little to some silt and shell; trace clay
    - 36-38.5: SHELL; little to some sand – very fine and silt; trace clay
    - 38.5-40: SAND – MEDIUM TO VERY FINE AND SHELL; little silt

0955: Well set; begin hydration/development
1010: Hydration/development complete; grouting borehole
1025: Installation complete
1030: Unable to drill AS0401. Obstruction in ground approximately 4.5' BLS. Moved location 2' away and still hit it. Calling CCSFS Utility locator to verify. Moving to AS0401
1035: Drilling Commenced on AS0402; previously hand cleared 5'

1055: Pulling Core 30’ to 40’
1110: Core pulled; setting well 38’ TD
- Lithology is as follows:
    - 30-33: SHELL; little sand – fine to very fine and silt
    - 33-35.5: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 35.5-38: SHELL; little sand – fine to very fine and silt; trace clay
    - 38-40: SAND – MEDIUM TO VERY FINE; little silt and clay

1125: Well set; begin hydration/development
1145: hydration/development complete; grouting borehole
1200: Installation Complete
1210: Drilling Commenced on AS0403; previously hand cleared 5’
1225: Pulling Core 30’ to 40’
1240: Core pulled; setting well 37’ TD
- Lithology is as follows:
    - 30-32: SHELL; little to some sand – fine to very fine; little silt
    - 32-35: SAND – FIJNE TO VERY FINE; little silt and shell
    - 35-35.5: Gray to Dark Gray SHELL; little sand – fine to very fine
    - 35.5-37: SHELL: little to some silt; little sand – fine to very fine, and clay
    - 37-39: SAND – FINE TO VERY FINE; little to some silt and clay; trace to little shell
    - 39-40: SAND – FINE TO VERY FINE AND SHELL; little silt; trace clay

1255: Well set; begin hydration/development
1315: Hydration/development complete; grouting borehole
1330: Installation Complete
1340: Drilling Commenced on AS0404; previously hand cleared 5’
1400: Pulling Core 30’ to 40’
1410: Core pulled; setting well 37’ TD
- Lithology is as follows:
    - 30-35: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 35-36: Gray to dark Gray SHELL
    - 36-37: SHELL; little to some sand — very fine and silt; trace clay
    - 37-39: CLAY; little to some sand – very fine and silt; trace shell
    - 39-40: SAND – MEDIUM TO VERY FINE; little shell and silt; trace clay

1425: Well set; Begin Hydration/development
1440: hydration/development complete; grouting borehole
1455: Installation Complete
1505: Drilling Commenced on AS0405; previously hand cleared 5’
1520: Pulling Core 30’ to 40’
1530: Core pulled; setting well 35’ TD
- Lithology is as follows:
    - 30-33: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 33-35: SHELl coarse to very coarse; little sand – fine to very fine
    - 35-38: SAND – VERY FINE; some silt; little to some clay; trace to little shell
    - 38-40: SAND – MEDIUM TO VERY FINE; little to some coarse to v. Coarse shell

1545: Well set; begin hydration/development
1605: Hydration/development complete; grouting borehole
1625: Installation Complete

12/14/2022 **LC34 HS6** **112G08985**

1645: Sonic Crew offsite
1700: Tt/GPI offsite



12/15/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	Mickey Ritter	(MR)	Driller	GPI
	Christian Dodd	(CD)	Driller	GPI
	Tyree Sanders	(TS)	Tech	GPI
	Bryant Evans	(BE)	Tech	GPI
	Donald Huzzie	DH)	Tech	GPI
	Cory O'Brien	(COB)	Geologist	Tt
	Natalie Fabbri	(NF)	Env. Sci.	Tt
	Rob Siegel	(RS)	Tech	Tt
	Aaron Kupper	(AK)	Chem Eng.	Tt

Weather: Partly Cloudy72 degrees F windy; risk of severe weather today

Health and Safety (HAS): Topics: SSHASP; inclement Weather; PPE; IDW

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion. Continue Annual DNAPL Source Zone (DSZ) DPT GW Sampling Event

0700: CS on site; DPT crew and TT DPT crew already on site and working; DL called CS that he will be running late due to diesel fuel theft out of his work truck
0740: Set up on AS0406; hand clear 5'
0755: Drilling Commenced
0815: Pulling Core 30' to 40'
0825: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-35: SAND – FINE TO VERY FINE; little silt and shell; gray to dark gray shell 34-35
    - 35-38: SHELL: little to some sand – fine to very fine and silt; trace clay
    - 38-40: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SIZED SHELL

0840: Well set; begin hydration/development
0855: Hydration/development complete; grouting borehole
0915: Installation Complete
0925: Drilling Commenced on AS0407; previously hand cleared 5'
1000: Pulling Core 30' to 40'
1015: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-34: SAND – FINE TO VERY FINE; little silt and shell
    - 34-35: Gray to dark Gray SHELL; little sand – medium to very fine
    - 35-38: SHELL: little to some sand – fine to very fine and silt; trace clay
    - 38-40: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SIZED SHELL

1030: Well set; begin hydration/development
1045: Hydration/development complete; grouting borehole
1100: Installation complete
1110: Drilling Commenced on AS0419; moved 4' off if original location to grass instead of sidewalk
1125: Pulling Core 30' to 40'
1140: Core pulled; setting well 33' TD

- Lithology is as follows:

- 30-33: SAND – FINE TO VERY FINE; little to some shell; little silt
- 33-34: SAND – VERY FINE AND SILT; interbedded with silty clay; clay beds dense and relatively dry and stiff
- 34-35.5: SAND – VERY FINE; some silt; little shell; trace clay
- 35.5-38: SHELL; little sand – very fine and silt; trace clay
- 38-39: SHELL; some silt and clay; little sand – very fine; firm
- 39-40: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL; trace clay

1155: Well set; begin hydration/development
1230: Phase II lightning warning in effect; all personnel secured in vehicles
1330: Spoke with DL; GPI boss called him and stated that the drillers need to leave site and not wait out storm; CS informed Tt PM of this. GPI offsite; Tt packing coolers for sample delivery
1400: Site secured Tt offsite



Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	Mickey Ritter	(MR)	Driller	GPI
	Christian Dodd	(CD)	Driller	GPI
	Tyree Sanders	(TS)	Tech	GPI
	Bryant Evans	(BE)	Tech	GPI
	Donald Huzzie	DH)	Tech	GPI
	Cory O'Brien	(COB)	Geologist	Tt
	Natalie Fabbri	(NF)	Env. Sci.	Tt
	Aaron Kupper	(AK)	Chem Eng.	Tt

Weather: Partly Cloudy 58 degrees F windy

Health and Safety (HAS): Topics: SSHASP; PPE; IDW; Demob

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion. Complete Annual DNAPL Source Zone (DSZ) DPT GW Sampling Event

0650: Tt on site; GPI DPT crew on site; Sonic crew in route; HAS Meeting; daily prep
0740: Grouting borehole on AS0419
0755: Installation complete on AS0419
0805: Drilling Commenced on AS0418; previously hand cleared 5'
0820: Pulling Core 30' to 40'
0835: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-31.5: SAND – COARSE TO VERY FINE; little shell and silt
    - 31.5-35: SAND – FINE TO VERY FINE; little to some silt
    - 35-38: SHELL; little to some silt; little sand – very fine and clay
    - 38-39: SAND – MEDIUM TO VERY FINE; little to some clay and silt
    - 39-40: SAND – MEDIUM TO FINE; some shell

0850: Well set; begin hydration/development
0905: Hydration/development complete; grouting borehole
0920: Installation complete
0930: Drilling Commenced on AS0417; previously hand cleared 5'
0945: Pulling Core 30' to 40'
1000: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-35: SAND – MEDIUM TO VERY FINE; little to some silt and shell; trace clay; thin silty clay bed at 34'
    - 35-36.5; SHELL; little to some silt; little sand – very fine and clay
    - 36.5-38: SAND – FINE TO VERY FINE; little to some silt; little shell; trace to little clay
    - 38-40: SAND – MEDIUM TO VERY FINE; some shell in coarse to very coarse sized; trace clay at 40'

1015: Hydration/Development complete; grouting borehole
1035: Installation Complete
1045: Drilling Commenced on AS0416; previously hand cleared 5'
1105: Pulling Core 30' to 40'

1120: Core pulled; setting well 35’ TD
- Lithology is as follows:
    - 30-33: SAND – FINE TO VERY FINE; little silt and shell
    - 33-35: Gray to Dark Gray SHELL; little sand — fine to very fine and silt; trace clay
    - 35-39: SAND – FINE TO VERY FINE; little to some silt; little clay in beds and throughout.
    - 39-40: SAND – MEDIUM TO VERY FINE; little to some silt; little clay and shell

1135: Well set; begin hydration/development
1155: Hydration/development complete; grouting borehole
1215: Installation complete
1225: Drilling Commenced in IW0160 (Location H) Monitoring well; setting screen 30’ to 35’; previously hand cleared 5’
1240: Setting well 35’
1250: Well set; grouting borehole
- Screen: 30’ to 35’
- 20/30 sand: 35’ to 29’
- 30/65 sand: 29’ to 27’
- Portland to surface

1305: Installation Complete
1310: Drilling Commenced on IW0159 at Location H; setting well screen 17’ to 27’
1320: Setting well
1335: Well set; grouting borehole
- Screen: 17’ to 27’
- 20/30 Sand: 27’ to 16’
- 30/65 Sand: 16’ to 14’
- Portland to surface

1355: Installation Complete
1430: GPI offsite
1530: CS offsite

12/19/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	Tyree Sanders	(TS)	Tech	GPI

Weather: Sunny 48 degrees F windy

Health and Safety (HAS): Topics: SSHASP; PPE; IDW; Demob

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0715: CS on base;
0830: CS arrives at LC34; awaiting GPI sonic crew
0900: GPI on site; HAS Meeting; daily prep
0940: Set up on AS0415; hand clear 5'
0950: Pin sheared on pipe jaws; replacing
1030: Drilling Commenced on AS0415; repair complete
1045: Pulling Core 30' to 40'
1100: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-32: SHELL; little sand – fine to very fine and silt
    - 32-35: SAND -FINE TO VERY FINE; little to some silt; little shell; trace clay
    - 35-38: SHELL; little silt and sand – fine to very fine; trace clay
    - 38-40: SAND – FINE TO VERY FINE; little to some silt; little clay and shell

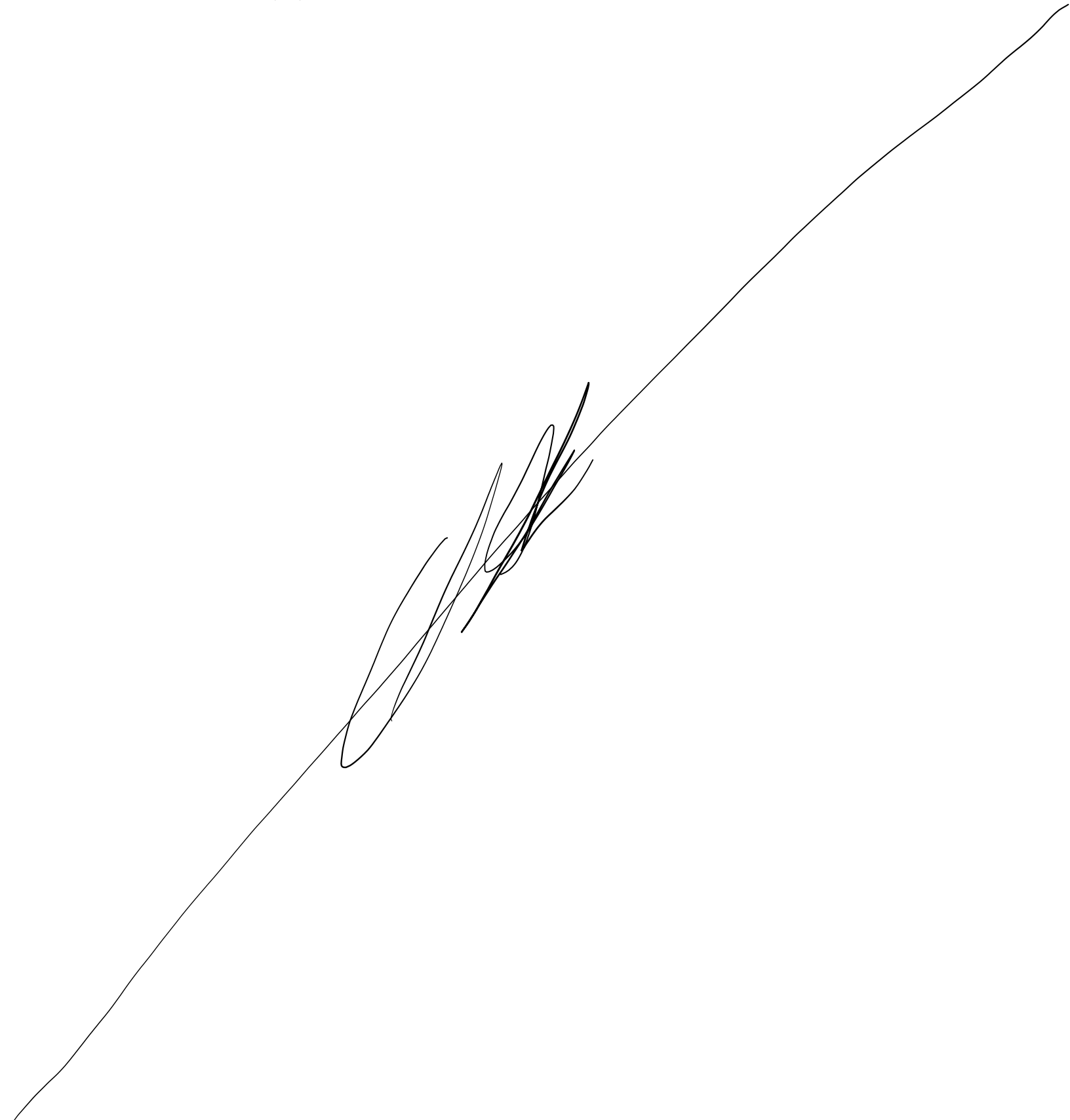
1115: Well set; begin hydration/development
1130: GPI offsite for lunch
1150: GPI on site; hydration/development complete; grouting borehole
1220: Installation complete
1230: Drilling Commenced on AS0414; previously hand cleared 5'
1245: Pulling Core 30' to 40'
1300: Core pulled; setting well 38'

- Lithology is as follows:
    - 30-33: SHELL; little sand – fine to very fine and silt
    - 33-35: SAND -FINE TO VERY FINE; little to some silt; little shell; trace clay
    - 35-38: SHELL; little silt and sand – fine to very fine; trace clay
    - 38-40: SAND – FINE TO VERY FINE; little to some silt; little clay and shell

1315: Well set; begin hydration/development
1335: Hydration/development complete; grouting borehole
1350: Installation complete
1400: Drilling Commenced on AS0413; previously hand cleared 5'
1420: Pulling Core 30' to 40'
1440: Core pulled; setting well 39' TD

- Lithology is as follows:
    - 30-34: SHELL; little sand – fine to very fine and silt
    - 34-37: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 37-39: SHELL; little sand – fine to very fine; trace clay
    - 39-40: SAND – FINE TO VERY FINE; little to some silt; little clay and shell

1500: Well set; begin hydration/development
1520: Hydration/Development Complete; grouting borehole
1535: Installation Complete; replacing lower jaws on rig;
1600: Site secured; Tt/GPI off site



12/20/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	Tyree Sanders	(TS)	Tech	GPI

Weather: Sunny 48 degrees F windy

Health and Safety (HAS): Topics: SSHASP; PPE; IDW; Demob

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; Daily Prep
0755: Set up on AS0412; hand clear 5'
0805: Drilling Commenced
0825: Pulling Core
0840: Core pulled; setting well 39' TD

- Lithology is as follows:
    - 30-33: SHELL; little sand – fine to very fine and silt
    - 33-36: SAND – FIUNE TO VERY FINE; little to some silt; little shell; trace clay
    - 36-39: SHELL; little to some silt and sand – fine to very fine; trace to little clay
    - 39-40: SAND – MEDIUM TO VERY FINE; little to some clay and silt; little shell; dense clay 39-39.5 with shell below

0850: Well set; begin hydration/development
0910: hydration/development complete; grouting borehole
0925: Installation complete
0935: Drilling AS0411; previously hand cleared 5'; JA Developing IW0159 and IW0160
0950: Pulling Core 30' to 40'
1005: Core pulled; setting well 39' TD

- Lithology is as follows:
    - 30-33: SHELL; little sand – fine to very fine and silt
    - 33-36: SAND – FINE TO VERY FINE; little to some silt; little shell; trace clay
    - 36-39: SHELL; little to some silt and sand – fine to very fine; trace to little clay
    - 39-40: SAND – MEDIUM TO VERY FINE; little to some clay and silt; little shell; dense clay 39-39.5; shell below

1015: Well set; begin hydration/development
1035: Hydration/development complete; grouting borehole; development complete on Location H MWs
1050: Installation Complete
1055: Set up on AS0410; moved 2' east along line to get better distance from utility; hand clear 5'
1120 Drilling Commenced
1140: Pulling Core 30' to 40'
1155: Core pulled; setting well 38' TD

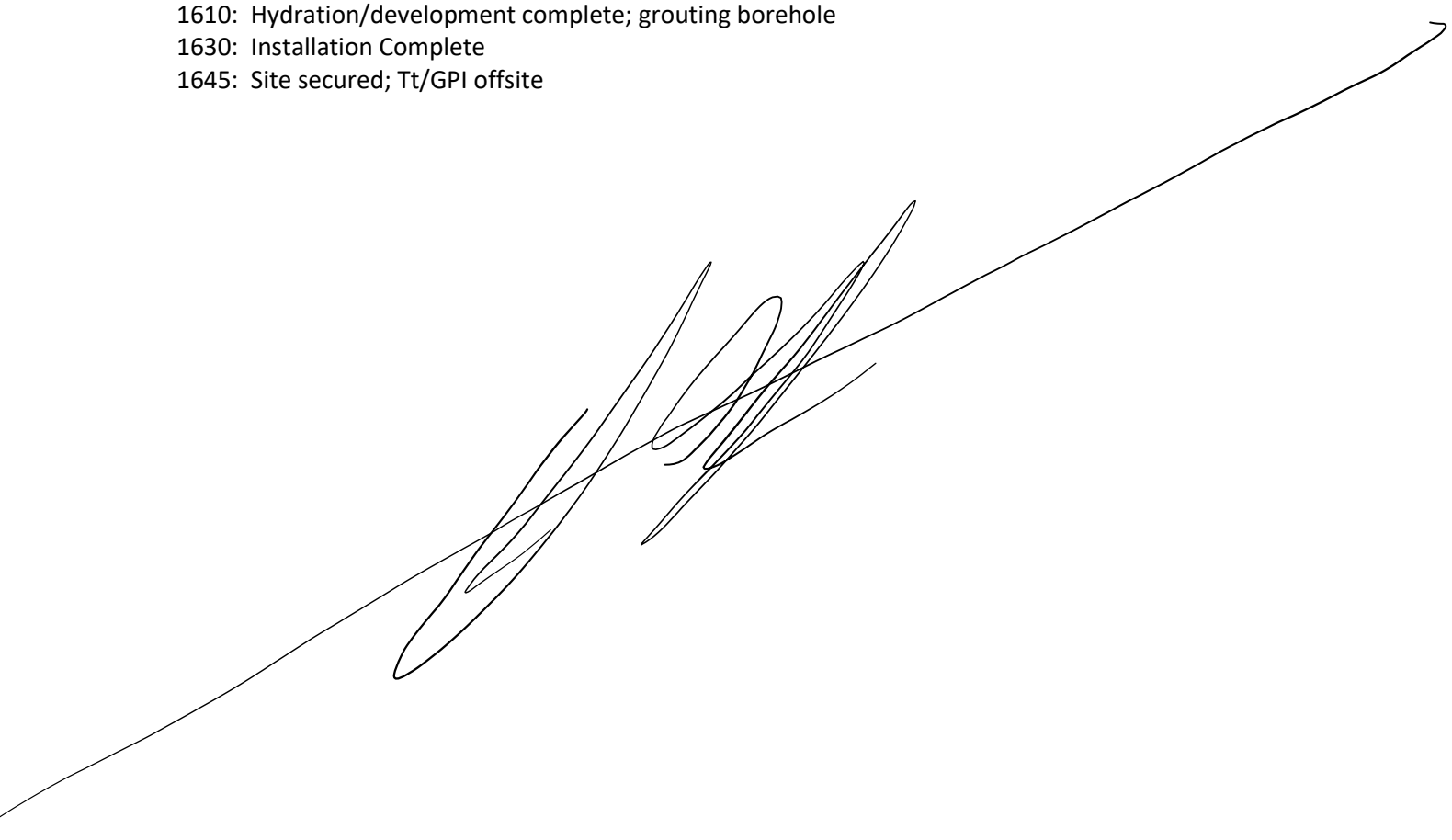
- Lithology is as follows:
    - 30-33: SHELL; little sand – fine to very fine and silt
    - 33-36: SAND – FIUNE TO VERY FINE; little to some silt; little shell; trace clay
    - 36-38: SHELL; little to some silt and sand – fine to very fine; trace to little clay
    - 38-40: SAND – MEDIUM TO VERY FINE; little to some shell; little silt and clay

1215: Well set; begin hydration/development
- GPI taking lunch

1245: Drilling resumed; hydration/development complete; grouting borehole
1310: Installation complete
1320: Drilling Commenced on AS0409; hand cleared 5'
1340: Pulling Core 30' to 40'
1355: Core pulled; setting well 40' TD
- Lithology is as follows:
    - 30-33: SHELL; little to some sand – fine to very fine; little silt
    - 33-35: SAND – FINE TO VERY FINE; little silt and shell
    - 35-39: SHELL; little to some sand – fine to very fine; little silt; trace clay
    - 39-40: SAND – MEDIUM TO VERY FINE; little to some shell; trace silt and clay

1410: Well set; begin hydration/development
1430: Hydration/development complete; grouting borehole
1445: Installation Complete
1450: Set up on AS0421; hand clear 5'
1455: Drilling Commenced
1515: Pulling Core 30' to 40'
1530: Core Pulled; setting well 40' TD
- Lithology is as follows:
    - 30-33: SHELL; little to some sand – fine to very fine; little silt
    - 33-35: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 35-39: SHELL; little to some sand – fine to very fine, silt and clay
    - 39-40: SAND – MEDIUM TO VERY FINE AND COARSE TO V. COARSE SHELL
- Unable to photograph core due to heavy rain

1550: Well set; begin hydration/development
1610: Hydration/development complete; grouting borehole
1630: Installation Complete
1645: Site secured; Tt/GPI offsite



12/21/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	Tyree Sanders	(TS)	Tech	GPI

Weather: Sunny 48 degrees F windy

Health and Safety (HAS): Topics: SSHASP; PPE; IDW; Demob

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; daily prep
0740: Set up on AS0422; hand clear 5'; moved 2' west along line to avoid utility
0755: Drilling Commenced
0820: Pulling Core 30' to 40'
0835: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-33.5: SHELL; little to some sand – fine to very fine
    - 33.5-35: SAND – FINE TO VERY FINE; little silt and shell
    - 35-39: SHELL; little to some sand – fine to very fine and silt; trace to little clay
    - 39-40: SAND – MEDIUM TO VERY FINE AND SHELL (C-VC); little silt; trace clay

0850: Well set; begin hydration/development
0910: hydration/development complete; grouting borehole
0930: Installation complete
0940: Drilling Commenced on AS0423; previously hand cleared 5'
0955: Pulling Core 30' to 40'
1005: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-32: SHELL; little sand – fine to very fine
    - 32-35: SAND – FINE TO VERY FINE; little to some silt; little shell; trace clay; silty clay bed 34.5-35
    - 35-36.5: SHELL; little sand – fine to very fine and silt; trace clay
    - 36.5-38: SAND – FINE TO VERY FINE; little shell and silt; trace clay
    - 38-40: SAND – MEDIUM TO VERY FINE AND COARSE TO V. COARSE SHELL; little silt

1020: Well set; begin hydration/development
1040: Hydration/development complete; grouting borehole
1055: Installation Complete
1105: Drilling Commenced on MW Location N (IW0168); previously hand cleared 5'; proposed setting screen 16' to 21'
1115: Setting well screen 16' to 21'
1135: Well set; grouting borehole

- Screen: 16' to 21'
- 20/30 Sand: 21' to 15'
- 30/65 Sand; 15' to 13'
- Portland to surface

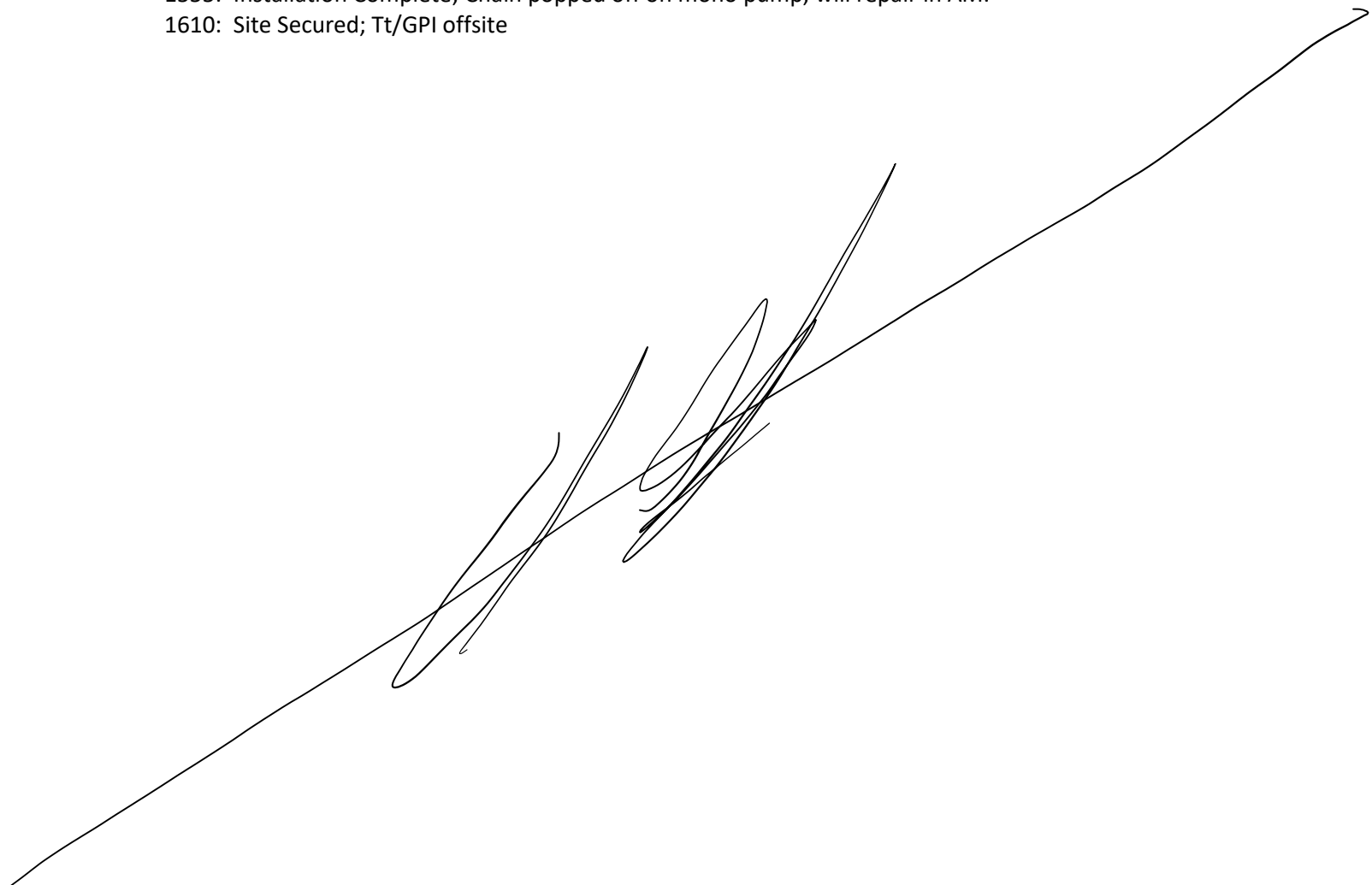
1155: Installation Complete; GPI taking lunch
1230: GPI getting water for rig, moving to location M (IW0167)

1255: Drilling Commenced; hand cleared 5’
1315: Setting well screen 16’ to 21’
1330: Well set; grouting borehole
- Screen: 16’ to 21’
- 20/30 Sand: 21’ to 15’
- 30/65 Sand; 15’ to 13’
- Portland to surface

1340: Installation Complete
1350: Drilling Commenced on MW Location “I” (IW0162); setting screen 30’ to 35’; hand cleared 5’
1415: Setting Well screen 30’ to 35’
1425: Well set; grouting borehole
- Screen: 30’ to 35’
- 20/30 Sand: 35’ to 29’
- 30/65 Sand: 29’ to 27’

1435: Installation Complete
1440: Drilling Commenced on IW0161 at Location I; setting screen 17’ to 27’; previously hand cleared 5’
1515: Setting well 17’ to 27’
1535: Well set:
    - Screen: 17’ -27’
    - 20/30 Sand: 27’-16’
    - 30/65 Sand: 16’-14.’
- Grouting Borehole

1555: Installation Complete; Chain popped off on mono pump; will repair in AM.
1610: Site Secured; Tt/GPI offsite



12/22/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	Tyree Sanders	(TS)	Tech	GPI

Weather: Dense Fog 57 degrees F

Health and Safety (HAS): Topics: SSHASP; PPE; IDW; Demob

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0655: Tt/GPI on site; HAS Meeting; Daily prep; repairing chain that popped off on mono pump
0830: Chain is broken, not just off; GPI calling mechanic
0900: Mechanic will be bringing new chain to replace. 0910: Set up on AS0424; hand clear 5'
0910: Drilling Commenced
0950: Claude Hairel (CH) on site to replace Mono pump chain
1025: Repair complete; pulling Core 30' to 40'
1040: Core pulled; setting well 39'

- Lithology is as follows:
    - 30-34: SHELL; little to some sand – fine to very fine; little silt
    - 34-35: SAND – FINE TO VERY FINE; some silt; little shell
    - 35-38: SHELL: little sand fine to very fine and silt; trace clay
    - 38-39: CLAY; little sand – very fine and silt
    - 39-40: SAND – FINE TO VERY FINE; some silt; little shell; trace clay

1055: Well set; begin hydration/development
1115: Hydration/development complete; grouting borehole
1130: Installation Complete
1140: GPI taking lunch
1220: Drilling Commenced on AS0425; previously hand cleared 5'
1245: Pulling Core 30' to 40'
1300: Core pulled; setting well 35'

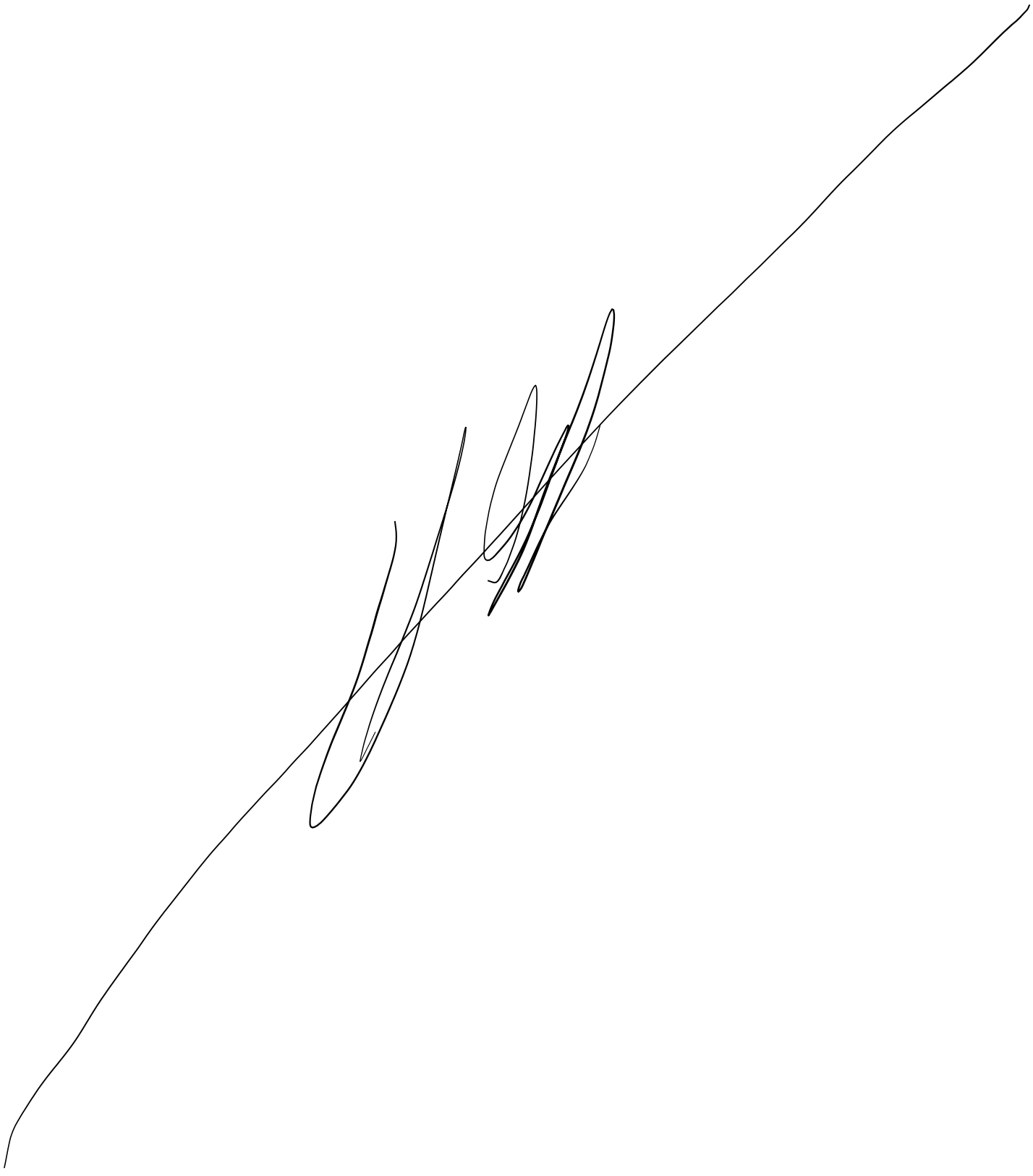
- Lithology is as follows:
    - 30-33: SHELL; little to some sand – fine to very fine
    - 33-35: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 35-36: CLAY; little sand – very fine, silt, and shell; firm
    - 36-38: SHELL; little sand – fine to very fine, silt, and clay
    - 38-40: SAND – FINE TO VERY FINE; little to some silt; little shell and clay

1315: Well set; begin hydration/development
1335: Hydration/development complete; grouting borehole
1400: Installation Complete
1410: Drilling Commenced on AS0426; previously hand cleared 5'
1430: Pulling Core 30' to 40'
1450: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-33: SHELL; little to some sand – fine to very fine; little silt
    - 33-36: SAND – FINE TO VERY FINE; little to some silt; trace to little clay; clayey 35-35.5
    - 36-38: SHELL; little sand – fine to very fine and silt; trace clay

- 38-40: SAND – FINE TO VERY FINE; little to some silt; little shell; trace clay

1510: Well set; begin hydration/development
1530: Hydration/development complete; grouting borehole
1550: Installation Complete
1600: Drilling Commenced on AS0427; previously hand cleared 5’
1630: Down to 30’; will pull core in AM; site secured; Tt/GPI offsite



12/23/2022 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	Tyree Sanders	(TS)	Tech	GPI

Weather: Sunny 71 degrees F

Health and Safety (HAS): Topics: SSHASP; PPE; IDW; Demob

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; Daily Prep
0740: Pulling Core on AS0427
0745: Blown hydraulic line on table. Fluid contained
0800: GPI offsite to replace hose
0930: GPI on site; replacing hose
0950: Repair complete; drilling resumed; pulling core on AS0427 30' to 40'
1005: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-34: SAND – FINE TO VERY FINE; little to some shell and silt; Shelly from 30-31.5
    - 34-38: SHELL; little to some sand – fine to very fine and silt; trace to little clay
    - 38-40: SAND – FINE TO VERY FINE; some silt; little to some clay. Dense clay bed 39.5;

1025: Well set; begin hydration/development
1045: Hydration/development complete; grouting borehole
1105: Installation Complete; conducting site cleanup



01/04/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	Donnie Huzzie	(DH)	Tech	GPI

Weather: Sunny 71 degrees F

Health and Safety (HAS): Topics: SSHASP; PPE; IDW; Heat Stress

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0730: CS on site; managing IDW
0900: GPI on site; HAS Meeting; daily prep; unloading materials and loading tank for water
0940: Set up on AS0428; hand clear 5'
0950: Drilling Commenced
1010: Pulling Core 30' to 40'
1025: Core pulled; setting well 40' TD.

- Lithology is as follows:
    - 30-35: SAND – FINE TO VERY FINE; little to some shell; little silt
    - 35-38.5: SAND – FINE TO VERY FINE; little to some silt; little shell; trace to little clay
    - 38.5-40: SAND – MEDIUM TO VERY FINE; little to some silt; little shell

1040: Well set; begin hydration/development

- GPI taking lunch

1110: GPI on site; hydration/development complete; grouting borehole
1130: Installation Complete
1135: Set up on AS0429; hand clear 5'
1140: Drilling Commenced
1200: Pulling Core 30' to 40'
1215: Core pulled; setting well 36' TD

- Lithology is as follows:
    - 30-34: SAND – FINE TO VERY FINE; little to some shell and silt
    - 34-36: SHELL; little sand – fine to very fine, silt, and clay
    - 36-37: CLAY; little to some shell and sand – fine to very fine; little silt
    - 37-40: SAND – MEDIUM TO VERY FINE; little silt; trace to little clay

1230: Well set; begin hydration/development
1245: Hydration/development complete; grouting borehole
1300: Installation complete
1305: Set up on AS0430; hand clear 5'
1310: Drilling Commenced
1340: Pulling Core 30' to 40'
1355: Core pulled; setting well 37' TD

- Lithology is as follows:
    - 30-35: SAND – FINE TO VERY FINE; little to some shell; little silt
    - 35-37: SHELL; little sand – fine to very fine and silt; trace clay
    - 37-38: SAND – FIEN TO VERY FINE; little to some silt; little shell and clay
    - 38-40: SAND – MEDIUM TO VERY FINE; little silt and shell; trace clay

1410: Well set; begin hydration/development

1430: Hydration/development complete; grouting borehole
1445: Installation Complete
1450: Drilling Commenced on AS0431; previously hand cleared 5’
1510: Pulling Core 30’ to 40’
1525: Core pulled; setting well 40’ TD

- Lithology is as follows:
    - 30-35: SAND – FINE TO VERY FINE; little to some shell; little silt
    - 35-38: SHELL; little sand – fine to very fine and silt; trace clay
    - 38-40: SAND – MEDIUM TO VERY FINE; little shell and silt; trace clay any 40’

1535: Well set; begin hydration/development
1555: Hydration/development complete; grouting borehole
1615: Installation Complete
1630: Site secured; Tt/GPI offsite



01/05/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	David Galvan	(DG)	Tech	GPI

Weather: Sunny 71 degrees F

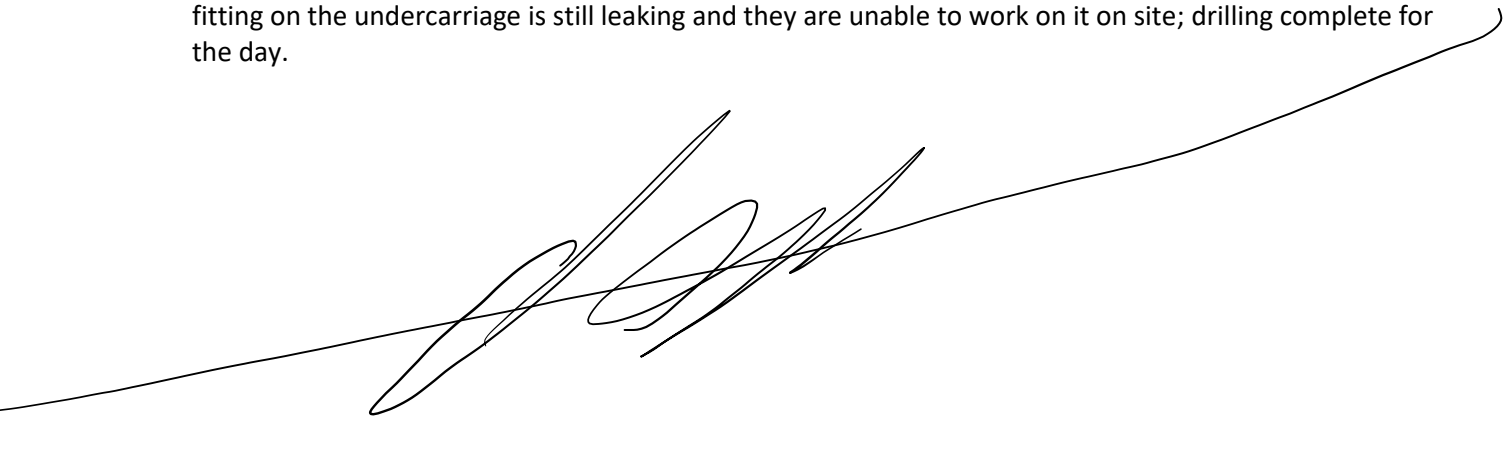
Health and Safety (HAS): Topics: SSHASP; PPE; IDW; Heat Stress

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI onsite; HAS Meeting; daily prep
0750: Setting up on AS0384 which is a preexisting angle well; recalculating angle to place bottom of screen at 37' TD; Surveyed bottoms do not line up with lines. Setting up rig to be roughly in line with 407and 395.
0800: Drilling Commenced on AS0384; Angle – 60.50 degrees, 42.5' hypotenuse length putting the bottom of the screen at 37' TD per discussions with Mark Jonnet (MJ) – Tt PM
0825: Setting Well 42.5' Length
0835: Well set; begin hydration/development
0905: Hydration/development complete; grouting borehole
0920: Installation Complete
0930: Set up on AS0383; Surveyed entry and bottom stakes seems a bit off. 383 should be in line with 393 and 404. Moved entry point roughly 4' west in arc to put more in line with row; setting well 55 degrees; 46.5' to set bottom of screen at 38'
0940: Drilling Commenced
1010: Setting well 46.5' length
1025: Well set; begin hydration/development
- GPI taking lunch

1055: GPI on site; Hydration/Development complete; grouting borehole
1125: Installation complete
1140: Set up on AS0377 (Angle Well); setting well per spec to set bottom of screen at 40' TD based on cores from AS0378 and AS0380. Setting well 52 degrees, 50.5' hypotenuse length
1150: Drilling Commenced
1230: Leaking hydraulic hose on undercarriage of rig, GPI repairing; spill contained on visquene
1345: Drilling resumed
1350: Setting well
1405: Well set; begin hydration/development
1410: Heavy rain
1450: Heavy rain ended; hydration/development complete; grouting borehole
1515: Installation Complete; repair earlier was not a permanent fix. Rig will have to go back to shop as fitting on the undercarriage is still leaking and they are unable to work on it on site; drilling complete for the day.



01/09/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	David Galvan	(DG)	Tech	GPI

Weather: Sunny 71 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Heat Stress

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0800: CS on site
0900: GPI on site; HAS Meeting; daily prep; unloading Rig, materials, and tooling
0950: Set up on AS0401; moved 2.5' roughly east to avoid relict utility at 4.5' BLS encountered in previous boring attempts
1005: Drilling Commenced
1025: Pulling Core
1040: Core pulled; setting well 34.5'

- Lithology is as follows:
    - 30-32: SAND – FINE TO VERY FINE; some shell
    - 32-34.5: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 34.5-35: CLAY; dense; trace to little silt and sand – very fine
    - 35-38: SHELL; little sand – fine to very fine and silt; trace clay
    - 38-39: SAND – FINE TO VERY FINE; little shell, silt, and clay
    - 39-40: SAND – MEDIUM TO VERY FINE; fractured pieces of lithified coquina; little silt; trace clay

1100: Well set; begin hydration/development
1120: Hydration/development complete; grouting borehole

- GPI taking lunch

1200: GPI on site; grouting borehole
1220: Installation complete
1235: Set up on AS0433; hand clear 5'
1245: Drilling Commenced
1300: Pulling Core 30' to 40'
1315: Core pulled; setting well 40' TD

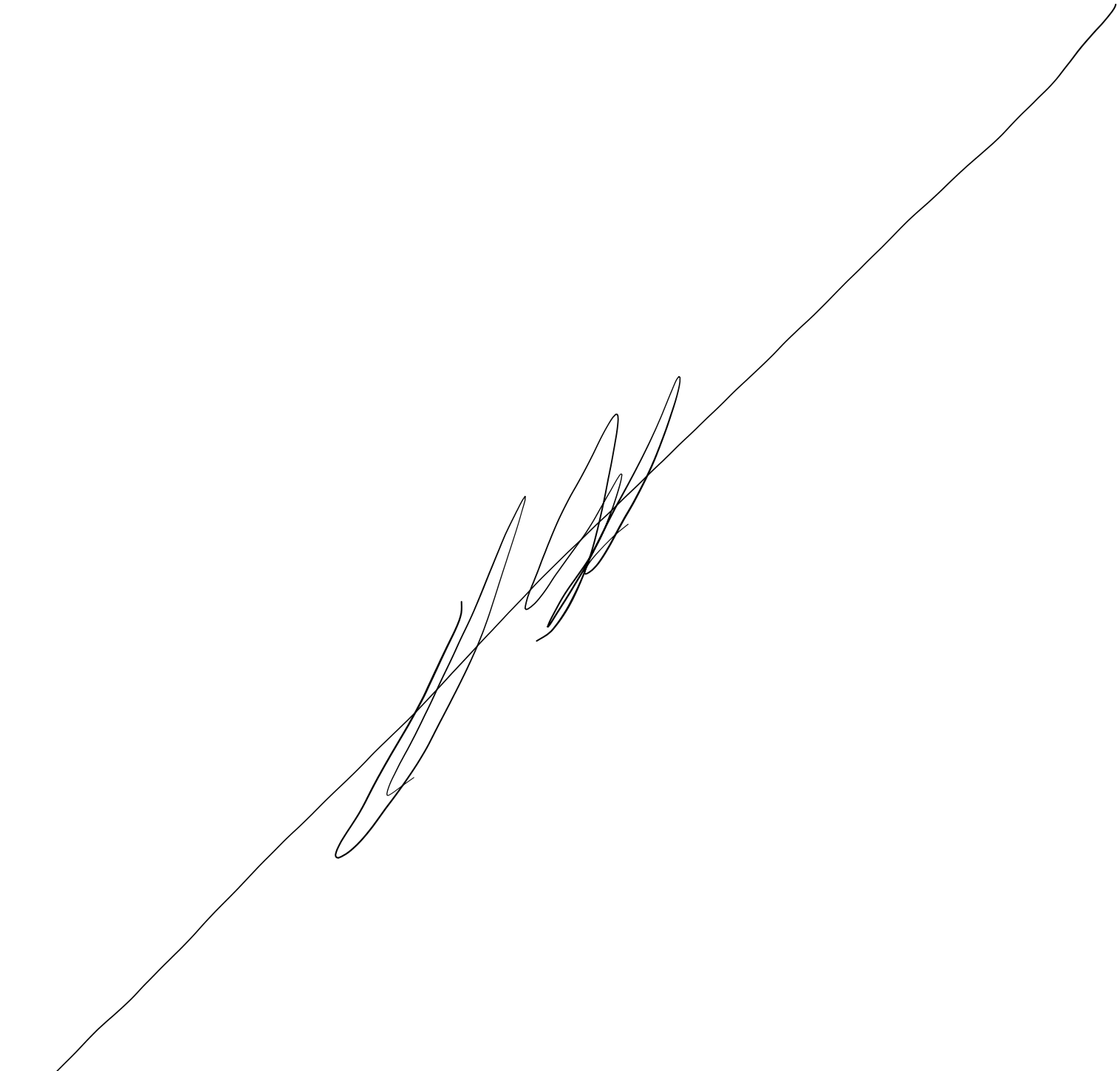
- Lithology is as follows:
    - 30-32: SHELL; little sand – fine to very fine and silt
    - 32-35: SAND – FINE TO VERY FINE; little silt and shell
    - 35-38: SHELL; little sand – fine to very fine and silt; trace clay
    - 38-40: SAND – COARSE TO VERY FINE; little to some coarse to very coarse shell

1335: Well set; begin hydration/development
1355: Hydration/Development complete; grouting borehole
1410: Installation complete
1420: Drilling Commenced on AS0434; previously hand cleared 5'
1440: Pulling Core 30' to 40'
1455: Core pulled; setting well 40' TD

- Lithology is as follows:

- 30-32: SHELL; little sand – fine to very fine and silt
- 32-35: SAND – FINE TO VERY FINE; little silt and shell; thin soft silty clay bed 34.5’
- 35-38: SHELL; little sand – fine to very fine and silt; trace clay
- 38-40: SAND – COARSE TO VERY FINE; little to some coarse to very coarse shell

1515: Well set; begin hydration/development
1535: Hydration/Development complete; grouting borehole
1555: Installation Complete
1605: Drilling Commenced on AS0435; previously hand cleared 5’
1620: Pulling Core 30’ to 40’
1635: Down to 40’; will wash over core barrel and pull first thing tomorrow; site secured; Tt/GPI offsite



01/10/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	David Galvan	(DG)	Tech	GPI

Weather: Sunny 57 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Heat Stress

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; daily prep
0730: Drilling resumed on AS0435
0745: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-35: SAND – MEDIUM TO VERY FINE; little to some shell; trace silt
    - 35-38: SHELL; little to some sand – fine to very fine and silt
    - 38-40: SAND – COARSE TO VERY FINE; little to some shell and silt; trace clay

0800: Well set; begin hydration/development
0815: Hydration/development complete; grouting borehole
0830: Installation complete
0840: Drilling Commenced on AS0436; previously hand cleared 5'
0900: Pulling Core 30' to 40'
0910: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-35: SAND – MEDIUM TO VERY FINE; little to some shell; trace to little silt
    - 35-37: SAND – FINE TO VERY FINE; little to some silt; little shell; trace clay in bed at 36
    - 37-39: SHELL; little sand – fine to very fine and silt; trace clay
    - 39-40: SAND – MEDIUM TO VERY FINE AND COARSE TO V. COARSE SHELL; trace clay

0925: Well set; begin hydration/development
0940: hydration/development complete; grouting borehole
1000: Installation Complete
1005: Drilling Commenced on AS0437; previously hand cleared 5'
1020: Pulling Core 30' to 40'
1030: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-35: SAND – FINE TO VERT FINE; little to some silt; little shell
    - 35-38: SHELL; little to some sand – fine to very fine and silt; trace clay
    - 38-40: SAND – FINE TO VERY FINE; little to some silt; little shell; trace clay

1040: Well set; begin hydration/development
1100: Hydration/development complete; grouting borehole
1120: Installation complete
1130: GPI taking lunch
1200: Set up on AS0438; hand clear 5'
1215: Drilling Commenced
1230: Pulling Core 30' to 40'

1245: Core pulled; setting well 39' TD
- Lithology is as follows:
    - 30-37: SAND – FINE TO VERY FINE; little to some silt and shell; silty zone at 37'; trace clay
    - 37-39: SHELL; little sand – fine to very fine and silt
    - 39-40: SAND – VERY FINE; little to some silt; little shell

1300: Well set; begin hydration/development
1320: Hydration/Development complete; grouting borehole
1335: Installation Complete
1340: Drilling Commenced on AS0439; previously hand cleared 5'
1355: Pulling Core 30' to 40'
1425: Core pulled; setting well 35' TD
- Lithology is as follows:
    - 30-33: SAND – FINE TO VERY FINE; little silt and shell
    - 33-35: SHELL: little to some sand – fine to very fine and silt; trace clay
    - 35-38: SAND – FINE TO VERY FINE; little to some silt; little shell; trace to little clay
    - 38-40: SAND – MEDIUM TO VERY FINE; little to some silt; little shell and clay

1445: Well set; begin hydration/development
1520: Hydration/Development Complete; grouting borehole
1535: Installation Complete
1540: Drilling Commenced on AS0440; previously hand cleared 5'
1555: Pulling Core 30' to 40'
1605: Core pulled; setting well 35' TD
- Lithology is as follows:
    - 30-33: SAND – FINE TO VERY FINE; little silt and shell
    - 33-35: SHELL: little to some sand – fine to very fine and silt; trace clay; silty clayey fine sand 34.5-35
    - 35-39: SAND – FINE TO VERY FINE; little to some silt; little shell; trace to little clay
    - 39-40: SAND – MEDIUM TO VERY FINE; little to some silt; little shell and clay

1620: Well set; begin hydration/development
1640: Hydration/Development complete; will grout in the morning; site secured; Tt/GPI offsite

01/11/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	David Galvan	(DG)	Tech	GPI

Weather: Sunny 57 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Heat Stress

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; Daily Prep
0810: Grouting AS0440
0825: Installation Complete
0835: Drilling Commenced on AS0441; previously hand cleared 5'
0845: Pulling Core 30' to 40'
0900: Core pulled; setting well 39' TD

- Lithology is as follows:
    - 30-33: SAND – FINE TO VERT FINE; little silt and shell
    - 33-37: SHELL; little to some silt; little sand – very fine and clay
    - 37-39: SHELL; little to some sand – fine to very fine; little silt
    - 39-40: SAND – MEDIUM TO VERY FINE AND COARSE TO V. COARSE SHELL; little silt; trace clay

0920: Well set; begin hydration/development
0940: Hydration/development complete; grouting borehole
1000: Installation complete; pipe arm stopped working; diagnosing
1600: Sensor failed on undercarriage of rig; part is ordered and will be on site first thing tomorrow morning; site secured; Tt/GPI offsite



01/12/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	David Galvan	(DG)	Tech	GPI

Weather: Sunny 47 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Heat Stress

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS meeting; daily prep
0800: begin laying pads on IWs 0154, 0155, 0156, and 0157
0930: Pads complete on IW0154, IW0155, and IW0156; Claude Hariell on site to replace sensor and conduct o ring replacement on jack cylinder valve
1035: Repair complete; set up on AS0442; hand clear 5'
1045: Claude Harriel offsite
1050: Drilling Commenced on AS0442
1110: Pulling Core 30' to 40'
1125: Core pulled; setting well 32' TD

- Lithology is as follows:
    - 30-32: SAND – FINE TO VERY FINE; little to some shell; little silt
    - 32-34: SAND – FINE TO VERY FINE; little to some interbeddd clays and silt; little shell
    - 34-38: SHELL; little to some sand – fine to very fine, interbedded clay and silt
    - 38-40: SAND – MEDIUM TO VERY FINE AND COARSE TO V. COARSE SHELL

1140: Well set; begin hydration/development
1200: Hydration/development complete; GPI taking lunch
1230: Grouting Borehole
1245: Installation Complete on AS0442
1250: Drilling commenced on AS0443; previously hand cleared 5'
1305: Pulling Core 30' to 40'
1320: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-32: SAND – FINE TO VERY FINE; little to some shell; little silt
    - 32-38: SHELL; little sand – fine to very fine and silt; trace to little clay mixed in
    - 38-40: SAND – MEDIUM TO VERY FINE AND COARSE TO V. COARSE SHELL

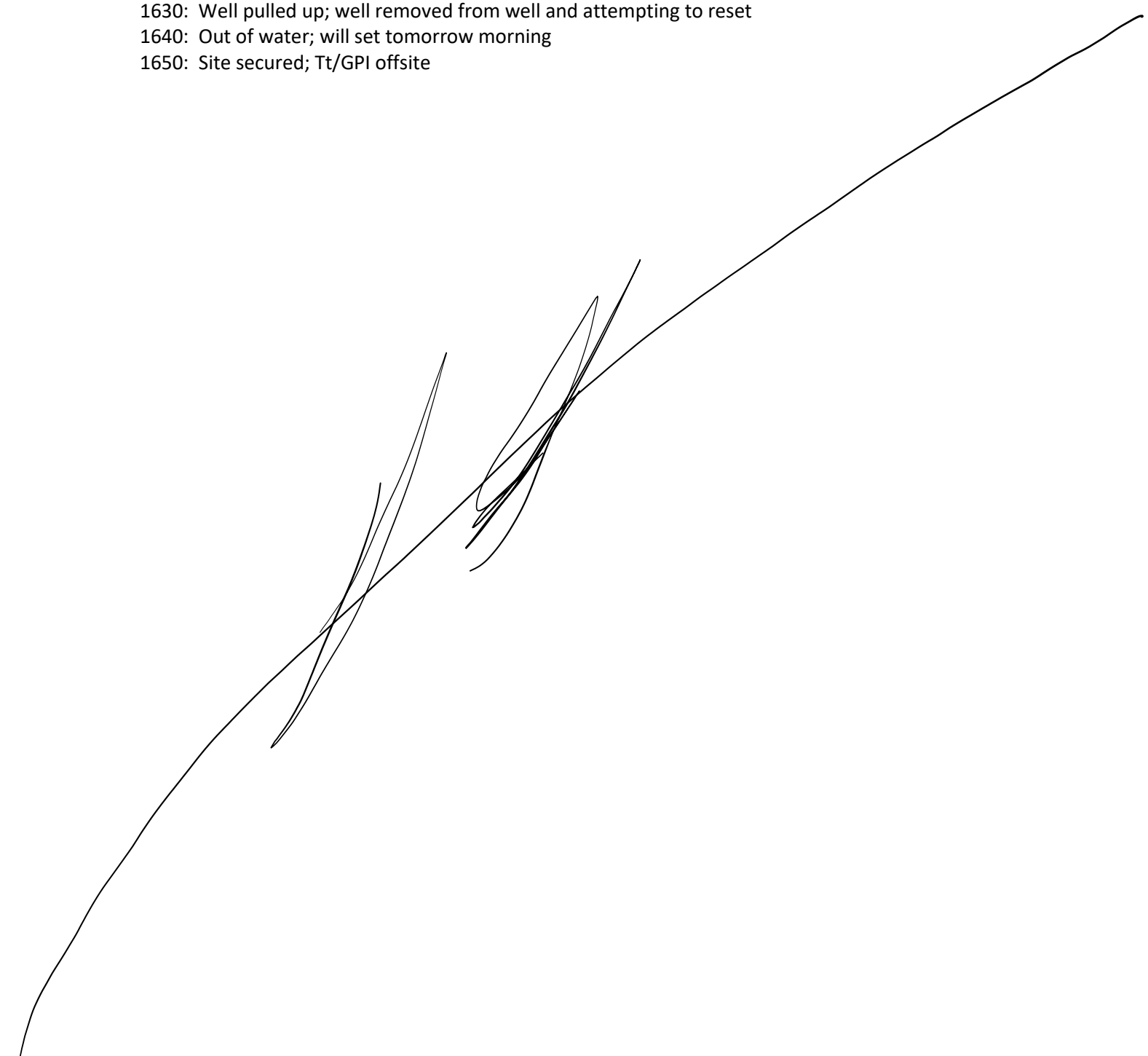
1335: Well set; begin hydration/development
1355: Hydration/Development Complete; grouting borehole
1410: Installation Complete
1420: Drilling Commenced on AS0455; previously hand cleared 5'
1435: Pulling Core 30' to 40'
1445: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-33: SAND – FINE TO VERY FINE; little to some shell; little silt
    - 33-34: SAND – VERY FINE; some silt; trace shell
    - 34-38: SHELL: little sand – fine to very fine and silt; trace to little clay
    - 38-40: SAND – MEDIUM TO VERY FINE AND COARSE TO V. COARSE SHELL

1500: Well set; begin hydration/development
1520: Hydration/Development complete; grouting borehole
1535: Installation Complete
1550: Drilling Commenced on AS0466; previously hand cleared 5'; Deda Johansen (DJ) – NASA RPM on site
1605: Pulling Core 30' to 40'
1615: Core pulled; setting well 40' TD; DJ offsite

- Lithology is as follows:
    - 30-33: SAND – FINE TO VERY FINE; little to some shell and silt; silty clay at 30'
    - 33-38: SAND – MEDIUM TO VERY FINE; little to some shell; little silt; trace to little clay
    - 38-40: SAND – MEDIUM TO VERY FINE AND COARSE TO V. COARSE SHELL

1630: Well pulled up; well removed from well and attempting to reset
1640: Out of water; will set tomorrow morning
1650: Site secured; Tt/GPI offsite



01/13/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	David Galvan	(DG)	Tech	GPI

Weather: Sunny 47 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Heat Stress; inclement weather

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; daily prep
0730: Heavy rain
0800: Setting AS0466to 40' TD
0815: Well set 40' TD; begin hydration/development
0830: Hydration/Development complete; heavy rain; will grout after rain stops
0955: Rain ended; drilling resumed on AS0466; grouting borehole
1010: Installation Complete
1020: Drilling Commenced on IW0165 (Location K); previously hand cleared 5'; setting well screen 16' to 21'
1030: Setting well 16' to 21'
1040: Well set; grouting borehole

- Screen: 16' to 21'
- 20/30 Sand: 21' to 15'
- 30/65 Sand: 15' to 13'
- Portland to surface

1050: Installation Complete
1100: Set up on AS0454; hand clear 5'
1105: Drilling Commenced
1120: Pulling Core 30' to 40'
1135: Core pulled; setting well 36' TD; Core bag ripped making it difficult to determine depth of lithology.

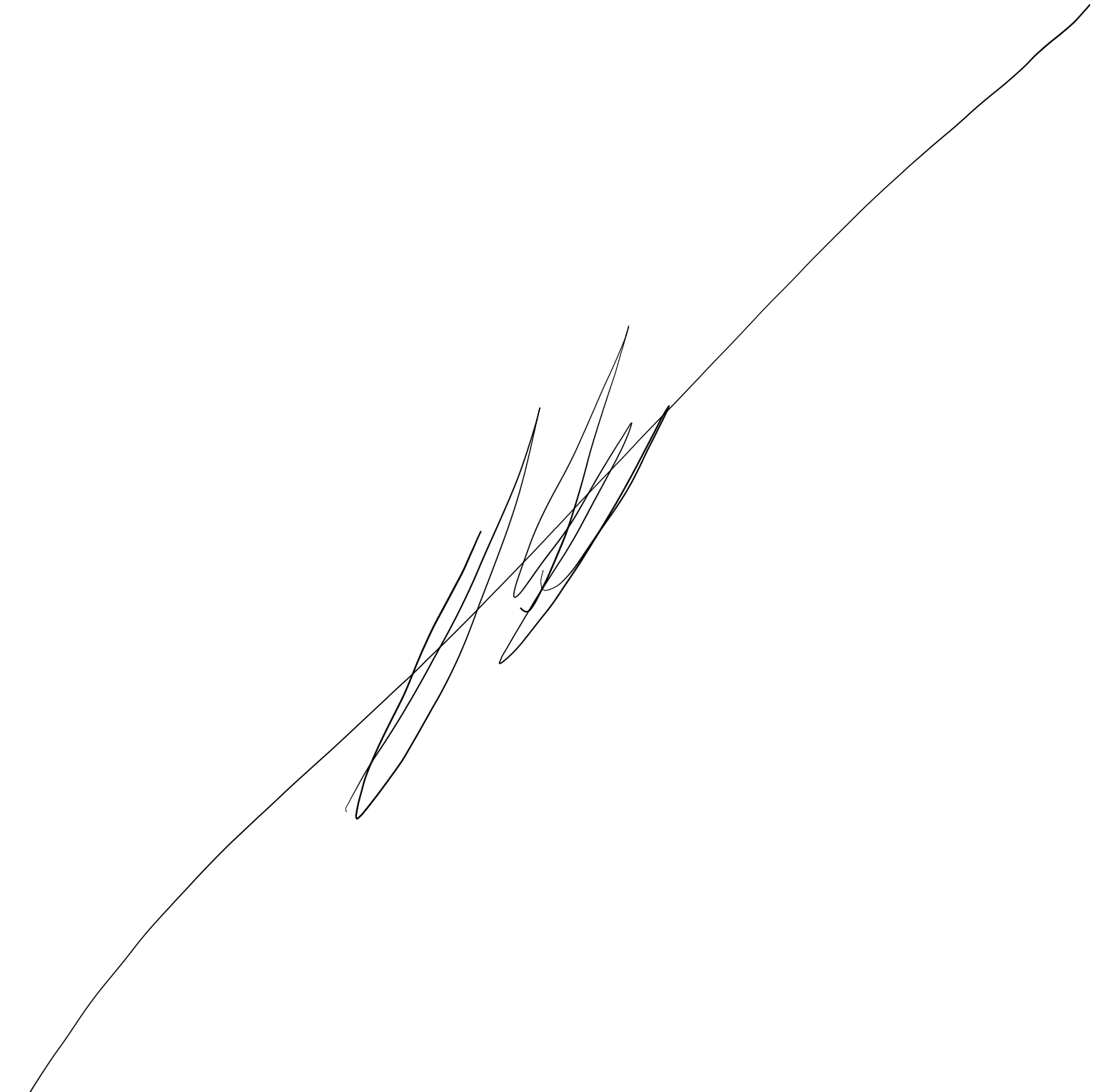
- Estimated Lithology is as follows:
    - 30-33: SAND – FINE TO VERY FINE; little silt and shell
    - 33-36.5: SHELL; little sand – fine to very fine and silt; trace clay
    - 36.5-37: CLAY; moderately dense bed; little silt and sand – very fine and shell
    - 37-40: SAND – MEDIUM TO VERY FINE; little to some shell; little clay; sticky/firm

1145: Well set; begin hydration/development
1200: Hydration/development complete; grouting borehole
1215: Installation Complete
1225: Set up on AS0453; hand clear 5'
1230: Drilling Commenced
1245: Pulling Core 30' to 40'
1300: Core pulled; setting well 37' TD

- Lithology is as follows:
    - 30-35: SAND - FINE TO VERY FINE; little to some shell; little silt
    - 35-38: SHELL; little sand – fine to very fine and silt; trace clay

- 38-39: SHELL; little sand – fine to very fine and silt
- 39-40: SAND – MEDIUM TO VERY FINE AND COARSE TO V. COARSE SHELL; trace to little clay

1315: Well set; begin hydration/development
1345: Hydration/development complete; grouting borehole
1405: Installation Complete
1420: Set up on AS0452; hand clear 5'
1440: GPI is out of core bags. Will begin drilling AS0452 on Monday; conducting materials inventory.
1500: Site secured; Tt/GPI offsite



01/16/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GP

Weather: Sunny 41 degrees F

Health and Safety (HAS): Topics: PPE; IDW; pinch points

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0800: Tt on site
0900: GPI on site; HAS Meeting; unloading tooling and materials; daily prep
0940: Drilling Commenced on AS0452; previously hand cleared 5'
1000: Pulling Core 30' to 40'
1015: Core pulled; setting well 37' TD

- Lithology is as follows:
    - 30-37: SAND – MEDIUM TO VERY FINE; little to some silt; little shell
    - 37-39: SHELL; little to some sand – very fine, silt, and clay
    - 39-40: SAND – MEDIUM TO VERY FINE AND COARSE TO V. COARSE SHELL; little clay

1030: Well set; begin hydration/development
1050: Hydration/development complete; grouting borehole
1110: Installation Complete
1120: Set up on AS0451; GPI offsite to take lunch
1235: GPI on site; Base cafeteria closed due to MLK day; GPI had to go off base for lunch
1240: Drilling Commenced on AS0451; previously hand cleared 5'
1300: Pulling Core 30' to 40'
1310: Core pulled; setting well 34' TD

- Lithology is as follows:
    - 30-32.5: SHELL; little to some sand – fine to very fine and silt
    - 32.5-34: SAND – FINE TO VERY FINE; little silt and shell
    - 34-35: CLAY; little sand – very fine, silt, and shell
    - 35-39: SHELL; little to some sand – medium to very fine; little silt; trace to little clay
    - 39-40: SAND – FINE TO VERY FINE; little shell, silt, and clay

1335: Well set; begin hydration/development
1355: Hydration/development complete; grouting borehole
1415: Installation Complete
1430: Drilling Commenced on AS0450; previously hand cleared 5'
1445: Pulling Core 30' to 40'
1500: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-38: SAND – FINE TO VERY FINE; little to some shell and silt
    - 38-38.5: CLAY; dense; little sand – very fine and silt
    - 38.5-40: SAND – FINE TO VERY FINE; little to some shell and silt

1520: Well set; begin hydration/development
1540: Hydration/Development complete; grouting borehole
1600: Installation Complete
1620: Site secured; Tt/GPI offsite

01/17/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	David Galvan	(DG)	Tech	GPI

Weather: Sunny 37 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Hydration

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; daily prep; warming hydraulics
0730: Set up on AS0449; hand clear 5'
0740: Drilling Commenced on AS0449
0755: Pulling Core 30' to 40'
0810: Core pulled; setting well 34'; Poor recovery (5'/10'); core presumed to be recovered from 30' to 35' based on observed lithology and stratigraphy.

- Presumed lithology is as follows:
    - 30-34: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 34-34.5: CLAY; dense; little sand – very fine and silt
    - 34.5-35: Dark Gray SHELL: little sand – fine to vey fine and silt; trace clay

0825: Well set; begin hydration/development
0840: Hydration/development complete; grouting borehole
0855: Installation Complete
0905: Drilling Commenced on AS0448; previously hand cleared 5'
0920: Pulling Core 30' to 40'
0930: Core pulled; setting well 39' TD

- Lithology is as follows:
    - 30-33: SHELL; little sand – fine to very fine and silt
    - 33-35: SAND – VERY FINE; some silt; trace to little clay and shell
    - 35-39: SHELL; little to some sand – fine to very fine and silt
    - 39-40: SAND – MEDIUM TO VERY FINE; little clay and silt; dense

0940: Well set; begin hydration/development
0955: hydration/development complete; grouting borehole
1005: Installation Complete
1010: Drilling Commenced on AS0447; previously hand cleared 5'
1030: Pulling Core 30' to 40'
1045: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-32: SHELL: little sand – fine to very fine and silt
    - 32-35.5: SAND – FINE TO VERY FINE; little to some silt; little shell; trace clay
    - 35.5-38: SHELL; little to some silt; little sand – fine to very fine
    - 38-39: SHELL; little to some sand – very fine, silt, and clay
    - 39-40: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL

1100: Well set; begin hydration/development
1120: hydration/development complete; GPI taking lunch
1140: Grouting borehole

1155: Installation Complete
1205: Drilling Commenced on AS0446; previously hand cleared 5'
1220: Pulling Core 30' to 40'
1230: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-31.5: SAND – FINE TO VERY FINE; little to some silt; little shell; trace clay; moderately soft silty clay bed 31.25-31.5
    - 31.5-36: SHELL; little to some sand – fine to very fine and silt; trace clay; thin clay bed at 35.5-35.75
    - 36-40: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL

1245: Well set; begin hydration/development
1305: Hydration/development complete; grouting borehole
1325: Installation complete
1335: Drilling Commenced on AS0445; previously hand cleared 5'
1350: Pulling Core 30' to 40'
1400: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-33: SAND – FINE TO VERY FINE; little silt and shell
    - 33-37: SHELL; little to some sand – fine to very fine and silt; trace clay; clay bed 36-36.25; moderately dense
    - 37-40: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL

1415: Well set; begin hydration/development
1440: Hydration/development complete; grouting borehole
1500: Installation Complete
1510: Drilling Commenced on AS0457; previously hand cleared 5'
1525: Pulling Core 30' to 40'
1535: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-32.5: SAND – FINE TO VERY FINE; some silt; little shell
    - 32.5-35: SHELL; little to some sand – fine to very fine and silt; trace clay; clay bed 34.25-34.5
    - 35-40: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL

1545: Well set; begin hydration/development
1605: Hydration/development complete; grouting borehole
1625: Installation complete
1645: Site secured; Tt/GPI offsite



01/18/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	David Galvan	(DG)	Tech	GPI

Weather: Sunny 44 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Hydration

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; daily prep
0750: Set up on AS0458; hand clear 5'
0800: Drilling Commenced
0825: Pulling Core 30' to 40'
0835: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-33: SAND - FINE TO VERY FINE; little to some silt; little shell
    - 33-36: SHELL; little sand – fine to very fine and silt; trace clay
    - 36-40: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL; trace clay

0850: Well set; begin hydration/development
0905: Hydration/development complete; grouting borehole
0920: Installation Complete
0925: Drilling Commenced on AS0469; previously hand cleared 5'
0940: Pulling Core 30' to 40'
0950: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-32: SHELL; little sand – fine to very fine and silt
    - 32-36: SAND – FINE TO VERY FINE; little to some silt; little shell; trace clay
    - 36-40: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL; trace clay

1005: Well set; begin hydration/development
1020: Hydration/development complete; grouting borehole
1030: Installation Complete
1035: Drilling Commenced on AS0479; previously hand cleared 5'
1050: Pulling Core 30' to 40'
1100: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-32: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 32-37: SHELL; little to some sand – fine to very fine; little silt; trace to little clay in beds at 33-33.25 and 35; trace clay throughout
    - 37-40: SAND -MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL

1110: Well set; begin hydration/development
1125: Hydration/development complete; grouting borehole
1140: Installation Complete
1150: Set up on AS0487; hand cleared 5'; GPI taking lunch
1215: Drilling Commenced on ASo487

1230: Pulling Core 30’ to 40’
1245: Core pulled; setting well 32’ TD
- Lithology is as follows:
    - 30-32: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 32-32.5: CLAY; moderately dense; little silt
    - 32.5-35: SHELL; little to some silt; little sand – very fine and clay throughout and in beds
    - 35-40: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL; trace clay

1305: Well set; begin hydration/development
1320: hydration/development complete; grouting borehole
1335: Installation complete
1345: Drilling Commenced on AS0486; previously hand cleared 5’
1400: Pulling Core 30’ to 40’
1415: Core pulled; setting well 32’ TD
- Lithology is as follows:
    - 30-32: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 32-33: CLAY; moderately dense; little silt
    - 33-37: SHELL; little to some silt; little sand – very fine and clay throughout and in beds
    - 37-40: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL; trace clay

1430: Well set; begin hydration/development
1445: Hydration/development complete; grouting borehole
1500: Installation Complete
1510: Drilling Commenced on AS0478; Previously hand cleared 5’
1530: Pulling Core 30’ to 40’
1540: Core pulled; setting well 33’ TD
- Lithology is as follows:
    - 30-33: SAND – FINE TO VERY FINE; some silt; little shell; trace clay
    - 33-38: SHELL; little to some sand – fine to very fine and silt; little clay in beds and throughout; dense dry clay 33-33.5
    - 38-40: SAND – MEDIUM TO VERY FINE; little to some silt; little coarse to very coarse shell

1600: Well set; begin hydration/development
1615: Hydration/development complete; grouting borehole
1630: Installation Complete
1640: Set up on AS0468; hand clear 5’
1700: Site secured; Tt/GPI offsite.

01/19/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	David Galvan	(DG)	Tech	GPI

Weather: Sunny 63 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Hydration

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt on site; DL texted CS stating that GPI will be late
0745: GPI on site; HAS Meeting; daily prep
0825: Drilling Commenced on AS0468; previously hand cleared 5'
0840: Pulling Core 30' to 40'
0850: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-32.5: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 32.5-37: SHELL; little to some sand – fine to very fine; little clay and silt
    - 37-40: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL

0905: Well set; begin hydration/development
0920: Hydration/development complete; grouting borehole
0940: Installation complete
0955: Drilling Commenced on AS0459; previously hand cleared 5'
1010: Pulling Core 30' to 40'
1020: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-33: SHELL; some sand – fine to very fine; little silt
    - 33-35: SAND – FINE TO VERY FINE; little to some silt; little shell; trace clay
    - 35-38: SHELL; little sand – fine to very fine and silt; trace to little clay
    - 38-39: CLAY; little sand – very fine, silt, and shell
    - 39-40: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL; little silt; trace to little clay

1030: Well set; begin hydration/development
1050: Hydration/Development complete; grouting borehole
1105: Installation Complete
1115: Drilling Commenced on AS0460; previously hand cleared 5'
1130: Pulling Core 30' to 40'
1145: Core pulled; setting well 36' TD

- Lithology is as follows
    - 30-31: SAND – MEDIUM TO VERY FINE; little to some shell and silt
    - 31-36: SHELL; little to some sand – fine to very fine and silt; trace clay
    - 36-37: CLAY; little to some sand – very fine and silt; little shell
    - 37-39: SAND – FINE TO VERY FINE; little to some silt; little clay and shell
    - 39-40: SAND MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL; trace clay

1200: Well set; begin hydration/development; GPI taking lunch
1230: Hydration/development complete; grouting borehole

1250: Installation Complete
1300: Drilling Commenced on AS0461; previously hand cleared 5’
1315: Pulling Core 30’ to 40’
1325: Core pulled; setting well 38’ TD

- Lithology is as follows:
    - 30-33: SHELL; little to some sand- medium to very fine; little silt
    - 36-36: SAND – VERY FINE; little to some silt; trace to little shell; trace clay
    - 36-38: SHELL; little sand – fine to very fine and silt
    - 38-40: SAND – FINE TO VERY FINE; little to some silt; little clay

1340: Well set; begin hydration/development
1400: Hydration/development complete; grouting borehole
1420: Installation Complete
1430: Drilling Commenced on AS0462; previously hand cleared 5’
1445: Pulling Core 30’ to 40’
1500: Core pulled; setting well 35’ TD

- Lithology is as follows:
    - 30-35: SAND – MEDIUM TO VERY FINE AND SHELL; little to some silt
    - 35-40: Interbedded SAND – FINE TO VERY FINE, SHELL, SILT, AND CLAY

1515: Well set; begin hydration/development
1535: Hydration/development complete; grouting borehole
1555: Installation Complete
1615: Site secured; Tt/GPI offsite



01/20/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	David Galvan	(DG)	Tech	GPI

Weather: Sunny 63 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Hydration

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meting; daily prep
0735: Set up on MW Location J (IW0163 and IW0164); hand clearing 5'; will be installing IW0164 first screened 30' to 35'
0745: Drilling Commenced
0800: Setting well 30' to 35'
0815: Well set; grouting borehole
- Screen: 30' to 35'
- 20/30 Sand: 35' to 29'
- 30/65 Sand: 29' to 27'
- Portland to surface

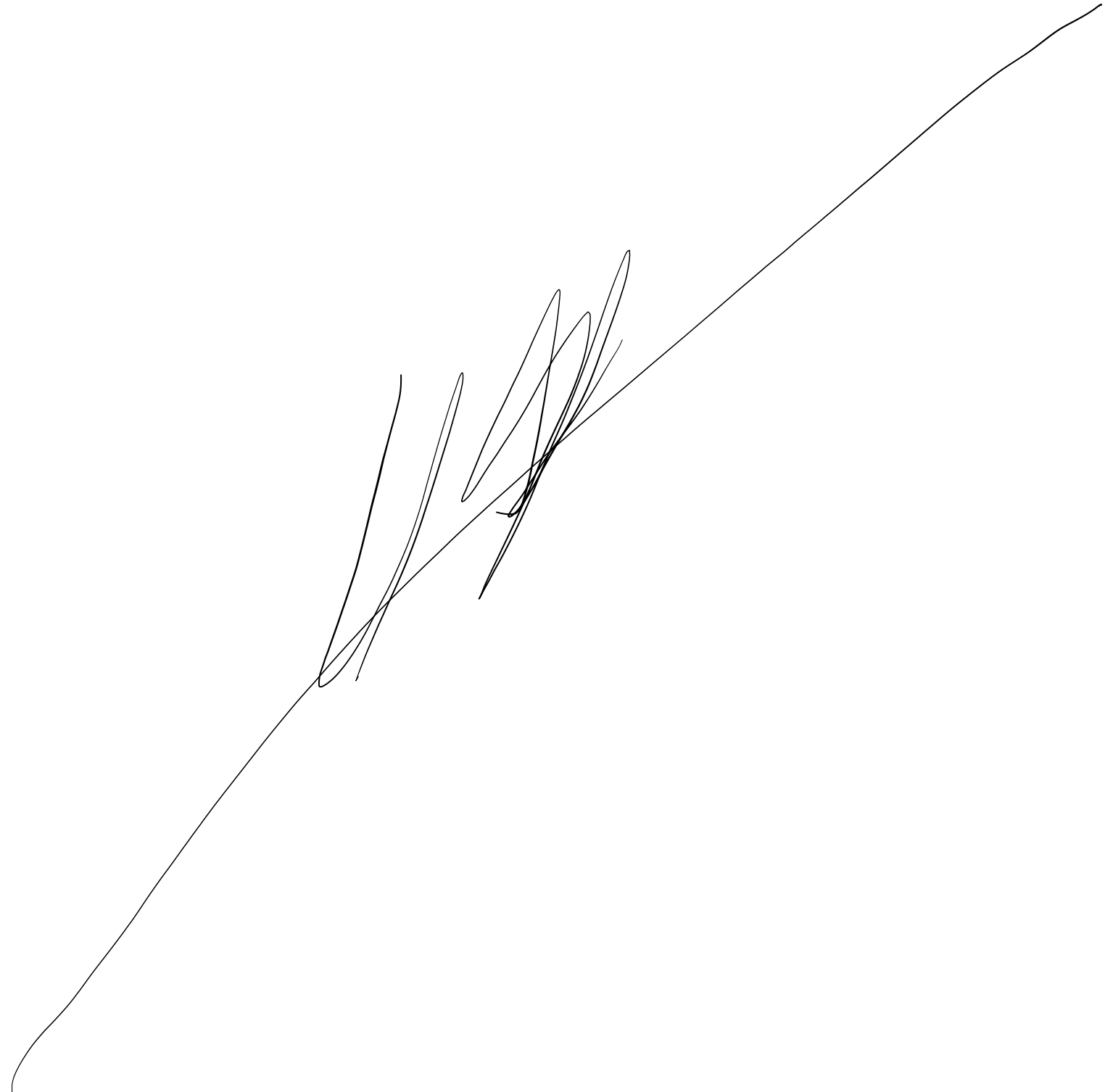
0835: Installation Complete; Geoff Card (NASA Safety) on site
0840: Drilling Commenced on IW0163; setting well screen 17' to 27'
0850: Setting well 17' to 27'
0900: Well set; grouting borehole
- Screen: 17' to 27'
- 20/30 Sand: 27' to 16'
- 30/65 Sand: 16' to 14'
- Portland to surface

0910: Installation Complete
0920: Set up on MW Location L (IW0166); hand clear 5'; setting screen 16' to 21'
0925: Drilling Commenced
0935: Setting well 16' to 21'
0940: Well set; grouting borehole
- Screen: 16' to 21'
- 20/30 Sand: 21' to 15'
- 30/65 Sand: 15' to 13'
- Portland to surface

0950: Installation Complete
1020: GPI taking early lunch and running to Home Depot in Titusville; a crack has opened up on their tank on the truck and will need to be repaired before drilling is resumed to ensure the tank does not split open
1140: GPI on site; set up on AS0470; hand clear 5'
1150: Drilling Commenced
1210: Pulling Core 30' to 40'
1250: Core pulled; setting well 40' TD
- Lithology is as follows:

- 30-35: SHELL; little to some sand – fine to very fine; little silt
- 35-38: SAND – FINE TO VERY FINE; little to some silt; little shell; trace clay
- 38-40: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL; little silt; trace to little clay 38-39

1305: Well set; begin hydration/development
1330: Hydration/development complete; grouting borehole
1350: Installation Complete; begin partial demob to bring pipe and materials in next week. Repairing tank
1445: Site secured; Tt/GPI offsite



01/23/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	David Galvan	(DG)	Tech	GPI

Weather: Sunny 63 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Hydration

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0800: Tt on site; CS received text from DL; GPI loading materials for RW install and should be on site around 0930-1000
1000: GPI on site; unloading materials; HAS Meeting; daily prep
1100: GPI offsite to get lunch and retrieve 10" pipe from other crew at Wilson's Corner
1250: GPI on site; unloading 10" pipe at new RW location
1350: Set up on AS0472; hand clear 5'
1400: Drilling Commenced
1420: Pulling Core 30' to 40'
1430: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 30-36: SAND – MEDIUM TO VERY FINE AND SHELL
    - 36-38: SAND – FINE TO VERY FINE; little to some silt
    - 38-39: SILT; little to some sand – very fine
    - 39-39.5: CLAY; little to some silt
    - 39.5-40: SAND – MEDIUM TO VERY FINE; some coarse to very coarse shell; trace to little clay

1450: Well set; begin hydration/development
1510: Hydration/development complete; grouting borehole
1525: Installation Complete
1535: Drilling Commenced on AS0471; previously hand cleared 5'
1550: Pulling Core 30' to 40'
1600: Core pulled; setting well 39' TD

- Lithology is as follows:
    - 30-35: SAND – MEDIUM TO VERY FINE; little to some shell; little silt
    - 35-39: SAND – FINE TO VERY FINE; little to some shell and silt; trace clay
    - 39-40: CLAY; Little sand – very fine, silt, and shell

1615: Well set; begin hydration/development
1635: Hydration/development complete grouting borehole
1650: Installation Complete
1700: Site secured; Tt/GPI offsite

01/26/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	David Galvan	(DG)	Tech	GPI

Weather: Sunny 63 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Hydration

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0945: Tt/GPI at HS6 after completing RW installation at RW021D; HAS Meeting completed at HCS area; set up on AS0480; hand clear 5'
0955: Drilling Commenced
1010: Pulling Core 30' to 40'
1020: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-33: SHELL: little sand – fine to very fine and silt
    - 33-35: SAND – FINE TO VERY FINE; little to some silt; little shell; trace clay
    - 35-38: Gray to Dark Gray SHELL; little sand – fine to very fine and silt; trace clay
    - 38-40: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL; trace clay and silt

1035: Well set; begin hydration/development
1055: Hydration/development complete; grouting borehole
1110: Installation Complete
1130: Set up on AS0481; GPI taking lunch
1200: Lunch Over; hand clearing AS0481
1230: Drilling Commenced on AS0481; previously hand cleared 5'
1245: Pulling Core 35' to 45'
1255: Core pulled; setting well 43' TD

- Lithology is as follows:
    - 35-38.5: SHELL; little sand – fine to very fine and silt
    - 38.5-40: SAND – FINE TO VERY FINE; little to some silt; trace clay
    - 40-43: SHELL; little sand – very fine, silt, and clay
    - 43-43.5: CLAY; moderately dense; little, silt, shell, and sand – very fine
    - 43.5-45: SAND – FINE TO VERY FINE; little to some shell and silt; little clay

1310: Well set; begin hydration/development
1330: Hydration/development complete; grouting borehole
1350: Installation Complete
1405: Drilling Commenced on AS0482; previously hand cleared 5'; previously angled well. Moved termination point 1.5' away from original staked position and converted to vertical well; pulling core 40' to 50'
1430: Pulling Core 40' to 50'
1445: Core pulled; setting well 48' TD

- Lithology is as follows:
    - 40-44: SAND – FINE TO VERY FINE; little to some shell and silt

- 44-48.5: SHELL; little sand – fine to very fine, silt, and clay; moderately dense clay bed 48-48.5
- 48.5-50: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL

1455: Well set; begin hydration/development
1515: Hydration/development complete; grouting borehole
1535: Installation complete
1545: Set up on AS0473; hand clear 5’
1555: Drilling Commenced
1620: Down to 35’; out of water; will resume drilling in am
1640: Site secured; Tt/GPI offsite



01/27/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI
	David Galvan	(DG)	Tech	GPI

Weather: Sunny 63 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Hydration

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: DL/Tt on site; waiting on JA/DG
0800: JA/DG on site; HAS Meeting; daily prep
0825: Drilling resumed on AS0473
0830: Pulling Core 40' to 50'
0840: Core pulled; setting well 50' TD

- Lithology is as follows:
    - 40-42.5: SAND – FINE TO VERY FINE; little to some silt; little shell
    - 42.5-48: SHELL; little to some sand – fine to very fine and silt; little clay; sticky
    - 48-50: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL; trace to little clay and silt

0855: Well set; begin hydration/development
0915: Hydration/development complete; grouting borehole
0930: Installation Complete
0940: Drilling Commenced on AS0464; previously hand cleared 5'
1000: Pulling Core 40' to 50'
1010: Core pulled; setting well 46' TD

- Lithology is as follows:
    - 40-42.5: SAND - FINE TO VERY FINE; little to some silt; little shell; trace clay
    - 42.5-46: SHELL; little to some silt; little sand – very fine; trace to little clay
    - 46-47: CLAY; dense clay 46-46.5; little sand – very fine and silt 46.5-47
    - 47-50: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL; little granule sized shell; little silt; trace clay 47-48

1025: Well set; begin hydration/development
1045: Hydration/development complete; grouting borehole
1110: Installation Complete
1120: Drilling Commenced on AS0475: Former angle well; converted to vertical. New vertical location is approximately 3' from original termination point for angle well; pulling core 40' to 50'
1140: Pulling Core 40' to 50'
1155: Core pulled; setting well 50' TD

- Lithology is as follows:
    - 40-43: SAND – FINE TO VERY FINE; little to some silt; little shell; trace to little clay; thin clay bed at 33'
    - 43-47: SHELL; little sand – fine to very fine and silt; trace to little clay; sticky
    - 47-50: SAND- MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL; trace clay

1210: Well set; begin hydration/development
1230: Hydration/development complete; GPI taking lunch

1250: Grouting borehole
1310: Installation Complete; begin moving rig and equipment off launch pad area in preparation for this evenings Apollo 1 ceremony.
1400: Conducting site cleanup/materials inventory; loading up 10” casing to take back to Orlando
1445: Site Secured; Tt/GPI offsite



01/30/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Sunny 63 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Hydration

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0830: Tt on site
0945: GPI on site; HAS Meeting; daily prep; unloading materials
1015: Set up on AS0386; hand clear 5'
1035: Drilling Commenced
1050: Pulling Core 30' to 40'
1100: Core pulled; setting well 40' TD

- Lithology is as follows:
    - 30-33: SAND – FINE TO VERY FINE; little to some silt; trace to little clay and shell
    - 33-38: SHELL; little sand – very fine, and silt; trace clay
    - 38-40: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL

1115: Well set; begin hydration/development

- GPI taking lunch

1210: GPI on site; hydration/development complete; grouting borehole
1230: Installation Complete
1245: Set up on AS0397; hand clear 5'
1255: Drilling Commenced
1315: Pulling Core 30' to 40'
1330: Core pulled; poor recovery; setting 40' TD
1345: Well set; begin hydration/development
1405: Hydration/development complete; grouting borehole
1420: Installation complete
1435: Set up on AS0463; hand clear 5'
1450: Drilling Commenced; pulling core 35' to 45' due to position on slope
1515: Pulling Core 35' to 45'
1530: Core pulled; setting well 38' TD

- Lithology is as follows:
    - 35-36: SHELL; little sand – fine to very fine
    - 36-38: SAND -FINE TO VERY FINE; little to some silt; trace to little shell
    - 38-39: CLAY; little to some silt; moderately firm
    - 39-42: SHELL; little to some sand – fine to very fine and silt; little clay
    - 42-45: SAND – MEDIUM TO VERY FINE AND COARSE TO VERY COARSE SHELL; little silt

1550: Well set; begin hydration/development
1610: Hydration/development complete; grouting borehole
1630: Installation Complete
1645: Setting up on AS0488
1700: Site secured; Tt/GPI offsite

01/31/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Sunny 63 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Hydration

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion.

0700: Tt/GPI on site; HAS Meeting; daily prep; setting up on AS0488; hand clear 5'
0820: Drilling Commenced on AS0488; DL states that they may not be able to pull a core on this hole, but will try
0850: Unable to pull core due to positioning of the rig and rack with pipe due to slope; CS spoke with Mark Jonnet (MJ) – Tt PM; will set AS0488 at 45' TD without core
0905: Setting well 45' TD
0915: Well set; begin hydration/development
0935: Hydration/development complete; grouting borehole
0955: Installation complete; All vertical wells that have accessibility with the rig have been completed; DL/JA installing angle well attachment on rig to begin installing angle wells.
1025: Adapter installed; setting up on AS0489; setting well 70.5 degrees 50' total hypotenuse length positioning the bottom of the screen at 47' TD vertically
1040: Drilling Commenced; not pulling core due to angle
1105: Setting well 50' length along hypotenuse
1120: Well set; begin hydration/development
- GPI taking lunch

1200: Hydration/development complete; grouting borehole
1220: Installation Complete
1230: Setting up on AS0490; 51.5 degree angle; 60' length; hand clear 5'
1245: Drilling Commenced
1320: Down to 40' length; rig has lost vibe, rotation, and cannot pull pipe; troubleshooting
1500: Possible sonic head lube pump sending unit problem. When operating, the pump keeps sending oil back to the reservoir instead of leaving it in the sonic head. Attempting to get back on the pipe; DL is having to manually fill the sonic head to keep moving
1535: Drilling Resumed
1540: Rig stopped again…
1600: Unable to repair rig; part ordered and will be on site tomorrow morning; site secured; Tt/GPI offsite at 1630

02/01/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI

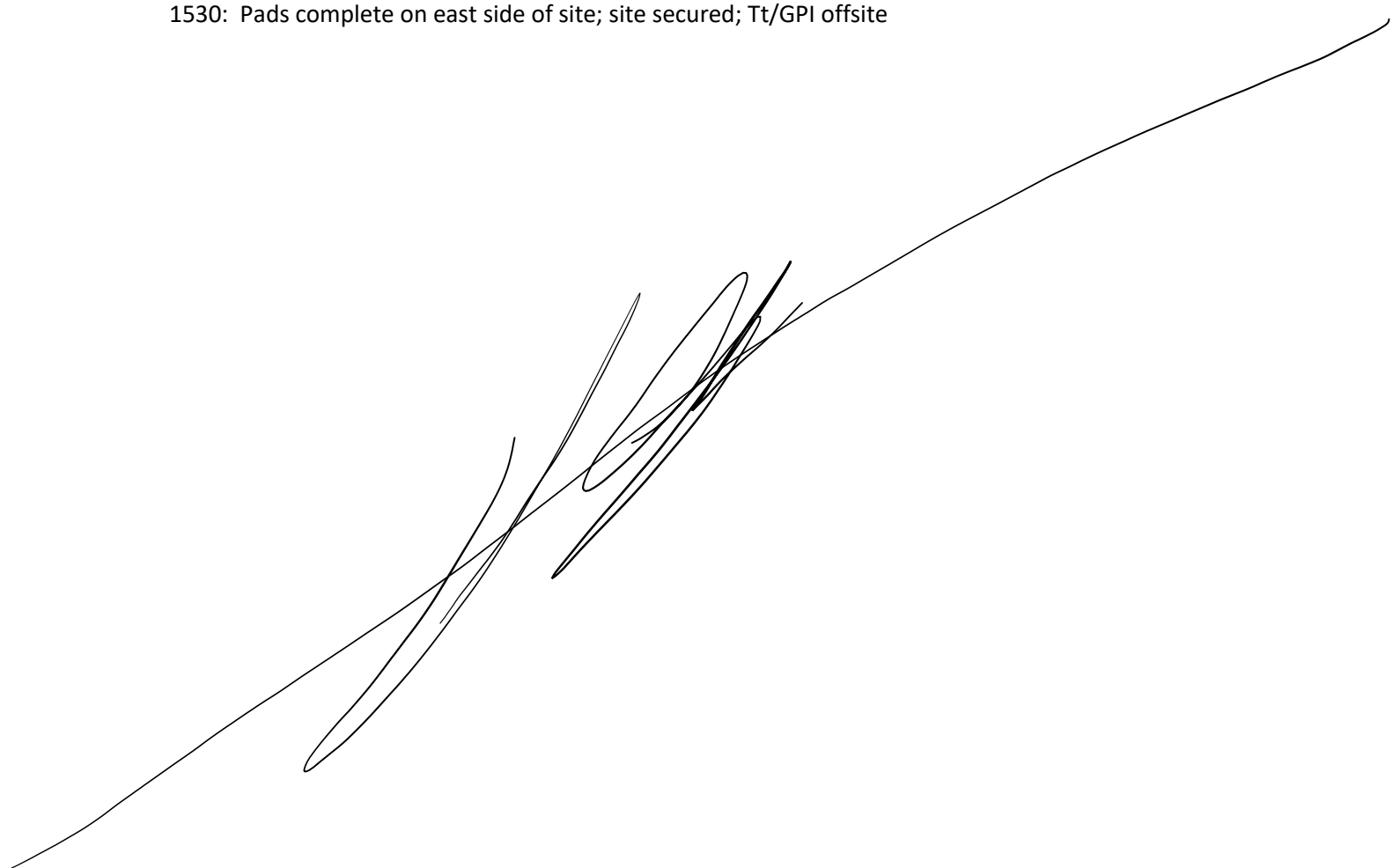
Weather: Sunny 63 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Hydration

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion

0700: Tt/GPI on site; HAS Meeting; daily prep; laying pads at MWs/developing while rig is being repaired
0745: Laying Pads at MW Location A (IW0148 and IW0149)
0845: Begin Development on IW0148
0915: Development complete on IW0148; developing IW0149; Pads complete at Location A
0945: Development complete on IW0149; laying Pads at MW Location B
1030: Developing IW0150; Claude Harriel on site to replace sending unit on rig
1100: Development complete on IW0150; Begin Developing IW0151; repair complete on rig; testing repair; JA laying pad at MW Location G
1120: Part did not fix problem… Back to pads and Development
1130: CH offsite; Development complete on IW0151
1200: GPI taking lunch
1240: GPI on site; resuming work
1255: Developing IW0158; laying pads at MW Location C
1325: Development complete at IW0158
1530: Pads complete on east side of site; site secured; Tt/GPI offsite



02/02/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Sunny 63 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Hydration

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion

0700: Tt/GPI on site; Has Meeting; daily prep
0715: Developing Wells at Location C
0800: Laying Pad at MW Location K
0900: Pad Installation complete at Location K Development complete at Location C; laying pads at MW Location H
1015: Developing MW Location K; laying Pads at MW Location I
1045: Development at Location K Complete
1100: Developing MW Location H
1200: Development Complete; Installing Pads at MW Location H
1350; Pad Installation complete
1415: Laying pad at MW Location M; Developing MW Location N
1445: Development complete at Location N
1515: installation Complete on Pad at MW Location M
1530: Laying Pad at MW Location N



02/06/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Sunny 63 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Hydration

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion

0800: Tt on site
0935: GPI on site; no part yet; GPI retrieving SR 5 from Wilson's corner
0955: GPI offsite
1100: GPI on site; unloading SR 5 and setting up on AS0379; setting well 51 degrees, 52' length
1145: GPI offsite for lunch
1215: GPI on site; Claude Harriel (CH) on site as well; replacing Part on SR-9
1315: Repair complete; attempting to resume drilling on AS0490; setting well 51.5 degrees; 60' length on hypotenuse
1345: CH offsite; repair complete
1410: Setting well 60' length
1425: Well set; begin hydration/development
1450: Hydration/Development complete; grouting borehole
1505: Installation Complete
1530: Set up on AS0483; hand clear 5'; setting well 52 degrees 59.5' hypotenuse length
1540: Drilling Commenced
1630: Setting well 60' TD
1645: Well set; begin hydration/development
1705: Hydration/development complete; will grout in am
1715: Site secured; Tt/GPI offsite

02/07/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Sunny 63 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Hydration

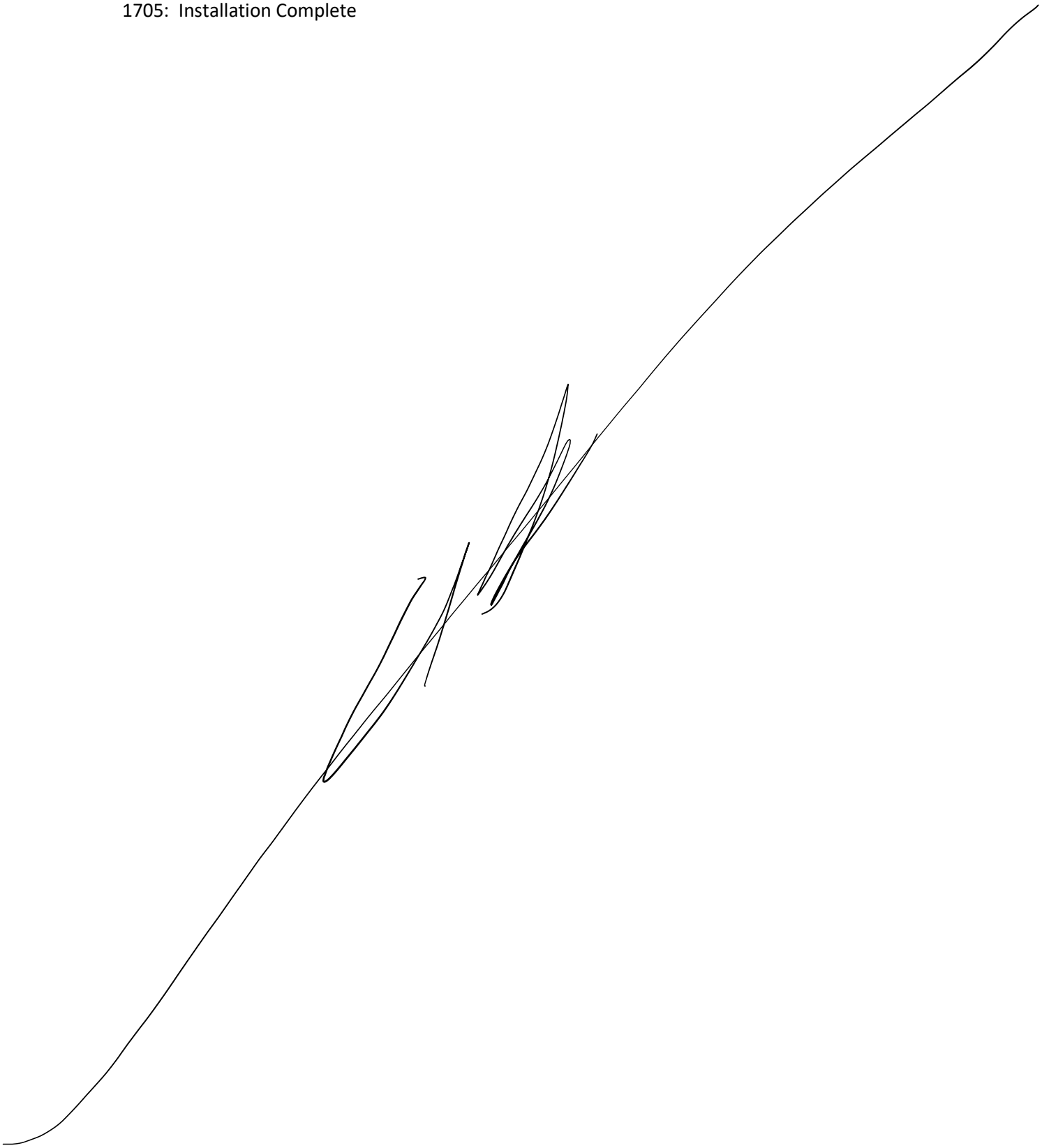
PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion

0700: Tt/GPI on site; HAS Meeting; daily prep
0740: Begin grouting AS0483
0800: Installation Complete
0810: Set up on AS0474; hand clear 5'; adjusted angle to reflect adjusted depth based on lithology; new proposed angle and hypotenuse length = 71.6 degrees (72 degrees); 50' hypotenuse length
0815: Drilling Commenced
0840: Setting well
0855: Well set; begin hydration/development
0915: Hydration/development complete; grouting borehole
0935: Installation Complete
0945: Set up on AS0484; hand clear 5'; adjusted angle to reflect adjusted depth based on lithology; new proposed angle and hypotenuse length = 51.3 degrees (51 degrees), 60.8' (61')
1005: Drilling Commenced
1045: Setting well 61' Hypotenuse length
1100: Well set; begin hydration/development
1120: Hydration/development complete; GPI taking lunch
1140: Grouting Borehole
1155: Installation Complete
1200: Set up on AS0485; hand clear 5'; adjusted angle to reflect adjusted depth based on lithology; new proposed angle and hypotenuse length = 74 degrees, 49.5' length
1215: Drilling Commenced
1250: Setting well 49.5' hypotenuse length
1300: Well set; begin hydration/development; well pulled up from approximately 49.5' to 49' during installation; TD along hypotenuse is 49'
1330: Hydration/development complete; grouting borehole
1350: Installation Complete
1405: Setting up on AS0476; Previous vertical well converted to angle well due to slope on apron of pad and proximity to an endangered mouse burrow. Horizontal offset – 22'; Angle – 60 degrees, length – 44' to set bottom of well screen at 38' BLS
1425: Drilling Commenced
1450: Setting well 44' length
1500: Well set; begin hydration/development
1525: Hydration/development complete; grouting borehole
1540: Installation Complete
1550: Set up on AS0465; Previous vertical well converted to angle well due to slope on apron of pad and proximity to an endangered mouse burrow. Horizontal offset – 22'; Angle – 60 degrees, length – 44' to set bottom of well screen at 38' BLS

02/07/2023 **LC34 HS6** **112G08985**

1555: Drilling Commenced
1615: Setting well 44’ length
1625: Well set; begin hydration/development
1645: Hydration/development complete; grouting borehole
1705: Installation Complete



02/08/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Sunny 63 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Hydration

PPE: Level D

Objective: Continue Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion

0700: Tt/GPI on site; HAS meeting; daily prep; moving rig to AS0477
0745: Set up on AS0477; hand clear 5'; setting well 66 degrees, 44' hypotenuse length to set screen vertically 40' BLS
0755: Drilling Commenced
0830: Setting well 44' length
0840: Well set; begin hydration/development
0900: Hydration/development complete; grouting borehole
0920: Installation Complete
0930: Set up on AS0467; Angle Well; setting well 61 degrees, 46' hypotenuse length
0940: Drilling Commenced
1000: Setting well 46' hypotenuse length
1015: Well set; begin hydration/development
1035: Hydration/development complete; grouting borehole
1055: Installation Complete
1105: Set up on AS0456; moved location approximately 9' south along arc of offset to gain better access for rig due to palm tree; hand clear 5'; proposed angle well; setting 56.5 degrees, 48' hypotenuse length
1130: Drilling Commenced
1155: Setting well 48' Length Hypotenuse
1215: Well set; begin hydration/development; GPI taking lunch
1245: GPI on site; Hydration/development complete; grouting borehole
1305: Installation Complete
1320: Set up on AS0444; hand clear 5'; Angle well; setting well 52 degrees, 50.7' (51') hypotenuse length
1335: Drilling Commenced
1400: Setting well 51' Hypotenuse length
1420: Well set; begin hydration/development
1440: Hydration/development complete; grouting borehole
1455: Installation Complete
1500: Set up on AS0432; moved location 3' south along road to avoid marked utility; adjusted angle from 47.2 degrees to 50 degrees for rig to avoid sonic head cavitation. New angle – 50 degrees, New Hypotenuse length – 52'; doing this moves the termination point 3.5' closer to entry with a vertical BLS of 40'
1510: Drilling Commenced
1540: Setting well 52' hypotenuse length
1555: Well set; begin hydration/development
1615: Hydration/Development complete; grouting borehole
1635: Installation Complete; Site secured; Offsite at 1650

02/09/2023 **LC34 HS6** **112G08985**

Personnel:	Chuck Sorden	(CS)	Geologist	Tt
	Dave Longino	(DL)	Driller	GPI
	Joel Aponte	(JA)	Tech	GPI

Weather: Sunny 63 degrees F

Health and Safety (HAS): Topics: PPE; IDW; Hydration

PPE: Level D

Objective: Complete Launch Complex 34 (LC34) Hot Spot 6 (HS6) Air Sparge (AS) system expansion

0700: Tt/GPI on site; HAS Meeting; Daily Prep
0800: Set up on AS0420; hand clear 5'; angle well; setting well 58 degrees, 47' hypotenuse length
0810: Drilling Commenced
0840: Setting well 47' length
0850: Well set; begin hydration/development
0915: Hydration/Development complete; grouting borehole
0935: Installation Complete
0945: set up on AS0408; hand clear 5'; angle well; Angle – 70 degrees; 42.5' hypotenuse length
1020: Setting well 42.5' Length
1030: Well set; begin hydration/development
1050: Hydration/Development Complete; grouting borehole
1110: Installation Complete
1120: Set up on AS0396; hand clear 5'; angle well; setting well 50.5 degrees; 52; hypotenuse length
1130: Drilling Commenced
1150: Setting well 52' TD length
1205: Well set; begin hydration/development
- GPI taking lunch

1240: Hydration/development complete; grouting borehole
1300: Installation Complete
1310: Set up on AS0385; Hand clear 5'; angle well; setting well 62.3 (62.5) degrees, 45.2' (45') hypotenuse length
1320: Drilling Commenced
1340: Setting well 45.2'
1355: Well Set; begin hydration/development
1415: Hydration/development complete; grouting borehole
1435: Installation Complete
1440: Set up on AS0379; hand clear 5'; Angle well; setting well 50.5 degrees, 51.5' hypotenuse length
1520: Setting well 51.5' Length
1535: Well set; begin hydration/development
1555: Hydration/Development complete; grouting borehole
1620: Installation Complete
1630: LC34 HS6 AS WELL INSTALLATION COMPLETE!

*Tetra Tech Note:
The proposed monitoring well IDs contained in these field notes (IW0148 through IW0168) were used for planning purposes, but after the installation event was completed they were re-numbered. The well IDs changed by an order of 20, i.e., well LC34-IW0148 was re-numbered as LC34-IW0168; LC34-IW0149 was re-numbered as IW0169, and so on. The following presents a crosswalk of how the wells were re-numbered:

Proposed Well ID	Final Well ID
LC34-IW0148	LC34-IW0168
LC34-IW0149	LC34-IW0169
LC34-IW0150	LC34-IW0170
LC34-IW0151	LC34-IW0171
LC34-IW0152	LC34-IW0172
LC34-IW0153	LC34-IW0173
LC34-IW0154	LC34-IW0174
LC34-IW0155	LC34-IW0175
LC34-IW0159	LC34-IW0179
LC34-IW0157	LC34-IW0177
LC34-IW0158	LC34-IW0178
LC34-IW0159	LC34-IW0179
LC34-IW0160	LC34-IW0180
LC34-IW0161	LC34-IW0181
LC34-IW0162	LC34-IW0182
LC34-IW0163	LC34-IW0183
LC34-IW0164	LC34-IW0184
LC34-IW0165	LC34-IW0185
LC34-IW0166	LC34-IW0186
LC34-IW0167	LC34-IW0187
LC34-IW0168	LC34-IW0188

AIR SPARGE WELL INSTALLATION BORING LOGS

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0306
DATE: 10/18/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SHELL; little to some sand - fine to very fine; trace to little silt	GP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5			35.0-37.5	Soft	Gray	SAND - FINE TO VERY FINE; little shell and silt	SP					
	38.0												
	38.5			37.5-38.5	Soft	Gray	SHELL; little sand - very fine and silt; trace clay	GP/ GM					
	39.0												
	39.5												
	40.0			38.5-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little-some shell; little silt	SP/SM	Trace clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0306

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0307
DATE: 10/18/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0		10/10										
	30.5												
	31.0												
	31.5			30.0-31.5	Soft	Gray	SAND – MEDIUM TO VERT FINE; little to some shell	SP					
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5			31.5-35.5	Soft	Gray	SHELL; little to some sand – medium to very fine; trace silt	GP					
	36.0												
	36.5			35.5-36.5	Soft	Gray	SAND – FINE TO VERY FINE; little shell; trace to little silt	SP					
	37.0												
	37.5												
	38.0			36.5-38	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP/ GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray/ Brown	SAND - FINE TO VERY FINE; little to some silt	SP/ SM					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0307

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0308
DATE: 10/18/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5			30.0-33.5	Soft	Gray	SHELL; little to some sand - medium to very fine; trace-little	GP					
	34.0												
	34.5												
	35.0		10/10	33.5-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt; trace to little shell	SP/SM					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5			35.0-38.5	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt; trace clay	GP/GM					
	39.0												
	39.5												
	40.0			38.5-40.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt; trace to little shell	SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0308

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0312
DATE: 10/18/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0			30.0-34.0	Soft	Gray	SHELL; little to some sand - medium to very fine; trace silt	GP					
	34.5												
	35.0		10/10	34.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt; trace shell	SP/SM					
	35.5			35.0-35.5	Soft	Gray	SILT AND CLAY; little to some sand - very fine; trace shell		Sticky and moist				
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.5-38.0	Soft	Gray	SHELL; little to some sand - medium to very fine; trace-little	GP					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt; trace shell	SP/SM					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Converted to Well: Yes X No _____ Well I.D. #: AS0312

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0315
DATE: 10/19/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SAND - FINE TO VERY FINE: little silt and shell	SP					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5			32.0-34.5	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt; trace clay	GP/GM					
	35.0		10/10	34.5-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little-some shell; little silt	SP/SM	Trace Clay				
	35.5			35.0-35.5	Soft	Gray	CLAY; little to some silt; little sand - very fine; trace shell	CL					
	36.0												
	36.5												
	37.0						SHELL interbedded with CLAY; little-some sand - med. to v. fine & silt	GM/GC					
	37.5			35.5-37.5	Soft	Gray			Sticky				
	38.0			37.5-38.0	Mod Firm	Olive Gray	CLAY; little silt; trace shell and sand - fine to very fine	CL					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SHELL; little sand - medium to very fine	GP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0315

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0314
DATE: 10/19/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt	GP					
	32.5		L										
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10										
	35.5												
	36.0			32.0-36.0	Soft	Gray	SAND - FINE TO VERY FINE: little silt and shell	SP/SM					
	36.5												
	37.0												
	37.5			36.0-37.5	Soft	Gray/Dk Gray	SHELL: little sand - fine to very fine and silt	GP					
	38.0												
	38.5			37.5-38.5	Soft	Gray	SHELL; little clay, sand - fine to very fine, and silt						
	39.0												
	39.5			38.5-39.5	Soft	Gray	CLAY; little to some silt; little sand - very fine and shell	CL					
	40.0			39.5-40.0	Soft	Gray	SAND - MED. TO VERY FINE: little-some clay; little silt/shell	SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0314

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0317
DATE: 10/19/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt	GP					
	32.5		L										
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10										
	35.5												
	36.0			32.0-36.0	Soft	Gray	SAND - FINE TO VERY FINE: little silt and shell	SP/SM					
	36.5												
	37.0												
	37.5			36.0-37.5	Soft	Gray/Dk Gray	SHELL: little sand - fine to very fine and silt	GP					
	38.0												
	38.5			37.5-38.5	Soft	Gray	SHELL; little clay, sand - fine to very fine, and silt						
	39.0												
	39.5			38.5-39.5	Soft	Gray	CLAY; little to some silt; little sand - very fine and shell	CL					
	40.0			39.5-40.0	Soft	Gray	SAND - MED. TO VERY FINE: little-some clay; little silt/shell	SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0317

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0324
DATE: 10/19/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0			30.0-31.0	Soft	Gray	SHELL; little to some sand - fine to very fine; trace silt	GP					
	31.5												
	32.0												
	32.5		L										
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	31.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little shell and silt	SP					
	35.5												
	36.0												
	36.5												
	37.0			.0-37.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt	GP					
	37.5												
	38.0			37.0-38.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little shell, silt, and clay	SM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - FINE TO V. FINE; some clay; little-som silt; little shell	SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0324

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0341
DATE: 10/19/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0			30.0-31.0	Soft	Gray	SHELL; little to some sand - fine to very fine; trace silt	GP					
	31.5												
	32.0												
	32.5		L										
	33.0												
	33.5												
	34.0			31.0-34.0	Soft	Gray	SAND - FINE TO VERY FINE; little shell and silt	SP					
	34.5												
	35.0		10/10										
	35.5												
	36.0			34.0-36.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt	GP					
	36.5												
	37.0												
	37.5												
	38.0			36.0-38.0	Soft	Gray	SHELL; some sand - fine to very fine: little to some silt; trace clay	GM					
	38.5												
	39.0			38.0-39.0	Soft	Gray	SAND - FINE TO VERY FINE; some clay; little to some silt	SC	Trace shell				
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MED. TO VERY FINE; little-some silt; little clay/shell	SM/ SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0341

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0354
DATE: 10/20/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0		10/10										
	30.5												
	31.0												
	31.5												
	32.0												
	32.5			30.0-32.5	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			32.5-38.0	Soft	Gray	SHELL; little to some sand - fine to very fine; trace to little silt	GP					
	38.5												
	39.0			38.0-39.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM	Trace clay; clay lens 39'				
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell	SW/ SP	Shell small pebble to coarse				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0354

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0366
DATE: 10/20/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5			30.0-32.5	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10										
	35.5												
	36.0			32.5-36.0	Soft	Gray	SHELL; little to some sand - fine to very fine; trace to little silt	GP					
	36.5												
	37.0			36.0-37.0	Soft	Gray	SHELL; little to some sand - fine to very fine; trace silt	GP					
	37.5												
	38.0												
	38.5												
	39.0			37.0-39.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP	Trace clay; clay lens 39'				
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell	SW/ SP	Shell small pebble to coarse				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0366

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0375
DATE: 10/20/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-33	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0			33.0-36.0	Soft	Gray	SHELL; little to some sand - fine to very fine; trace to little silt	GP					
	36.5												
	37.0			36.0-37.0	Soft	Gray	SHELL; little to some sand - fine to very fine; trace silt	GP					
	37.5												
	38.0			37.0-38.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt; trace to little shell	SP					
	38.5												
	39.0												
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell	SW/ SP	Shell small pebble to coarse				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0375

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS03754
DATE: 10/20/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	33.5												
	34.0												
	34.5												
	35.0		10/10										
	35.5												
	36.0												
	36.5												
	37.0			36.0-37.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GM					
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell	SW/ SP	Shell small pebble to coarse				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Converted to Well: Yes X No _____ Well I.D. #: AS03754

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0373
DATE: 10/20/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5			30.0-33.5	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; trace clay	SM	Little shell				
	34.0												
	34.5												
	35.0		10/10										
	35.5												
	36.0												
	36.5												
	37.0												
	37.5			33.5-37.5	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP/GM					
	38.0												
	38.5			37.5-38.5	Soft	Gray	SHELL; little to some sand - fine to very fine and silt; little clay	GM/GC					
	39.0												
	39.5												
	40.0			38.5-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell	SW/SP	Shell pebble to coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0373

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0364
DATE: 10/21/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10										
	30.5												
	31.0												
	31.5												
	32.0												
	32.5			30.0-32.5	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	33.0												
	33.5			32.5-33.5	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP/ GM					
	34.0												
	34.5												
	35.0												
	35.5												
	36.0			33.5-36.0	Soft	Gray	SHELL; little sand - fine to very fine	GW/ GP					
	36.5												
	37.0			36.0-37.0	Soft	Gray	SHELL; little sand - fine to very fine, silt, and clay	GM/ GC					
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			37.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell	SW/ SP	Shell pebble to coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0364

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0364
DATE: 10/21/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt	GP/GM					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5			35.0-39.0	Soft	Gray	SHELL; little sand - fine to very fine; little to some silt	GM	Trace clay				
	40.0			39.5-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little silt	SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0364

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0365
DATE: 10/21/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10										
	30.5												
	31.0												
	31.5												
	32.0												
	32.5			30.0-32.5	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	33.0												
	33.5			32.5-33.5	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP/ GM					
	34.0												
	34.5												
	35.0												
	35.5												
	36.0			33.5-36.0	Soft	Gray	SHELL; little sand - fine to very fine	GW/ GP					
	36.5												
	37.0			36.0-37.0	Soft	Gray	SHELL; little sand - fine to very fine, silt, and clay	GM/ GC					
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			37.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell	SW/ SP	Shell pebble to coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0365

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0353
DATE: 10/21/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10										
	35.5												
	36.0												
	36.5												
	37.0			30.0-37.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	37.5												
	38.0			37.0-38.0	Soft	Gray	SHELL; little to some silt; littl sand - very fine; trace clay	GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; trace to little silt and shell	SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0353

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0367
DATE: 10/24/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell						
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	32.0-35.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt; trace clay	GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SHELL; little sand - medium to very fine; trace silt	GW/ GP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Converted to Well: Yes X No _____ Well I.D. #: AS0367

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0368
DATE: 10/24/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0		10/10										
	30.5												
	31.0			30.0-31.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			31.0-38.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt	GP					
	38.5												
	39.0			38.0-39.0	Firm	Gray	CLAY; little sand - fine to very fine, silt, and shell	CL					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell	SW					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0368

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0371
DATE: 10/25/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10										
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0			33.0-36.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt	GM/ GC	Trace to little clay				
	36.5												
	37.0			36.0-37.0	Firm	Gray	CLAY; little sand - very fine and silt; trace shell	CL					
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			37.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell;	SM	Little silt and clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0371

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0372
DATE: 10/25/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.5												
	36.0												
	36.5												
	37.0			35.0-37.0	Soft	Gray/Dk Gray	SHELL; little to some sand - very fine; little silt trace clay	GP/ GM					
	37.5												
	38.0			37.0-38.0	Soft	Gray	CLAY; little sand - very fine and silt; trace to little shell	CL					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SHELL; little to some sand - medium to very fine; little silt	GP	Trace to little clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0372

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0363
DATE: 10/25/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.5												
	36.0			35.0-36.0	Soft	Gray	SILT AND CLAY; little sand - very fine; trace shell	ML/ CL					
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			36.0-40.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt; trace clay	GP/ GM					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0363

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0361
DATE: 10/25/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0			30.0-34.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	34.5												
	35.0		10/10										
	35.5												
	36.0			34.0-36.0	Soft	Gray	CLAY; little to some silt; little sand - very fine and shell	CL	Firm 34-34.5'				
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			36.0-40.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt little clay	GM					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0361

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0360
DATE: 10/25/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0			30.0-34.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	34.5												
	35.0		10/10										
	35.5												
	36.0												
	36.5												
	37.0			34.0-37.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay						
	37.5												
	38.0			37.0-38.0	Soft	Gray	CLAY; little sand - very fine; silt, and shell	CL					
	38.5												
	39.0												
	39.5			38.0-39.5	Soft	Gray	SHELL; little to some sand - very fine, silt, and clay	GM/ GC					
	40.0			39.5-40.0	Soft	Gray	SHELL; little to some sand - medium to very fine	GW/ GP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0360

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0359
DATE: 10/25/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0			30.0-34.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	34.5												
	35.0		10/10										
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			34.0-38.0	Soft	Gray	SHELL; little to some sand - medium to very fine; little silt	GP	trace clay				
	38.5												
	39.0												
	39.5			38.0-39.5	Soft	Gray	CLAY; little to some silt; little sand - very fine; trace shell	CL					
	40.0			39.5-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little shell; trace clay	SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Converted to Well: Yes X No _____ Well I.D. #: AS0359

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0370
DATE: 10/26/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0		10/10										
	30.5												
	31.0			30.0-31.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0			31.0-36.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			36.0-39.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt; trace clay	GP/ GM					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little clay and shell	SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0370

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0358
DATE: 10/26/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little to some sand - very fine and silt; trace to little clay	GM					
	38.5												
	39.0												
	39.5			38.0-39.5	Soft	Gray	SHELL AND SAND - FINE TO VERY FINE; little-some clay/silt	GM/ GC	Clay in beds and throughout				
	40.0			39.5-40.0	Soft	Gray	SHELL; little to some sand - medium to very fine	GW					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0358

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0357
DATE: 10/27/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-32.0									
	30.5												
	31.0												
	31.5												
	32.0				Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			32.0-38.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SHELL; little sand - very fine, silt, and clay	GP/ GM					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0357

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0356
DATE: 10/27/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0		10/10	30.0-40.0									
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0				Soft	Gray	SHELL; little to some sand - fine to very fine, silt, and clay	GM/ GC	Sticky				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Converted to Well: Yes X No _____ Well I.D. #: AS0356

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0355
DATE: 10/28/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP	Clay lens 31.25-31.75				
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SHELL; little to some sand - medium to very fine	GP	Trace to little silt				
	35.5												
	36.0												
	36.5												
	37.0			35.0-37.0	Soft	Gray	SAND - MEDIUM TO VERY FINE: little shell	SP	Trace to little silt and shell				
	37.5												
	38.0			37.0-38.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt and clay	GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; some shell	SW	Shell pebble to coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0355

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0342
DATE: 10/28/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10										
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	32.5												
	33.0			32.0-33.0	Soft	Gray	SILT AND CLAY	CL					
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0			33.0-37.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt; trace clay	GP/ GM					
	37.5												
	38.0			37.0-38.0	Soft	Gray	SHELL; some sand - very fine, silt, and clay	GM/ GC					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND -MEDIUM TO VERY FINE; little to some shell	SW					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0342

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0343
DATE: 10/28/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5			30.0-31.5	soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	32.0			31.5-32.0	Soft	Gray	SILT; some clay	ML					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	32.0-35.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay						
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft to Firm	Gray	SHELL AND CLAY; little to some sand - very fine and silt	GC					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell	SW	Shell pebble to coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0343

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0344
DATE: 10/28/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt;	SM	Trace to little clay; silty 31-32				
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			35.0-39.0	Soft	Gray	SHELL; little to some clay interbredded and throughout		Little very fine sand and silt				
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell	SW	Shell pebble to coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0344

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0345
DATE: 10/28/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0			30.0-31.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	31.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some shell; little silt	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP/ GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SHELL; little to some clay interbedded and throughout	GM/ GC	Little very fine sand and silt				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0345

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0348
DATE: 10/31/2022
GEOLOGIST: Chuck Sorden
DRILLER: Joel Aponte

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0		10/10	30.0-36.0	Soft	Gray	SAND - FINE TO VERY FINE; little shell and silt	SP					
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			36.0-39.0	Soft	Gray	SHELL; little sand - very fine and silt; trace clay	GP/ GM					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell	SW	Shell pebble to coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0348

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0349
DATE: 10/31/2022
GEOLOGIST: Chuck Sorden
DRILLER: Joel Aponte

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10										
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0			30.0-37.0	Soft	Gray	SAND - FINE TO VERY FINE; little shell and silt	SP					
	37.5												
	38.0												
	38.5												
	39.0			37.0-39.0	Soft	Gray	SHELL; little sand - very fine and silt; trace clay	GP/ GM					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell	SW	Shell pebble to coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0349

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0351
DATE: 11/1/2022
GEOLOGIST: Chuck Sorden
DRILLER: Joel Aponte

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10										
	35.5												
	36.0												
	36.5												
	37.0			30.0-37.0	Soft	Gray	SAND - FINE TO VERY FINE; little shell and silt	SP					
	37.5												
	38.0												
	38.5												
	39.0			37.0-39.0	Soft	Gray	SHELL; little sand - fine to very very fine and silt; trace clay	GP/ GM					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell; little	SW	Shell pebble to coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0351

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0332
DATE: 11/1/2022
GEOLOGIST: Chuck Sorden
DRILLER: Joel Aponte

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10										
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0			30.0-37.0	Soft	Gray	SAND - FINE TO VERY FINE; little shell and silt	SP					
	37.5												
	38.0												
	38.5												
	39.0			37.0-39.0	Soft	Gray	SHELL; little sand - fine to very very fine and silt	GP/ GM					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SILT; trace to little clay and sand - very fine	ML	Shell pebble to coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0332

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0330
DATE: 11/2/2022
GEOLOGIST: Chuck Sorden
DRILLER: Joel Aponte

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5			30.0-34.5	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.0		10/10										
	35.5												
	36.0			34.5-36.0	Soft	Gray	SHELL; little sand - very fine and silt	GP/ GM					
	36.5												
	37.0			36.0-37.0	Firm	Gray	CLAY; little sand - very fine and silt; trace to little shell	CL					
	37.5												
	38.0												
	38.5												
	39.0			37.0-39.0	Soft	Gray	SHELL; little sand - very fine and silt; trace clay	GP/ GM					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell	SW	Shell pebble to coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0330

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0329
DATE: 11/2/2022
GEOLOGIST: Chuck Sorden
DRILLER: Joel Aponte

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5			30.0-34.5	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.0		10/10										
	35.5												
	36.0			34.5-36.0	Soft	Gray	SHELL; little sand - very fine and silt	GP/ GM					
	36.5												
	37.0			36.0-37.0	Firm	Gray	CLAY; little sand - very fine and silt; trace to little shell	CL					
	37.5												
	38.0												
	38.5												
	39.0			37.0-39.0	Soft	Gray	SHELL; little sand - very fine and silt; trace clay	GP/ GM					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell	SW	Shell pebble to coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0329

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0328
DATE: 11/2/2022
GEOLOGIST: Chuck Sorden
DRILLER: Joel Aponte

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5			30.0-34.5	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.0		10/10										
	35.5												
	36.0			34.5-36.0	Soft	Gray	SHELL; little sand - very fine and silt	GP/ GM					
	36.5												
	37.0			36.0-37.0	Firm	Gray	CLAY; little sand - very fine and silt; trace to little shell	CL					
	37.5												
	38.0												
	38.5												
	39.0			37.0-39.0	Soft	Gray	SHELL; little sand - very fine and silt; trace clay	GP/ GM					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell	SW	Shell pebble to coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0328

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0326
DATE: 11/2/2022
GEOLOGIST: Chuck Sorden
DRILLER: Joel Aponte

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SAND - FINE TO VERY FINE; little ssilt and shell	SP					
	33.5			33.0-33.25	Firm	Gray/ Green	CLAY; little silt	CL					
	34.0												
	34.5												
	35.0		10/10	33.25-35.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP/ GM					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5			35.0-38.5	Soft	Gray	SHELL; little to some silt; little clay and sand - very fine	GM					
	39.0												
	39.5												
	40.0			38.5-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little silt and shell	SP/SM	trace clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0326

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0320
DATE: 11/3/2022
GEOLOGIST: Chuck Sorden
DRILLER: Joel Aponte

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5			30.0-32.5	Soft	Gray	SHELL; little sand - fine to very fine	GW/ GP					
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	32.5-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.5												
	36.0												
	36.5												
	37.0			35.0-37.0	Soft	Gray	SHELL; little sand - very fine and silt	GP/ GM					
	37.5												
	38.0												
	38.5												
	39.0			37.0-39.0	Firm	Gray/ Green	CLAY; little sand - very fine and silt	CL					
	39.5												
	40.0			39.0-40.0	Firm	Gray	SAND - MEDIUM TO VERY FINE; little silt/shell; trace clay	SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Converted to Well: Yes X No _____ Well I.D. #: AS0320

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0321
DATE: 11/3/2022
GEOLOGIST: Chuck Sorden
DRILLER: Joel Aponte

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM					
	33.5												
	34.0												
	34.5			33.0-34.5	Soft	Gray	SHELL; little to some sand - fine to very fine	GP					
	35.0		10/10										
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			34.5-39.0	Firm	Gray/ Green	CLAY; little-some silt; little sand - fine to very fine	CL	little shell; clay in beds and throughout				
	39.5												
	40.0			39.0-40.0	Firm	Gray	SAND - MEDIUM TO VERY FINE; little silt/shell; trace clay	SP/SM					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Converted to Well: Yes X No _____ Well I.D. #: AS0321

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0322
DATE: 11/3/2022
GEOLOGIST: Chuck Sorden
DRILLER: Joel Aponte

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-31.5									
	30.5												
	31.0												
	31.5				Soft	Gray	SHELL; little to some sand - fine to very fine	GP					
	32.0			31.5-34.5									
	32.5												
	33.0												
	33.5												
	34.0												
	34.5				Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP/ SM					
	35.0												
	35.5												
	36.0			34.5-36.0	Soft	Gray	SHELL; little sand - very fine and silt	GP/ GM					
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			36.0-40.0	Soft	Gray	SILT; trace to little sand - very fine	ML					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0322

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0347
DATE: 11/3/2022
GEOLOGIST: Chuck Sorden
DRILLER: Joel Aponte

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5			30.0-31.5	Soft	Gray	SHELL; little sand - fine to very fine	GP					
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	31.5-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP/ SM					
	35.5												
	36.0												
	36.5												
	37.0			35.0-37.0	Soft	Gray	SHELL; little sand - very fine and silt	GP/ GM					
	37.5												
	38.0												
	38.5												
	39.0												
	39.5			37.0-39.5	Soft	Gray	SAND - VERY FINE; some clay and silt; little shell	SM/ SC					
	40.0			39.5-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little silt/shell; trace clay	SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0347

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0333
DATE: 11/3/2022
GEOLOGIST: Chuck Sorden
DRILLER: Joel Aponte

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-35.5									
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5				Soft	Gray	SAND - FINE TO VERY FINE; little silt/shell	SP	anomalous clay bed 35.5-35.75				
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.5-38.0	Soft	Gray	SHELL; little sand - very fine and silt; trace clay	GM					
	38.5												
	39.0												
	39.5			38.0-39.5	Soft	Gray	SAND - FINE TO VERY FINE; little to some clay/silt; little shell	SM/ SC	clay in beds and throughout				
	40.0			39.5-40.0	Soft	Gray	SHELL; little to some sand - medium to very fine; trace clay	GP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0333

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0350
DATE: 11/4/2022
GEOLOGIST: Chuck Sorden
DRILLER: Joel Aponte

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0			30.0-31.0	Soft	Gray	SHELL; little sand - fine to very fine	GW/GP					
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	31.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP/GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM-VERY FINE; little-some shell; trace silt/clay	SP	shell pebble to coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Converted to Well: Yes X No _____ Well I.D. #: AS0350

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0362
DATE: 11/4/2022
GEOLOGIST: Chuck Sorden
DRILLER: Joel Aponte

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt and shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			35.0-39.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM-VERY FINE; little-some shell; trace silt/clay	SP	shell pebble to coarse sized; clay 38-39.5				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0362

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0325
DATE: 11/4/2022
GEOLOGIST: Chuck Sorden
DRILLER: Joel Aponte

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10										
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SHELL; little sand - fine to very fine	GP					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0			32.0-36.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	36.5												
	37.0												
	37.5												
	38.0			36.0-38.0	Soft	Gray	SHELL; little sand - very fine and silt; trace clay	GP/ GM					
	38.5												
	39.0												
	39.5			38.0-39.5	Soft	Gray	SHELL; little to some silt; little clay and sand - very fine	GM/ GC					
	40.0			39.5-40.0	Soft	Gray	SAND - MED.-VERY FINE; little-some shell; trace silt/clay	SP	shell coarse to pebble				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0325

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0323
DATE: 11/7/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0			33.0-37.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some shell; little silt	SP					
	37.5												
	38.0			37.0-38.0	Soft	Gray	CLAY; litlle shell, silt, and sand - very fine	CL					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Firm	Gray	SHELL; little to some sand - medium to very fine; trace clay	GP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0323

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0340
DATE: 11/7/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0			32.0-36.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM					
	36.5												
	37.0												
	37.5												
	38.0			36.0-38.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP/ GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MED-VF; little to some shell and silt; little clay	SM/ SC	sticky; slightly cohesive				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0340

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0318
DATE: 12/1/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little to some sand - coarse to very fine	GW					
	33.5												
	34.0												
	34.5												
	35.0			33.0-35.0	Soft	Gray	SAND - MED.-VF; little to some silt; trace-little shell; trace clay	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5			35.0-37.0	Soft	Gray/Dk Gray	SHELL; little sand - fine to very fine and silt	GP					
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			37.0-40.0	Soft	Gray	SAND - F-VF; little to some silt; trace to little shell and clay	SM					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0318

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0313
DATE: 12/1/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5			30.0-31.5	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0			31.5-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt; trace shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little sand - very fine and silt	GP					
	38.5												
	39.0			38.0-39.0	Soft	Gray	SAND - VERY FINE; little to some silt; trace to little clay	SM/ SC					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little shell and silt	SW/ SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Converted to Well: Yes X No _____ Well I.D. #: AS0313

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0301
DATE: 12/2/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt	GP					
	33.5												
	34.0												
	34.5			33.0-34.5	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.0			34.5-35.0	Soft	Gray	SHELL; little sand - fine to very fine, silt, and clay	GP/ GM					
	35.5			35.0-35.5	Firm	Gray/ Green	CLAY; dense; little silt and shell	CL					
	36.0												
	36.5												
	37.0												
	37.5			35.5-37.5	Soft	Gray	SHELL; little sand - fine to very fine, silt, and clay	GP/ GM					
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			37.5-40.0	Soft	Gray	SAND - VERY FINE AND SILT	SM	dense, tight formation				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Converted to Well: Yes X No _____ Well I.D. #: AS0301

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0302
DATE: 12/2/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0			30.0-34.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP/SM					
	34.5												
	35.0												
	35.5												
	36.0			34.0-36.0	Soft	Gray	SHELL; little to some silt; little sand - F-VF; trace clay	GM					
	36.5												
	37.0												
	37.5												
	38.0			36.0-38.0	Soft	Gray	SAND - VERY FINE AND SILT	SM	dense, tight formation				
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - COARSE TO FINE AND SHELL	SW	shell coarse to pebble sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0302

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0303
DATE: 12/2/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5			30.0-32.5	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	33.0												
	33.5												
	34.0												
	34.5												
	35.0			32.5-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.5												
	36.0												
	36.5												
	37.0			35.0-37.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP	clayey 36.5-37				
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			37.0-40.0	Soft	Gray	SAND - FINE TO VERY FINE AND SILT; trace shell/clay	SM					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Converted to Well: Yes X No _____ Well I.D. #: AS0303

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0309
DATE: 12/5/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5			30.0-33.5	Soft	Gray	SHELL; some sand - medium to very fine; trace silt	GP					
	34.0												
	34.5												
	35.0			33.5-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.5												
	36.0												
	36.5												
	37.0			35.0-37.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			37.0-40.0	Soft	Gray	SAND - MED-VF; little to some silt; trace to little clay	SM	clayey 37-38.5				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Converted to Well: Yes X No _____ Well I.D. #: AS0309

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0338
DATE: 12/5/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0			30.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			35.0-40.0	Soft	Gray	SHELL; little sand - medium to very fine; trace silt and clay		silt and clay 37-38				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0338

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0337
DATE: 12/5/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0			30.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP	silty zone 34-34.5				
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			35.0-40.0	Soft	Gray	SHELL; little sand - medium to very fine; trace silt and clay		silt and clay 37-38				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Converted to Well: Yes X No _____ Well I.D. #: AS0337

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0334
DATE: 12/6/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	32.0		10/10										
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0			32.0-35.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt	GP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5			35.0-38.5	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	39.0			38.5-39.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP					
	39.5			39.0-39.5	Firm	Gray/ Green	CLAY; little sand - very fine and silt	CL					
	40.0												
	40.5												
	41.0												
	41.5												
	42.0			39.5-42.0	Soft	Gray	SHELL; little to some sand - F-VF and silt; trace-little silt	GM					
	42.5						**BORING TERMINATED 42'**						
	43.0												
	43.5												
	44.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0334

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0336
DATE: 12/6/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5			30.0-31.5	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt	GP					
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	31.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; trace to little shell; trace clay	SM/ SC					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			35.0-39.0	Soft	Gray	SHELL; little-some sand - fine to very fine; little silt; trace clay	GP					
	39.5			39.0-39.5	Firm	Gray/ Green	CLAY; little sand - very fine and silt	CL					
	40.0			39.5-40.0	Soft	Gray	SHELL; little sand - fine to very fine	GP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0336

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0319
DATE: 12/8/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP/SM					
	35.5												
	36.0												
	36.5												
	37.0			35.0-37.0	Soft	Gray	SHELL; little silt and sand - very fine	GP					
	37.5												
	38.0												
	38.5												
	39.0			37.0-39.0	Firm	Gray/ Green	CLAY; little to some sand - very fine, silt, and shell	CL					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SHELL; little sand - medium to very fine; trace silt/clay	GP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0319

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0395
DATE: 12/8/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP/SM					
	35.5												
	36.0												
	36.5			35.0-36.5	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			36.5-39.0	Soft	Gray	SHELL; little to some clay, silt, and sand - fine to very fine	GM/GC					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SHELL; little to some sand - medium to very fine	GW/GP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0395

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0394
DATE: 12/8/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-32.0									
	30.5												
	31.0												
	31.5												
	32.0				Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0												
	37.5			32.0-37.5	Soft	Gray	SAND - MEDIUM TO VERY FINE interbedded with SHELL, SILT, AND CLAY	SM/ SC					
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			37.5-40.0	Soft	Gray	SHELL; some sand - coarse to fine	GW					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0394

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0393
DATE: 12/8/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0		10/10	30.0-34.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP					
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5			37.0-38.5	Soft	Gray	SAND - MEDIUM TO VERY FINE interbedded with SHELL, SILT, AND CLAY	SM/ SC					
	39.0												
	39.5												
	40.0			37.5-40.0	Soft	Gray	SHELL; some sand - coarse to fine	GW					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0393

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0392
DATE: 12/9/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SAND - COARSE TO VERY FINE	SW					
	32.5												
	33.0												
	33.5			32.0-33.5	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP/SM					
	34.0												
	34.5												
	35.0		10/10	33.5-35.0	Soft	Gray	SAND - VERY FINE; little to some silt; trace clay and shell	SM					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			35.0-40.0	Soft/Firm	Gray	INTERBEDDED SHELL, SILT, CLAY, AND SAND - VF	CL					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0392

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0391
DATE: 12/9/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5			30.0-32.5	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	32.5-35.0	Soft	Gray	SAND - F-VF; little to some silt; little shell; trace clay	SM					
	35.5												
	36.0												
	36.5												
	37.0			35.0-37.0	Soft	Gray	SHELL; little sand - very fine and silt; trace clay	GP					
	37.5												
	38.0												
	38.5												
	39.0			37.0-39.0	Soft	Gray	SAND - F-VF; little to some silt; little shell and clay	SM/ SC					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SHELL; little to some sand - fine to very fine; trace clay	GP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0391

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0390
DATE: 12/9/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt	GP					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM					
	35.5												
	36.0			35.0-36.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt	GM					
	36.5												
	37.0												
	37.5												
	38.0			36.0-38.0	Soft	Gray	SAND - F-VF; little to some interbedded silt, shell, and clay	SM/ SC					
	38.5												
	39.0			38.0-39.0	Soft	Gray	SAND - VERY FINE; little to some silt and clay	SC	moderately dense				
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MED-VERY FINE AND SHELL	SW	shell coarse to v. coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0390

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0389
DATE: 12/12/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10										
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SHELL; little to some sand - fine to very fine	GP					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0			32.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP/ SM					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			35.0-39.0	Soft	Gray	SHELL; little to some sand - very fine and silt; trace clay	GM					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL; little silt	SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0389

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0388
DATE: 12/12/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little to some sand - fine to very fine	GP					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little to some sand - very fine and silt; trace-little clay	GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL; little silt	SW/ SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0388

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0382
DATE: 12/12/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little to some sand - fine to very fine	GP					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little to some sand - very fine and silt; trace-little clay	GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL; little silt	SW/ SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0382

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0381
DATE: 12/13/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little to some sand - fine to very fine	GP					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little to some sand - very fine and silt; trace-little clay	GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL; little silt	SW/ SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0381

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0380
DATE: 12/13/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SHELL; little to some sand - fine to very fine	GP					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	32.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little to some sand - very fine and silt; trace-little clay	GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL; little silt	SW/ SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0380

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0378
DATE: 12/13/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SHELL; little to some sand - fine to very fine	GP					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	32.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little to some sand - very fine and silt; trace-little clay	GM	silty/clayey bed 35-36				
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL; little silt	SW/ SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0378

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0387
DATE: 12/13/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little to some sand - fine to very fine	GP					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5			35.0-38.5	Soft	Gray	SHELL; little to some sand - very fine and silt; trace clay	GM					
	39.0												
	39.5												
	40.0			38.5-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL; little silt	SW/ SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0387

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0398
DATE: 12/13/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little to some sand - fine to very fine	GP					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5			35.0-38.5	Soft	Gray	SHELL; little to some sand - very fine and silt; trace clay	GM					
	39.0												
	39.5												
	40.0			38.5-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL; little silt	SW/ SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0398

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0399
DATE: 12/14/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-33.0									
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0				Soft	Gray	SHELL; little to some sand - fine to very fine	GP					
	33.5			33.0-36.0									
	34.0												
	34.5												
	35.0												
	35.5												
	36.0				Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP					
	36.5												
	37.0			35.0-38.0									
	37.5												
	38.0				Soft	Gray	SHELL; little to some sand - very fine and silt; trace clay	GM					
	38.5												
	39.0												
	39.5												
	40.0			38.5-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL; little silt/clay	SW/ SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0399

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0400
DATE: 12/14/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0		10/10	30.0-33.0	Soft	Gray	SHELL; little to some sand - fine to very fine	GP					
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0			33.0-36.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.5	Soft	Gray	SHELL; little to some sand - very fine and silt; trace clay	GM					
	38.5												
	39.0												
	39.5												
	40.0			38.5-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL; little silt/clay	SW/ SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0400

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0402
DATE: 12/14/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-33.0	Soft	Gray	SHELL; little to some sand - fine to very fine	GP					
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0			33.0-35.5	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.5-38.0	Soft	Gray	SHELL; little to some sand - very fine and silt; trace clay	GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL; little silt/clay	SW/ SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0402

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0403
DATE: 12/14/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10										
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt	GP					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0			32.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.5			35.0-35.5	Soft	Gray/ Dk. Gray	SHELL; little sand - fine to very fine	GP					
	36.0												
	36.5												
	37.0			35.5-37.0	Soft	Gray	SHELL; little to some silt; little sand - F-VF and clay	GM/ GC					
	37.5												
	38.0												
	38.5												
	39.0			37.0-39.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt and clay	SM/ SC	trace to little shell				
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - FINE TO VERY FINE AND SHELL; little silt	SP	trace clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0403

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0404
DATE: 12/14/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP/SM					
	35.5												
	36.0			35.0-36.0	Soft	Gray/ Dk. Gray	SHELL	GP					
	36.5												
	37.0			36.0-37.0	Soft	Gray	SHELL; little to some sand - very fine and silt; trace clay	GM					
	37.5												
	38.0												
	38.5												
	39.0			37.0-39.0	Firm	Gray/ Green	CLAY; little to some sand - very fine and silt; trace shell	CL					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MED. TO VERY FINE; little shell and silt; trace clay	SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0404

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0405
DATE: 12/14/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP/SM					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SHELL; little sand - fine to very fine	SW	Shell coarse to v. coarse				
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SAND - VERY FINE; some silt; little to some clay; trace shell	SM/SC					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little shell	SW	shell coarse to v. coarse				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0405

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0406
DATE: 12/15/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt	GP	trace clay				
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL	SW	shell coarse to v. coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Converted to Well: Yes X No _____ Well I.D. #: AS0406

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0407
DATE: 12/15/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0			30.0-34.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	34.5												
	35.0		10/10	34.0-35.0	Soft	Gray/ Dk. Gray	SHELL; little sand - medium to very fine	GP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little-some sand - fine to very fine and silt; trace clay	GP/ GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL	SW	shell coarse to v. coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0407

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0419
DATE: 12/15/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some shell; little silt	SP					
	33.5												
	34.0			33.0-34.0	Firm	Gray	SAND - VERY FINE AND SILT; interbedded with silty clay	SM/ SC	clay beds dense and dry				
	34.5												
	35.0		10/10										
	35.5			34.0-35.5	Soft	Gray	SAND - VERY FINE; some silt; little shell; trace clay	SM					
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.5-38.0	Soft	Gray	SHELL; little sand - very fine and silt; trace clay	GP/ GM					
	38.5												
	39.0			38.0-39.0	Firm	Gray	SHELL; some silt and clay; little sand - very fine	GM/ GC	Firm				
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL	SW	shell coarse to v. coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0419

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0418
DATE: 12/16/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5			30.0-31.5	Soft	Gray	SAND - COARSE TO VERY FINE; little shell and silt	SW					
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	31.5-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt	SP/ SM					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little to some silt; little sand - very fine and clay	GM/ GC					
	38.5												
	39.0			38.0-39.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some clay and silt	SM/ SC					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO FINE; some shell	SW					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Converted to Well: Yes X No _____ Well I.D. #: AS0418

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0417
DATE: 12/16/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some silt/shell	SP	trace clay; clay bed at 34'				
	35.5												
	36.0												
	36.5			35.0-36.5	Soft	Gray	SHELL; little to some silt; little sand - very fine and clay	GM/ GC					
	37.0												
	37.5												
	38.0			36.5-38.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM	trace to little clay				
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; some shell; trace clay	SW/ SP	shell coarse to v. coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0417

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0416
DATE: 12/16/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			35.0-39.0	Soft	Gray	SAND - FINE TO VERY FINE; little-some silt; little clay	SM/ SC	clay in beds and throughout				
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MED.-VERY FINE; little-some silt; little clay/shell	SM/ SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Converted to Well: Yes X No _____ Well I.D. #: AS0416

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0415
DATE: 12/19/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	32.0-35.0	Soft	Gray	SAND - FINE TO V. FINE; little-some silt; liittle shell; trace clay	SM					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little silt and sand - fine to very fine; trace clay	GP/ GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - FINE TO VERY FINE; little to silt; little shell and clay	SM					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0415

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0414
DATE: 12/19/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM	trace clay				
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little silt and sand - fine to very fine; trace clay	GP					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little clay/shell	SM/ SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0414

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0413
DATE: 12/19/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0		10/10	30.0-34.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0			34.0-37.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5			37.0-39.0	Soft	Gray	SHELL; little sand - fine to very fine; trace clay	GP					
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little clay/shell	SM/ SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0413

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0412
DATE: 12/20/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10										
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0			33.0-36.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM	Trace clay				
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			36.0-39.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt	GM/ GC	trace to little clay				
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM-V FINE; little to some clay and silt; little shell	SC	dense clay 39-39.5				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0412

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0411
DATE: 12/20/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-33.0									
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0				Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	33.5			33.0-36.0									
	34.0												
	34.5												
	35.0												
	35.5												
	36.0				Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM	Trace clay				
	36.5												
	37.0												
	37.5												
	38.0												
	38.5			36.0-39.0									
	39.0				Soft	Gray	SHELL; little to some sand - fine to very fine and silt	GM/ GC	trace to little clay				
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM-V FINE; little to some clay and silt; little shell	SC	dense clay 39-39.5				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0411

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0410
DATE: 12/20/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-33.0									
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0				Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	33.5			33.0-36.0									
	34.0												
	34.5												
	35.0												
	35.5												
	36.0				Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM	Trace clay				
	36.5			36.0-38.0									
	37.0												
	37.5												
	38.0				Soft	Gray	SHELL; little to some sand - fine to very fine and silt	GM/ GC	trace to little clay				
	38.5			38.0-40.0									
	39.0												
	39.5												
	40.0				Soft	Gray	SAND - MEDIUM-V. FINE; little to some shell; little silt and clay	SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No ____ Well I.D. #: AS0410

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0409
DATE: 12/20/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			36.0-39.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt	GM/ GC	trace to little clay				
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM-V. FINE; little to some shell; little silt and clay	SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0409

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0421
DATE: 12/20/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			35.0-39.0	Soft	Gray	SHELL; little to some sand - fine to very fine, silt, and clay	GM/ GC					
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MED.-V. F. AND COARSE-V. COARSE SHELL	SW					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0421

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0422
DATE: 12/21/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5			30.0-33.5	Soft	Gray	SHELL; little to some sand - fine to very fine	GP					
	34.0												
	34.5												
	35.0		10/10	33.5-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little shell and silt	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			35.0-39.0	Soft	Gray	SHELL; little-some sand - fine to very fine and silt; trace-little clay	GP					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MED.-V.F. AND COARSE TO V. COASE SHELL	SP/ SM	little silt; trace clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0422

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0423
DATE: 12/21/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SHELL; little sand - fine to very fine	GP					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	32.0-35.0	Soft	Gray	SAND - FINE TO V. FINE; little to some silt; little shell; trace clay	SM	silty clay bed 34.5-35				
	35.5												
	36.0												
	36.5			35.0-36.5	Soft	Gray	SHELL; little sand - fine to very fine and silt; TRACE CLAY						
	37.0												
	37.5												
	38.0			36.5-38.0	Soft	Gray	SAND - FINE TO VERY FINE; little shell and silt; trace clay	SP					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MED.-V.F. AND COARSE TO V. COASE SHELL	SP	little silt				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0423

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0424
DATE: 12/22/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0			30.0-34.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt	GP					
	34.5												
	35.0		10/10	34.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; some silt; little shell	SM					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP/ GM					
	38.5												
	39.0			38.0-39.0	Firm	Gray/ Green	CLAY; little sand - very fine and silt	CL					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - FINE TO VERY FINE; some silt; little shell; trace clay	SM					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0424

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0425
DATE: 12/22/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little to some sand - fine to very fine	GP					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP/ SM					
	35.5												
	36.0			35.0-36.0	Firm	Gray/ Green	CLAY; little sand - very fine, silt, and shell	CL					
	36.5												
	37.0												
	37.5												
	38.0			36.0-38.0	Soft	Gray	SHELL; little sand - fine to very fine, silt, and clay	GP/ GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell/clay	SM/ SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0425

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0426
DATE: 12/22/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-33.0									
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0				Soft	Gray	SHELL; little to some sand - fine to very fine; little silt	GP					
	33.5			33.0-36.0									
	34.0												
	34.5												
	35.0												
	35.5												
	36.0				Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; trace to little	SM	clayey 35-35.5				
	36.5			36.0-38.0									
	37.0												
	37.5												
	38.0				Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP/ GM					
	38.5			38.0-40.0									
	39.0												
	39.5												
	40.0				Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM/ SC	trace clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0426

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0426
DATE: 12/22/2022
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0			30.0-34.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some shell and silt	SP/SM	shelly 30-31.5				
	34.5												
	35.0		10/10										
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			34.0-38.0	Soft	Gray	SHELL; little-some sand - fine to very fine and silt; trace-little clay	GP/GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - FINE TO VERY FINE; some silt; little to some clay	SM/SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0426

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0426
DATE: 1/4/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some shell; little silt	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5			35.0-38.5	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM/ SC	trace to little clay				
	39.0												
	39.5												
	40.0			38.5-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some silt; little shell	SM					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0426

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0429
DATE: 1/4/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-34.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some shell and silt	SP/SM					
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0			34.0-36.0	Soft	Gray	SHELL; little sand - fine to very fine, silt, and clay	GP/GM					
	34.5												
	35.0												
	35.5												
	36.0			36.0-37.0	Firm	Gray/Green	CLAY; little to some shell and sand - fine to very fine	CL	little silt				
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			37.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little silt; trace to little clay	SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0429

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0430
DATE: 1/4/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some shell little silt	SP					
	35.5												
	36.0												
	36.5												
	37.0			35.0-37.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP/ GM					
	37.5												
	38.0			37.0-38.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell/clay	SM/ SC					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEEDIUM TO VERY FINE; little silt and shell	SP	trace clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0430

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0431
DATE: 1/4/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some shell little silt	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP/ GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEEDIUM TO VERY FINE; little silt and shell	SP	trace clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0431

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0401
DATE: 1/9/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SAND - FINE TO VERY FINE; some shell	SP					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5			32.0-34.5	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP/ SM					
	35.0		10/10	34.5-35.0	Firm	Gray/ Green	CLAY; trace to little sand - very fine and silt	CL	firm/dense				
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP					
	38.5												
	39.0			38.0-39.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt, shell, and clay	SM/ SC					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MED-V. FINE; little silt; trace clay	SP	zone contains fractured coquina				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0401

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0433
DATE: 1/9/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	32.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little shell and silt	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP					
	38.5												
	39.0												
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - COARSE TO VERY FINE; little shell	SW	Shell coarse to very coarse				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0433

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0434
DATE: 1/9/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	32.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little shell and silt	SP	thin soft silty clay bed 34.5'				
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP					
	38.5												
	39.0												
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - COARSE TO VERY FINE; little shell	SW	Shell coarse to very coarse				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0434

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0435
DATE: 1/10/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell; little silt	SW					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt	GP					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - COARSE TO VERY FINE; little to some shell/silt	SW/ SP	Trace clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0435

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0436
DATE: 1/10/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some shell; little silt	SW					
	35.5												
	36.0												
	36.5												
	37.0			35.0-37.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM	trace clay in bed at 36'				
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt	GP					
	38.5												
	39.0			37.0-39.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MED-V. FINE AND COARSE- V. COARSE SHELL	SW	trace clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0436

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0437
DATE: 1/10/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt	GP	trace clay				
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SW/ SP	Trace clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0437

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0438
DATE: 1/10/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0		10/10										
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0			30.0-37.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt and shell	SP/SM	silty zone 37'; trace clay				
	37.5												
	38.0												
	38.5												
	39.0			37.0-39.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some silt	SM/SC	little shell and clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0438

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0439
DATE: 1/10/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt	SM	trace clay				
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM/ SC	trace to little clay				
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some silt	SM/ SC	little shell and clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0439

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0440
DATE: 1/10/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SHELL; little-some sand - fine to v. fine and silt; trace clay	SM	silty clayey f. sand 34.5				
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			35.0-39.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell/clay	SM/ SC					
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little to some silt	SM/ SC	little shell and clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0440

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0441
DATE: 1/11/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	33.5												
	34.0												
	34.5												
	35.0		10/10										
	35.5												
	36.0												
	36.5												
	37.0			33.0-37.0	Soft	Gray	SHELL: little to some silt; little sand - VF and clay	GM/ GC					
	37.5												
	38.0												
	38.5												
	39.0			37.0-39.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt	GP/ GM					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL	SW	shell coarse to very coarse				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0441

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0443
DATE: 1/12/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-32.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some shell; little silt	SP					
	30.5												
	31.0												
	31.5												
	32.0			32.0-34.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some interbedded clays and silt; little shell	SM/ SC					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0			34.0-38.0	Soft	Gray	SHELL: little to some sand - fine to very fine, interbedded clay and silt	GM/ GC					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL	SW	shell coarse to very coarse				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0443

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0443
DATE: 1/12/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-32.0									
	30.5												
	31.0												
	31.5												
	32.0				Soft	Gray	SAND - FINE TO VERY FINE; little to some shell; little silt	SP					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			32.0-38.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace to little clay	GP/ GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL	SW	shell coarse to very coarse				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0443

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0455
DATE: 1/12/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-33.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some shell; little silt	SP					
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0			33.0-34.0	Soft	Gray	SAND - VERY FINE; some silt; trace shell	SM					
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			34.0-38.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace to little clay	GP/ GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL	SW	shell coarse to very coarse				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0455

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0466
DATE: 1/12/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-33.0									
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0				Soft	Gray	SAND - FINE TO VERY FINE; little to some shell and silt	SP	silty clay at 30'				
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			33.0-38.0	Soft	Gray	SAND - MED. TO VERY FINE; little to some shell; little silt	GP/ GM	trace to little clay				
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL	SW	shell coarse to very coarse				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0466

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0454
DATE: 1/13/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-33.0									
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0				Soft	Gray	SAND - FINE TO VERY FINE; little to some shell and silt	SP	silty clay at 30'				
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0			33.0-36.5									
	36.5				Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP/ GM					
	37.0			36.5-37.0	Firm	Gray	CLAY; little sand - very fine, shell, and silt	CL					
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			37.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little-some shell; little clay	SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0454

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0453
DATE: 1/13/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some shell; little silt	SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP/ GM					
	38.5												
	39.0			38.0-39.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP/ GM					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL	SW	shell coarse to v. coarse grained				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Converted to Well: Yes X No _____ Well I.D. #: AS0453

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0452
DATE: 1/16/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10										
	35.5												
	36.0												
	36.5												
	37.0			30.0-37.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little-some silt; little shell	SM					
	37.5												
	38.0												
	38.5												
	39.0			37.0-39.0	Soft	Gray	SHELL; little to some sand - very fine, silt, and clay	GM/ GC					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL	SW	shell coarse to v. coarse grained				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0452

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0451
DATE: 1/16/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-32.5	Soft	Gray	SHELL; little to some sand - fine to very fine and silt	GP					
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5			32.5-34.0	Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	34.0												
	34.5												
	35.0			34.0-35.0	Firm	Gray	CLAY; little sand - very fine, silt and shell	CL					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			35.0-39.0	Soft	Gray	SHELL; little to some sand - medium to very fine; little silt	GP	trace to little clay				
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - FINE TO VERY FINE; little shell, silt, and clay	SP					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0451

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0450
DATE: 1/16/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10										
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			30.0-38.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some shell and silt	SP					
	38.5			38.0-38.5	Firm	Gray/ Green	CLAY; dense; little sand - very fine and silt	CL					
	39.0												
	39.5												
	40.0			38.5-40.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some shell and silt	SP/ SM					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0450

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0449
DATE: 1/17/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0			30.0-34.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM					
	34.5			34.0-34.5	Firm	Greenish Gray	CLAY; dense; little sand - very fine and silt	CL					
	35.0		5/10	34.5-35.0	Soft	Dark Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP					
	35.5												
	36.0												
	36.5						NO RECOVERY 35' TO 40'						
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0												
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0449

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0448
DATE: 1/17/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SAND - VERY FINE; some silt; trace to little clay/shell	SM					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			35.0-39.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt	GP/ GM					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little clay and silt	SC	Dense				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0448

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0447
DATE: 1/17/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-32.0									
	30.5												
	31.0												
	31.5												
	32.0				Soft	Gray	SHELL; little sand – fine to very fine and silt	GP					
	32.5			32.0-35.5									
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5				Soft	Gray	SAND – FINE TO VERY FINE; little-some silt; little shell	SM	trace clay				
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.5-38.0	Soft	Gray	SHELL; little to some silt; little sand – fine to very fine	GM					
	38.5												
	39.0			38.0-39.0	Soft	Gray	SHELL; little to some sand – very fine, silt, and clay	GM/ GC					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND – MED.-V. FINE AND COARSE-V. COARSE SHELL	SW					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0447

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0446
DATE: 1/17/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10										
	30.5												
	31.0												
	31.5			30.0-31.5	Soft	Gray	SAND – FINE TO V. FINE; little-some silt; little shell; trace clay		moderately soft silty clay bed 31.25-31.5				
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0			31.5-36.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt; trace clay	GM	thin clay bed 35.5-35.75				
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			36.0-40.0	Soft	Gray	SAND - MED-V. FINE AND COARSE-V. COARSE SHELL	SW					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0446

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0445
DATE: 1/17/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-33.0									
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0				Soft	Gray	SAND - FINE TO VERY FINE; little silt and shell	SP					
	33.5			33.0-37.0									
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0				Soft	Gray	SHELL; little to some sand - fine to very fine and silt; trace clay	GP/ GM	mod dense clay bed 36-36.25				
	37.5			37.0-40.0									
	38.0												
	38.5												
	39.0												
	39.5												
	40.0				Soft	Gray	SAND - MED-V. FINE AND COARSE-V. COARSE SHELL	SW					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0445

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0457
DATE: 1/17/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5			30.0-32.5	Soft	Gray	SAND - FINE TO VERY FINE; some silt; little shell	SM					
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	32.5-35.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt; trace clay	GM	clay bed 34.25-34.5				
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			37.0-40.0	Soft	Gray	SAND - MED-V. FINE AND COARSE-V. COARSE SHELL	SW					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0457

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0458
DATE: 1/18/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0		10/10	30.0-33.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM					
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0			33.0-36.0	Soft	Gray	SHELL; little sand - fine to very fine and silt; trace clay	GP					
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			37.0-40.0	Soft	Gray	SAND - MED-V. FINE AND COARSE-V. COARSE SHELL	SW/ SP	trace clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0458

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0469
DATE: 1/18/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-32.0									
	30.5												
	31.0												
	31.5												
	32.0				Soft	Gray	SHELL; little sand – fine to very fine and silt	GP					
	32.5			32.0-36.0									
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0				Soft	Gray	SAND – FINE TO VERY FINE; little to some silt; little shell	SM	trace clay				
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5			37.0-40.0									
	40.0				Soft	Gray	SAND - MED-V. FINE AND COARSE-V. COARSE SHELL	SW/ SP	trace clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0469

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0479
DATE: 1/18/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-32.0									
	30.5												
	31.0												
	31.5												
	32.0				Soft	Gray	SAND – FINE TO VERY FINE; little to some silt; little shell	SM					
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0			32.0-37.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt; trace-little clay; clay in beds and throughout	GM/ GC					
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			37.0-40.0	Soft	Gray	SAND - MED-V. FINE AND COARSE-V. COARSE SHELL	SW					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0479

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0487
DATE: 1/18/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0			30.0-32.0	Soft	Gray	SAND – FINE TO VERY FINE; little to some silt; little shell	SM					
	32.5			32.0-32.5	Firm	Gray	CLAY; little silt	CL	moderately dense				
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	32.5-35.0	Soft	Gray	SHELL; little to some silt; little sand - very fine and clay	GM/ GC					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			37.0-40.0	Soft	Gray	SAND - MED-V. FINE AND COARSE-V. COARSE SHELL	SW/ SP	trace clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0487

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0486
DATE: 1/18/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-32.0	Soft	Gray	SAND – FINE TO VERY FINE; little to some silt; little shell	SM					
	30.5												
	31.0												
	31.5												
	32.0												
	32.5			32.0-33.0									
	33.0				Firm	Gray	CLAY; little silt	CL	moderately dense				
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0			33.0-37.0	Soft	Gray	SHELL; little to some silt; little sand - very fine and clay in beds and throughout	GM/ GC					
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			37.0-40.0	Soft	Gray	SAND - MED-V. FINE AND COARSE-V. COARSE SHELL	SW/ SP	trace clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0486

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0478
DATE: 1/18/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0		10/10	30.0-33.0	Soft	Gray	SAND – FINE TO VERY FINE; some silt; little shell; trace clay	SM					
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			33.0-38.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt; little clay in beds and throughout	GM/ GC					
	38.5												
	39.0												
	39.5												
	40.0			37.0-40.0	Soft	Gray	SAND - MED-V. FINE AND COARSE-V. COARSE SHELL	SW/ SP	trace clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0478

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0468
DATE: 1/19/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-32.5									
	30.5												
	31.0												
	31.5												
	32.0												
	32.5				Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP/ SM					
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0			32.5-37.0	Soft	Gray	SHELL; little to some sand - fine to very fine; little silt/clay	GM/ GC					
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			37.0-40.0	Soft	Gray	SAND - MED-V. FINE AND COARSE-V. COARSE SHELL	SW					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0468

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0459
DATE: 1/19/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; some sand - fine to very fine; little silt	GP/GM					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SM	trace clay				
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SHELL						
	38.5												
	39.0			38.0-39.0	Firm	Gray/ Green	CLAY; little sand - very fine, silt, and shell	CL					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MED-V. FINE AND COARSE-V. COARSE SHELL	SW/SP	little silt				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0459

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0460
DATE: 1/19/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10										
	30.5												
	31.0			30.0-31.0	Soft	Gray	SAND – MEDIUM TO VERY FINE; little to some shell and silt	SP					
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0			31.0-36.0	Soft	Gray	SHELL; little to some sand – fine to very fine and silt; trace clay	GP/ GM					
	36.5												
	37.0			36.0-37.0	Firm	Gray/ Green	CLAY; little to some sand - very fine and silt; little shell	CL					
	37.5												
	38.0												
	38.5												
	39.0			37.0-39.0	Soft	Gray	SAND – FINE TO VERY FINE; little to some silt; little clay/shell	SM/ SC					
	39.5												
	40.0			39.0-40.0	Soft	Gray	SAND - MED-V. FINE AND COARSE-V. COARSE SHELL	SW/ SP	trace clay				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No _____ Well I.D. #: AS0460

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0461
DATE: 1/19/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-33.0	Soft	Gray	SHELL; little to some sand-medium to very fine; little silt	GP					
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0			33.0-36.0	Soft	Gray	SAND – VERY FINE; little to some silt; trace to little shell	SM	trace clay				
	36.5												
	37.0												
	37.5												
	38.0			36.0-38.0	Soft	Gray	SHELL; little sand – fine to very fine and silt	GP/ GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND – FINE TO VERY FINE; little to some silt; little clay	SM/ SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0461

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0462
DATE: 1/19/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND – MEDIUM-VERY FINE AND SHELL; little-some silt	SP/SM					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0												
	39.5												
	40.0			35.0-40.0	Soft	Gray	Interbedded SAND - F. TO V.F., SHELL, SILT, AND CLAY	SM/SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0462

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0470
DATE: 1/20/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SHELL; little to some sand – fine to very fine; little silt	GP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray	SAND – FINE TO VERY FINE; little to some silt; little shell	SM	trace clay				
	38.5												
	39.0												
	39.5												
	40.0			35.0-40.0	Soft	Gray	Interbedded SAND - F. TO V.F., SHELL, SILT, AND CLAY	SM/ SC					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0470

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0472
DATE: 1/23/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10										
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0			30.0-36.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL	SW					
	36.5												
	37.0												
	37.5												
	38.0			36.0-38.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt	SP/ SM					
	38.5												
	39.0			38.0-39.0	Soft	Gray	SILT; little to some sand - very fine	ML					
	39.5			39.0-39.5	Firm	Gray/ Green	CLAY; little to some silt	CL					
	40.0			39.5-40.0	Soft	Gray	SAND - MEDIUM-VERY FINE; some shell; trace-little clay	SP	Shell coarse to V. Coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0472

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0471
DATE: 1/23/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0												
	33.5												
	34.0												
	34.5												
	35.0		10/10	30.0-35.0	Soft	Gray	SAND - MEDIUM TO VERY FINE; little-some shell; little silt	SW/SP					
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5												
	39.0			35.0-39.0	Soft	Gray	SAND - FINE TO VERY FINE; little-some shell/silt; trace clay	SM					
	39.5												
	40.0			39.0-40.0	Soft	Gray/ Green	CLAY; little sand - very fine, silt, and shell	CL					
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0471

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0480
DATE: 1/26/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0												
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0			30.0-33.0	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	33.5												
	34.0												
	34.5												
	35.0		10/10	33.0-35.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP/ SM	trace clay				
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			35.0-38.0	Soft	Gray/ Dark Gry	SHELL; little sand - fine to very fine and silt; trace clay	GP					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL; trace silt/clay	SW	shell coarse to v. coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0480

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0481
DATE: 1/26/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	35.0												
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0												
	38.5			35.0-38.5	Soft	Gray	SHELL; little sand - fine to very fine and silt	GP					
	39.0												
	39.5												
	40.0		10/10	38.5-40.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; trace clay	SM					
	40.5												
	41.0												
	41.5												
	42.0												
	42.5												
	43.0			40.0-43.0	Soft	Gray	SHELL; little sand - very fine, silt, and clay	GP/ GM					
	43.5			43.0-43.5	Firm	Gray/ Green	CLAY; little silt, shell and sand - very fine	CL	moderately dense				
	44.0												
	44.5												
	45.0			43.5-45.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some shell and silt	SM/ SC	little clay				
	45.5						**BORING TERMINATED 45'**						
	46.0												
	46.5												
	47.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0481

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0482
DATE: 1/26/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	40.0												
	40.5												
	41.0												
	41.5												
	42.0												
	42.5												
	43.0												
	43.5												
	44.0			40.0-44.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some shell and silt	SP					
	44.5												
	45.0		10/10										
	45.5												
	46.0												
	46.5												
	47.0												
	47.5												
	48.0												
	48.5			44.0-48.5	Firm	Gray	SHELL; little sand - fine to very fine, silt, and clay	GM/ GC	mod dense clay 48-48.5				
	49.0												
	49.5												
	50.0			48.5-50.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL	SW	shell coarse to v. coarse grained				
	50.5						**BORING TERMINATED 50'**						
	51.0												
	51.5												
	52.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0482

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0473
DATE: 1/27/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	40.0		10/10	40.0-42.5									
	40.5												
	41.0												
	41.5												
	42.0												
	42.5				Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; little shell	SP/ SM					
	43.0												
	43.5												
	44.0												
	44.5												
	45.0												
	45.5												
	46.0												
	46.5												
	47.0												
	47.5												
	48.0			42.5-48.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt; little clay	GM/ GC	sticky				
	48.5												
	49.0												
	49.5												
	50.0			48.0-50.0	Soft	Gray	SAND - MEDIUM TO V. FINE AND SHELL; trace-little silt/clay	SP	shell coarse to v. coarse grained				
	50.5						**BORING TERMINATED 50'**						
	51.0												
	51.5												
	52.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0473

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0464
DATE: 1/27/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	40.0		10/10										
	40.5												
	41.0												
	41.5												
	42.0			40.0-42.5	Soft	Gray	SAND - FINE TO V. FINE; little-some silt; little shell; trace clay	SM					
	42.5												
	43.0												
	43.5												
	44.0												
	44.5												
	45.0												
	45.5												
	46.0			42.5-46.0	Soft	Gray	SHELL; little to some silt; little sand - very fine; trace-little clay	GM/ GC					
	46.5												
	47.0			46.0-47.0	Firm	Gray/ Green	CLAY; little sand - very fine and silt	CL	dense 46-46.5; silt 46.5-47				
	47.5												
	48.0												
	48.5												
	49.0												
	49.5												
	50.0			47.0-50.0	Soft	Gray	SAND - MED.-V. FINE AND SHELL; little silt; trace clay	SP/ SM	shell coarse to granule sized				
	50.5						**BORING TERMINATED 50'**						
	51.0												
	51.5												
	52.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0464

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0475
DATE: 1/27/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	40.0		10/10	40.0-43.0									
	40.5												
	41.0												
	41.5												
	42.0												
	42.5												
	43.0				Soft	Gray	SAND - F. TO V. FINE; little to some silt; little shell; trace clay	SM	thin clay bed @ 33'				
	43.5												
	44.0												
	44.5												
	45.0			43.0-47.0									
	45.5												
	46.0												
	46.5												
	47.0				Soft	Gray	SHELL; little sand - fine to very fine and silt; trace to little clay	GP/ GM	sticky				
	47.5												
	48.0												
	48.5												
	49.0												
	49.5												
	50.0			47.0-50.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL; trace clay	SW/ SP	shell coarse to v. coarse sized				
	50.5						**BORING TERMINATED 50'**						
	51.0												
	51.5												
	52.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0475

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0386
DATE: 1/30/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30.0		10/10	30.0-33.0									
	30.5												
	31.0												
	31.5												
	32.0												
	32.5												
	33.0				Soft	Gray	SAND - FINE TO V. FINE; little-some silt; trace-little clay/shell	SM					
	33.5												
	34.0												
	34.5												
	35.0												
	35.5												
	36.0												
	36.5												
	37.0												
	37.5												
	38.0			33.0-38.0	Soft	Gray	SHELL; little sand - very fine and silt; trace clay	GM					
	38.5												
	39.0												
	39.5												
	40.0			38.0-40.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL	SW	shell coarse to v. coarse sized				
	40.5						**BORING TERMINATED 40'**						
	41.0												
	41.5												
	42.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0386

Tetra Tech, Inc.

BORING LOG

PROJECT NAME: Launch Complex 34 (LC34)
PROJECT NUMBER: 112G08985
DRILLING COMPANY: Groundwater Protection, Inc
DRILLING RIG: Geoprobe 8140 LS

BORING No.: AS0463
DATE: 1/30/2023
GEOLOGIST: Chuck Sorden
DRILLER: Dave Longino

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler BZ	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	35.0		10/10										
	35.5												
	36.0			35.0-36.0	Soft	Gray	SHELL; little sand - fine to very fine	GW/GP					
	36.5												
	37.0												
	37.5												
	38.0			36.0-38.0	Soft	Gray	SAND - FINE TO VERY FINE; little to some silt; trace-little shell	SM					
	38.5												
	39.0			38.0-39.0	Firm	Gray/ Green	CLAY; little to some silt	CL	moderately firm				
	39.5												
	40.0												
	40.5												
	41.0												
	41.5												
	42.0			39.0-42.0	Soft	Gray	SHELL; little to some sand - fine to very fine and silt; little clay	GP					
	42.5												
	43.0												
	43.5												
	44.0												
	44.5												
	45.0			42.0-45.0	Soft	Gray	SAND - MEDIUM TO VERY FINE AND SHELL; little silt	SW	shell coarse to v. coarse sized				
	45.5						**BORING TERMINATED 45'**						
	46.0												
	46.5												
	47.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area

Remarks: F = Fine; VF = Very Fine; trace = 0-10 % of total sample; little = 11-20 % of total sample; some = 21-35 % of total sample; And = 36-50 % of total sample; All caps = greater than 50 % of total sample

Background (ppm): 0

Yes X No

Well I.D. #: AS0463

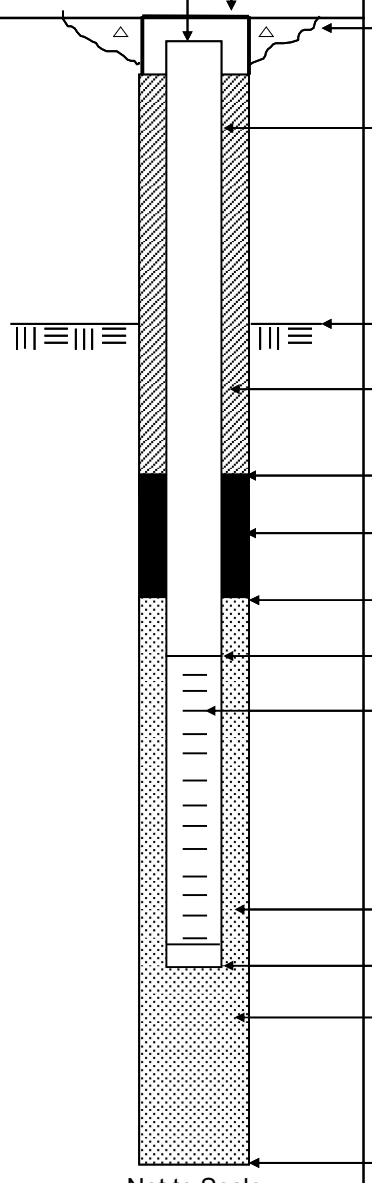
AIR SPARGE WELL INSTALLATION LOG SHEETS

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0304
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/17/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.5

Type of Backfill Below Well: Bentonite

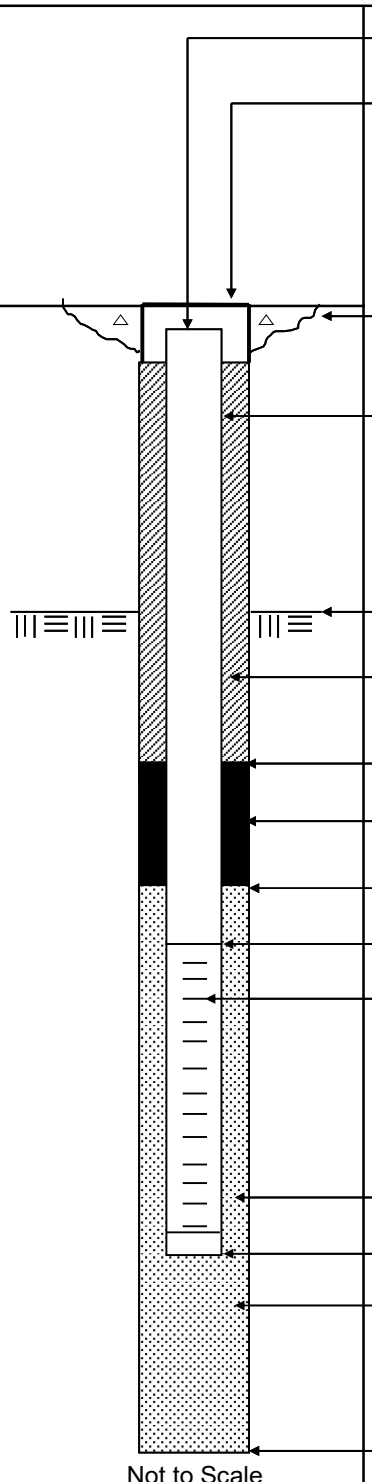
Elevation / Total Depth of Borehole: / 45.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0305
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/17/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

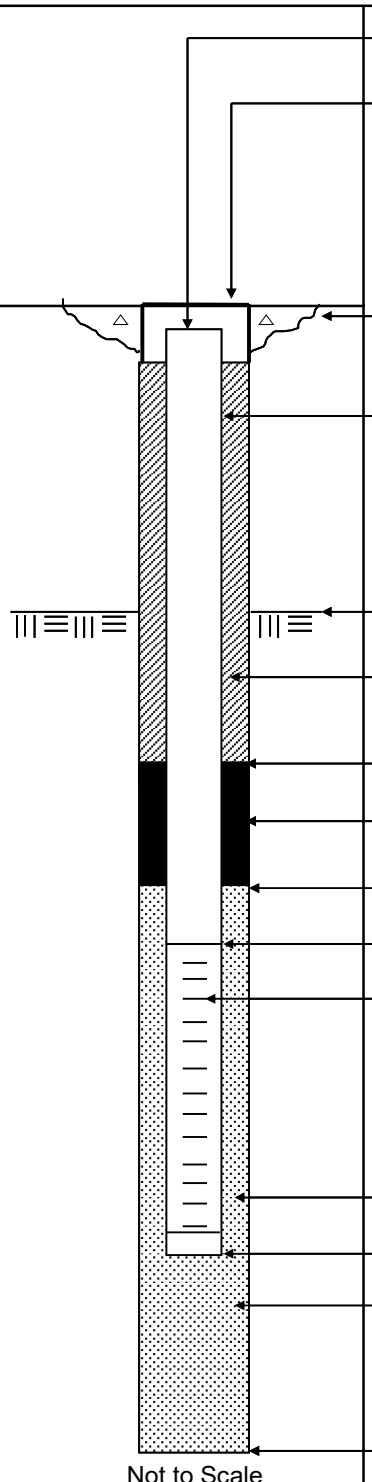
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0306
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/18/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

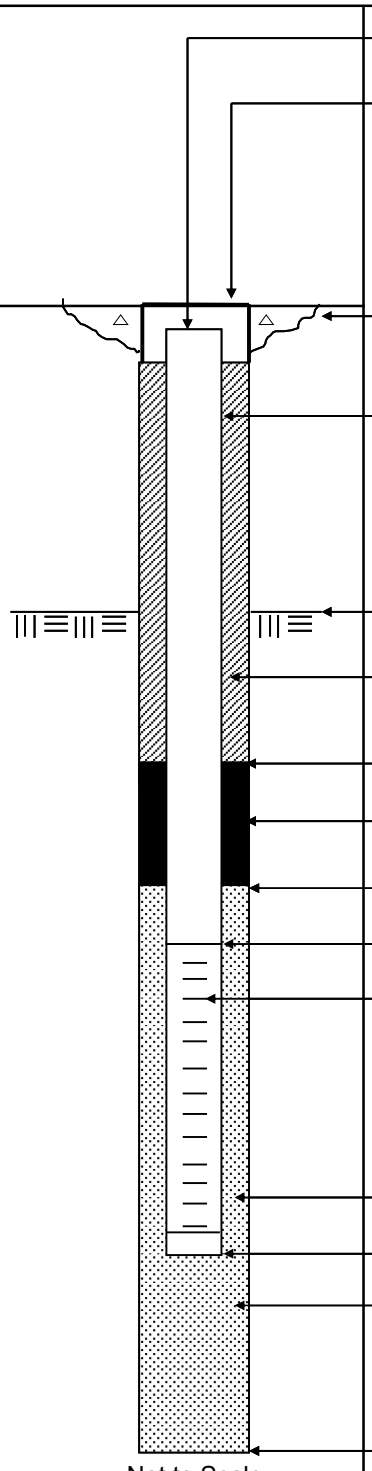
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0307
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/18/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

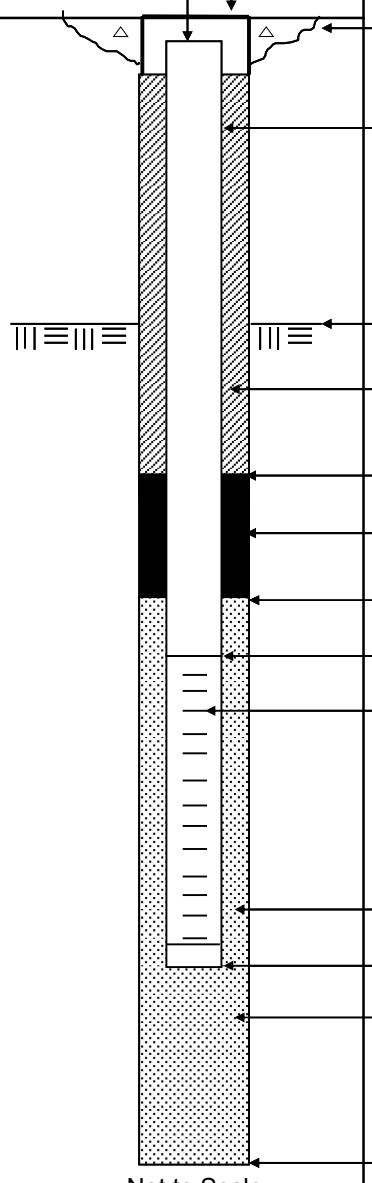
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0308
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/18/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

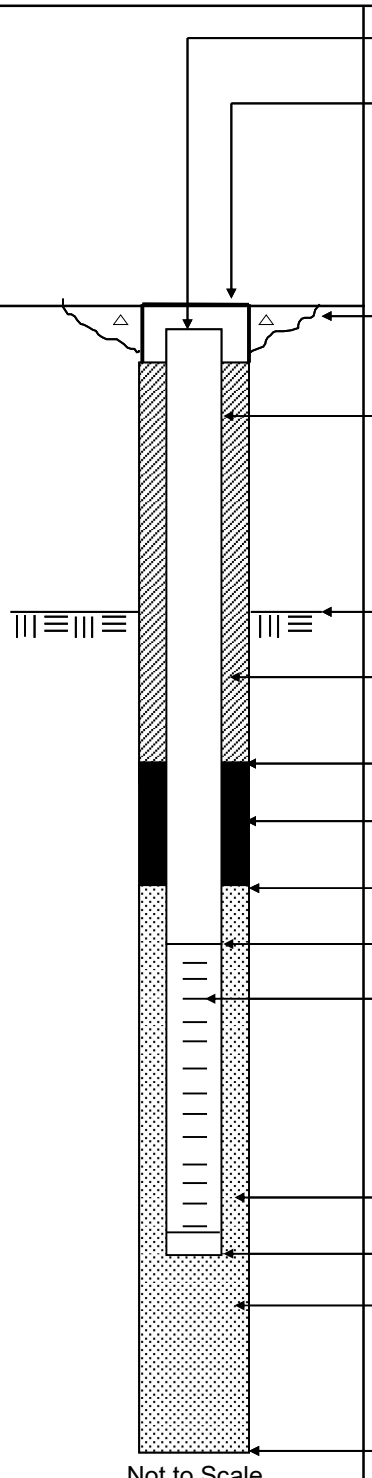
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0312
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/18/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

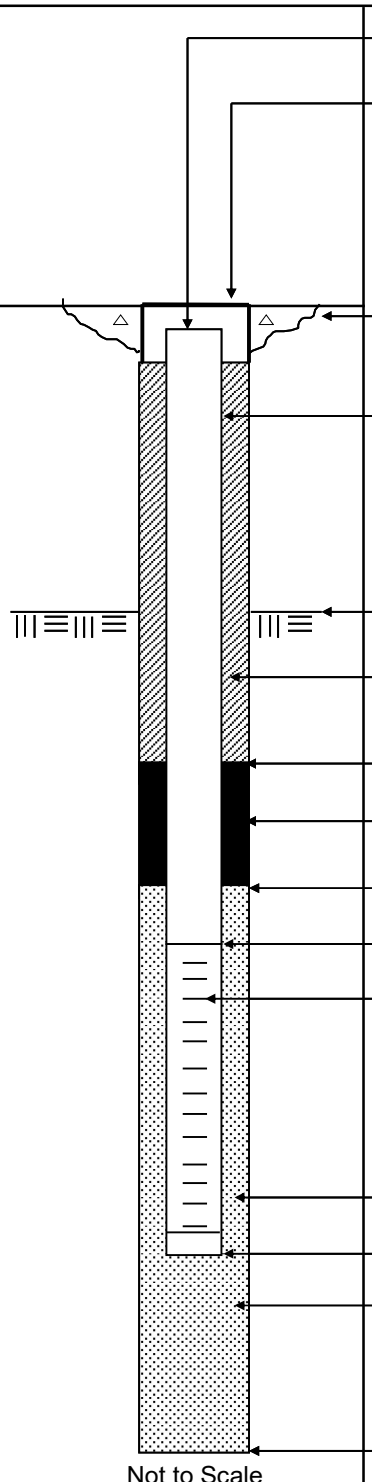
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0311
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/18/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

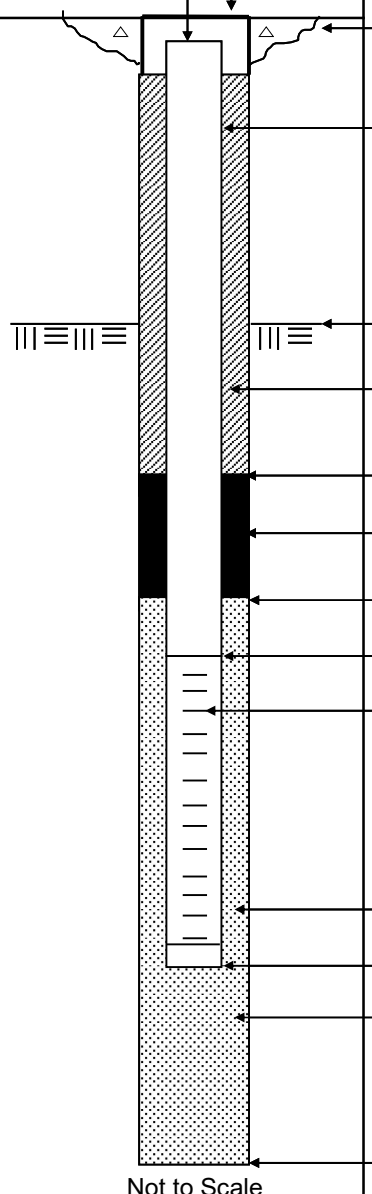
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0315
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/19/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 29.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 32.5

Elevation / Depth of Top of Screen: / 33.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 35.0

Type of Backfill Below Well: Bentonite/Native Soil

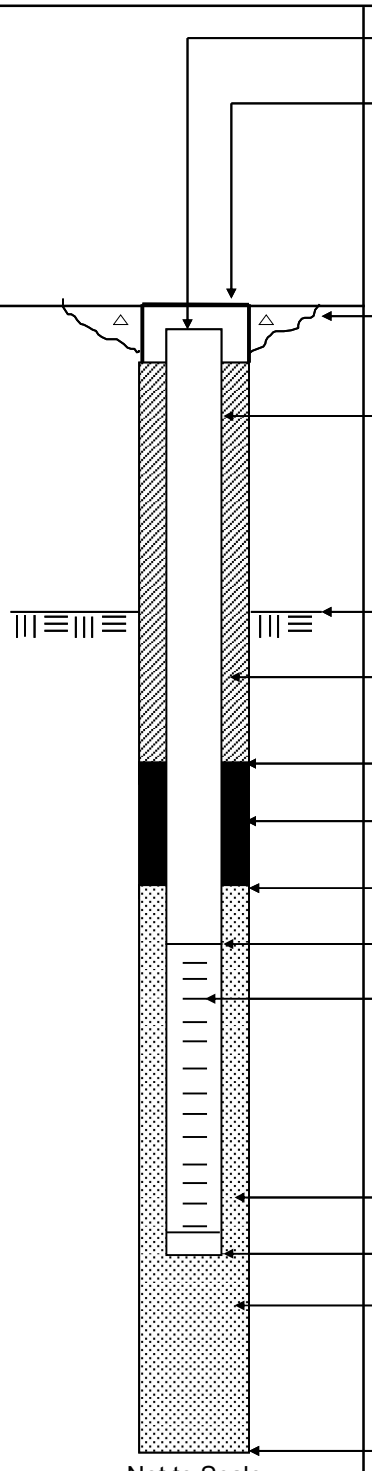
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0314
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/19/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

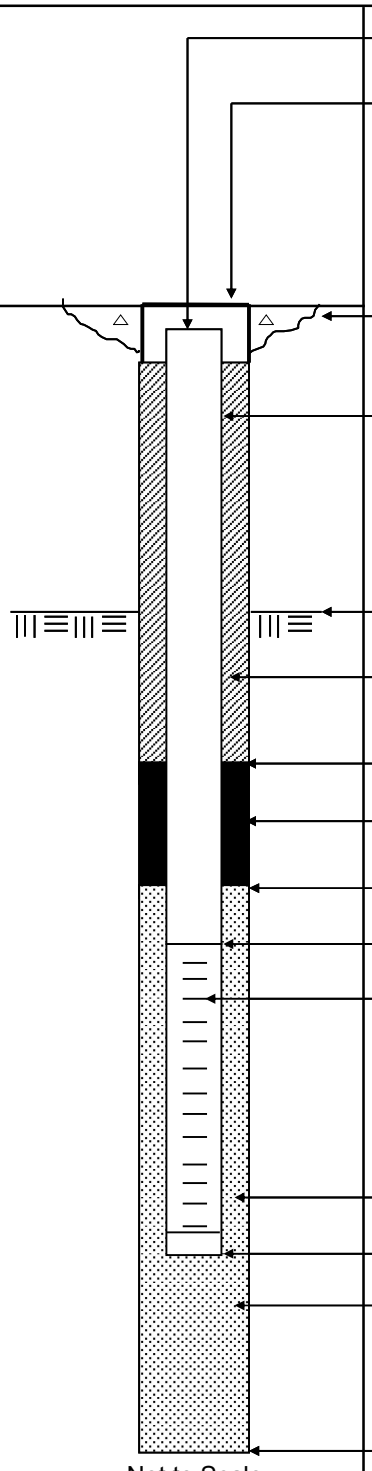
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0317
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/19/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

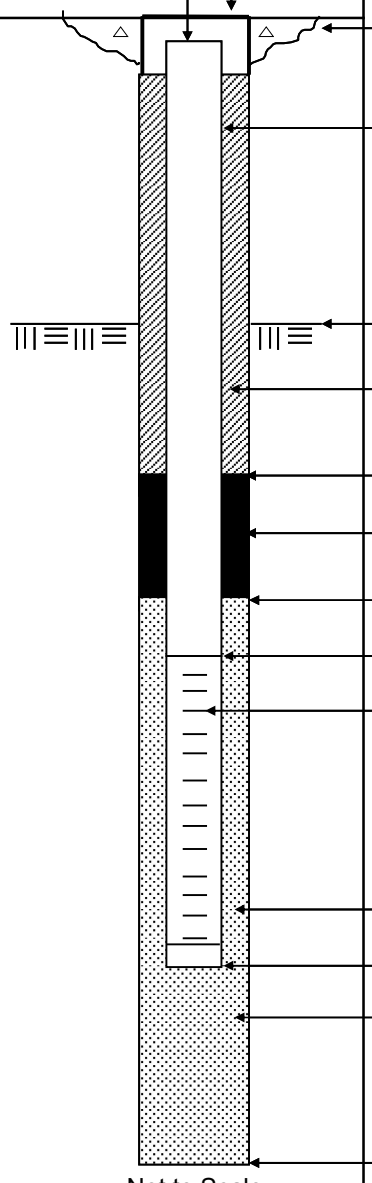
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0324
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/19/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

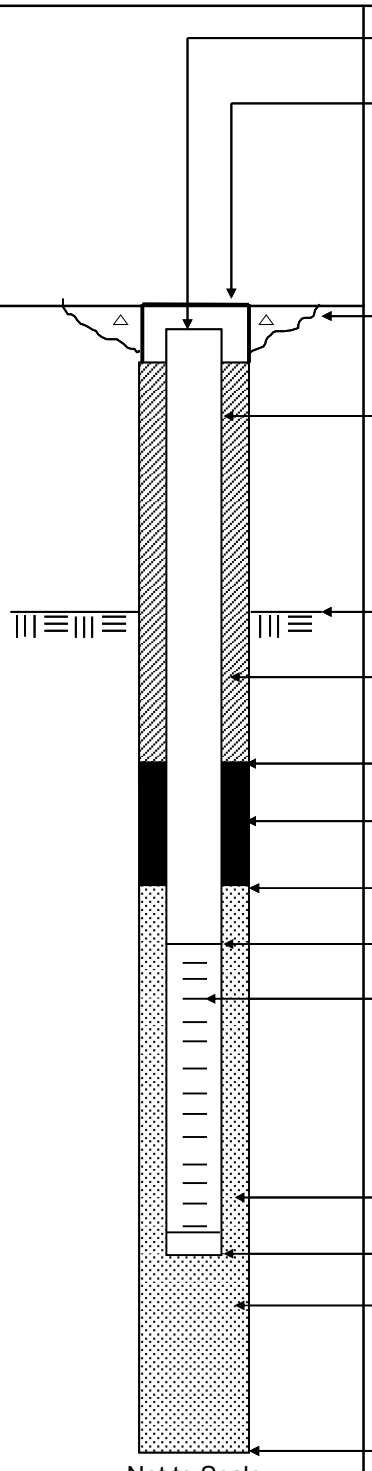
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0341
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/19/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

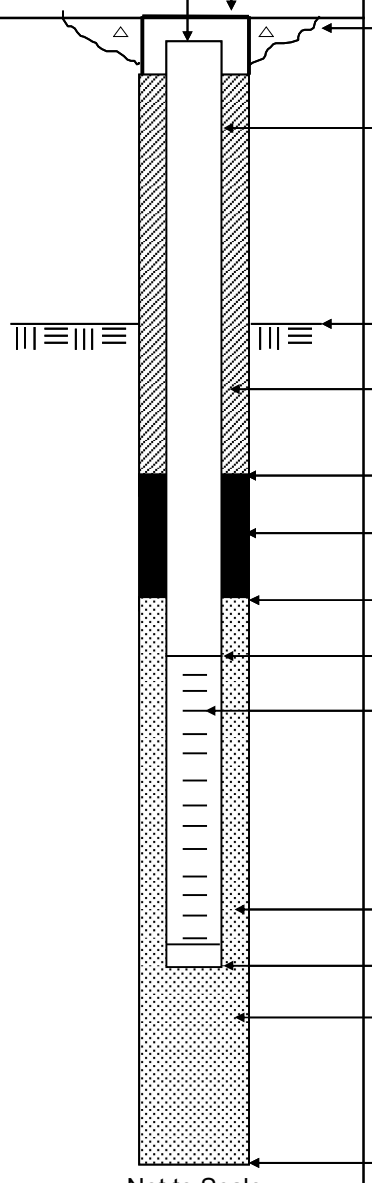
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0354
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/20/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

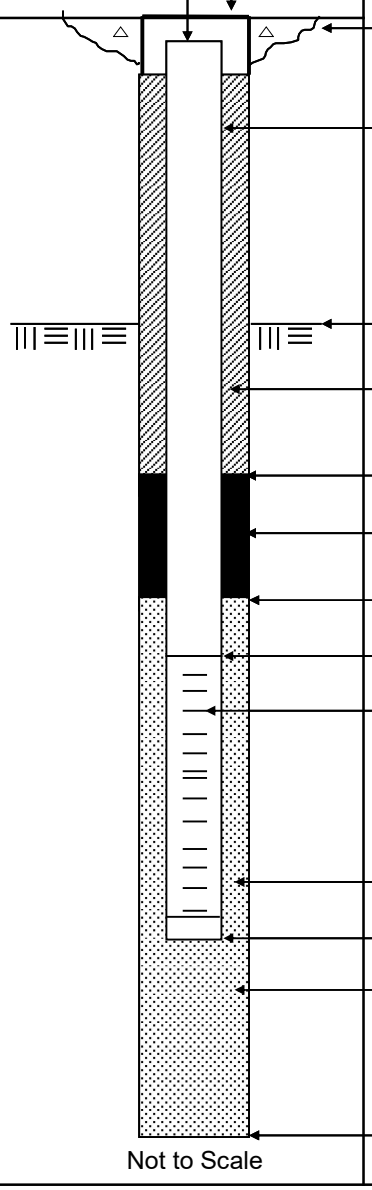
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0366
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/20/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

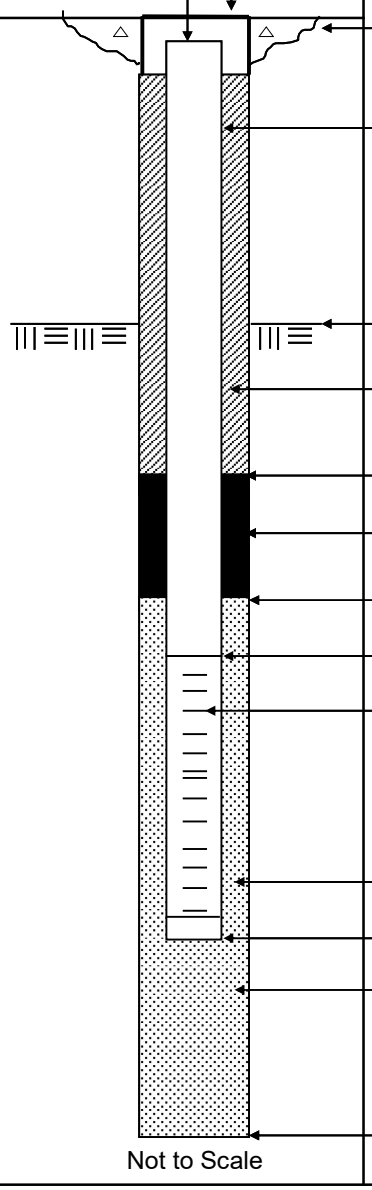
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0375
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/20/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

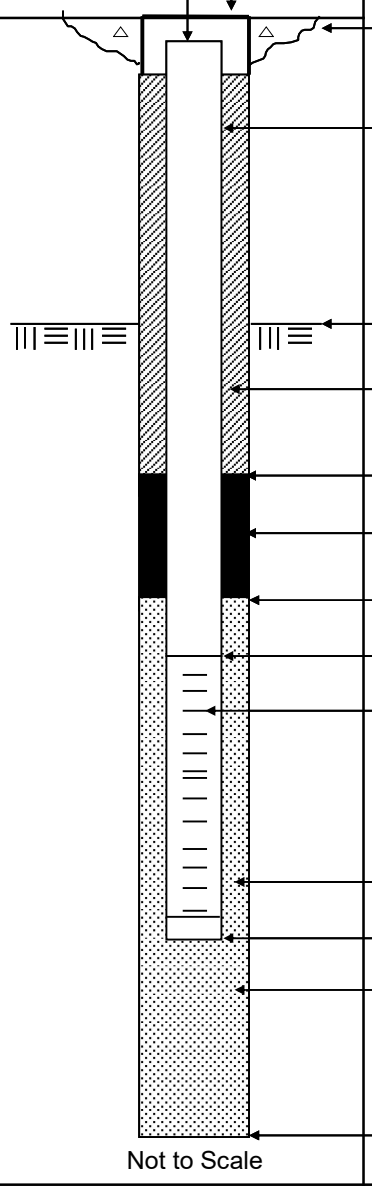
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0374
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/20/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

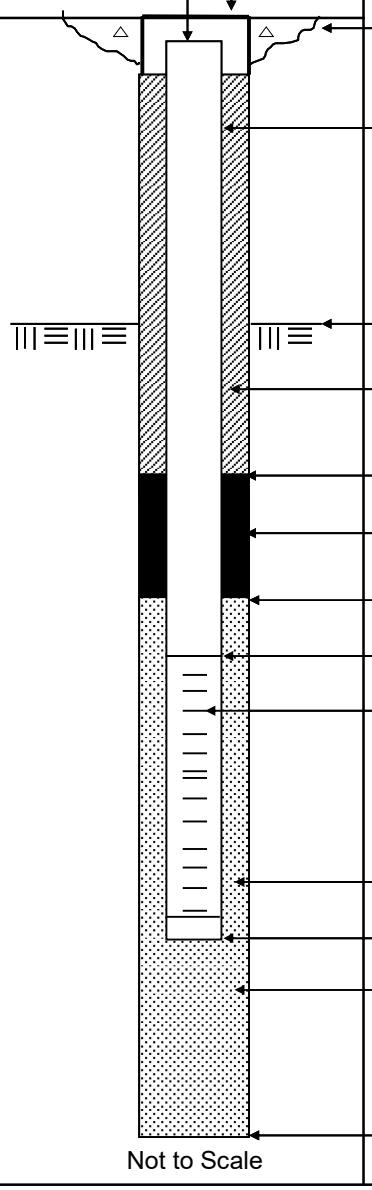
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0376
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/20/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

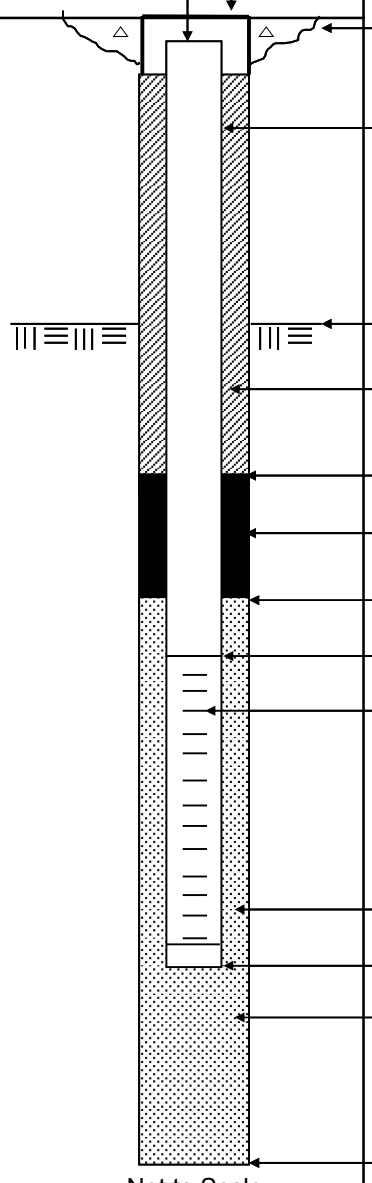
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0373
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/19/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

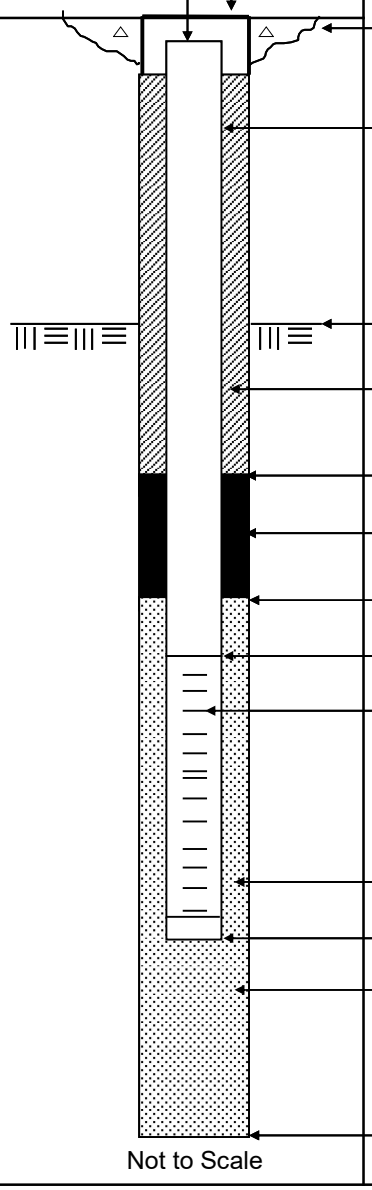
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0364
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/21/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

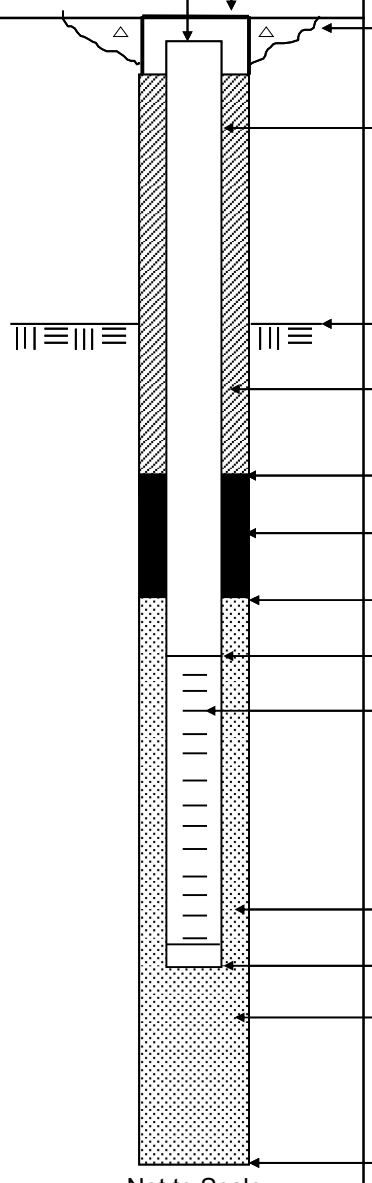
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0352
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/21/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

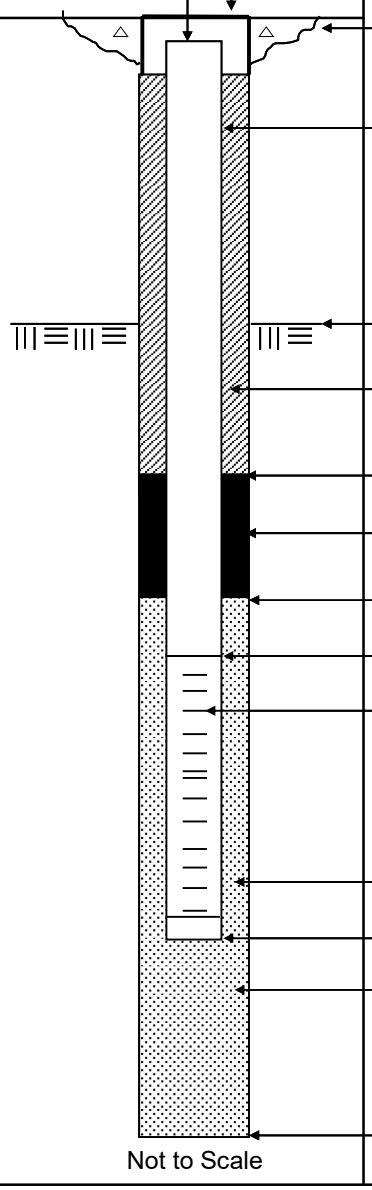
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0365
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/21/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

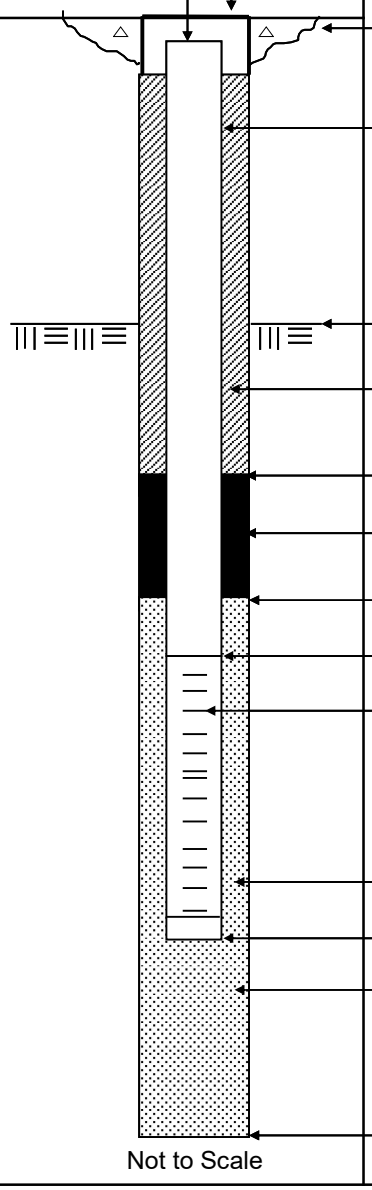
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0353
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/21/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

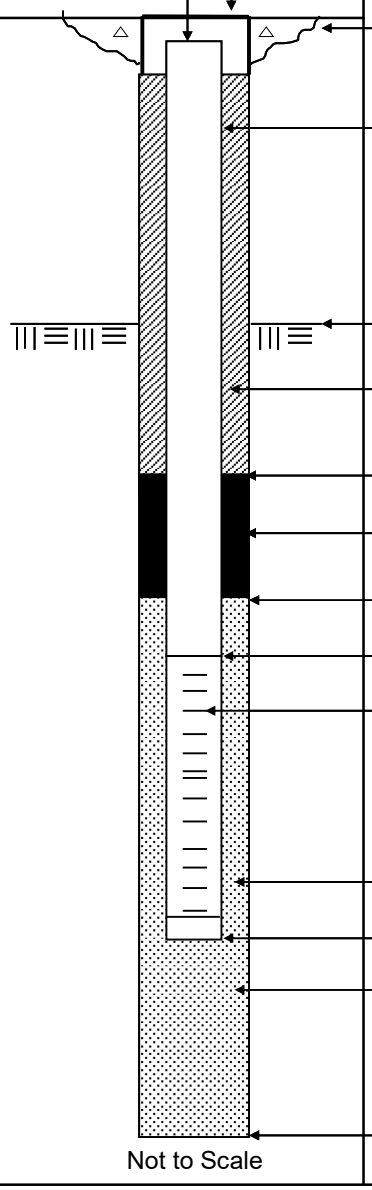
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0367
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/21/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

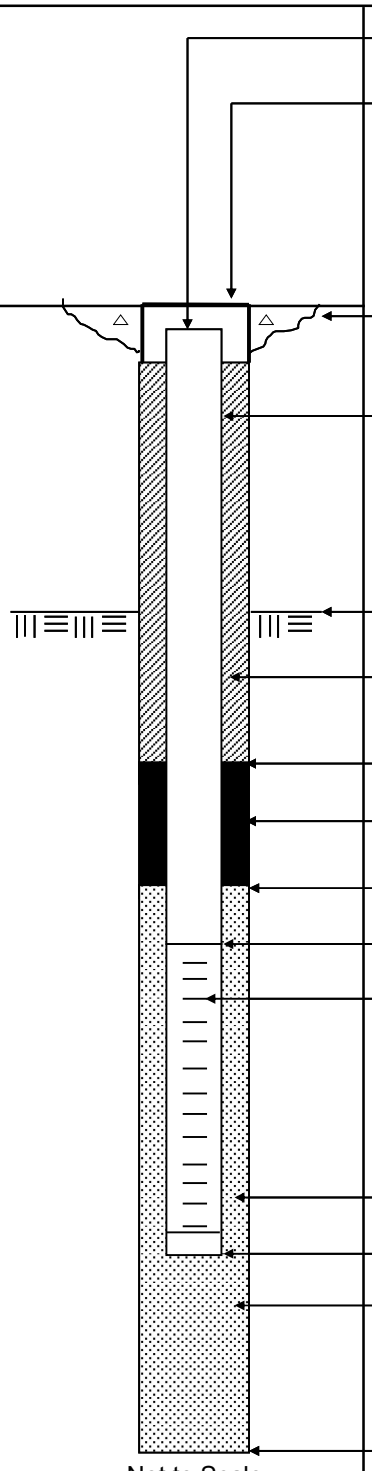
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0368
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/24/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

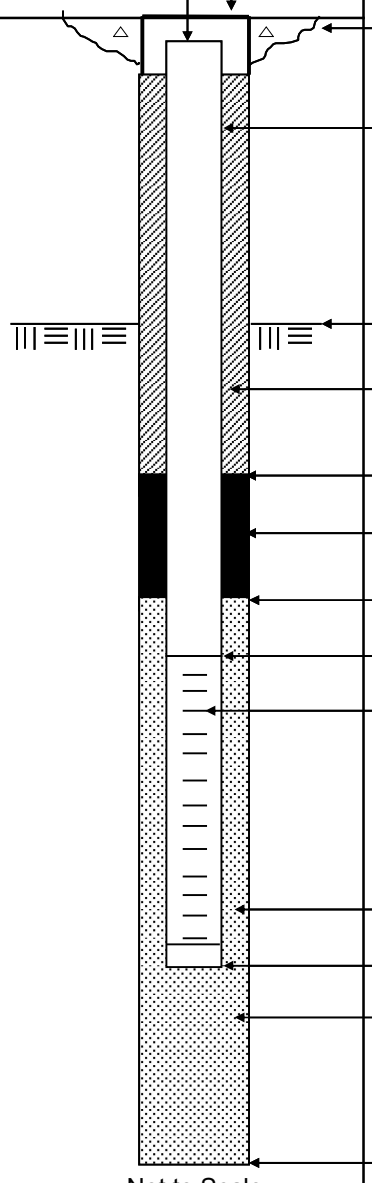
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0369
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/24/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

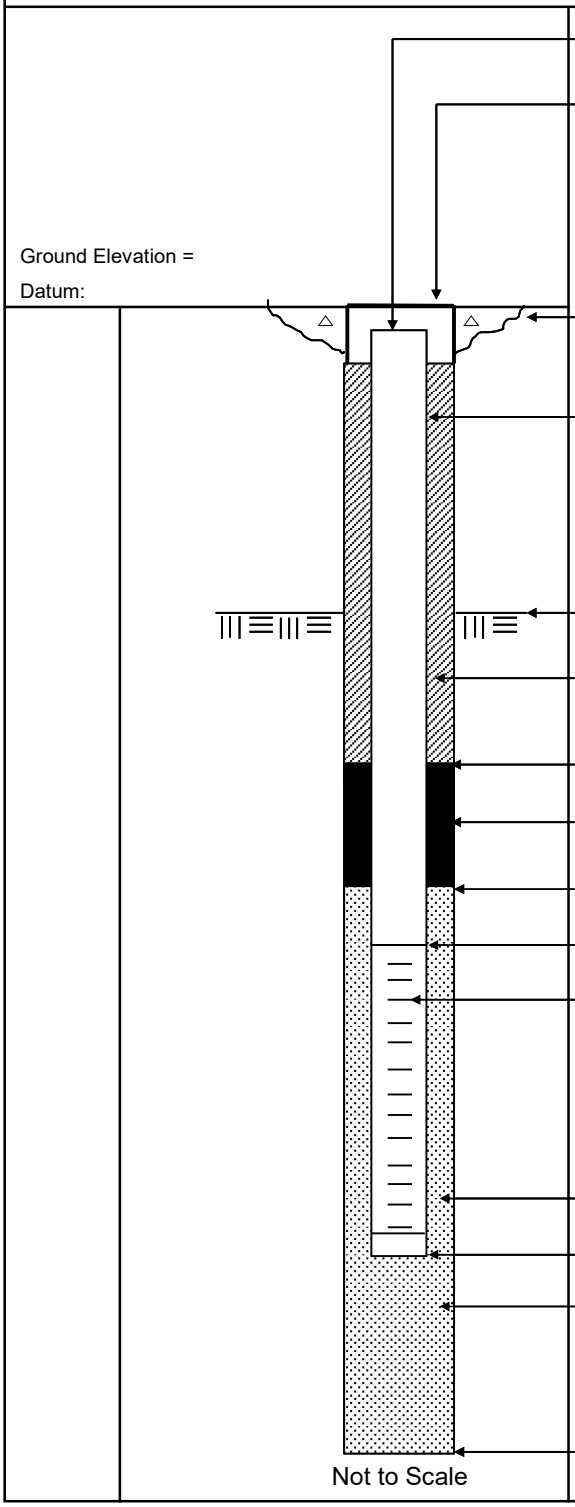
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0371
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/25/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 30.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 33.5

Elevation / Depth of Top of Screen: / 34.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 36.0

Elevation / Depth of Bottom of Filter Pack: / 36.5

Type of Backfill Below Well: Native Soil

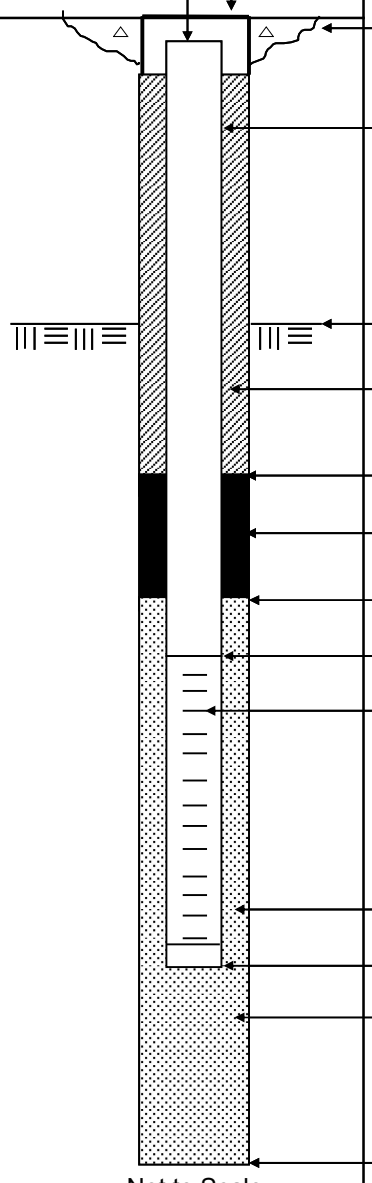
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0372
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/25/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 30.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 33.5

Elevation / Depth of Top of Screen: / 34.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 36.0

Elevation / Depth of Bottom of Filter Pack: / 36.5

Type of Backfill Below Well: Native Soil

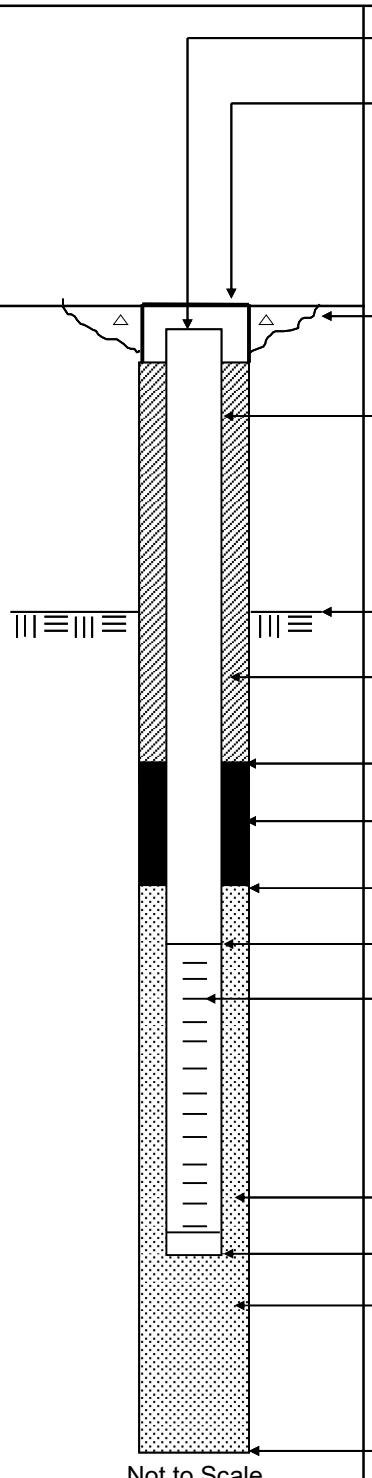
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0363
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/25/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 29.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 32.5

Elevation / Depth of Top of Screen: / 33.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 35.5

Type of Backfill Below Well: Native Soil

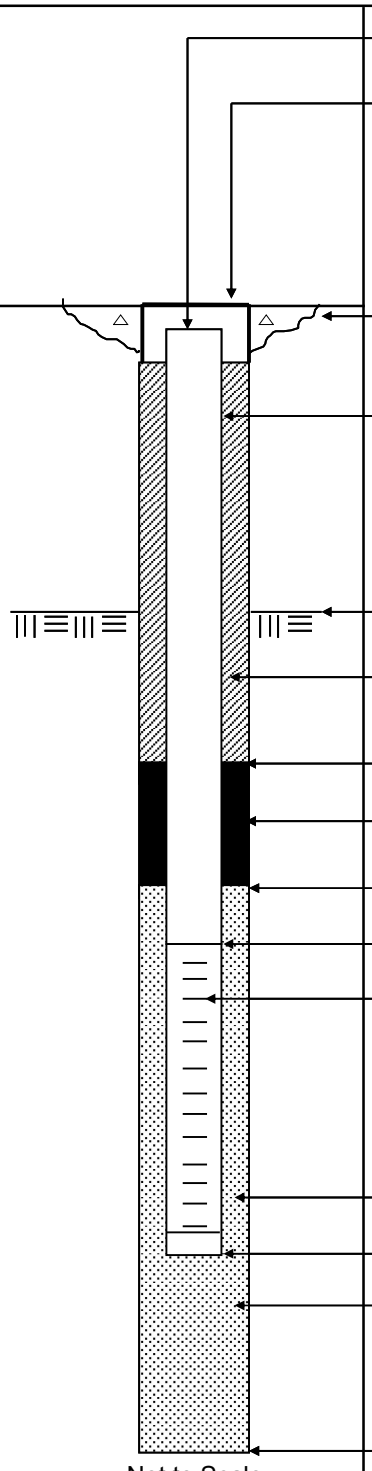
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0361
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/25/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 28.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 31.5

Elevation / Depth of Top of Screen: / 32.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 34.0

Elevation / Depth of Bottom of Filter Pack: / 34.5

Type of Backfill Below Well: Native Soil

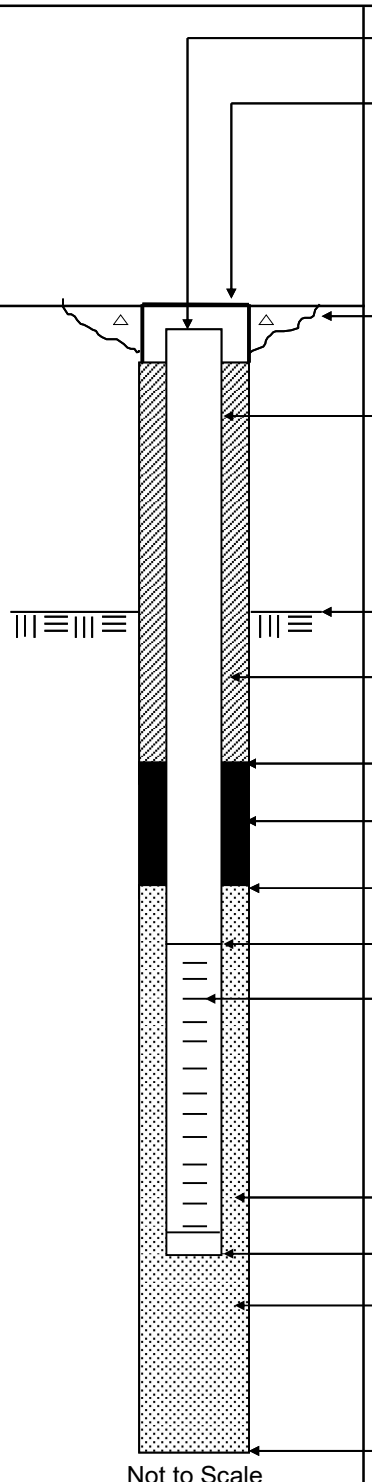
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0360
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/25/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 31.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 34.5

Elevation / Depth of Top of Screen: / 35.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 37.0

Elevation / Depth of Bottom of Filter Pack: / 37.5

Type of Backfill Below Well: Native Soil

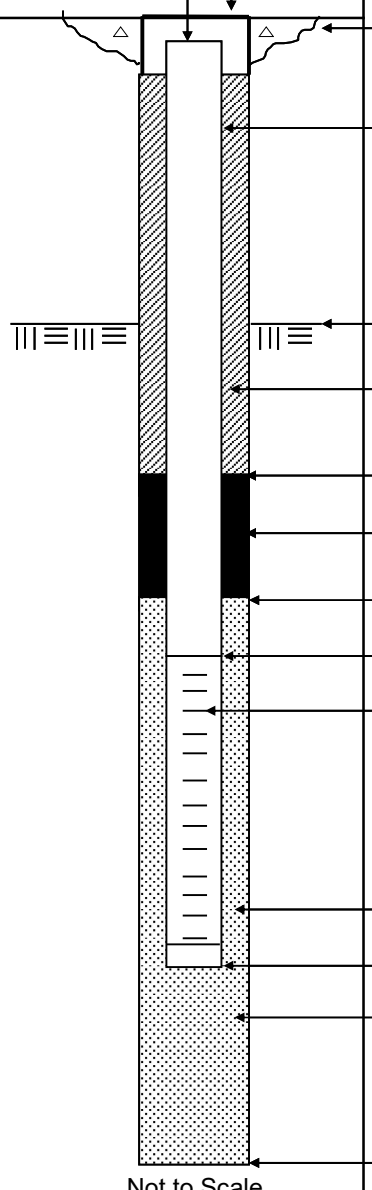
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0359
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/25/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

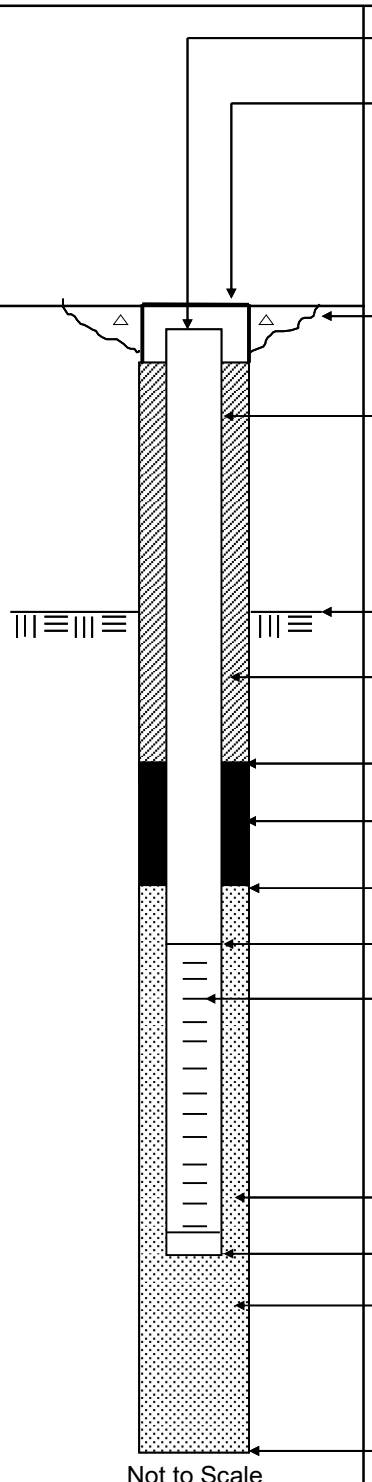
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0370
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/25/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

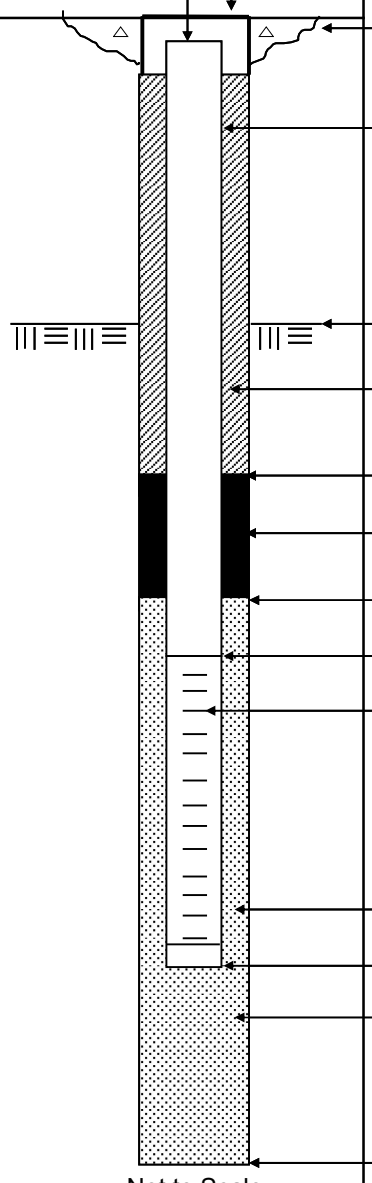
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0358
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/26/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

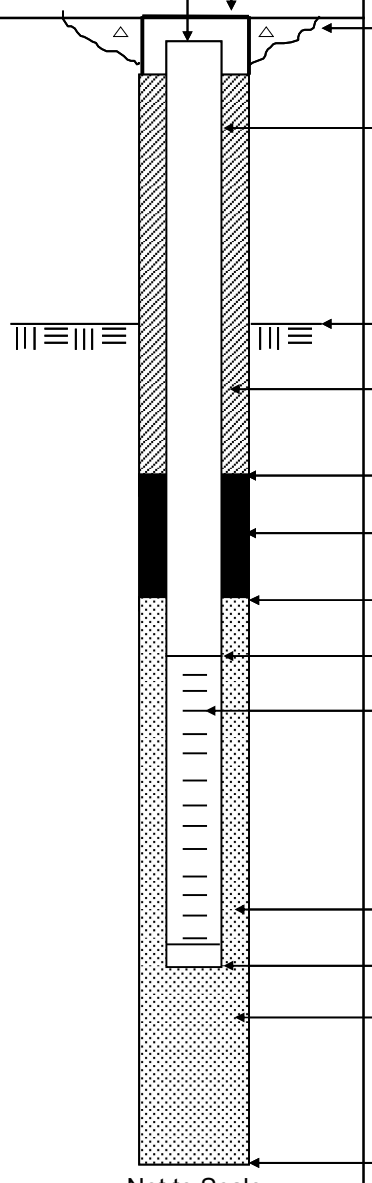
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0357
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/27/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

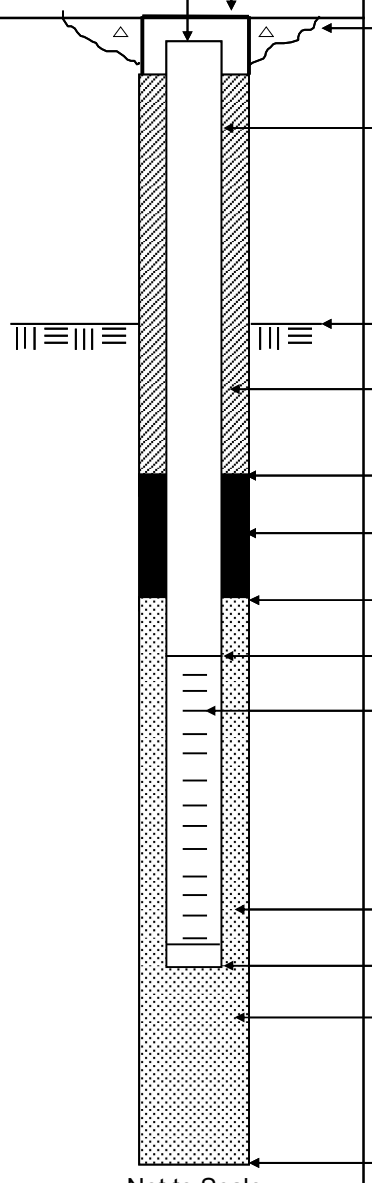
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0356
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/27/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 30.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 33.5

Elevation / Depth of Top of Screen: / 34.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 36.0

Elevation / Depth of Bottom of Filter Pack: / 36.5

Type of Backfill Below Well: Native Soil

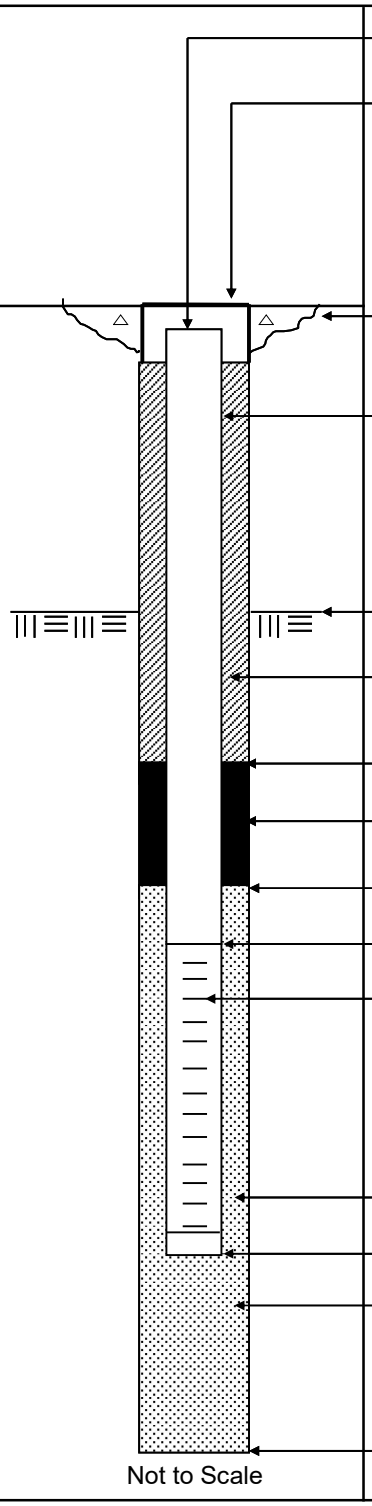
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0355
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/28/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 31.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 34.5

Elevation / Depth of Top of Screen: / 35.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 37.0

Elevation / Depth of Bottom of Filter Pack: / 37.5

Type of Backfill Below Well: Native Soil

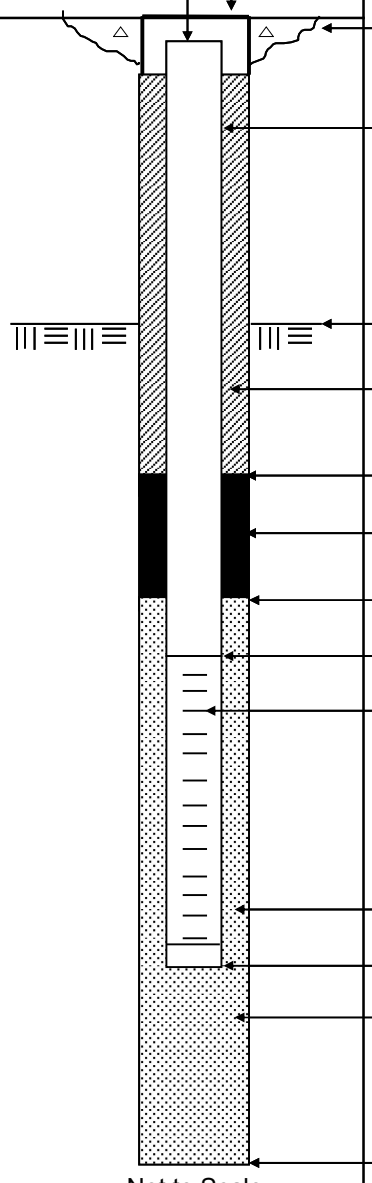
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0342
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/28/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 31.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 34.5

Elevation / Depth of Top of Screen: / 35.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 37.0

Elevation / Depth of Bottom of Filter Pack: / 37.5

Type of Backfill Below Well: Native Soil

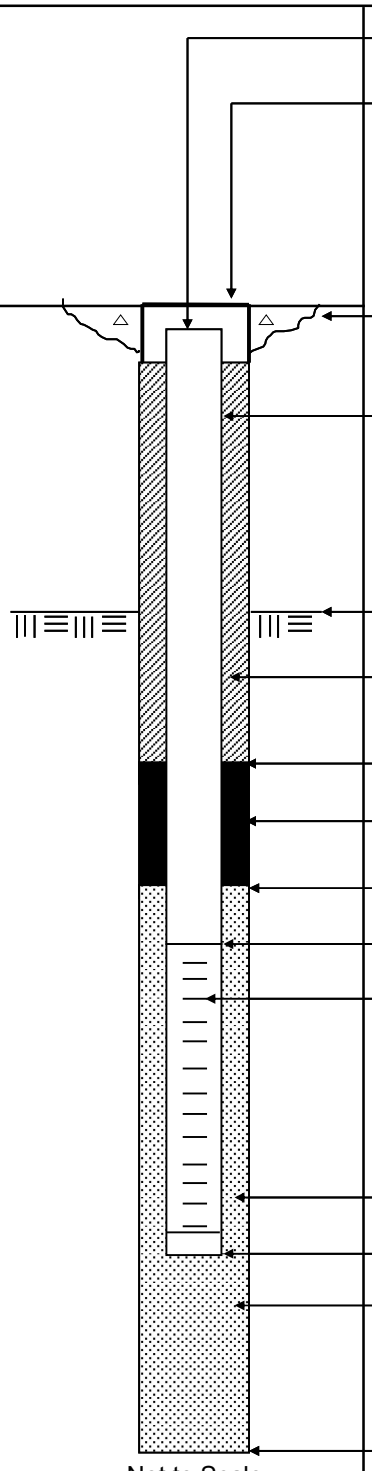
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0343
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/28/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 29.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 32.5

Elevation / Depth of Top of Screen: / 33.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 35.5

Type of Backfill Below Well: Native Soil

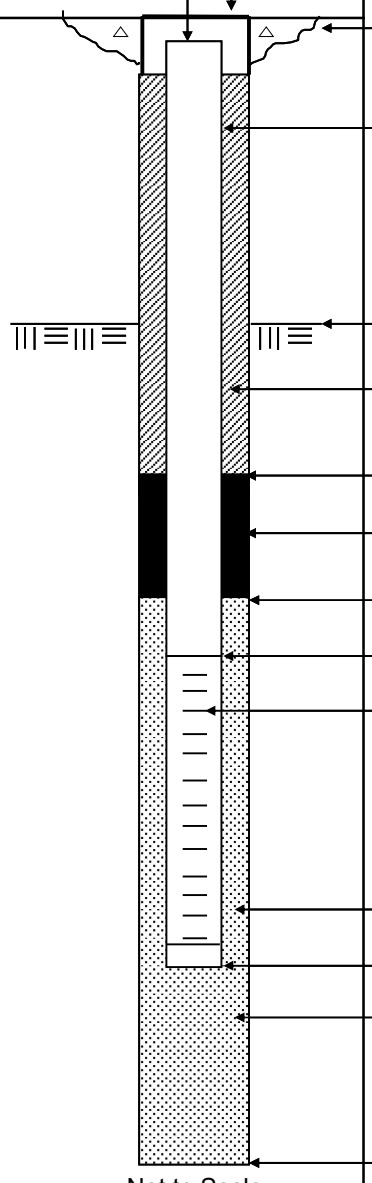
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0344
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/28/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 29.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 32.5

Elevation / Depth of Top of Screen: / 33.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 35.5

Type of Backfill Below Well: Native Soil

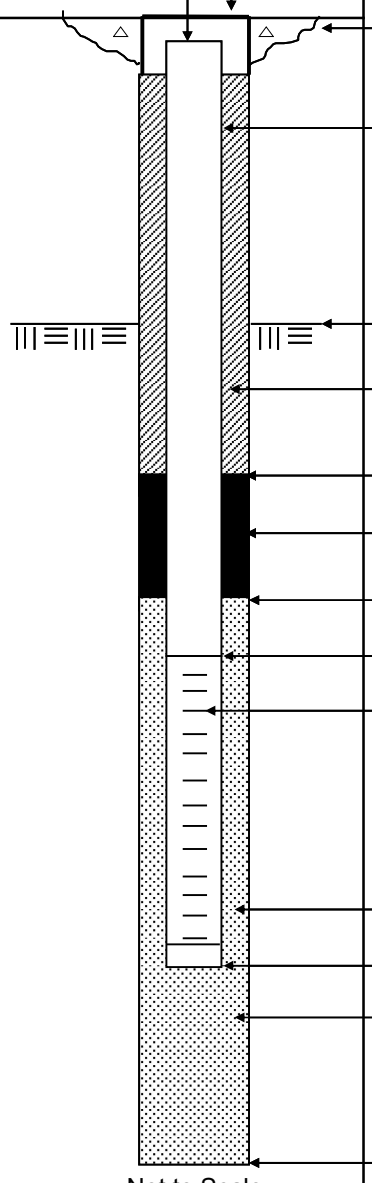
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0345
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/28/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

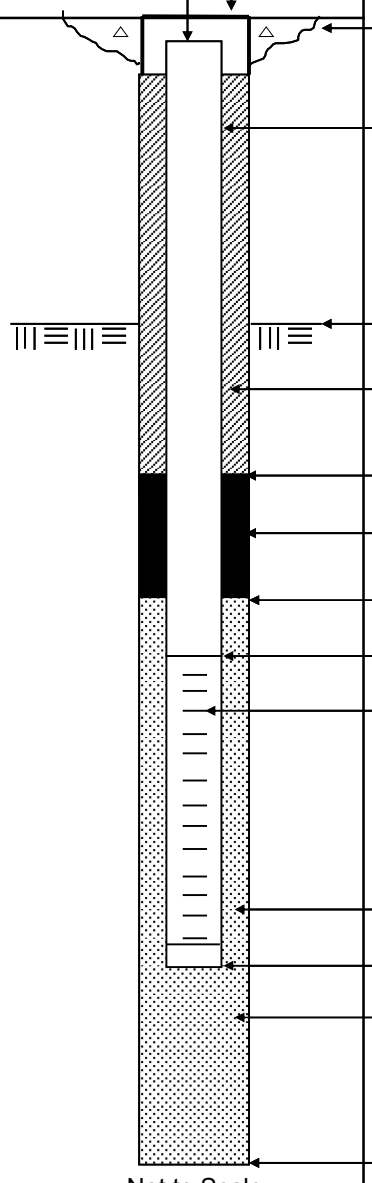
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0346
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	10/31/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 30.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 33.5

Elevation / Depth of Top of Screen: / 34.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 36.0

Elevation / Depth of Bottom of Filter Pack: / 36.5

Type of Backfill Below Well: Native Soil

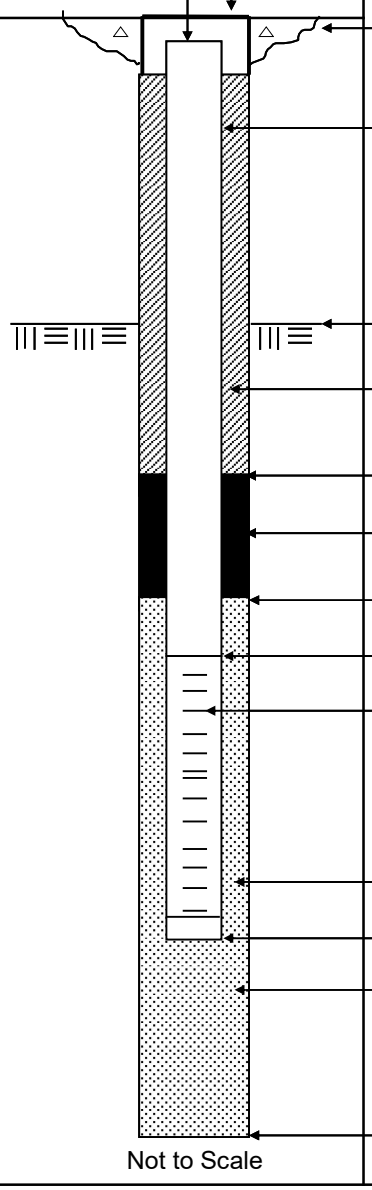
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0348
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	10/31/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

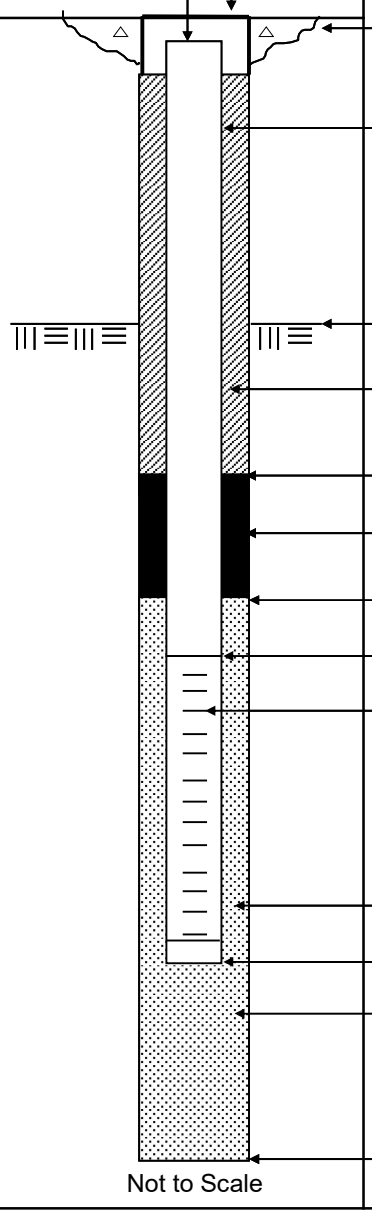
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0348
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	10/31/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

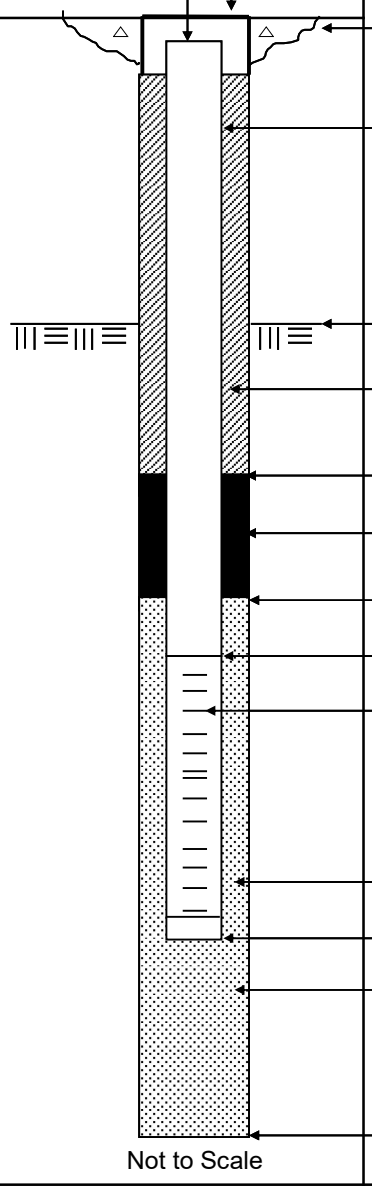
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0351
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/01/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

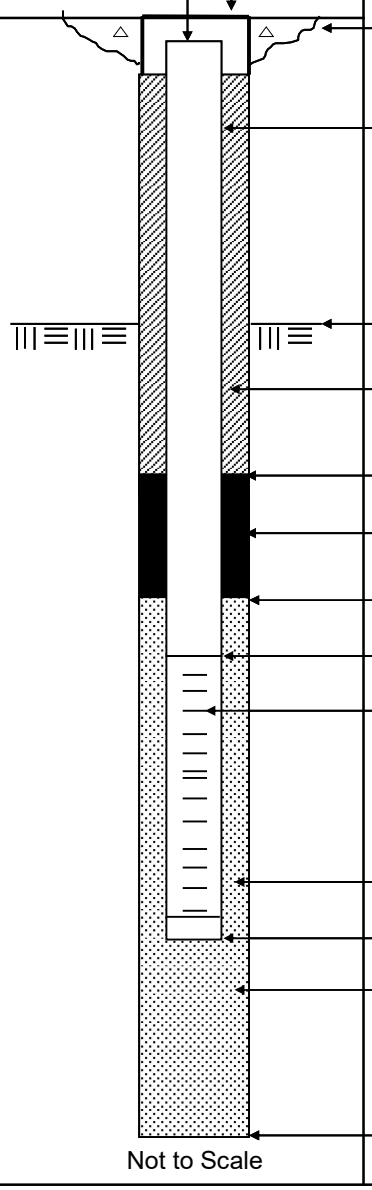
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0332
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/01/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

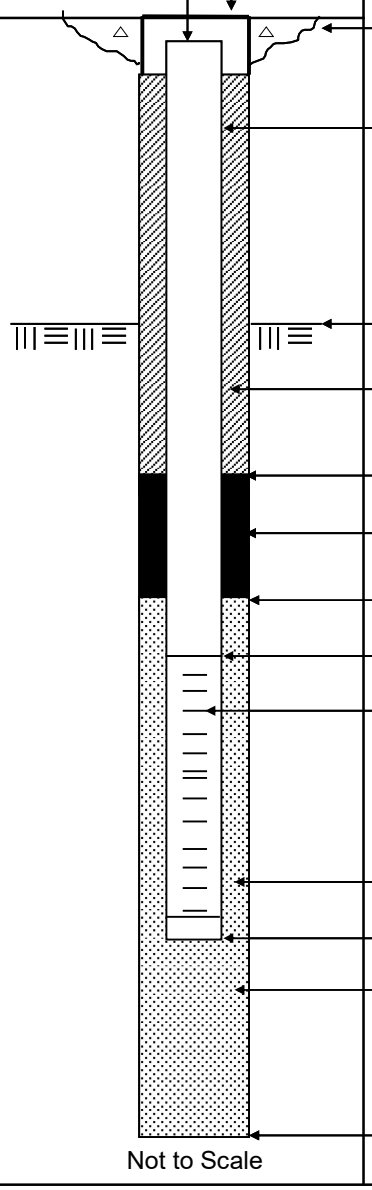
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0331
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/01/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

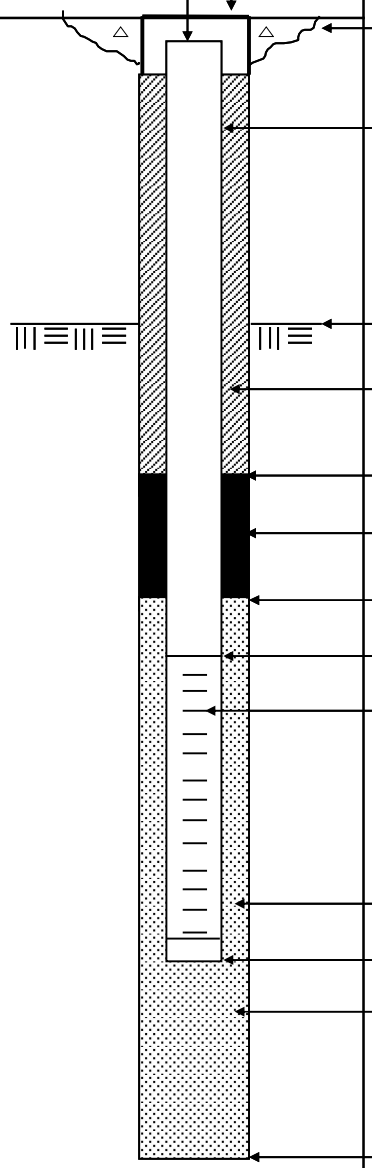
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0330
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	11/02/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 30.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 33.5

Elevation / Depth of Top of Screen: / 34.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 36.0

Elevation / Depth of Bottom of Filter Pack: / 36.5

Type of Backfill Below Well: Native Soil

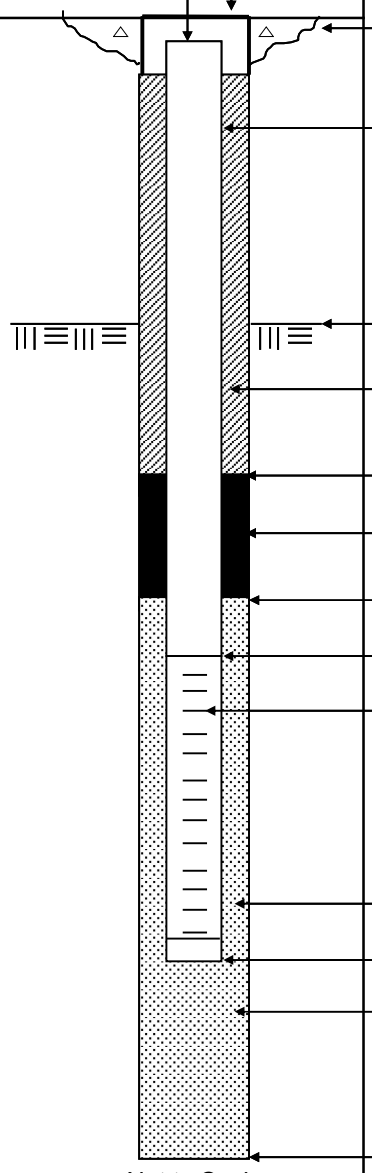
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0329
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	11/02/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 30.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 33.5

Elevation / Depth of Top of Screen: / 34.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 36.0

Elevation / Depth of Bottom of Filter Pack: / 36.5

Type of Backfill Below Well: Native Soil

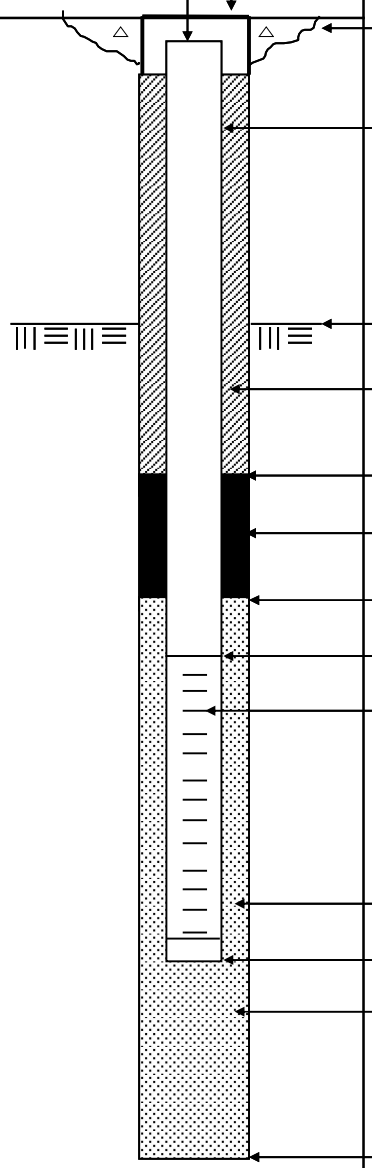
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0328
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	11/02/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 30.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 33.5

Elevation / Depth of Top of Screen: / 34.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 36.0

Elevation / Depth of Bottom of Filter Pack: / 36.5

Type of Backfill Below Well: Native Soil

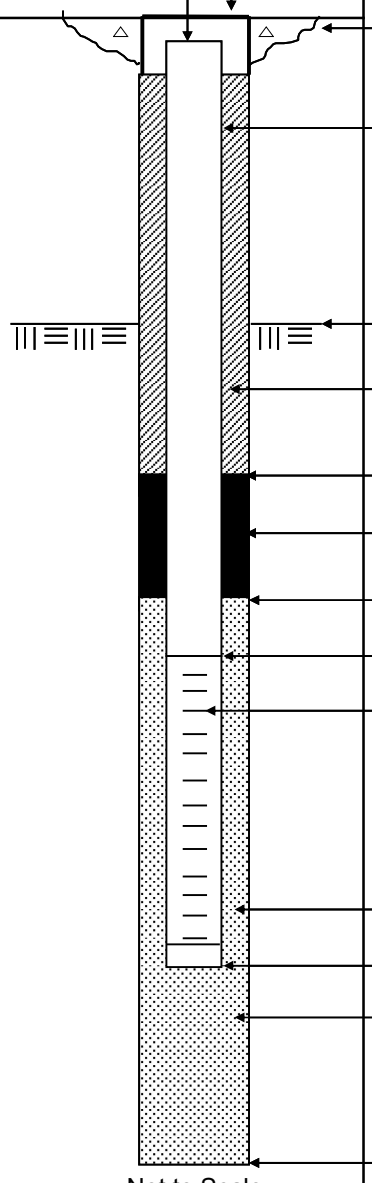
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0327
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/02/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 31.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 34.5

Elevation / Depth of Top of Screen: / 35.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 37.0

Elevation / Depth of Bottom of Filter Pack: / 37.5

Type of Backfill Below Well: Native Soil

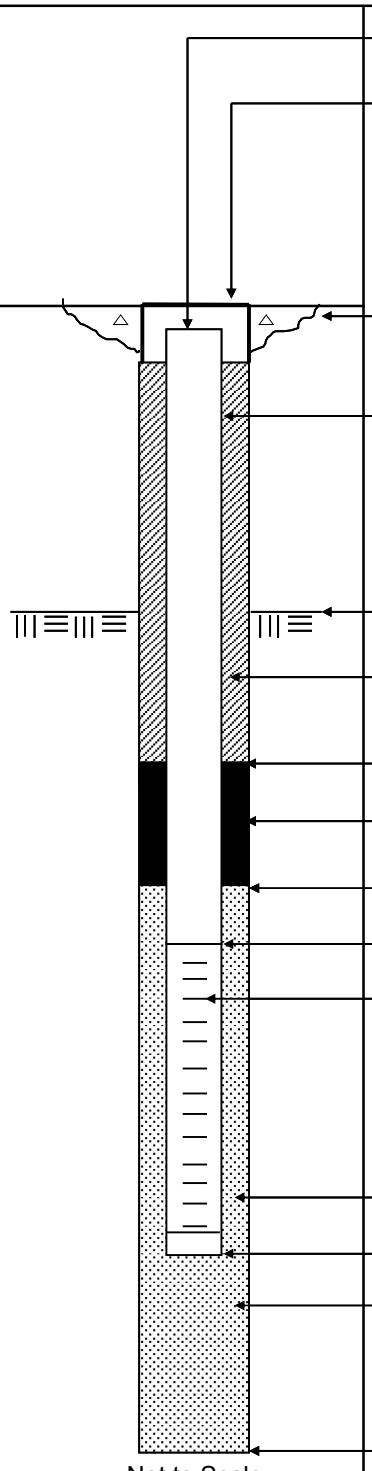
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0326
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/02/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 29.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 32.5

Elevation / Depth of Top of Screen: / 33.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 35.5

Type of Backfill Below Well: Native Soil

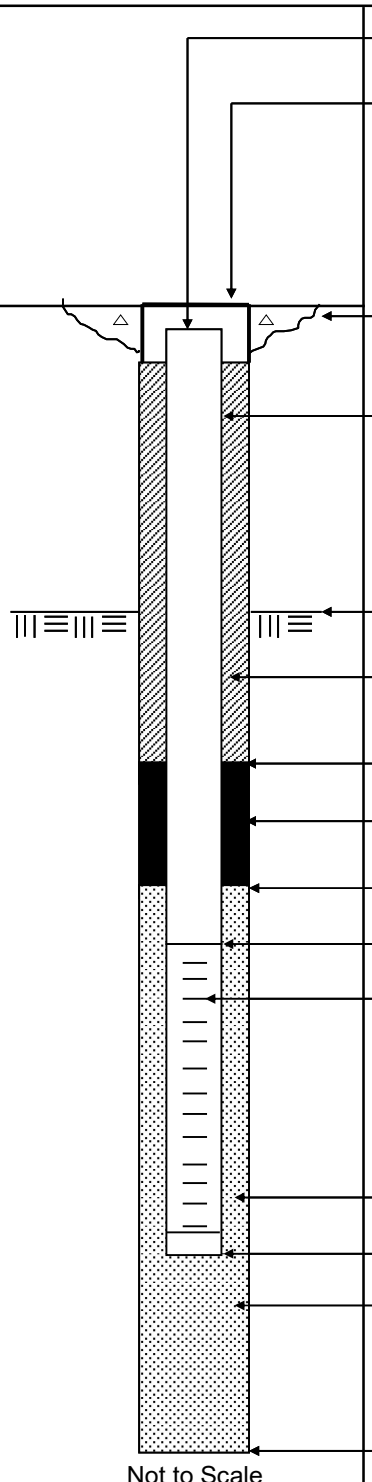
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0320
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/03/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 31.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 34.5

Elevation / Depth of Top of Screen: / 35.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 37.0

Elevation / Depth of Bottom of Filter Pack: / 37.5

Type of Backfill Below Well: Native Soil

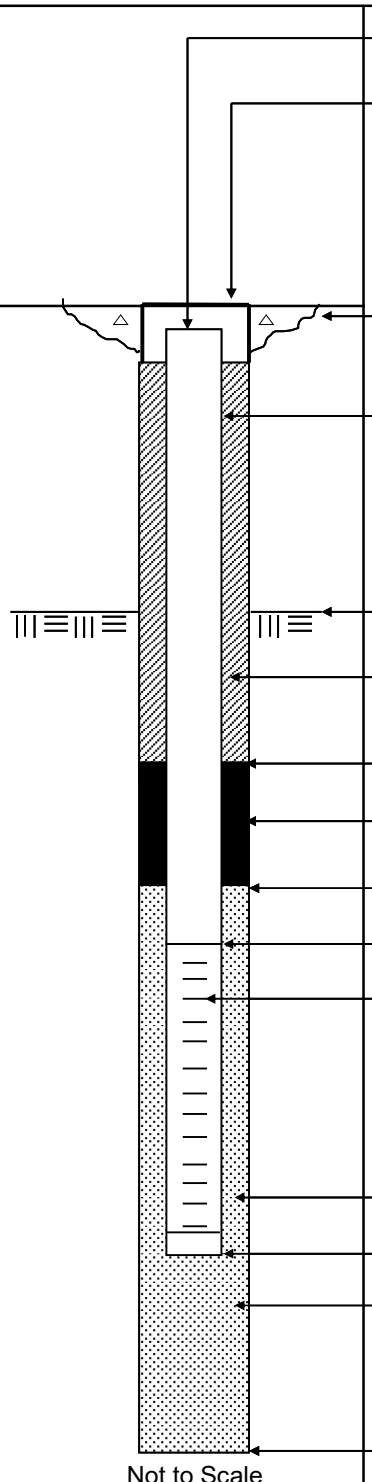
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0361
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	10/25/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 29.0

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 32.0

Elevation / Depth of Top of Screen: / 32.5

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 34.5

Elevation / Depth of Bottom of Filter Pack: / 35.0

Type of Backfill Below Well: Native Soil

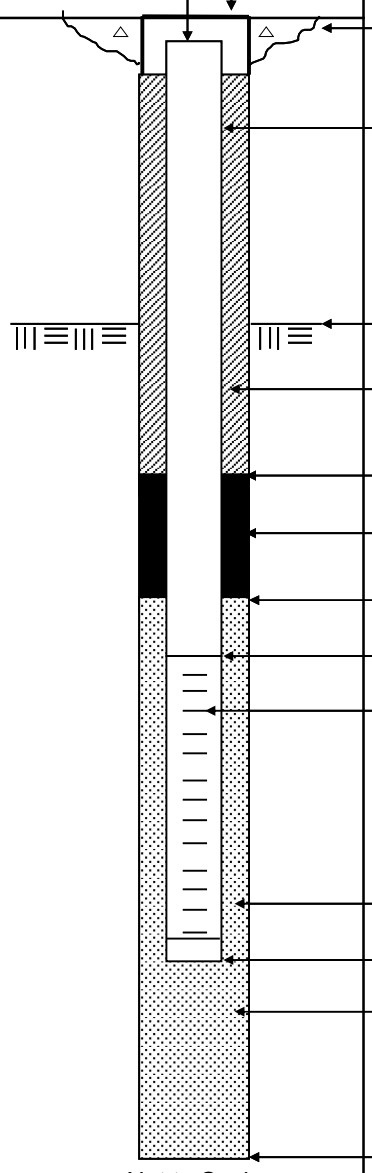
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0322
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	11/03/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 30.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 33.5

Elevation / Depth of Top of Screen: / 34.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 36.0

Elevation / Depth of Bottom of Filter Pack: / 36.5

Type of Backfill Below Well: Native Soil

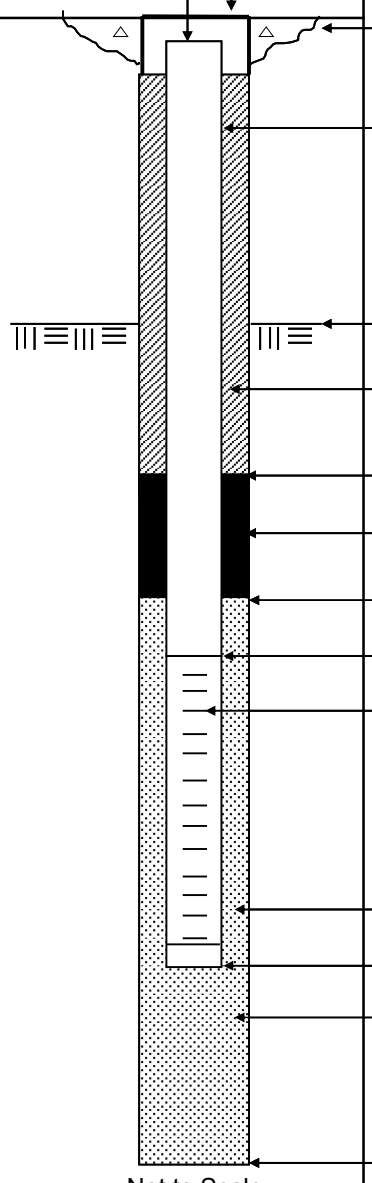
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0347
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/03/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

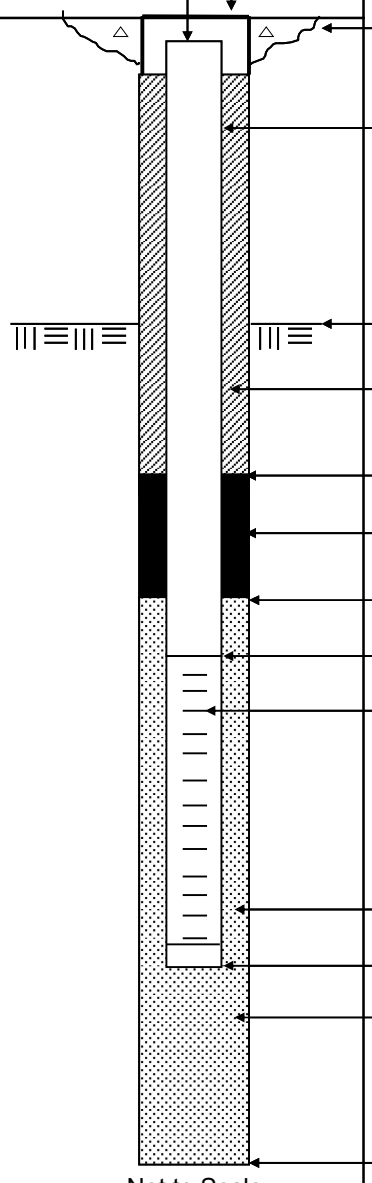
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0333
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/03/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

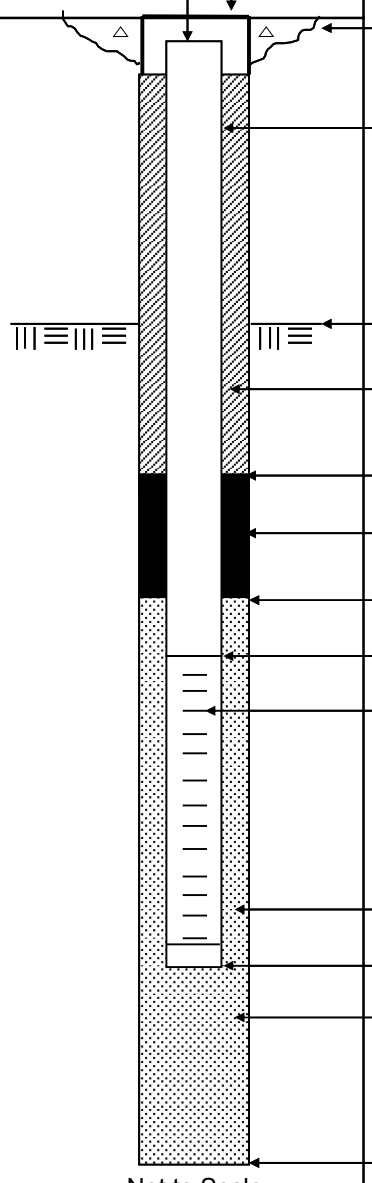
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0350
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/04/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

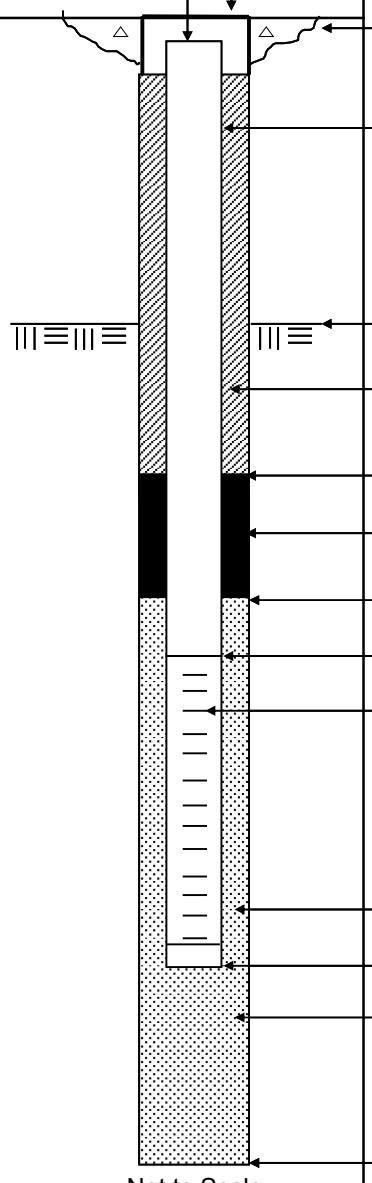
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0362
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/04/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

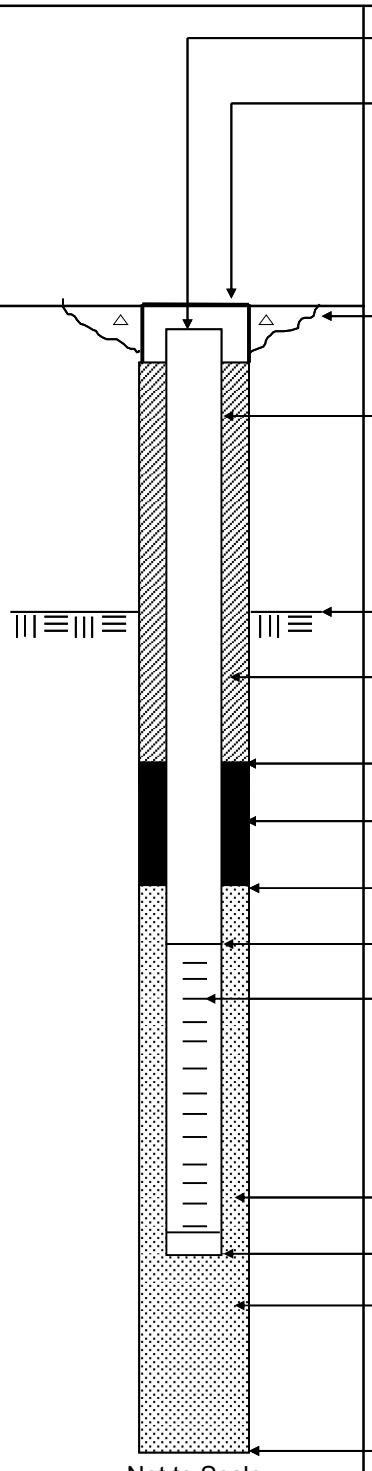
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0325
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/04/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

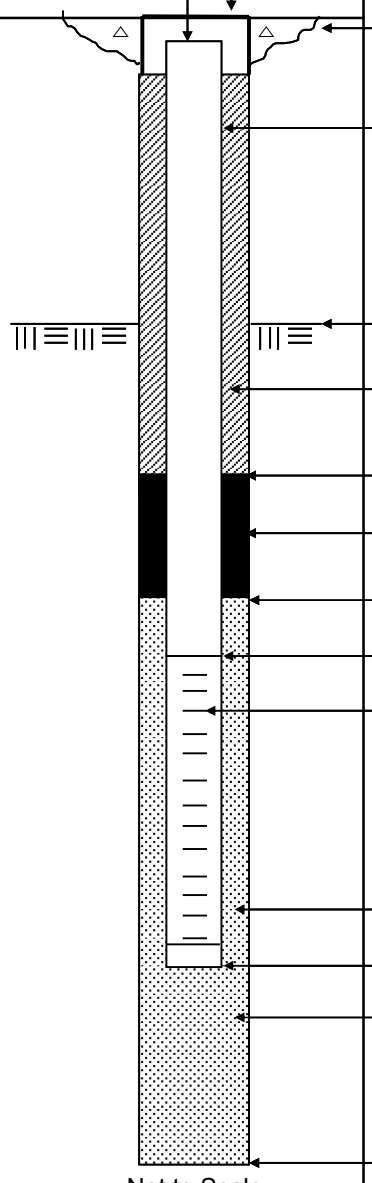
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0323
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/07/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 31.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 34.5

Elevation / Depth of Top of Screen: / 35.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 37.0

Elevation / Depth of Bottom of Filter Pack: / 37.5

Type of Backfill Below Well: Native Soil

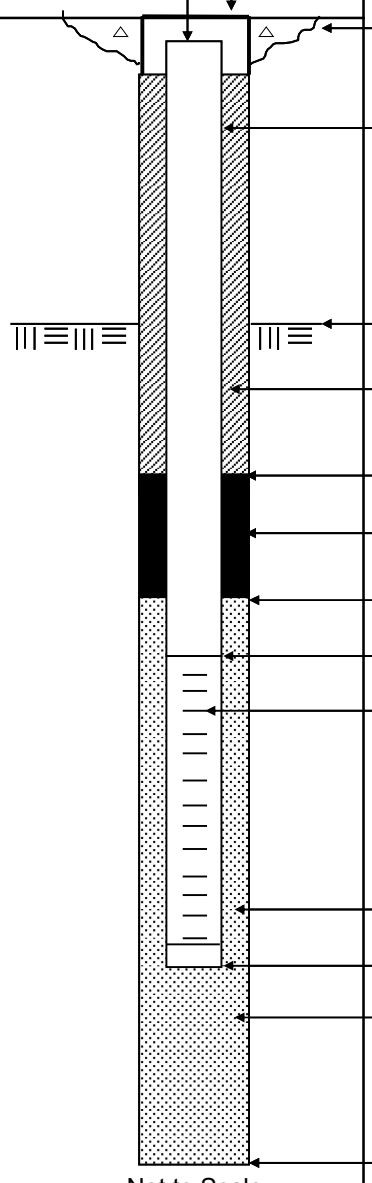
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0340
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/07/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

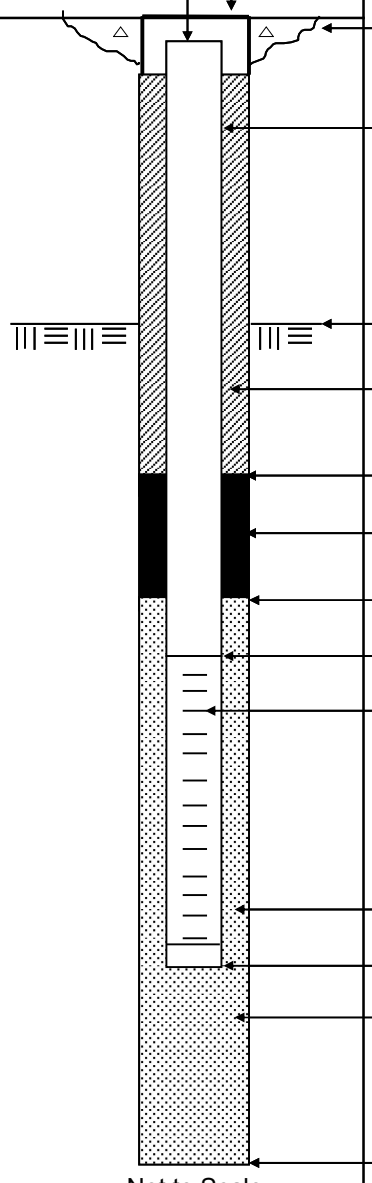
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0318
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/01/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 31.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 34.5

Elevation / Depth of Top of Screen: / 35.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 37.0

Elevation / Depth of Bottom of Filter Pack: / 37.5

Type of Backfill Below Well: Native Soil

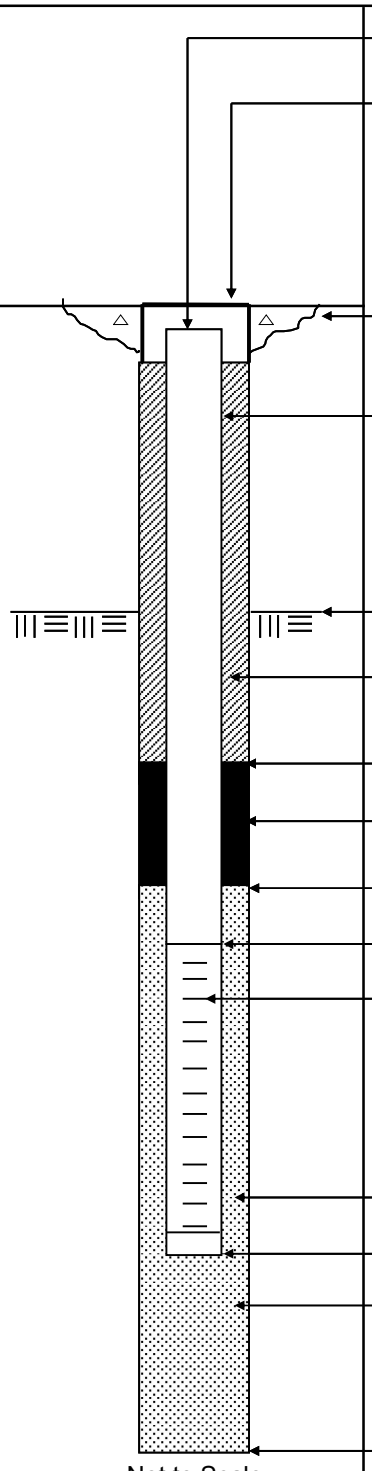
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0313
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/01/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

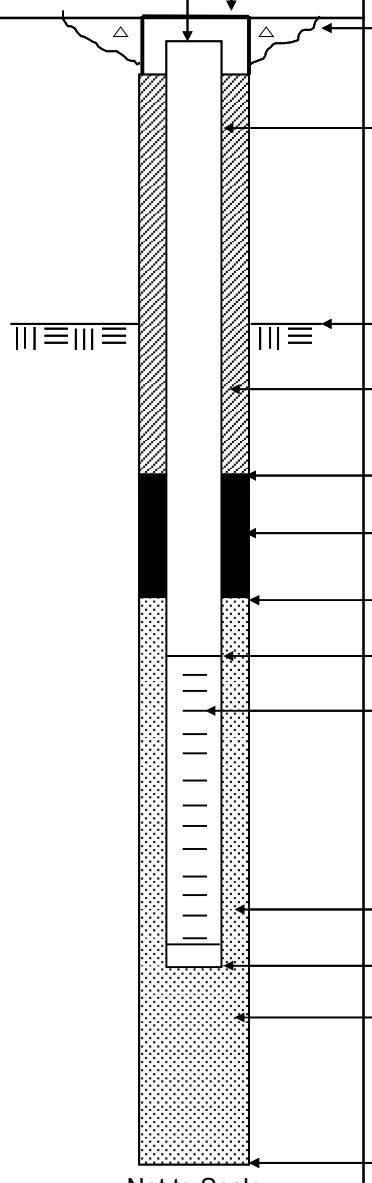
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0301
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/02/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 29.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 32.5

Elevation / Depth of Top of Screen: / 33.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 35.5

Type of Backfill Below Well: Native Soil

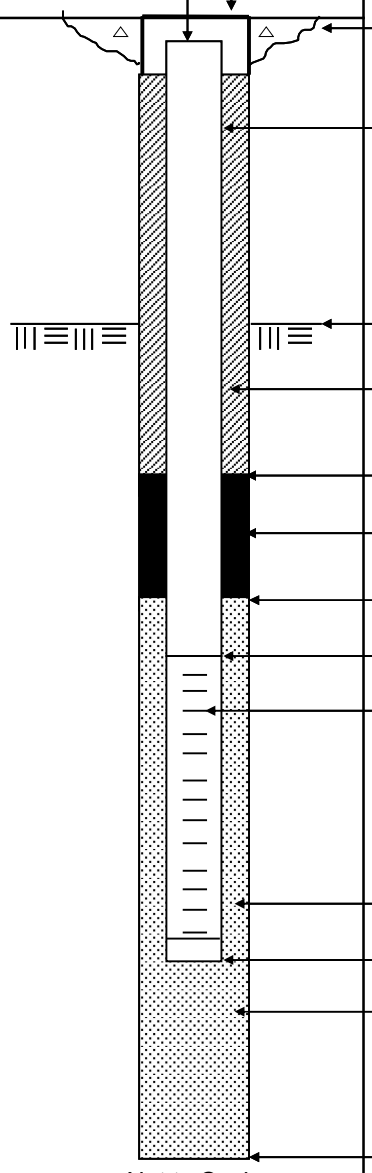
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0302
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	12/02/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 30.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 33.5

Elevation / Depth of Top of Screen: / 34.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 36.0

Elevation / Depth of Bottom of Filter Pack: / 36.5

Type of Backfill Below Well: Native Soil

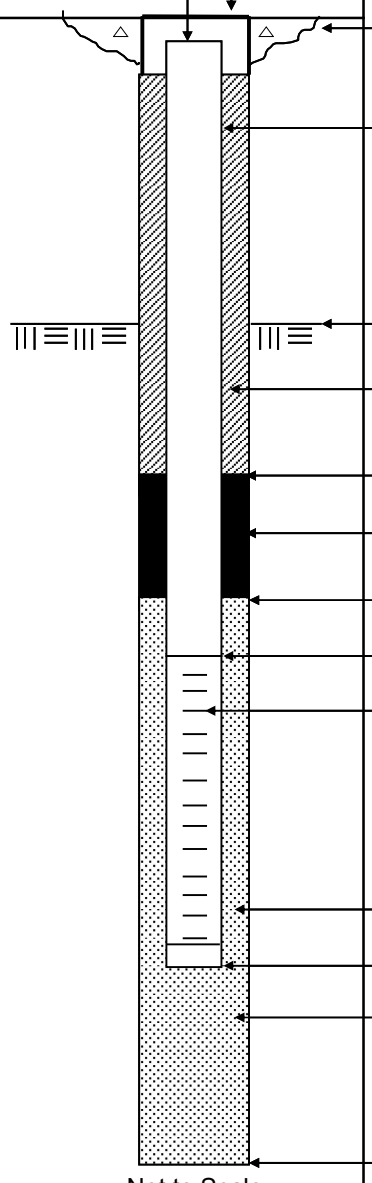
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0303
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/02/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 31.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 34.5

Elevation / Depth of Top of Screen: / 35.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 37.0

Elevation / Depth of Bottom of Filter Pack: / 37.5

Type of Backfill Below Well: Native Soil

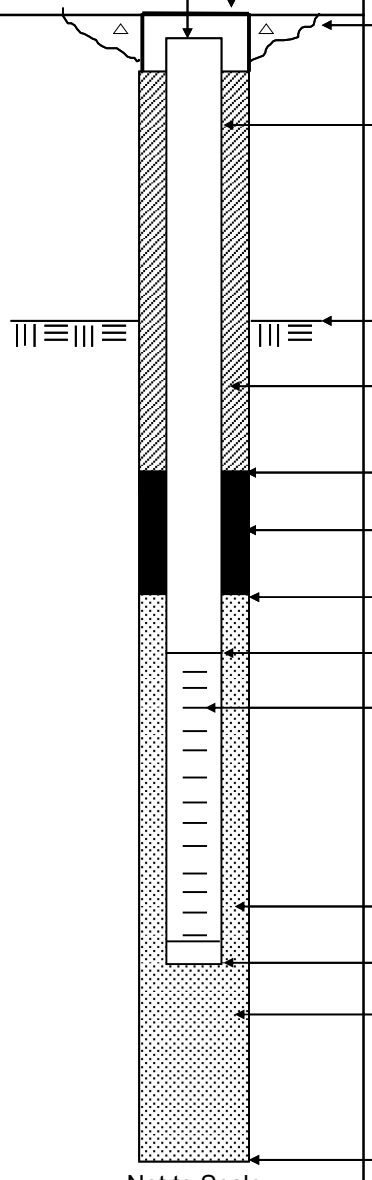
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0309
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/05/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 31.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 34.5

Elevation / Depth of Top of Screen: / 35.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 37.0

Elevation / Depth of Bottom of Filter Pack: / 37.5

Type of Backfill Below Well: Native Soil

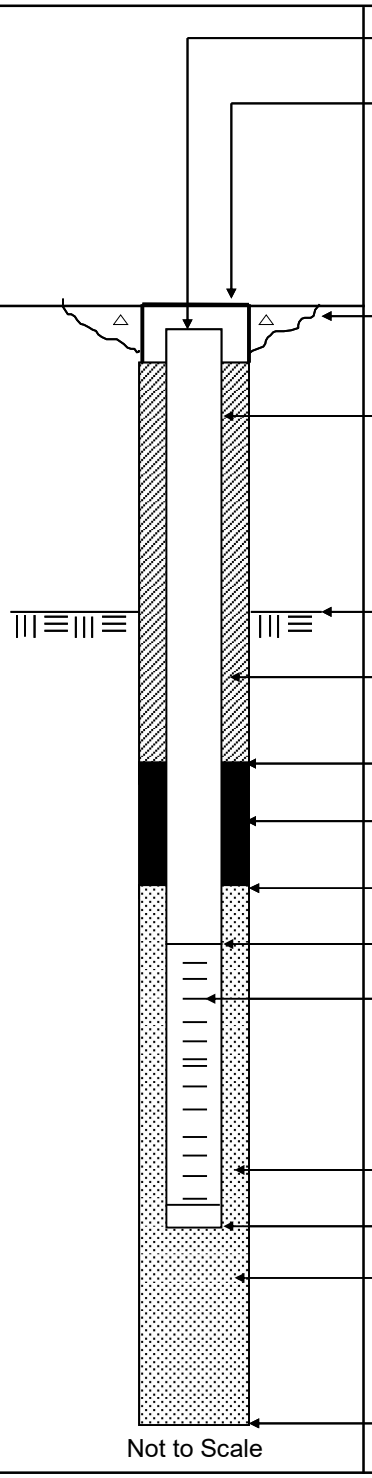
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0338
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/5/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

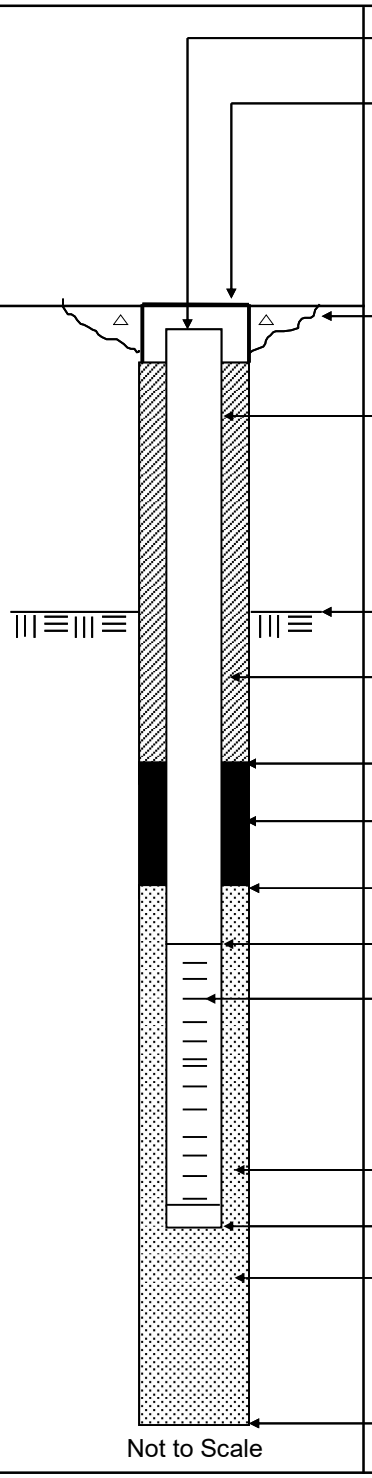
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0337
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/5/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

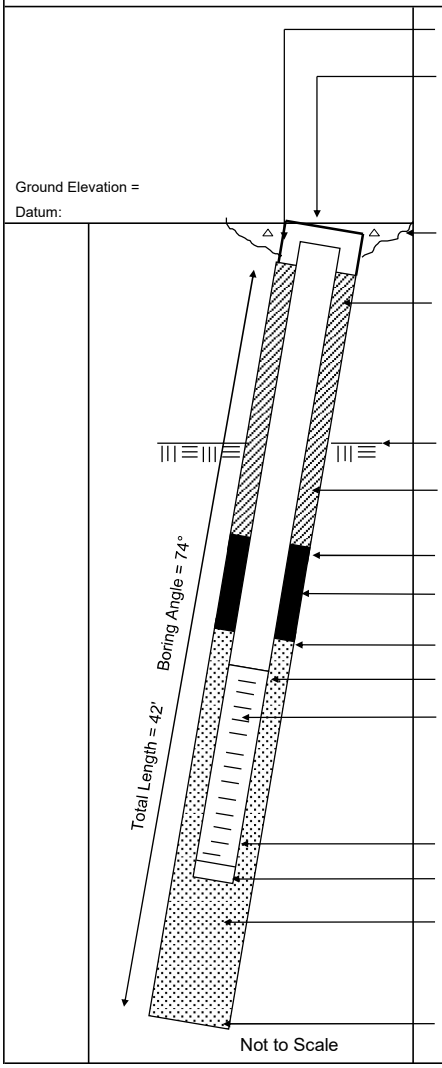
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0337
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/06/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / NA

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.0

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.0

Elevation / Depth of Top of Screen: / 35.5

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 37.5

Elevation / Depth of Bottom of Filter Pack: / 38.0

Type of Backfill Below Well:

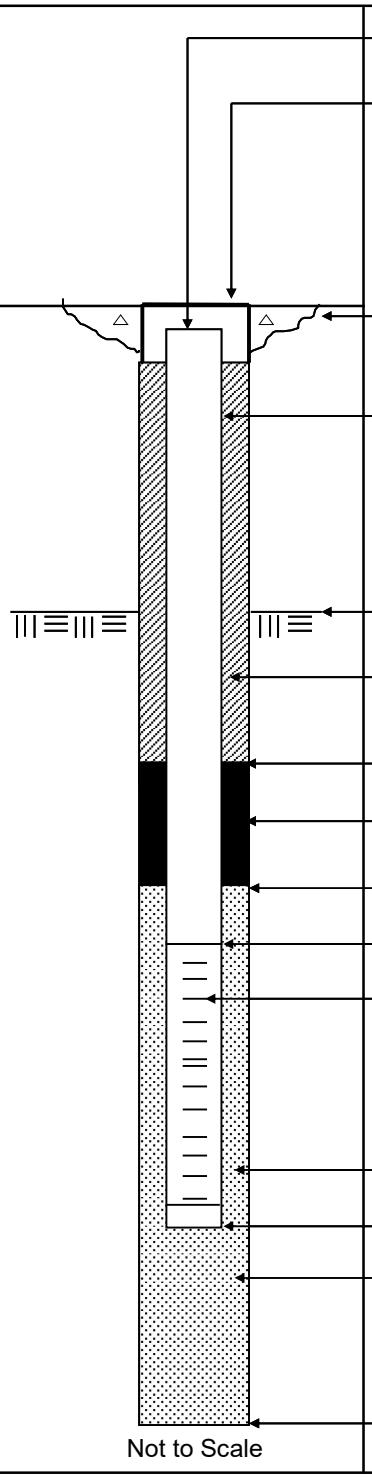
Elevation / Total Depth of Borehole: / 40.3

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0336
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/06/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

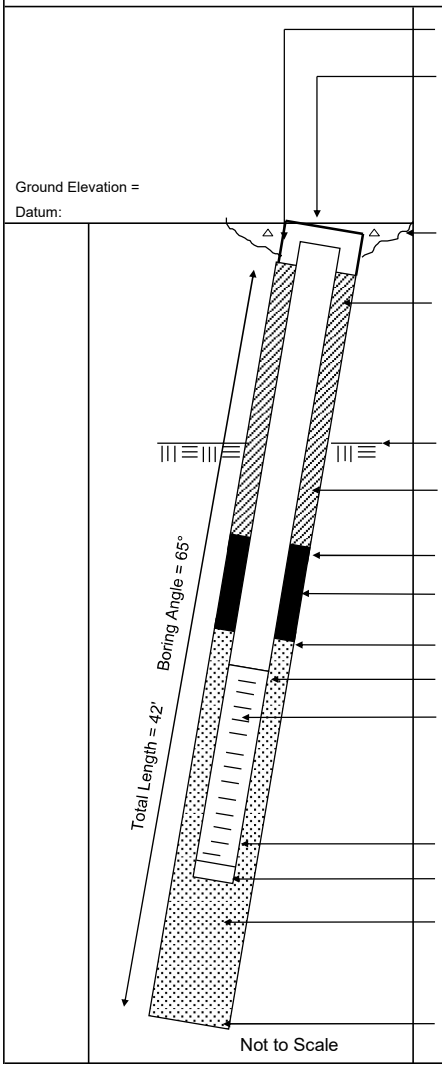
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0335
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/06/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



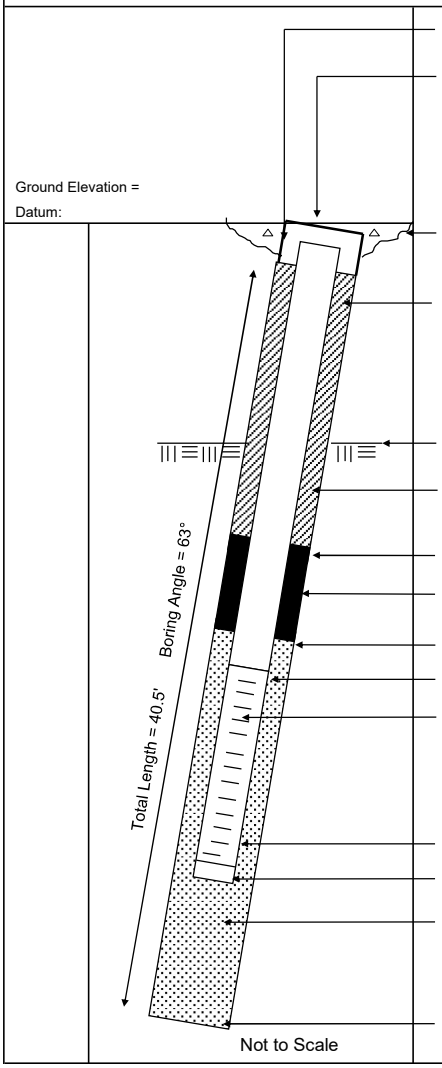
Elevation / Depth of Top of Riser:		/
Elevation / Height of Top of Surface Casing:		/ 0
I.D. of Surface Casing:		
Type of Surface Casing:		
Type of Surface Seal:		
Cement		
I.D. of Riser:	1"	
Type of Riser:	PVC	
Borehole Diameter:	4 Inch	
casing to foot depth		
Elevation / Depth Top of Rock:		/ NA
Type of Seal:	Portland	
Cement Grout		
Elevation / Depth of Seal:		/ 32.5
Type of Seal:	Bentonite	
Elevation / Depth of Top of Filter Pack:		/ 35.5
Elevation / Depth of Top of Screen:		/ 36.0
Type of Screen:	Schumasoil	
Slot Size x Length:	1" x 24" x 40 Micron	
I.D. of Screen:	1"	
Type of Filter Pack:	20/30 Filter Sand	
Elevation / Depth of Bottom of Screen:		/ 38.0
Elevation / Depth of Bottom of Filter Pack:		/ 38.0
Type of Backfill Below Well:		
Elevation / Total Depth of Borehole:		/ 38.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0316
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/07/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



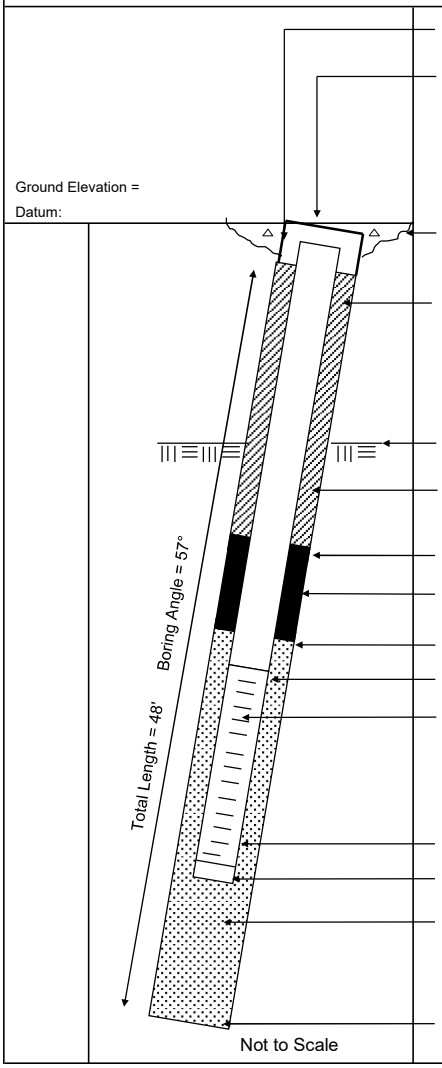
Elevation / Depth of Top of Riser:		/
Elevation / Height of Top of Surface Casing:		/ 0
I.D. of Surface Casing:		
Type of Surface Casing:		
Type of Surface Seal:	Cement	
I.D. of Riser:	1"	
Type of Riser:	PVC	
Borehole Diameter:	4 Inch	
casing to foot depth Elevation / Depth Top of Rock:		/ NA
Type of Seal:	Portland Cement Grout	
Elevation / Depth of Seal:		/ 30.5
Type of Seal:	Bentonite	
Elevation / Depth of Top of Filter Pack:		/ 33.5
Elevation / Depth of Top of Screen:		/ 34.0
Type of Screen:	Schumasoil	
Slot Size x Length:	1" x 24" x 40 Micron	
I.D. of Screen:	1"	
Type of Filter Pack:	20/30 Filter Sand	
Elevation / Depth of Bottom of Screen:		/ 36.0
Elevation / Depth of Bottom of Filter Pack:		/ 36.0
Type of Backfill Below Well:		
Elevation / Total Depth of Borehole:		/ 36.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0310
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/07/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



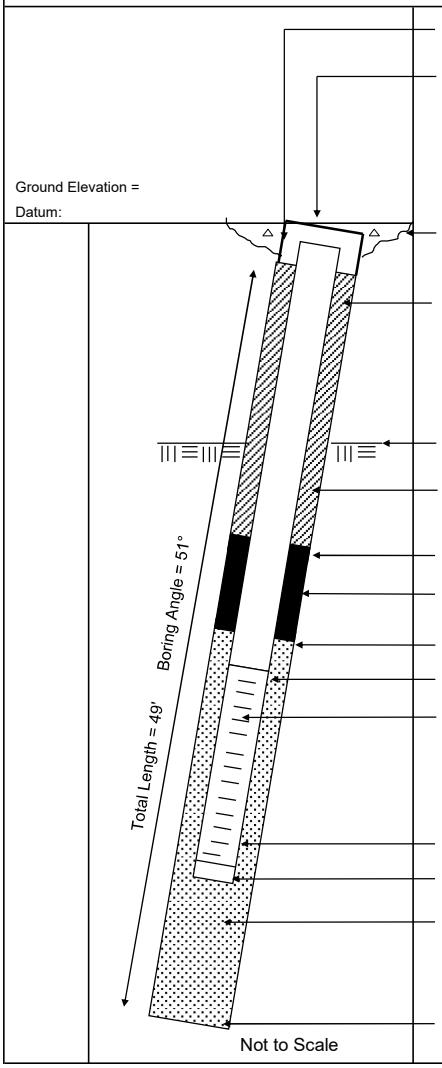
Elevation / Depth of Top of Riser:		/
Elevation / Height of Top of Surface Casing:		/ 0
I.D. of Surface Casing:		
Type of Surface Casing:		
Type of Surface Seal:	Cement	
I.D. of Riser:	1"	
Type of Riser:	PVC	
Borehole Diameter:	4 Inch	
casing to foot depth Elevation / Depth Top of Rock:		/ NA
Type of Seal:	Portland Cement Grout	
Elevation / Depth of Seal:		/ 34.8
Type of Seal:	Bentonite	
Elevation / Depth of Top of Filter Pack:		/ 37.8
Elevation / Depth of Top of Screen:		/ 38.3
Type of Screen:	Schumasoil	
Slot Size x Length:	1" x 24" x 40 Micron	
I.D. of Screen:	1"	
Type of Filter Pack:	20/30 Filter Sand	
Elevation / Depth of Bottom of Screen:		/ 40.3
Elevation / Depth of Bottom of Filter Pack:		/ 40.3
Type of Backfill Below Well:		
Elevation / Total Depth of Borehole:		/ 40.3

Tetra Tech, Inc.

BORING No.: _____

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0339
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/07/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / NA

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.6

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.6

Elevation / Depth of Top of Screen: / 36.1

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.1

Elevation / Depth of Bottom of Filter Pack: / 38.1

Type of Backfill Below Well:

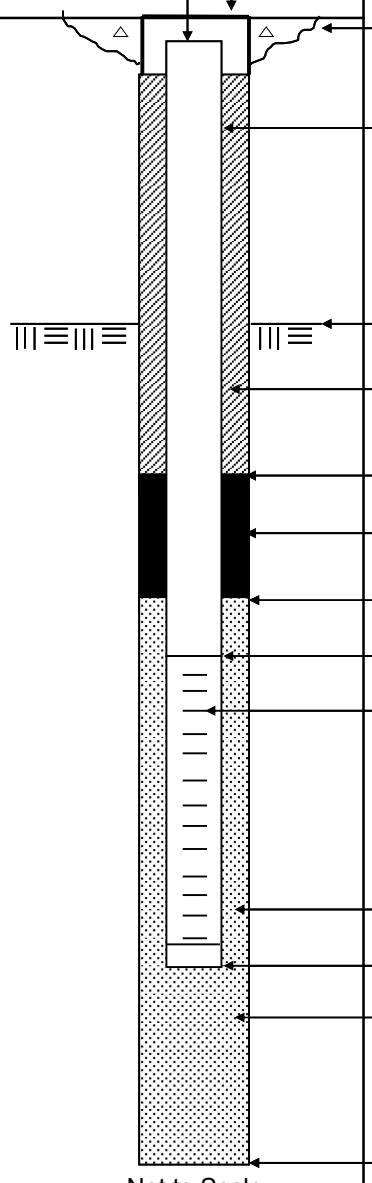
Elevation / Total Depth of Borehole: / 38.1

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0319
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/08/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 31.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 34.5

Elevation / Depth of Top of Screen: / 35.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 37.0

Elevation / Depth of Bottom of Filter Pack: / 37.5

Type of Backfill Below Well: Native Soil

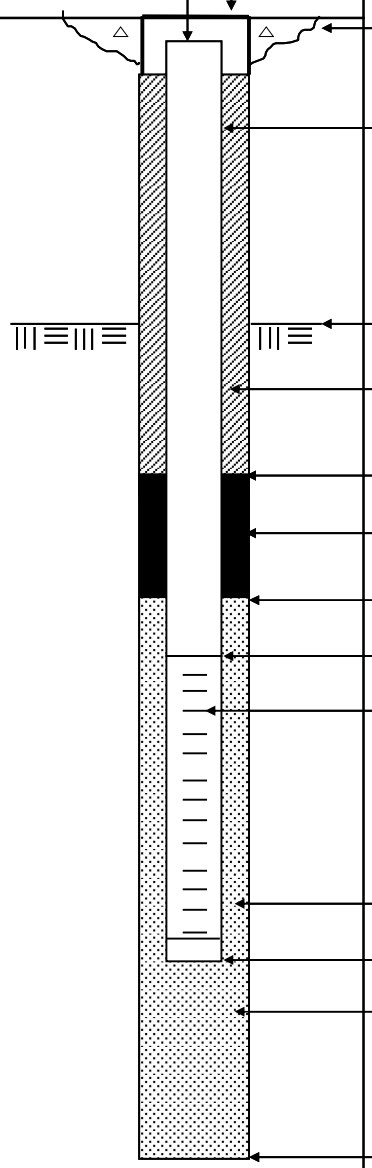
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0395
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	12/08/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 30.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 33.5

Elevation / Depth of Top of Screen: / 34.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 36.0

Elevation / Depth of Bottom of Filter Pack: / 36.5

Type of Backfill Below Well: Native Soil

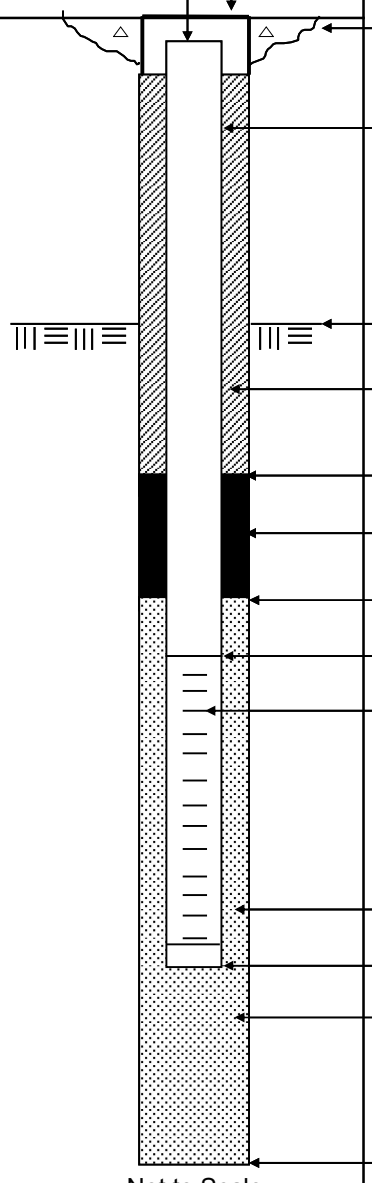
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0394
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/08/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

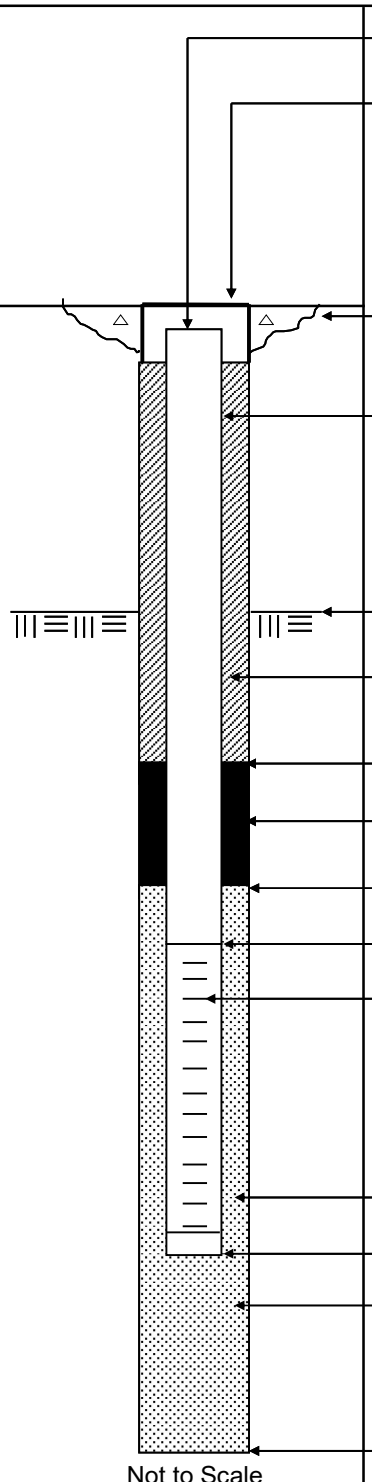
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0393
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/08/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

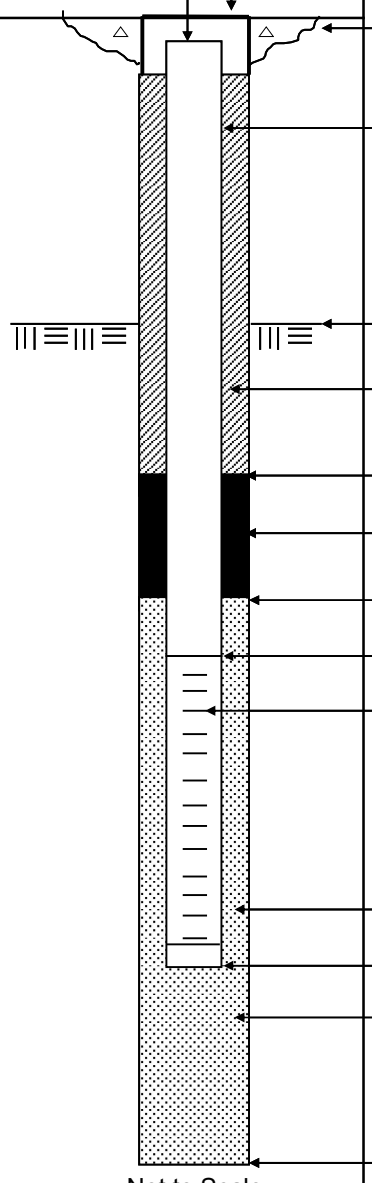
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0392
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/09/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

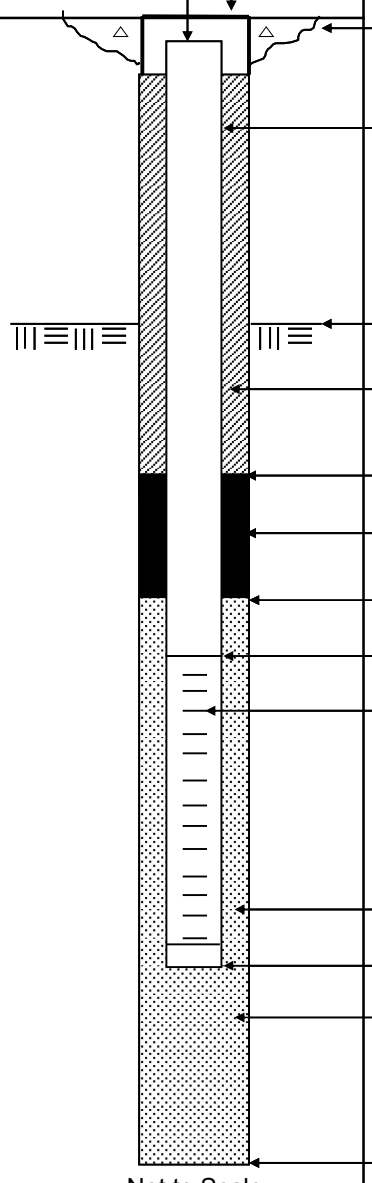
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0391
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/09/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

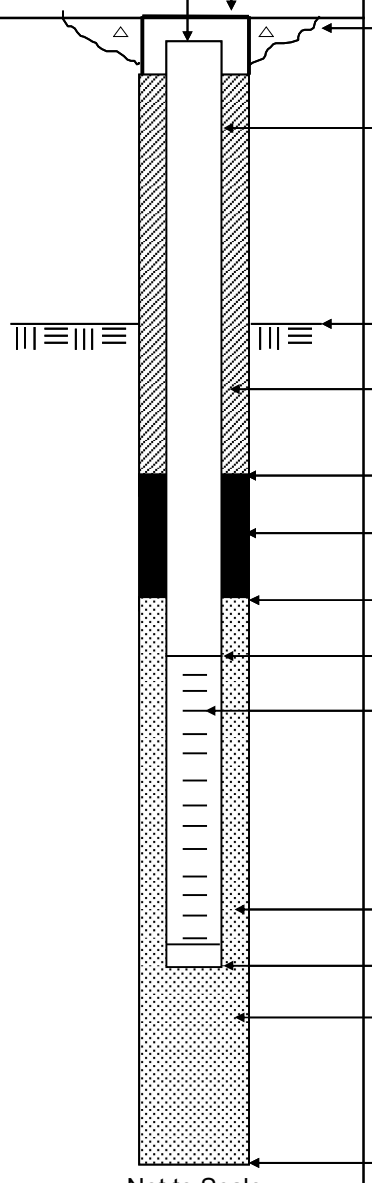
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0390
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/09/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

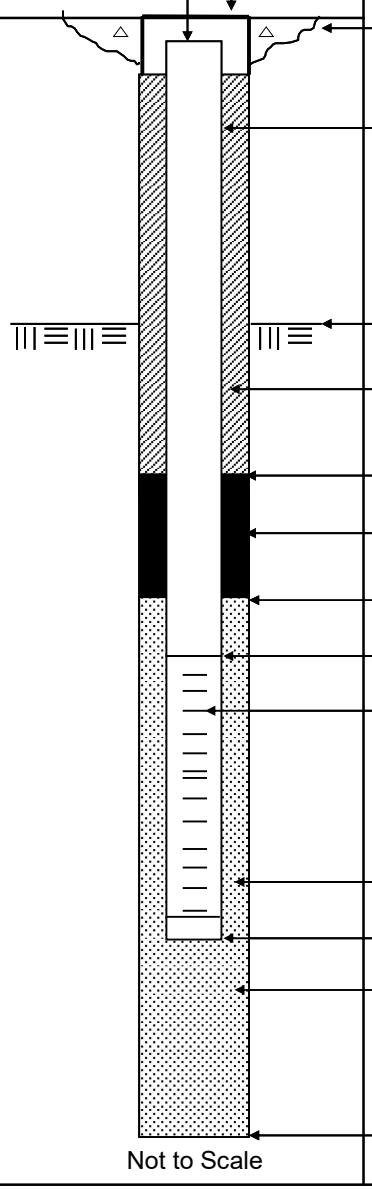
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0389
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/12/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

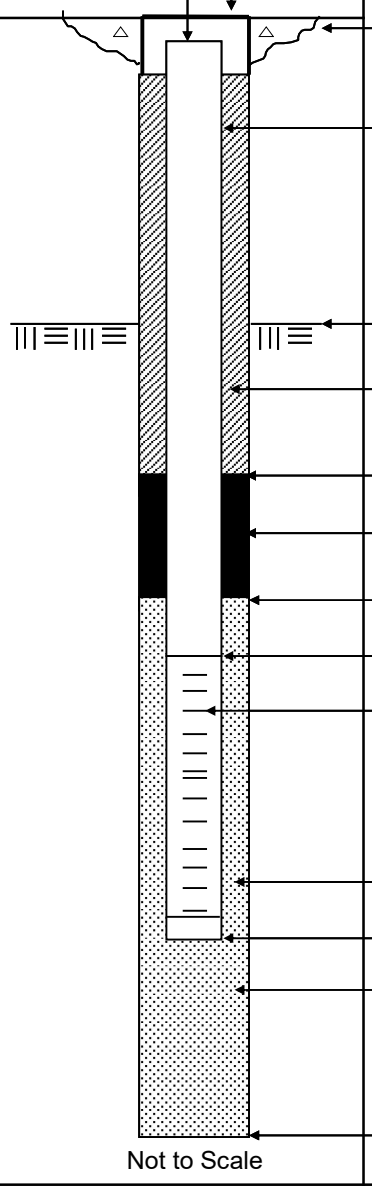
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0388
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/12/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

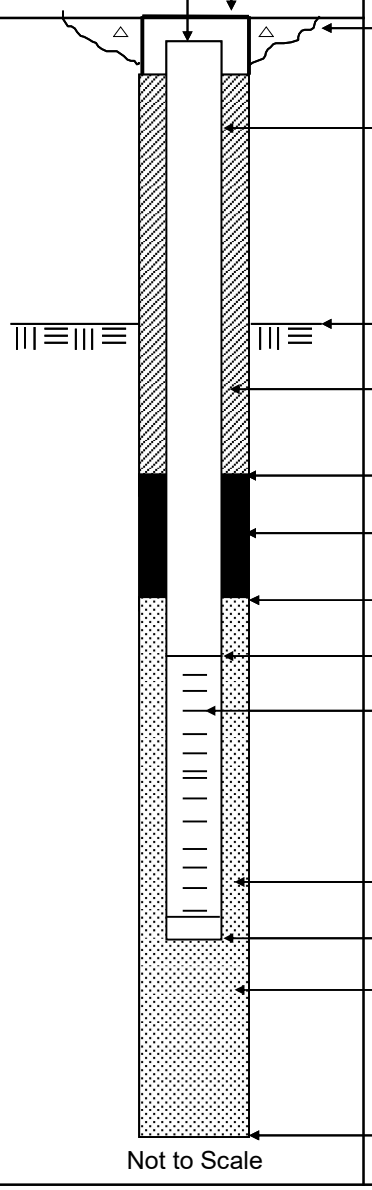
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0382
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/12/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

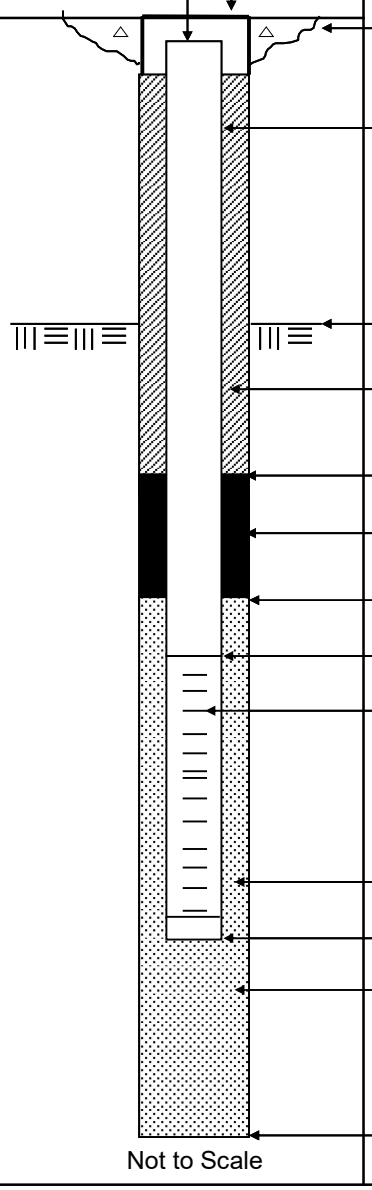
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0381
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/13/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

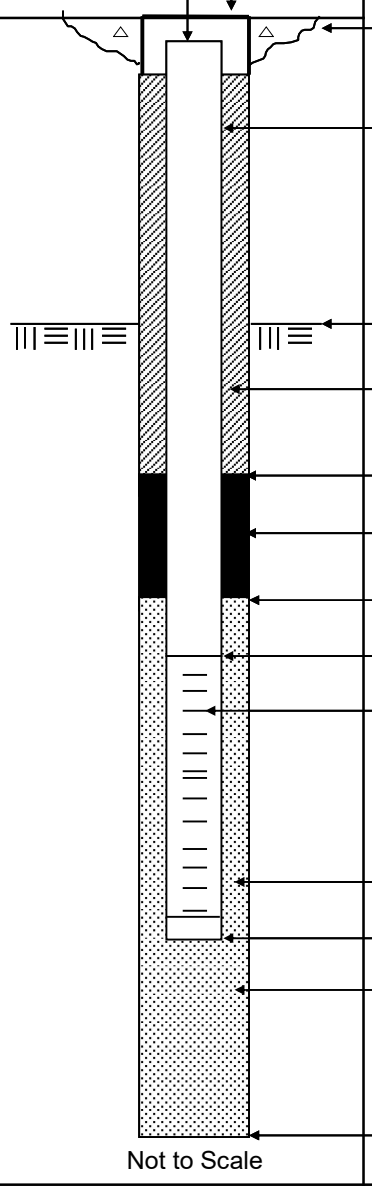
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0380
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/13/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

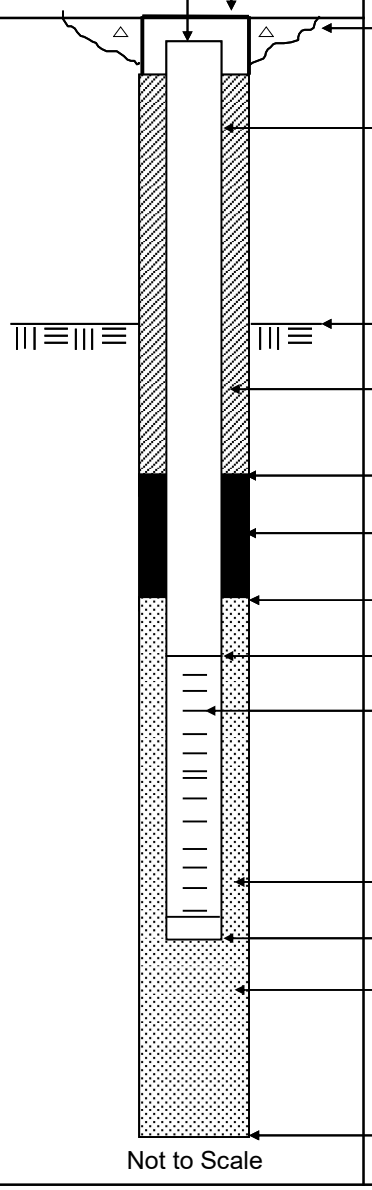
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0378
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/13/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

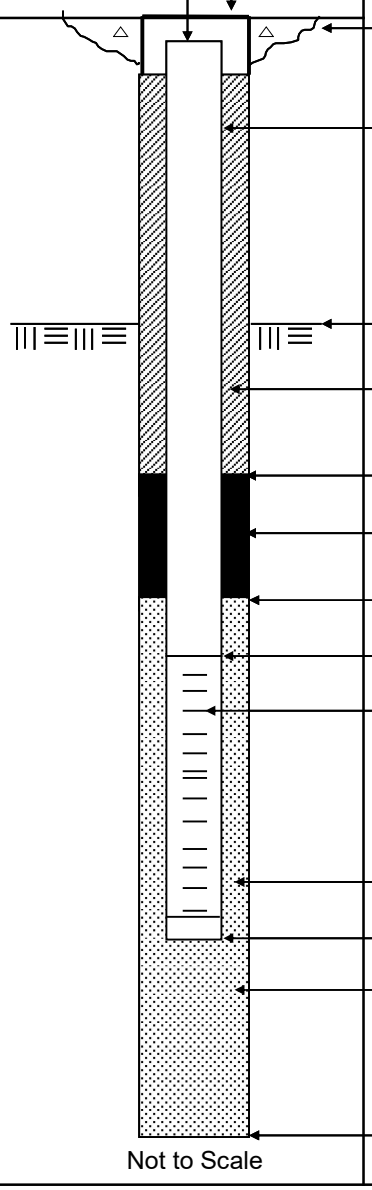
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0387
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/13/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

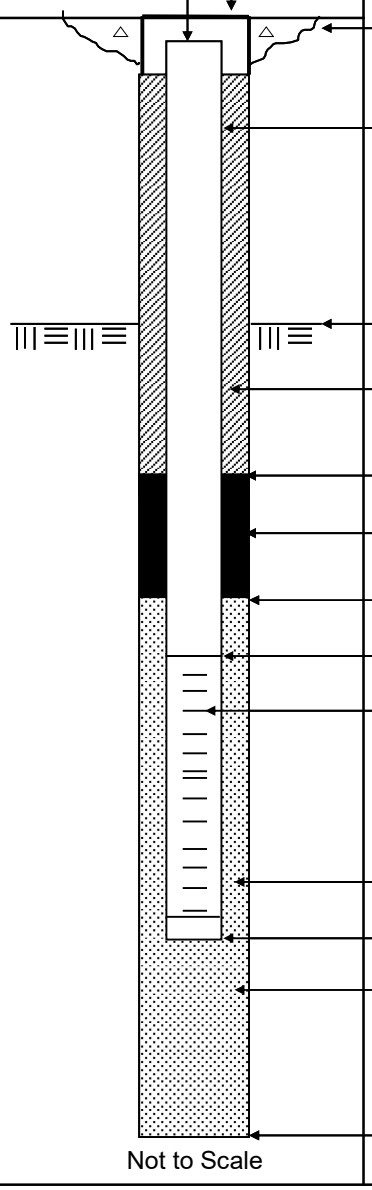
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0398
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/13/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

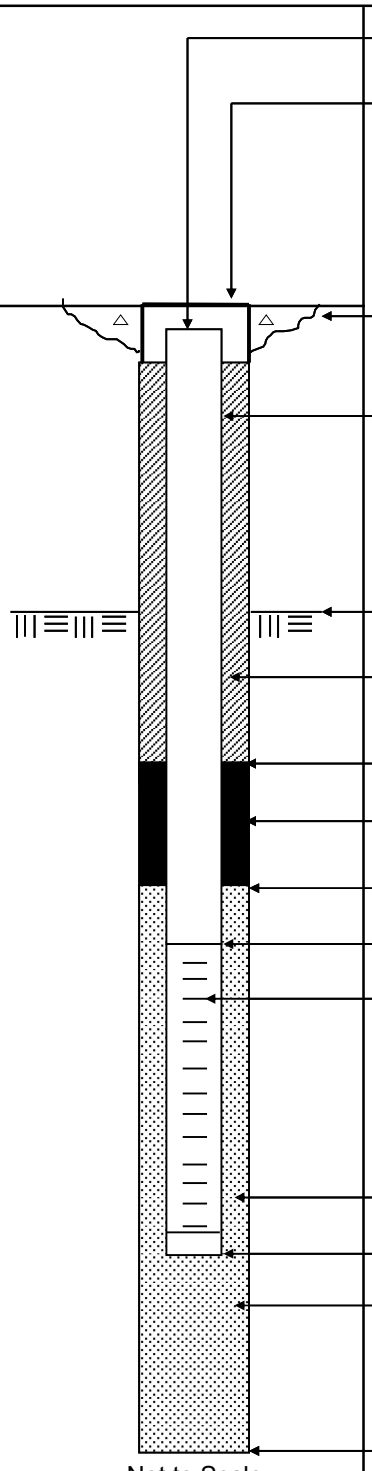
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0399
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/14/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

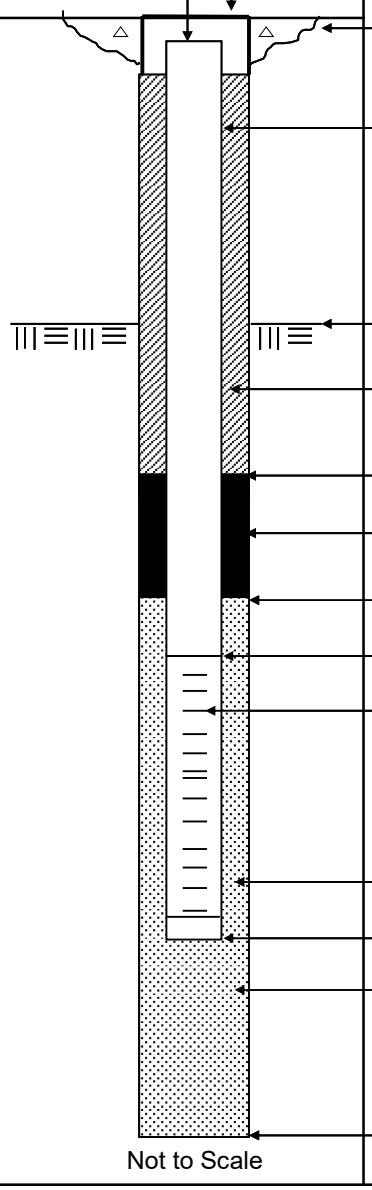
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0400
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/14/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

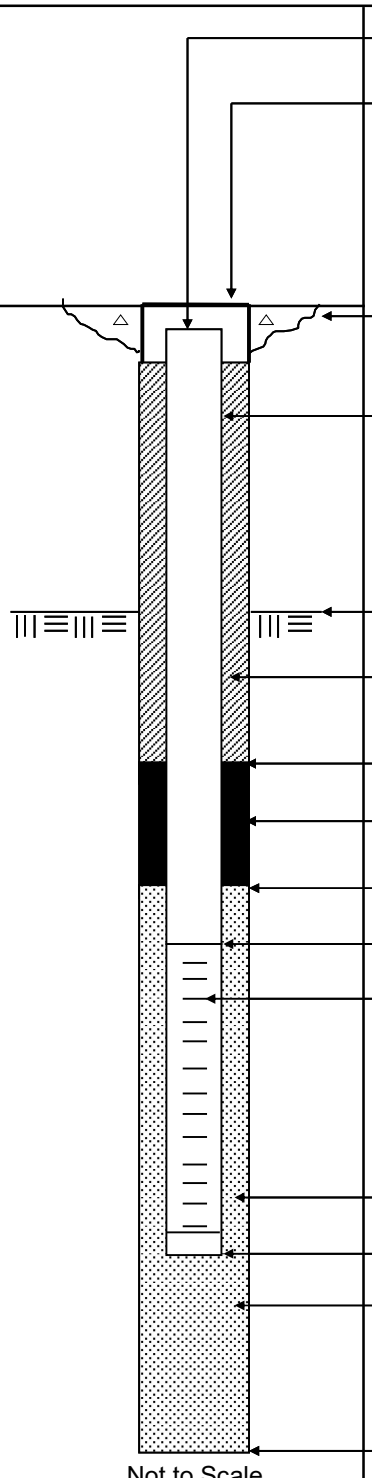
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0402
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/14/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

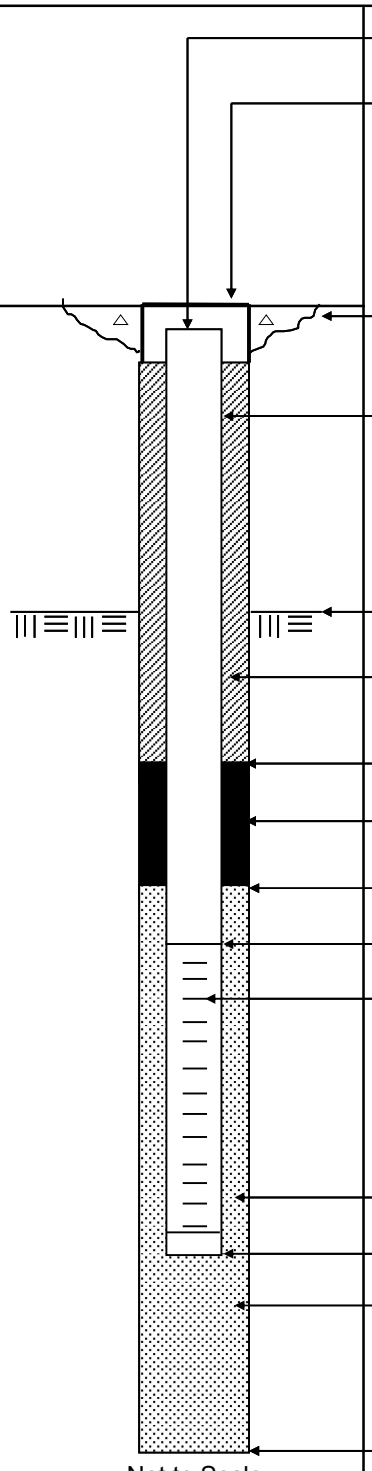
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0403
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/14/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 31.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 34.5

Elevation / Depth of Top of Screen: / 35.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 37.0

Elevation / Depth of Bottom of Filter Pack: / 37.5

Type of Backfill Below Well: Native Soil

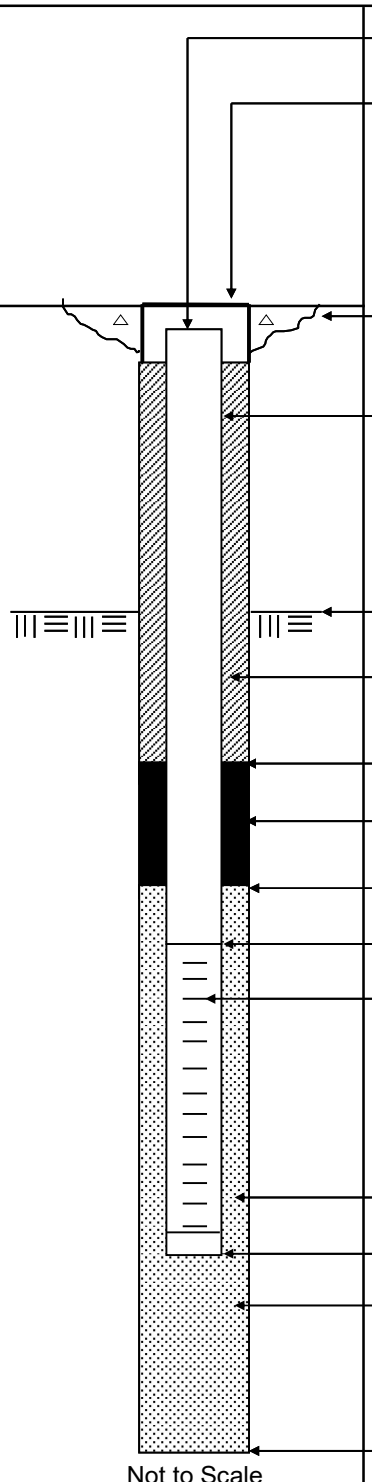
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0404
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/14/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 31.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 34.5

Elevation / Depth of Top of Screen: / 35.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 37.0

Elevation / Depth of Bottom of Filter Pack: / 37.5

Type of Backfill Below Well: Native Soil

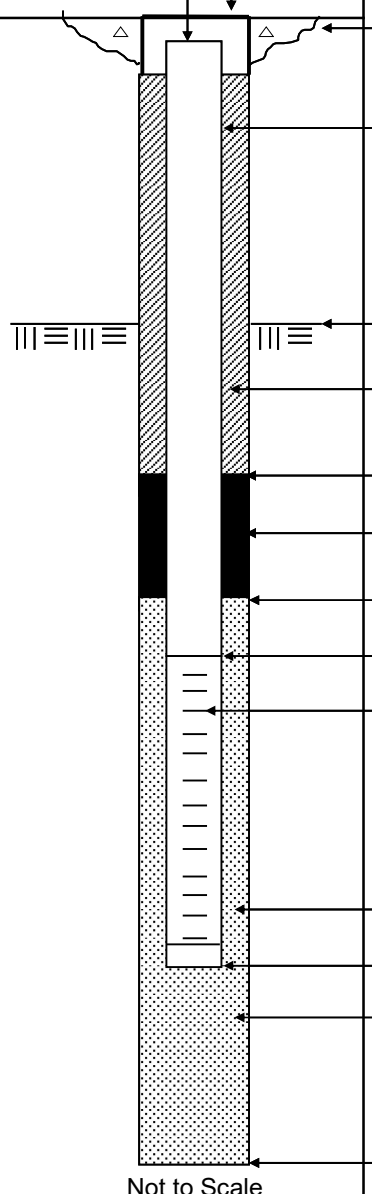
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0405
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/14/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 29.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 32.5

Elevation / Depth of Top of Screen: / 33.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 35.5

Type of Backfill Below Well: Native Soil

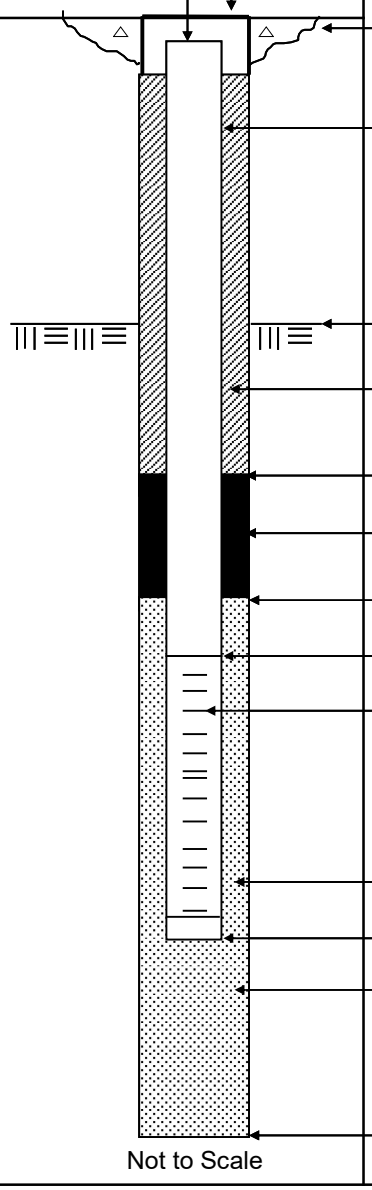
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0406
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/15/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

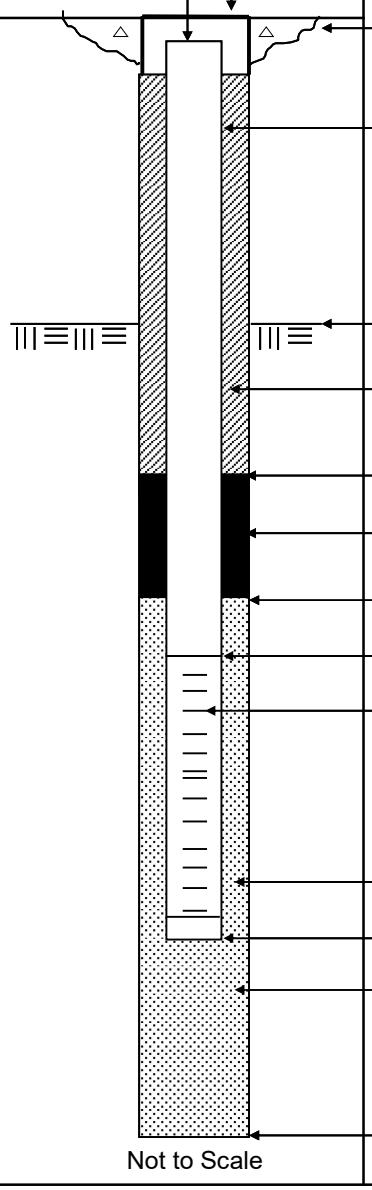
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0407
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/15/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

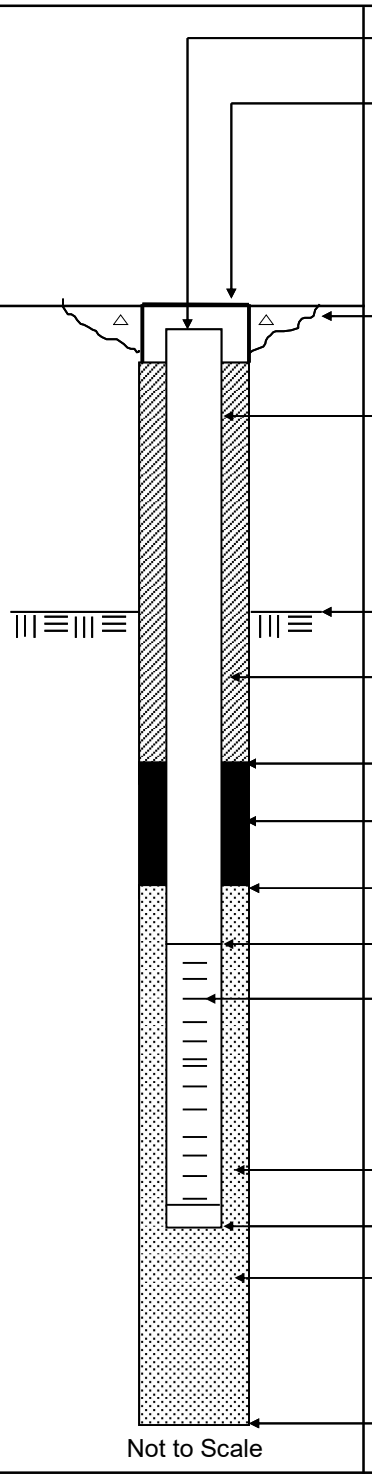
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0419
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/15/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 27.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 30.5

Elevation / Depth of Top of Screen: / 31.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 33.0

Elevation / Depth of Bottom of Filter Pack: / 33.5

Type of Backfill Below Well: Native Soil

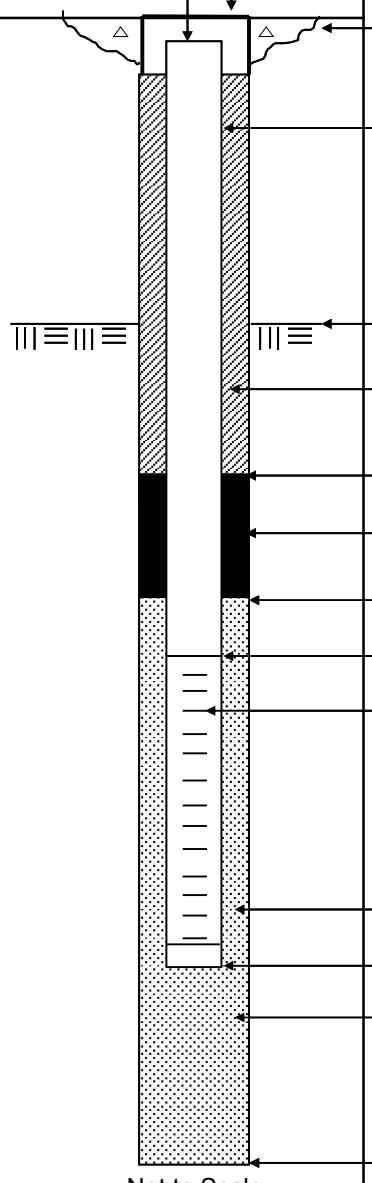
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0418
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/16/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

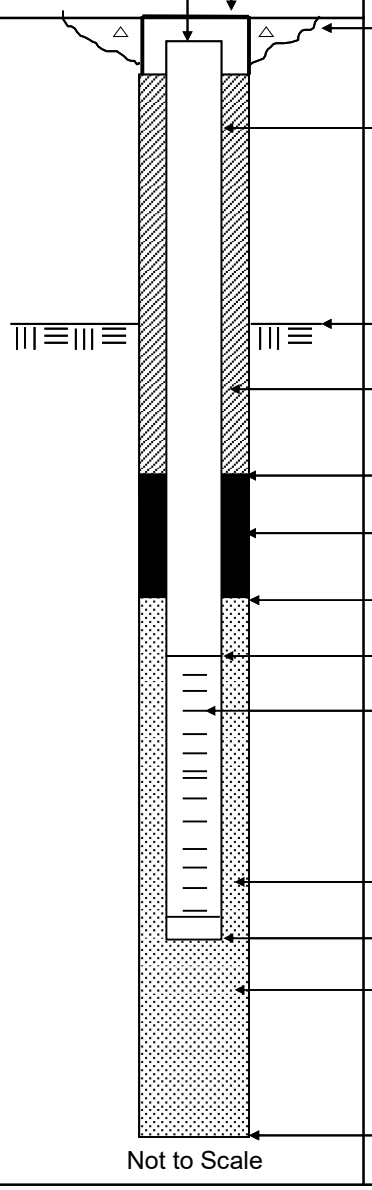
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0417
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/16/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Not to Scale

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

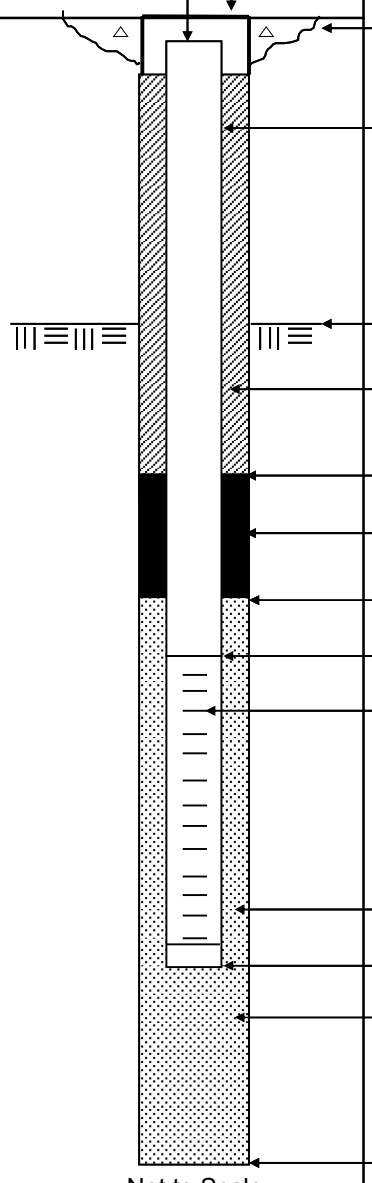
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0416
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/16/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 29.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 32.5

Elevation / Depth of Top of Screen: / 33.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 35.5

Type of Backfill Below Well: Native Soil

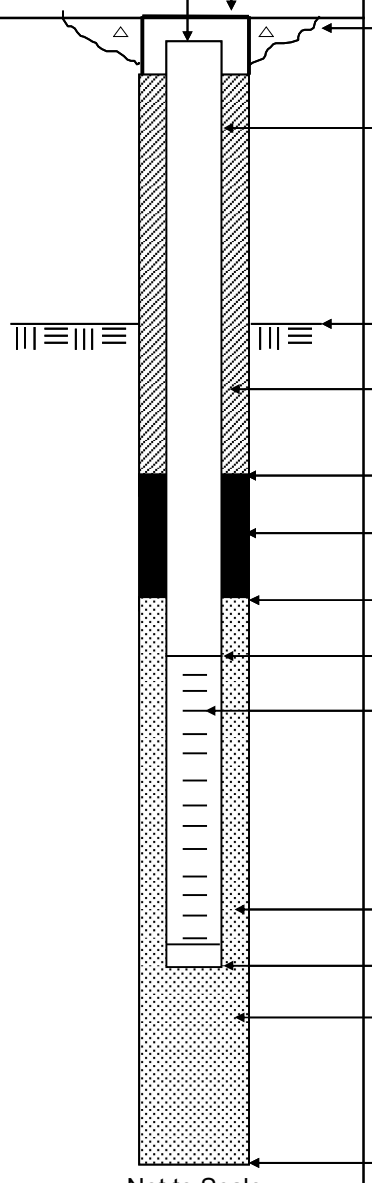
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0415
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/19/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

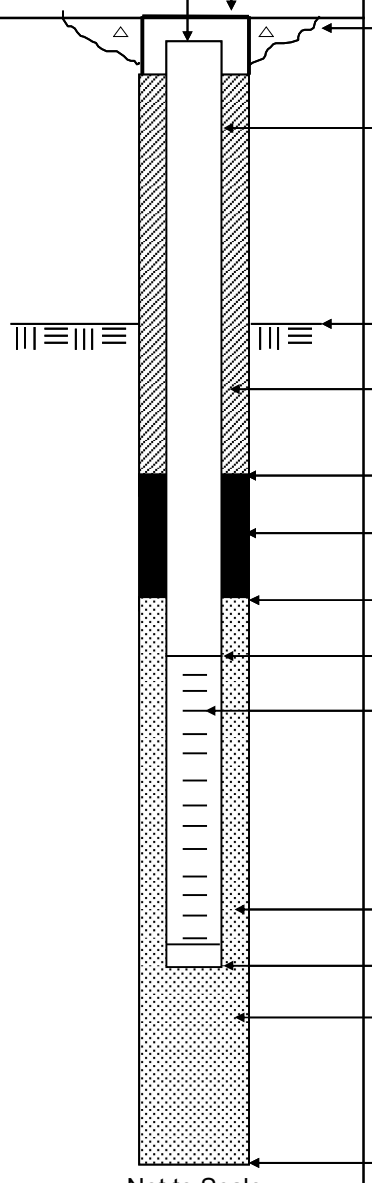
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0414
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/19/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

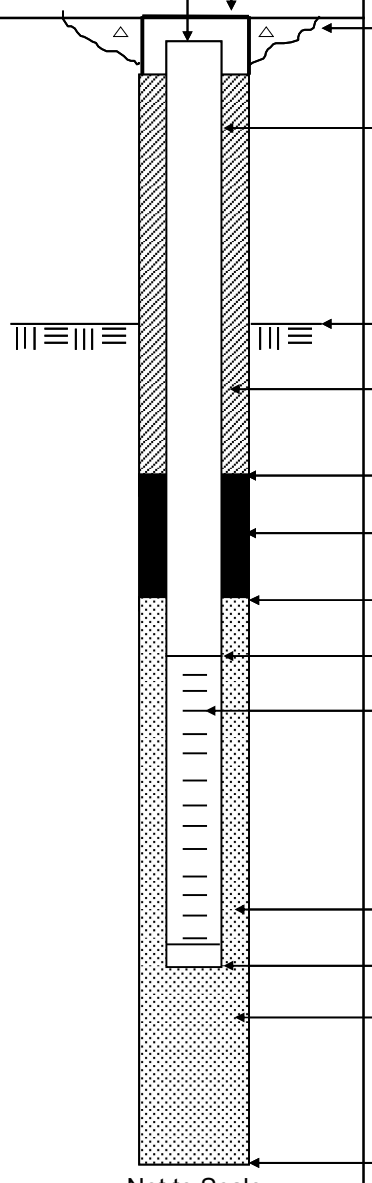
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0413
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/19/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

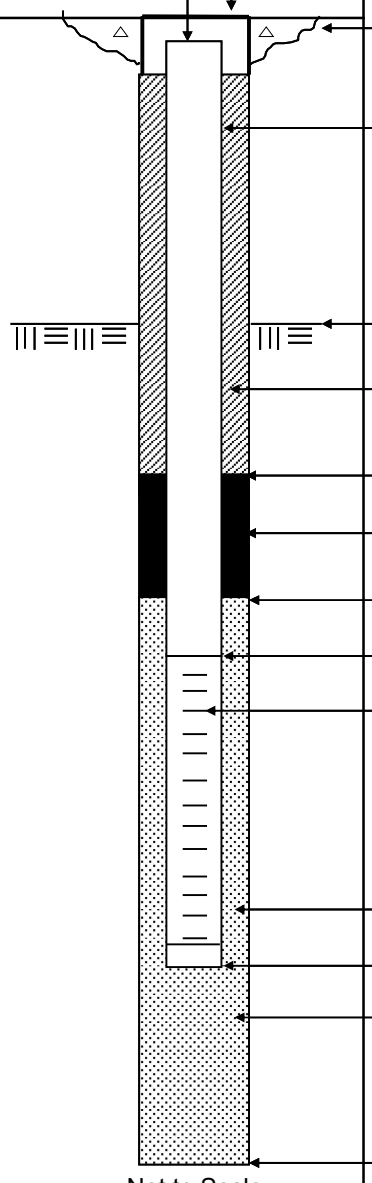
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0412
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/20/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

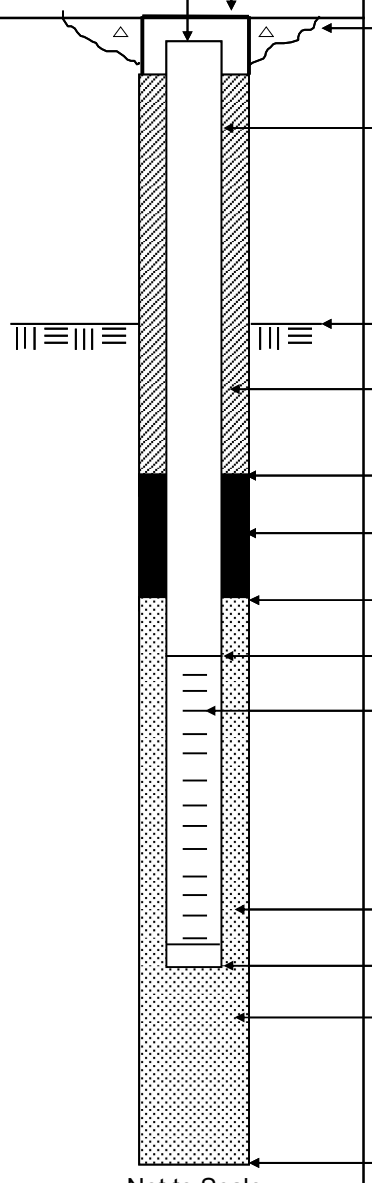
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0411
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/20/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

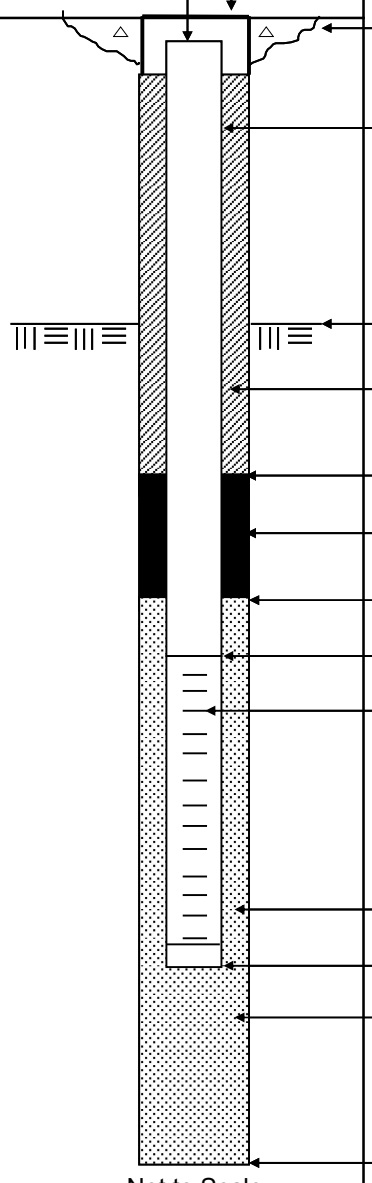
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0410
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/20/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

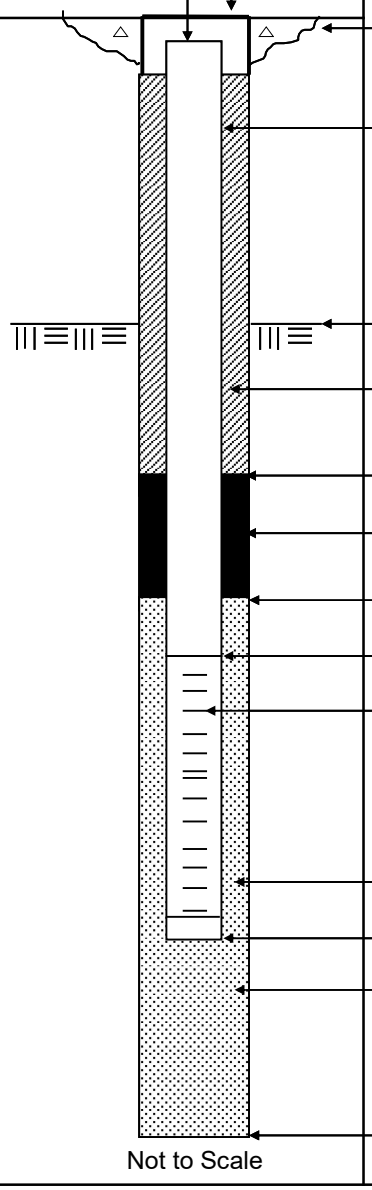
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0409
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/20/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

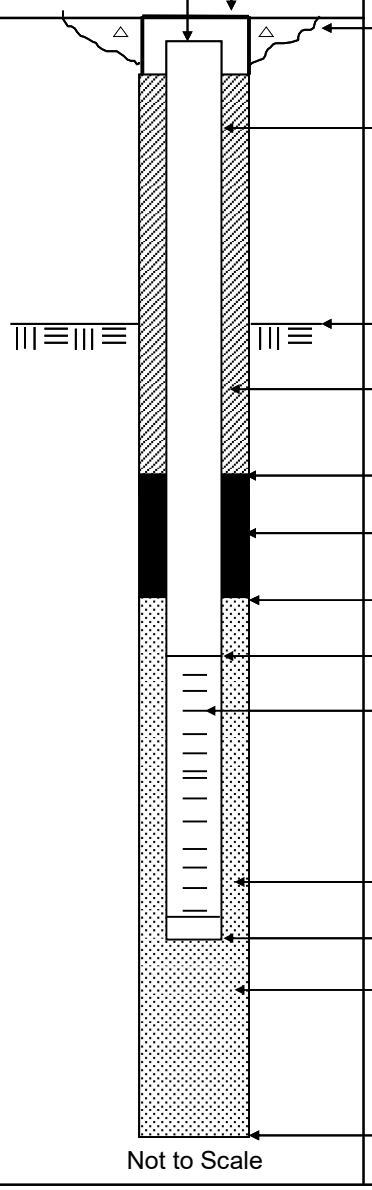
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0421
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/20/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

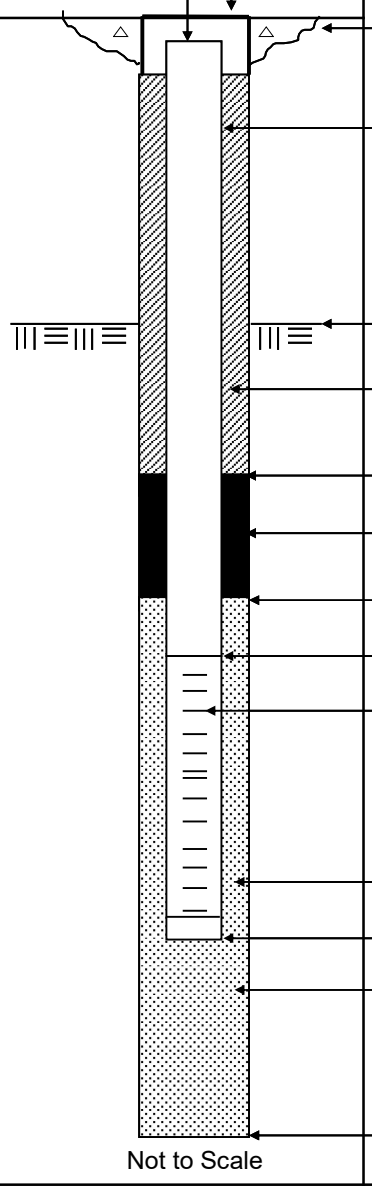
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0422
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/21/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

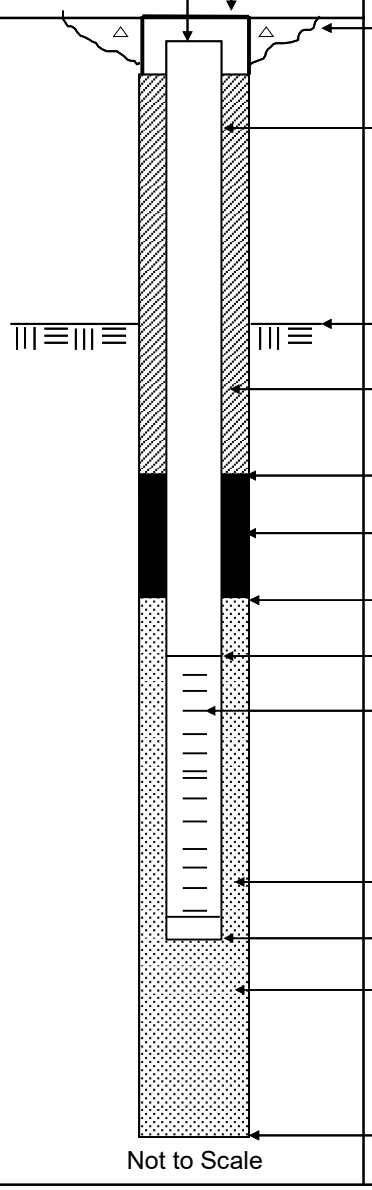
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0422
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/21/2022
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

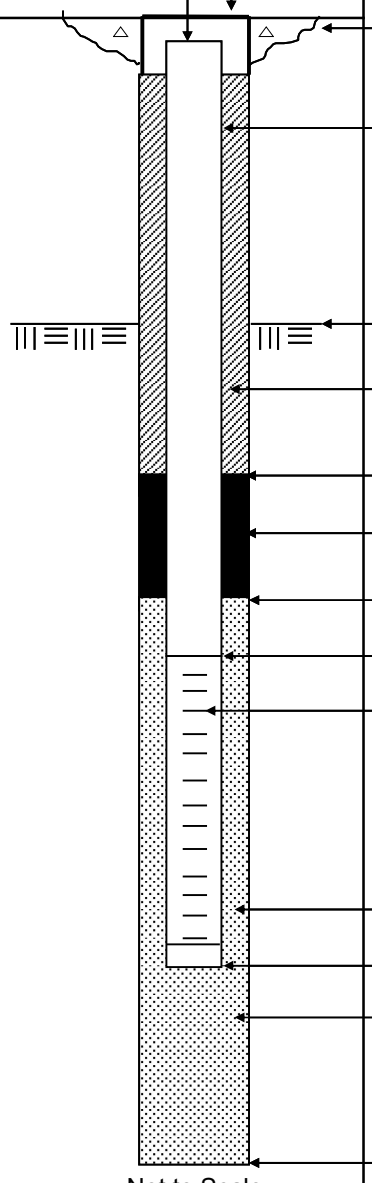
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0424
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/22/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

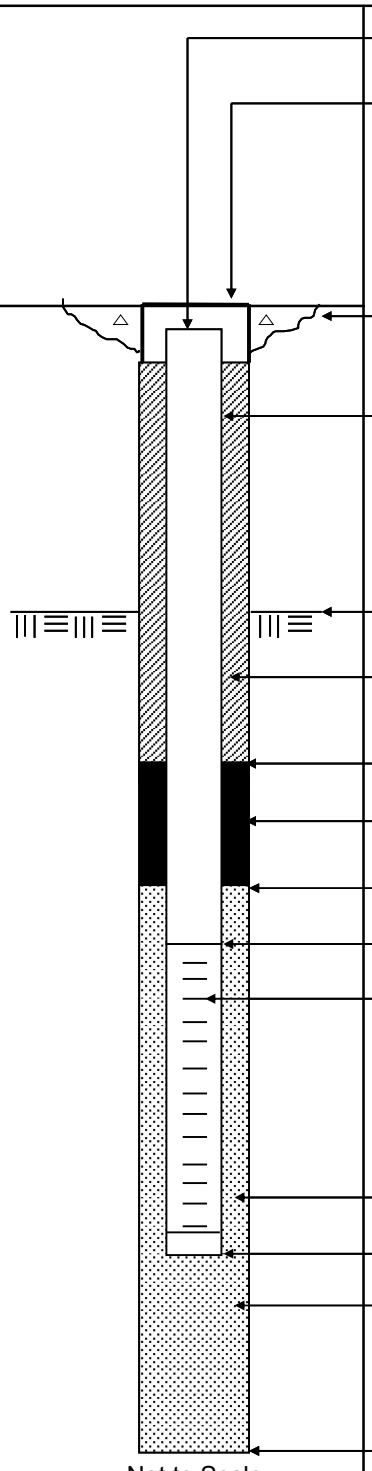
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0425
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/22/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 29.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 32.5

Elevation / Depth of Top of Screen: / 33.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 35.5

Type of Backfill Below Well: Native Soil

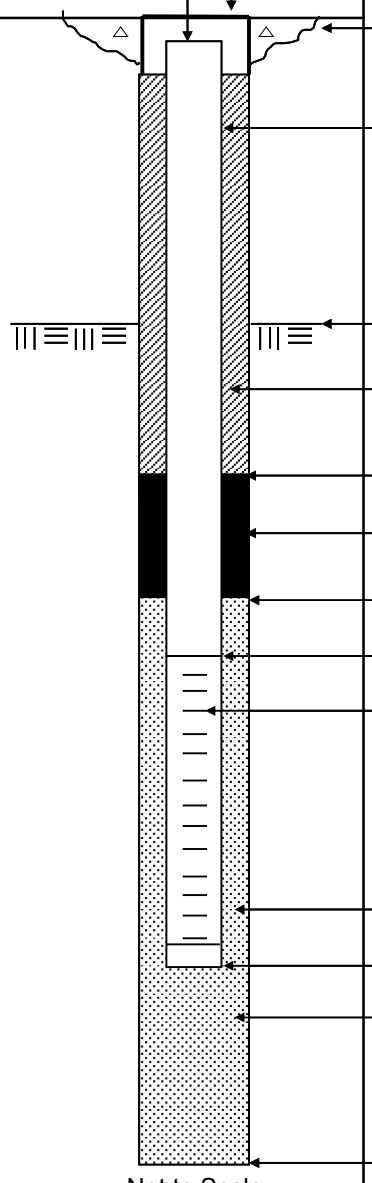
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0426
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/22/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

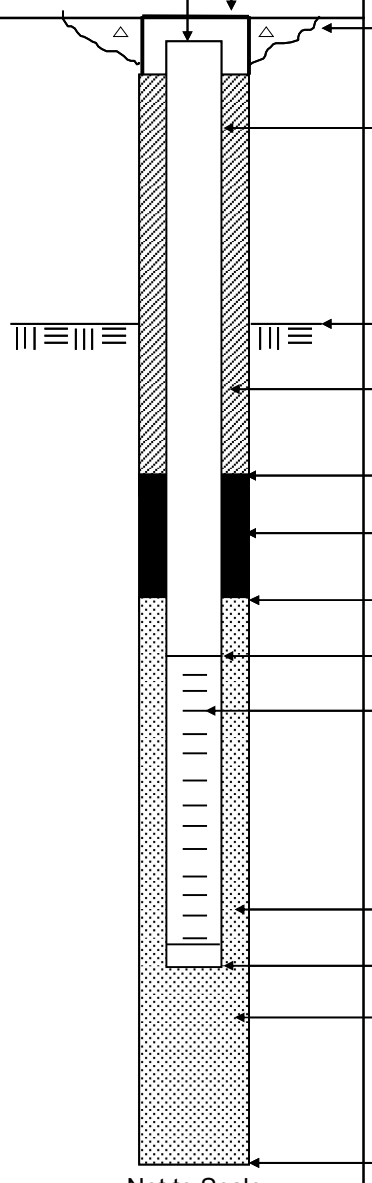
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0427
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/23/22
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

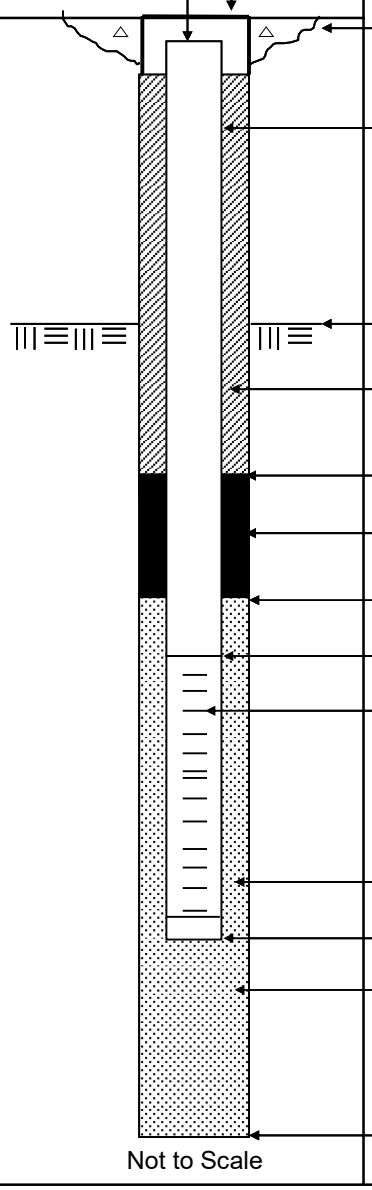
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0428
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	1/4/2023
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

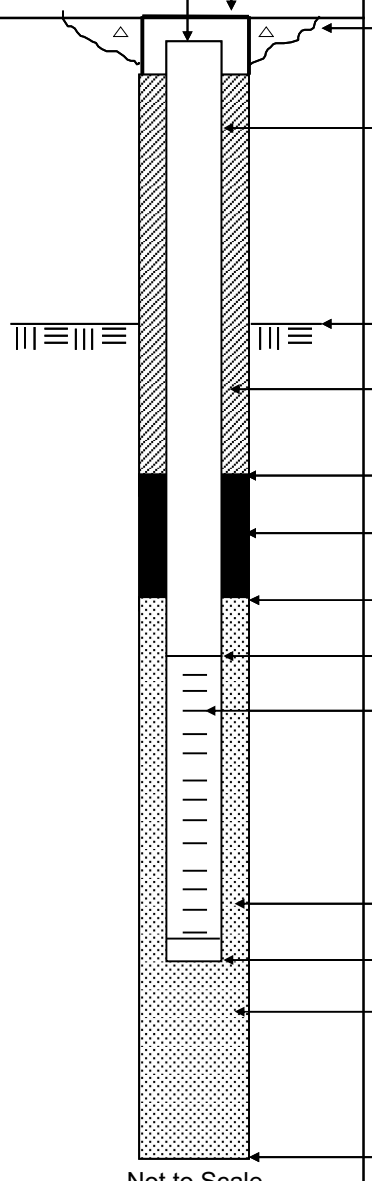
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0429
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/04/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Not to Scale

Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal:

Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 30.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 33.5

Elevation / Depth of Top of Screen: / 34.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 36.0

Elevation / Depth of Bottom of Filter Pack: / 36.5

Type of Backfill Below Well:

Native Soil

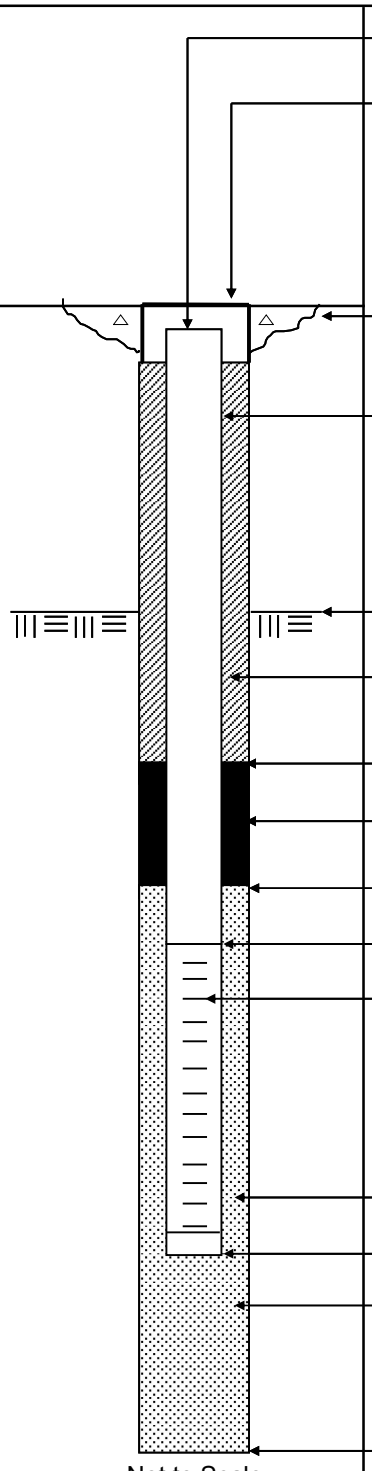
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0430
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	01/04/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 31.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 34.5

Elevation / Depth of Top of Screen: / 35.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 37.0

Elevation / Depth of Bottom of Filter Pack: / 37.5

Type of Backfill Below Well: Native Soil

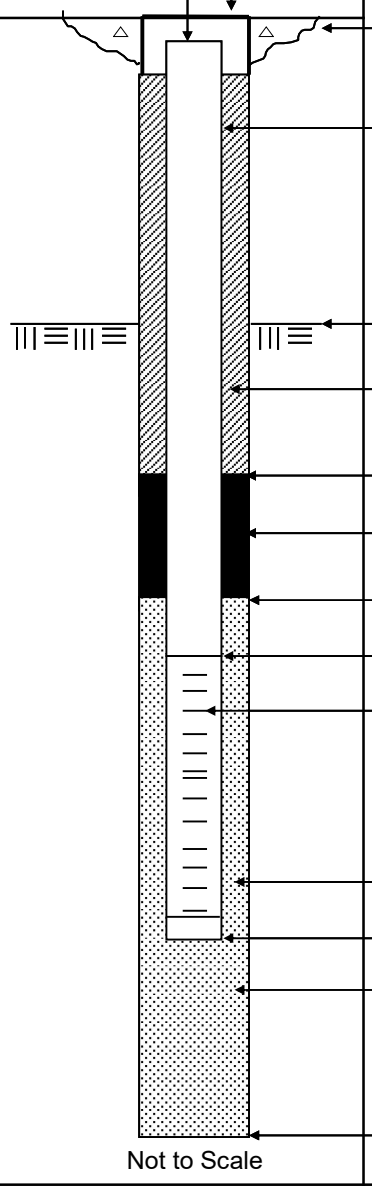
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0431
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	1/4/2023
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

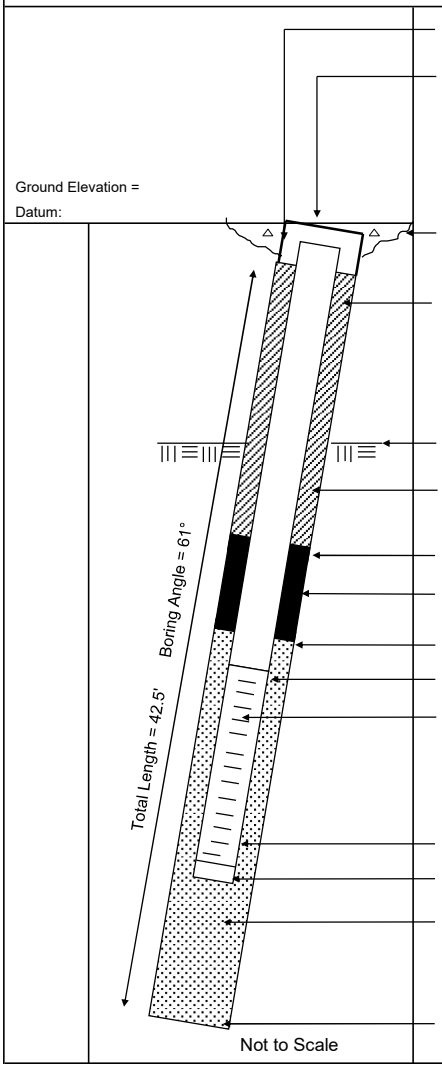
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0384
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	01/05/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



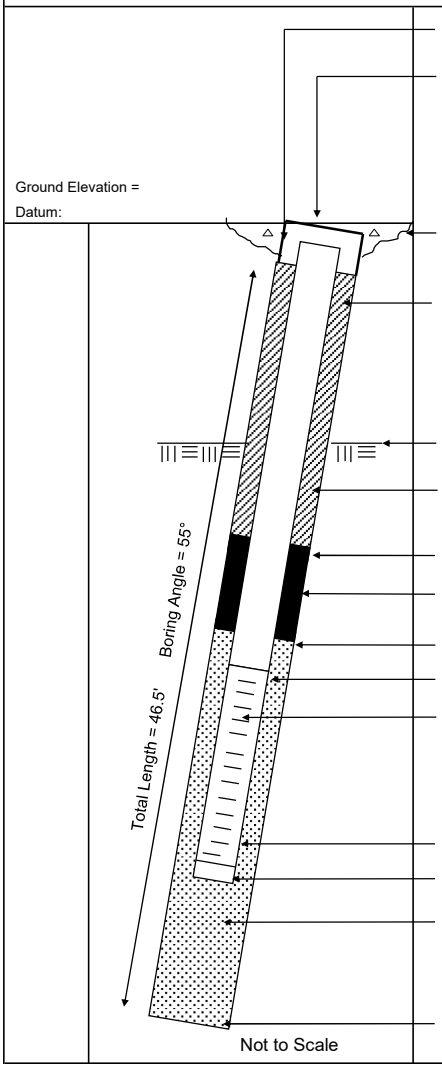
Elevation / Depth of Top of Riser:		/
Elevation / Height of Top of Surface Casing:		/ 0
I.D. of Surface Casing:		
Type of Surface Casing:		
Type of Surface Seal:	Cement	
I.D. of Riser:	1"	
Type of Riser:	PVC	
Borehole Diameter:	4 Inch	
casing to foot depth		
Elevation / Depth Top of Rock:		/ NA
Type of Seal:	Portland Cement Grout	
Elevation / Depth of Seal:		/ 31.7
Type of Seal:	Bentonite	
Elevation / Depth of Top of Filter Pack:		/ 34.7
Elevation / Depth of Top of Screen:		/ 35.2
Type of Screen:	Schumasoil	
Slot Size x Length:	1" x 24" x 40 Micron	
I.D. of Screen:	1"	
Type of Filter Pack:	20/30 Filter Sand	
Elevation / Depth of Bottom of Screen:		/ 37.2
Elevation / Depth of Bottom of Filter Pack:		/ 37.2
Type of Backfill Below Well:		
Elevation / Total Depth of Borehole:		/ 37.2

Tetra Tech, Inc.

BORING No.: _____

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0383
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	01/05/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing: _____

Type of Surface Casing: _____

Type of Surface Seal: _____
Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / NA

Type of Seal: Portland
Cement Grout

Elevation / Depth of Seal: / 32.6

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.6

Elevation / Depth of Top of Screen: / 36.1

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.1

Elevation / Depth of Bottom of Filter Pack: / 38.1

Type of Backfill Below Well: _____

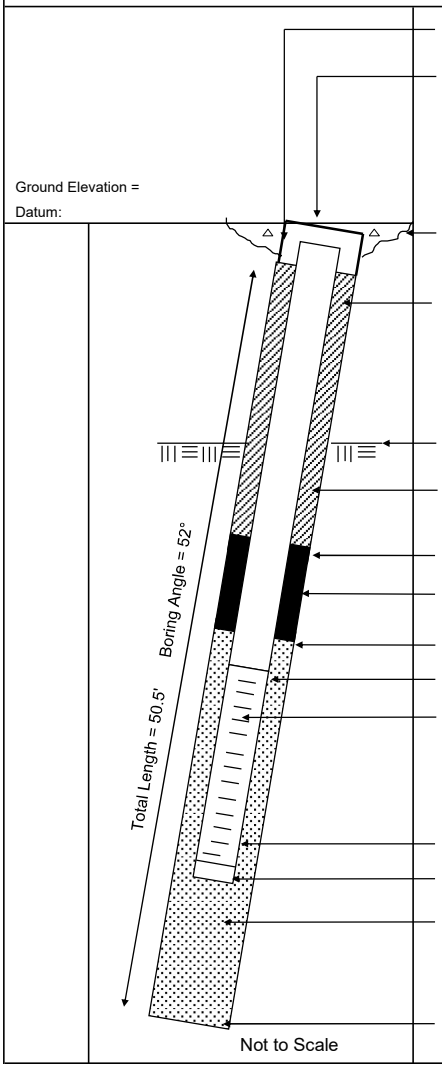
Elevation / Total Depth of Borehole: / 38.1

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0377
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	01/05/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / NA

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.3

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.3

Elevation / Depth of Top of Screen: / 37.8

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.8

Elevation / Depth of Bottom of Filter Pack: / 39.8

Type of Backfill Below Well:

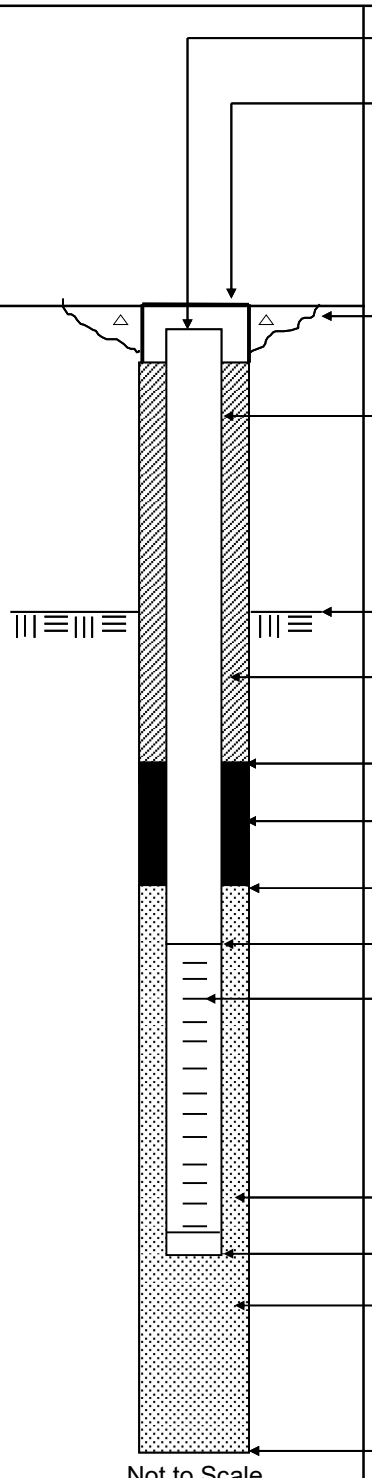
Elevation / Total Depth of Borehole: / 39.8

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0401
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	01/09/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 29.0

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 32.0

Elevation / Depth of Top of Screen: / 32.5

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 34.5

Elevation / Depth of Bottom of Filter Pack: / 35.0

Type of Backfill Below Well: Native Soil

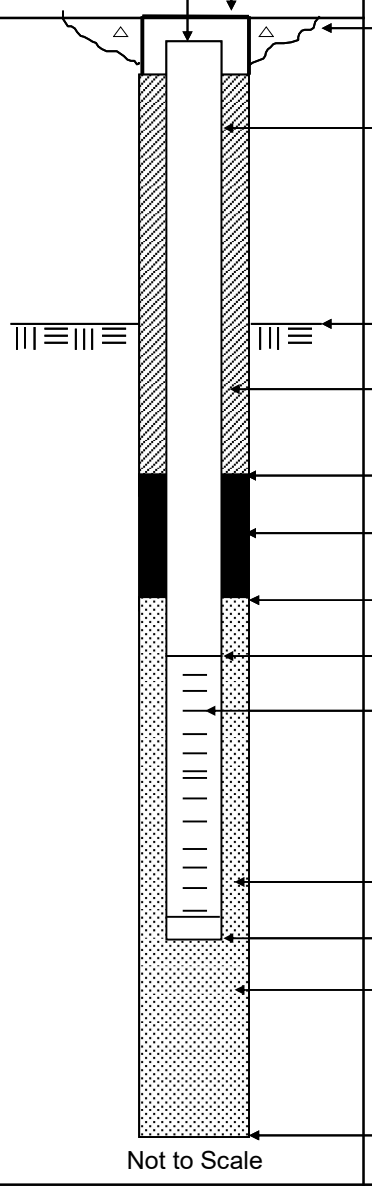
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0433
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	1/9/2023
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

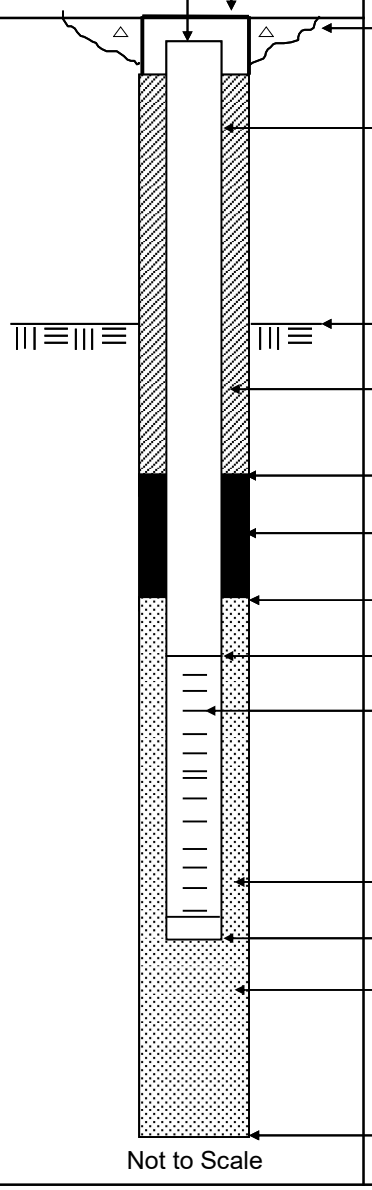
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0434
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	1/9/2023
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

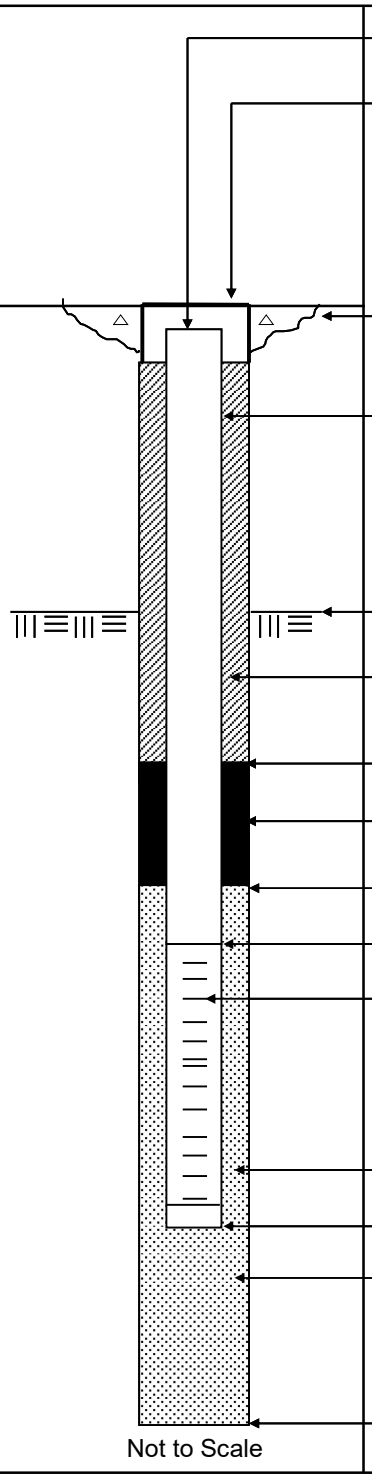
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0435
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	1/10/2023
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

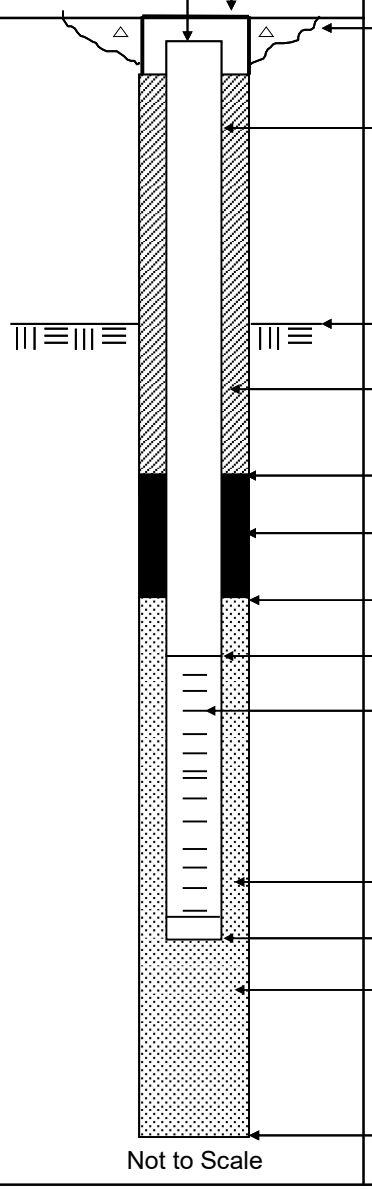
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0436
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	1/10/2023
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

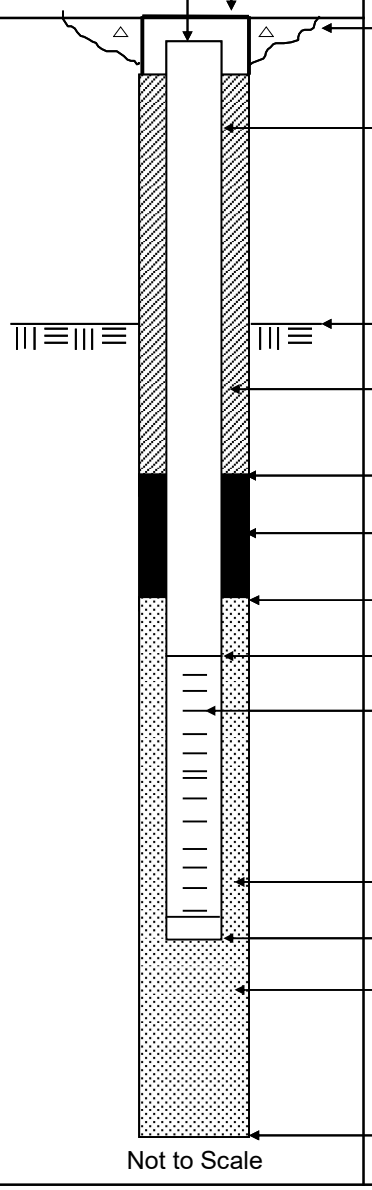
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0437
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	1/10/2023
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

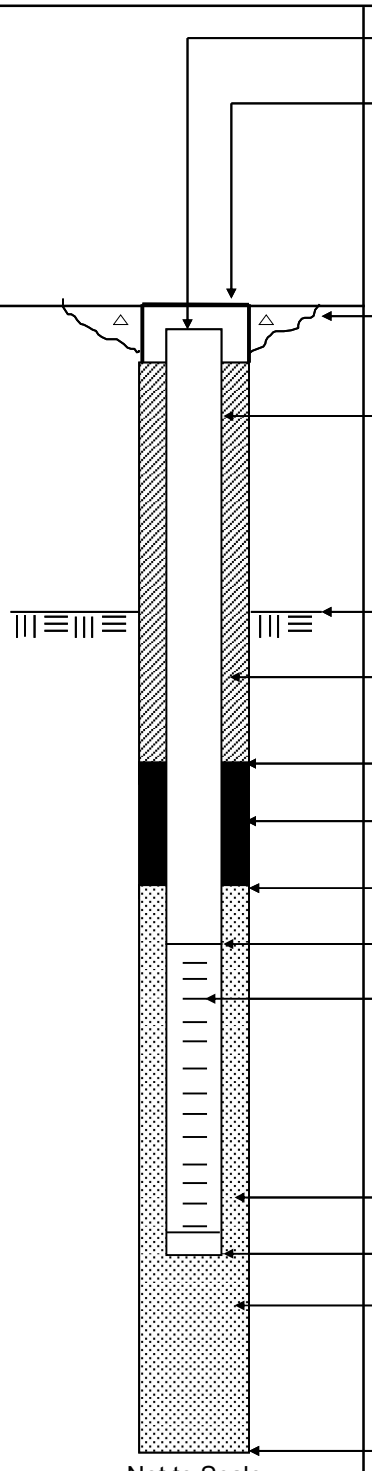
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0438
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	01/10/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal:
Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well:
Native Soil

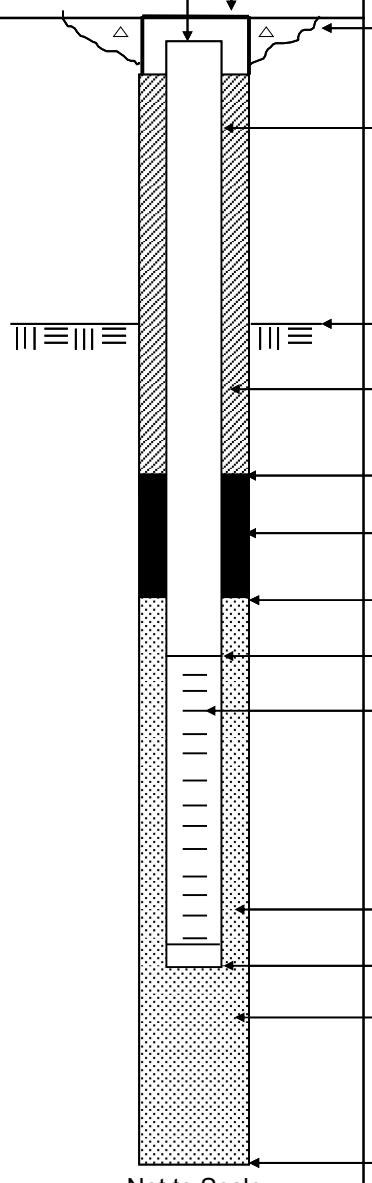
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0439
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	01/10/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 29.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 32.5

Elevation / Depth of Top of Screen: / 33.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 35.5

Type of Backfill Below Well: Native Soil

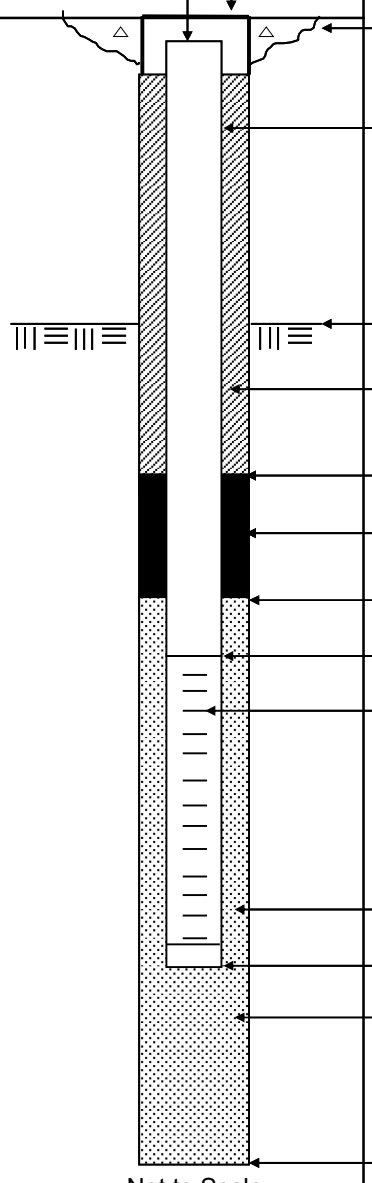
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0440
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	01/10/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 29.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 32.5

Elevation / Depth of Top of Screen: / 33.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 35.5

Type of Backfill Below Well: Native Soil

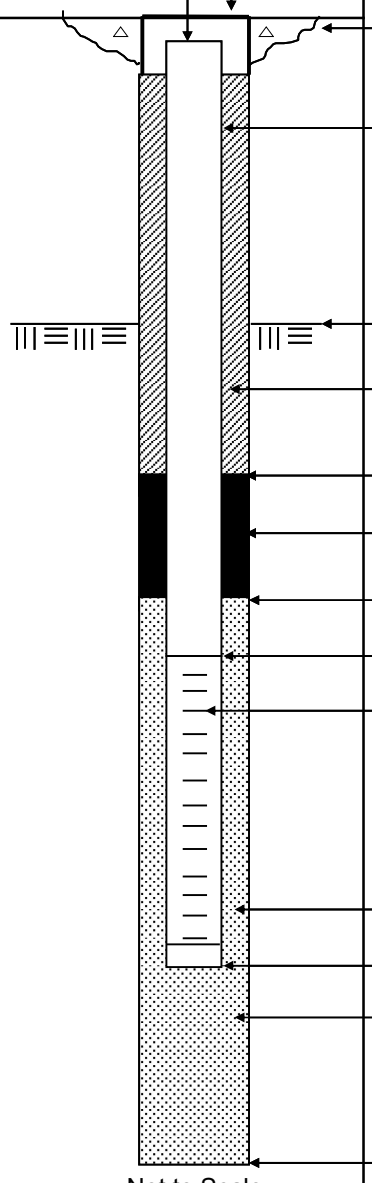
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0441
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	01/11/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

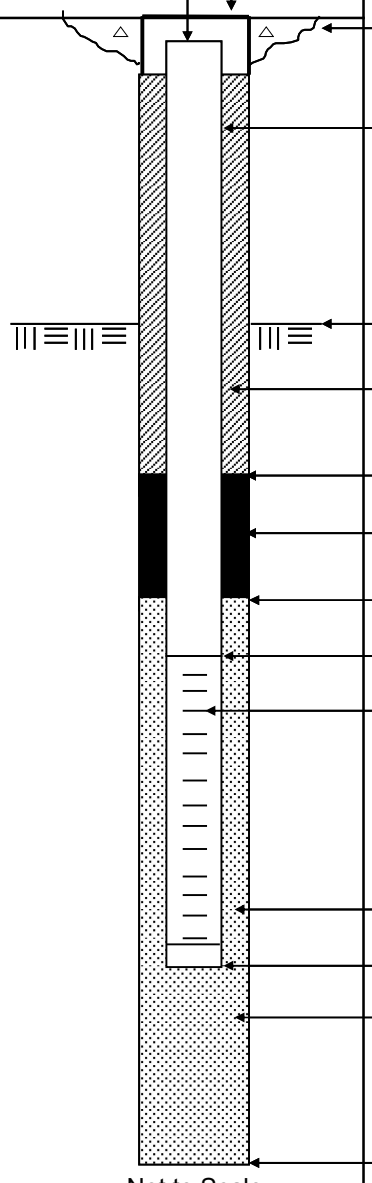
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0442
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	01/11/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 26.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 29.5

Elevation / Depth of Top of Screen: / 30.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 32.0

Elevation / Depth of Bottom of Filter Pack: / 32.5

Type of Backfill Below Well: Native Soil

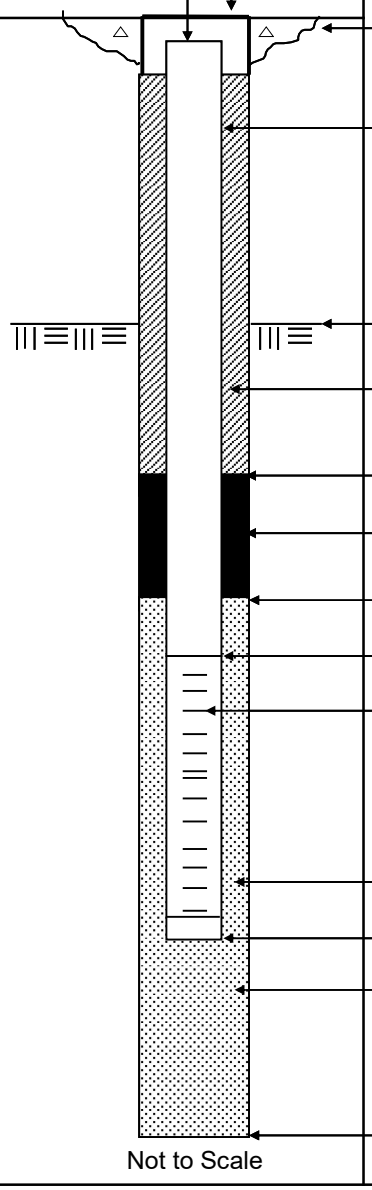
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0443
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	1/12/2023
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

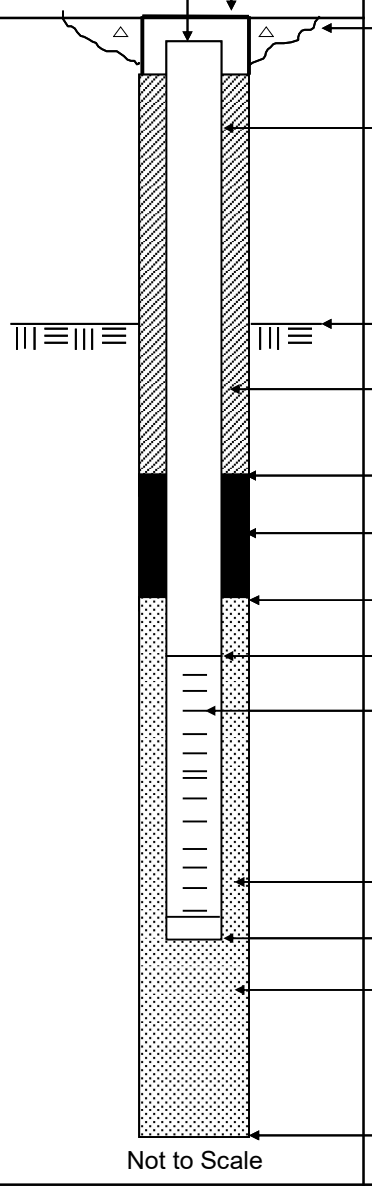
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0455
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	1/12/2023
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

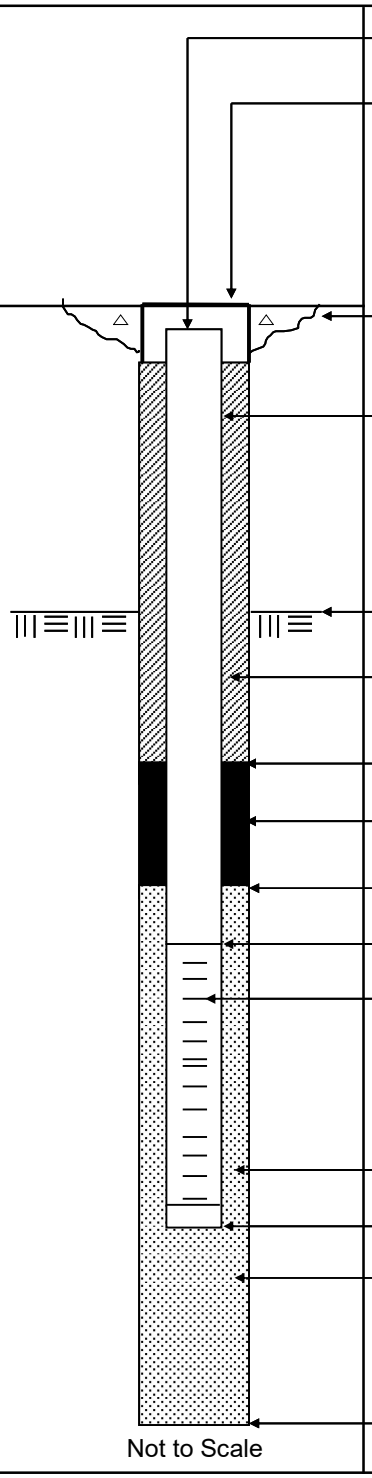
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0466
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	1/12/2023
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

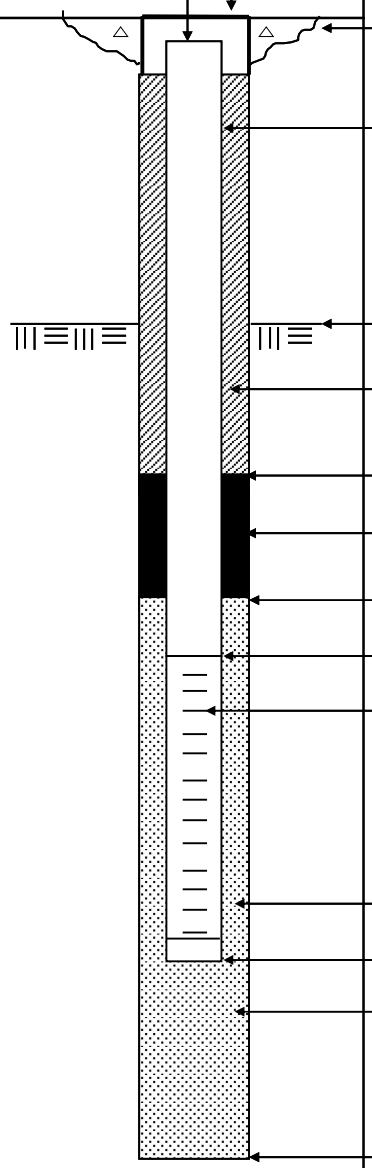
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0454
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/13/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 30.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 33.5

Elevation / Depth of Top of Screen: / 34.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 36.0

Elevation / Depth of Bottom of Filter Pack: / 36.5

Type of Backfill Below Well: Native Soil

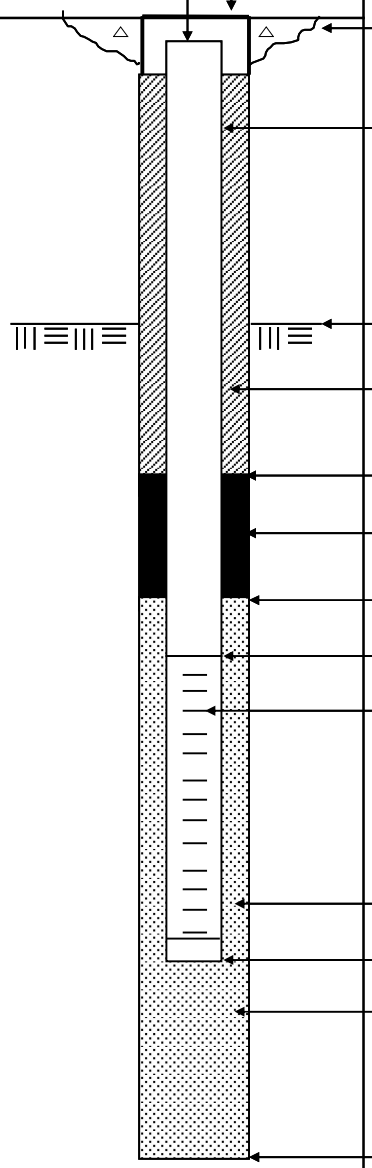
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0453
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/13/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 31.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 34.5

Elevation / Depth of Top of Screen: / 35.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 37.0

Elevation / Depth of Bottom of Filter Pack: / 37.5

Type of Backfill Below Well: Native Soil

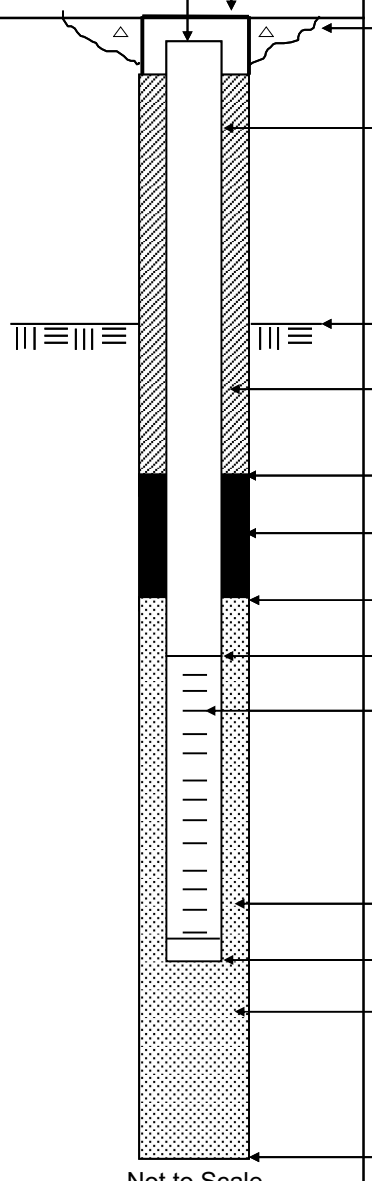
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0452
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/16/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 31.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 34.5

Elevation / Depth of Top of Screen: / 35.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 37.0

Elevation / Depth of Bottom of Filter Pack: / 37.5

Type of Backfill Below Well: Native Soil

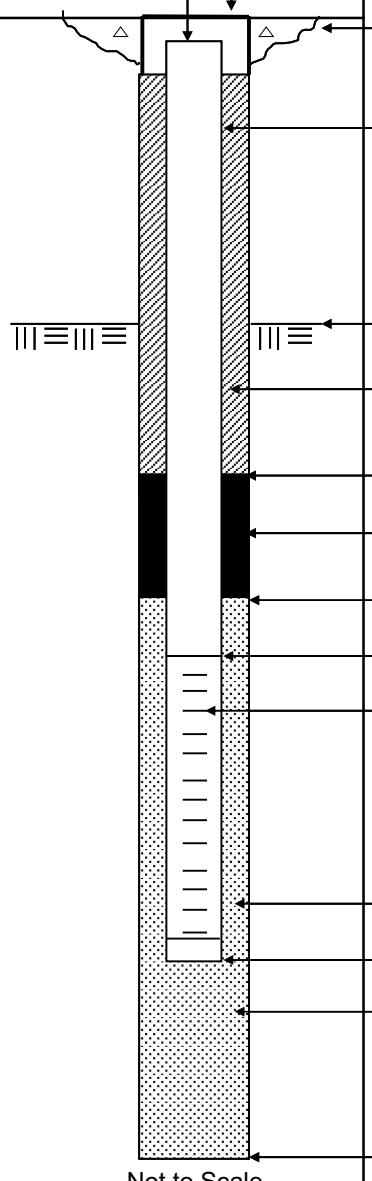
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0451
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/16/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 28.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 31.5

Elevation / Depth of Top of Screen: / 32.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 34.0

Elevation / Depth of Bottom of Filter Pack: / 34.5

Type of Backfill Below Well: Native Soil

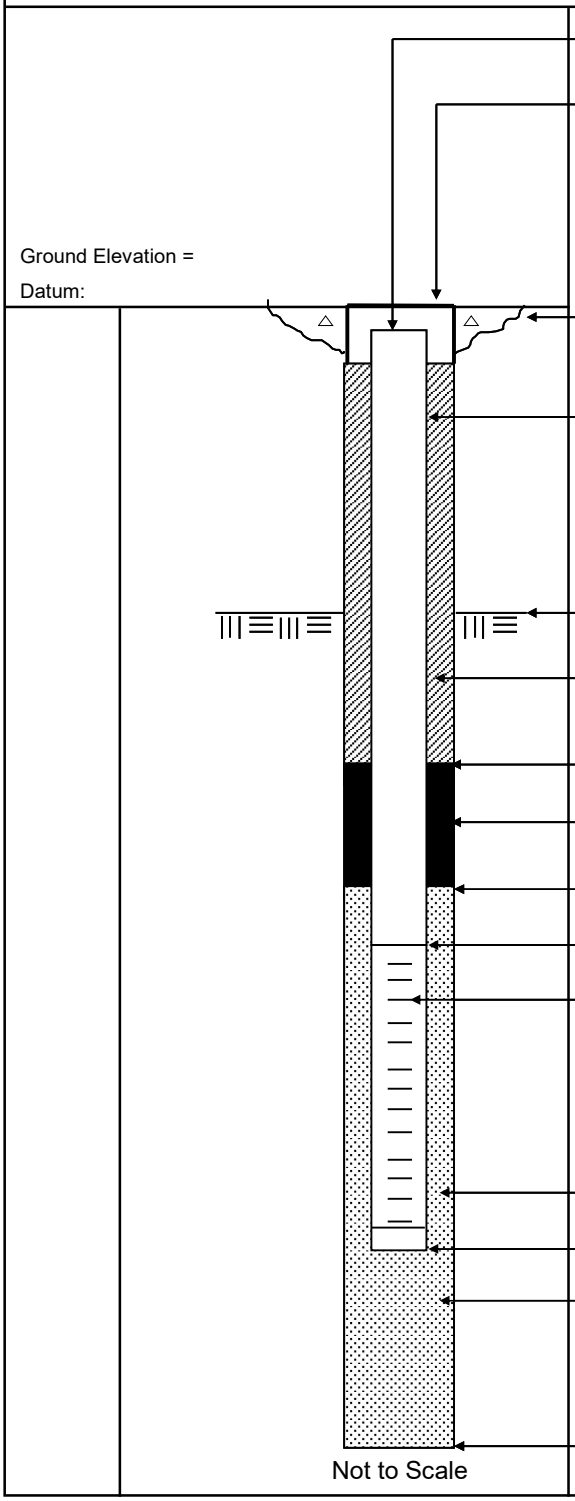
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0450
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/16/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

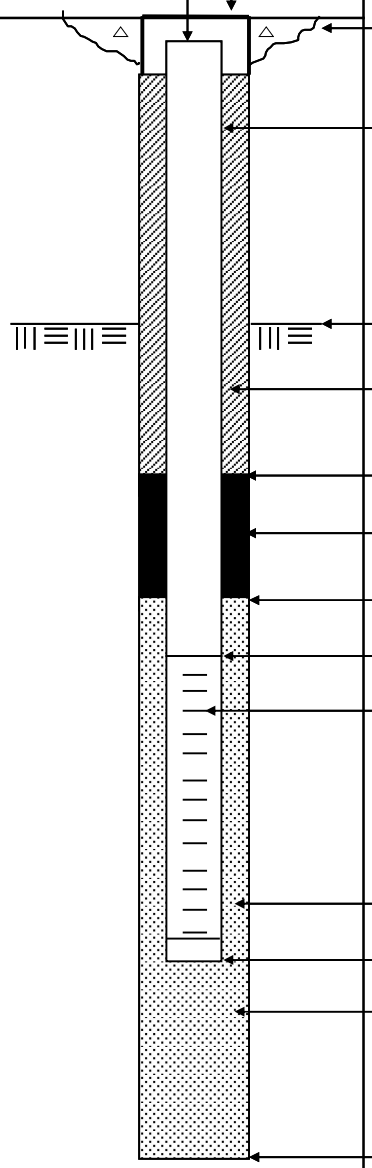
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0449
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/17/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 28.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 31.5

Elevation / Depth of Top of Screen: / 32.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 34.0

Elevation / Depth of Bottom of Filter Pack: / 34.5

Type of Backfill Below Well: Native Soil

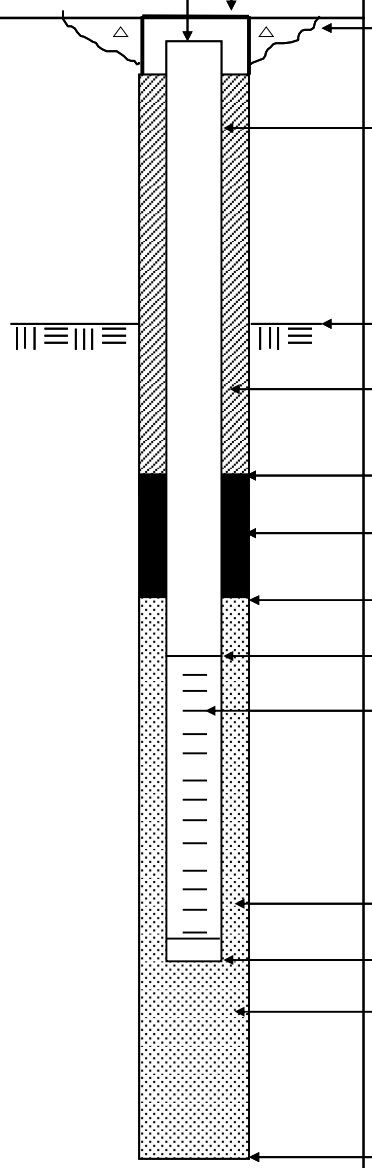
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0448
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/17/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

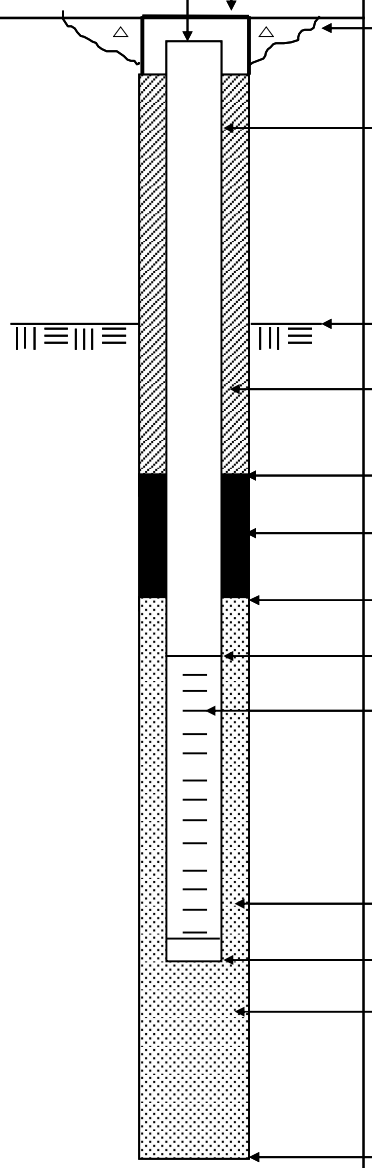
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0447
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/17/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

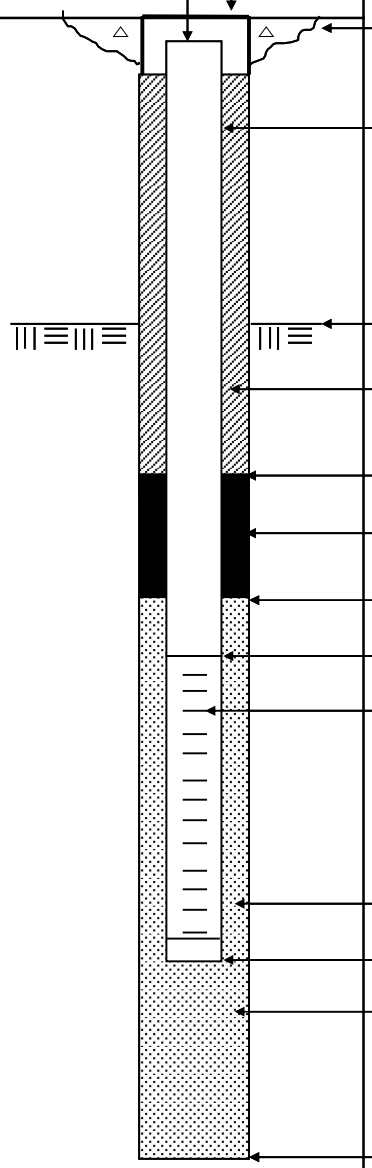
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0446
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/17/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

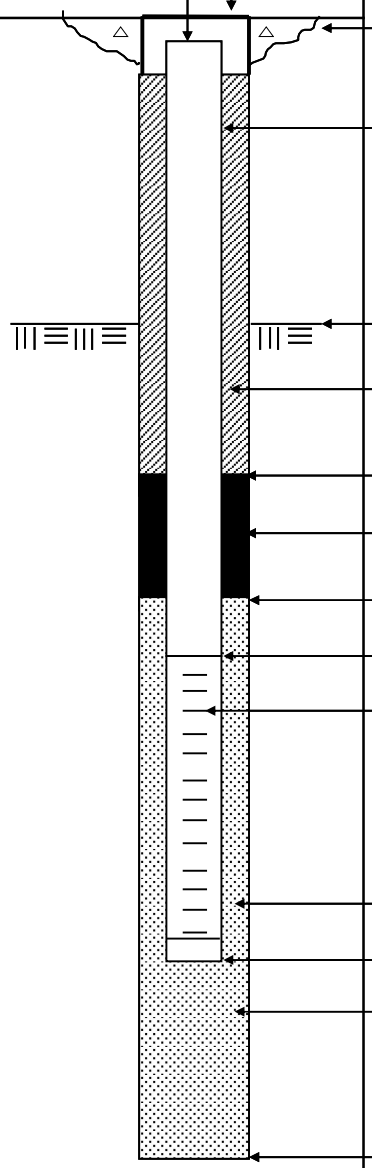
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0445
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/17/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

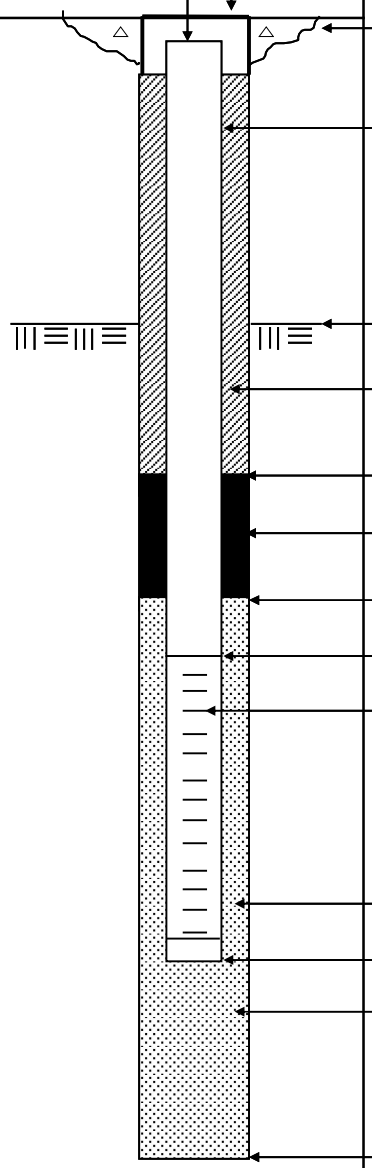
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0457
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/17/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

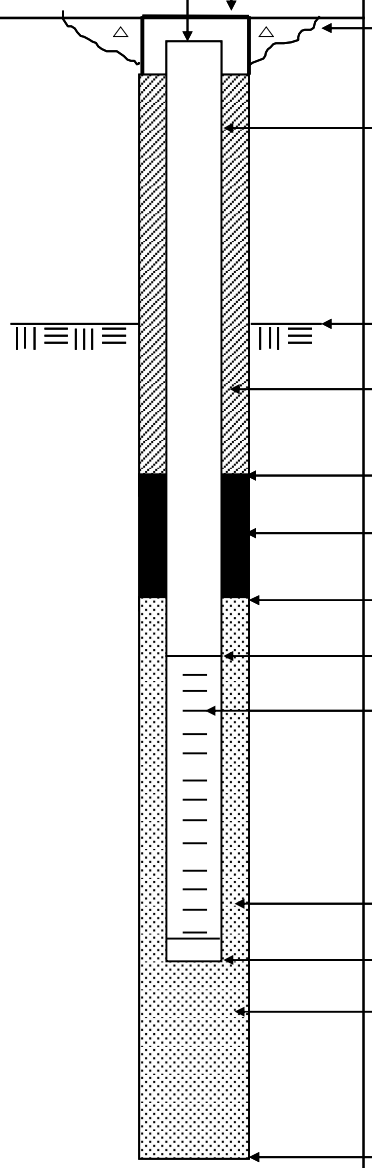
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0458
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/18/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

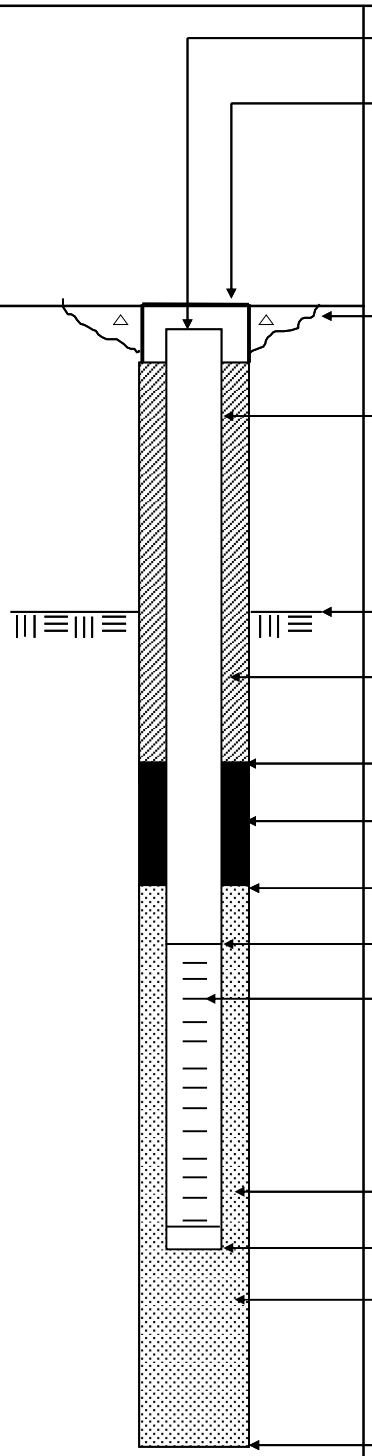
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0469
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/18/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

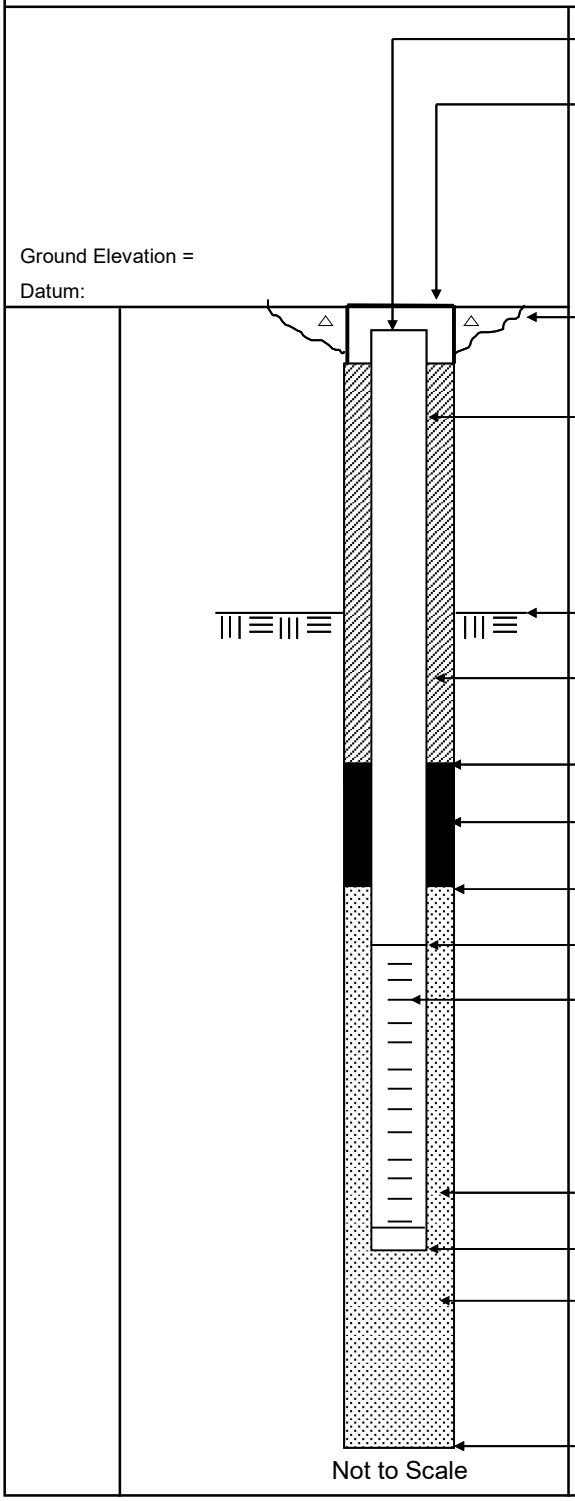
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0479
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/18/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

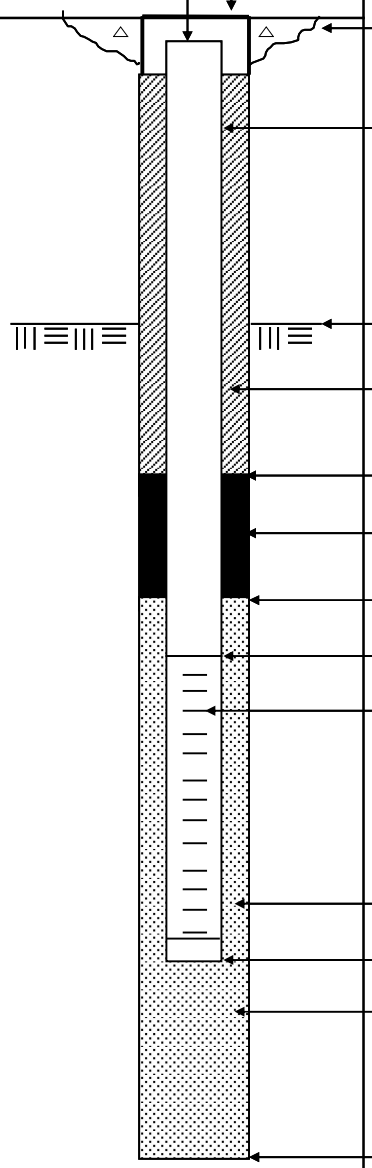
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0487
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/18/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 26.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 29.5

Elevation / Depth of Top of Screen: / 30.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 32.0

Elevation / Depth of Bottom of Filter Pack: / 32.5

Type of Backfill Below Well: Native Soil

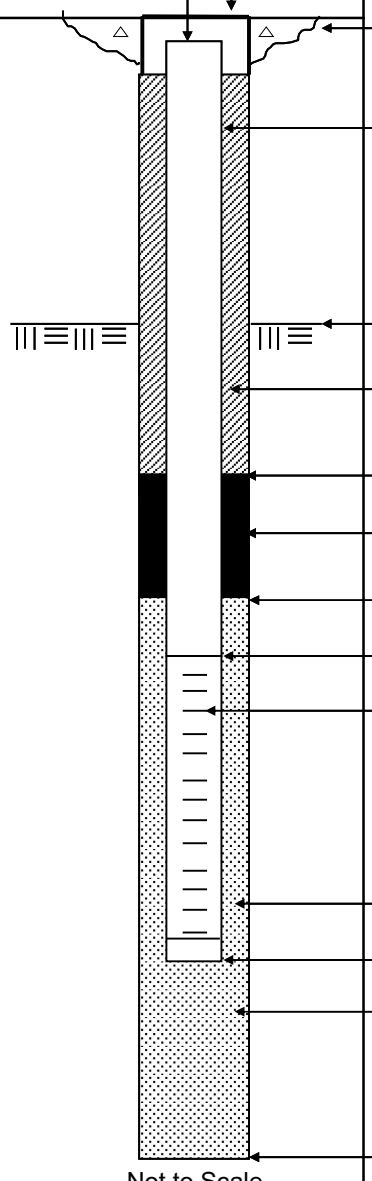
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0486
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/18/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 26.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 29.5

Elevation / Depth of Top of Screen: / 30.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 32.0

Elevation / Depth of Bottom of Filter Pack: / 32.5

Type of Backfill Below Well: Native Soil

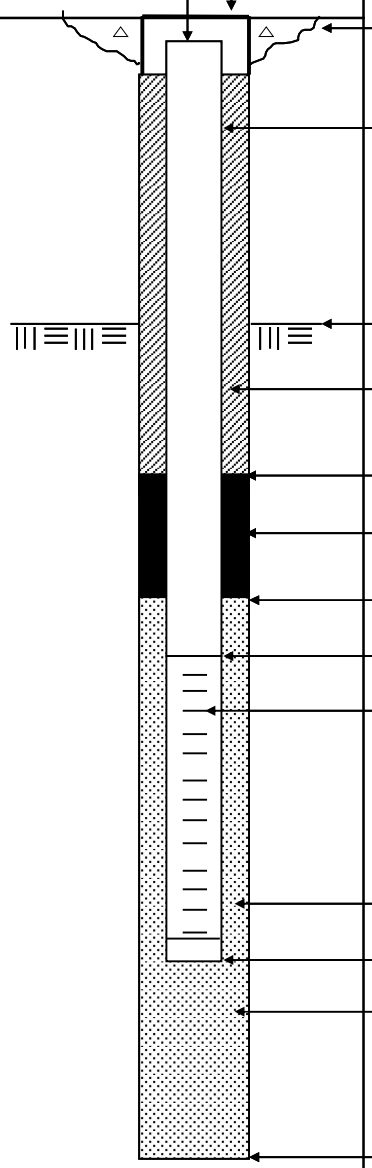
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0478
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/18/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 27.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 30.5

Elevation / Depth of Top of Screen: / 31.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 33.0

Elevation / Depth of Bottom of Filter Pack: / 33.5

Type of Backfill Below Well: Native Soil

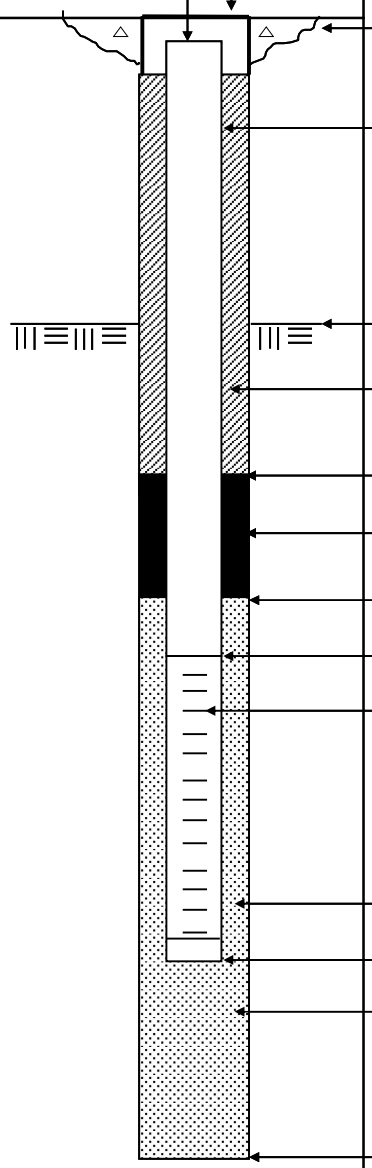
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0468
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/19/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

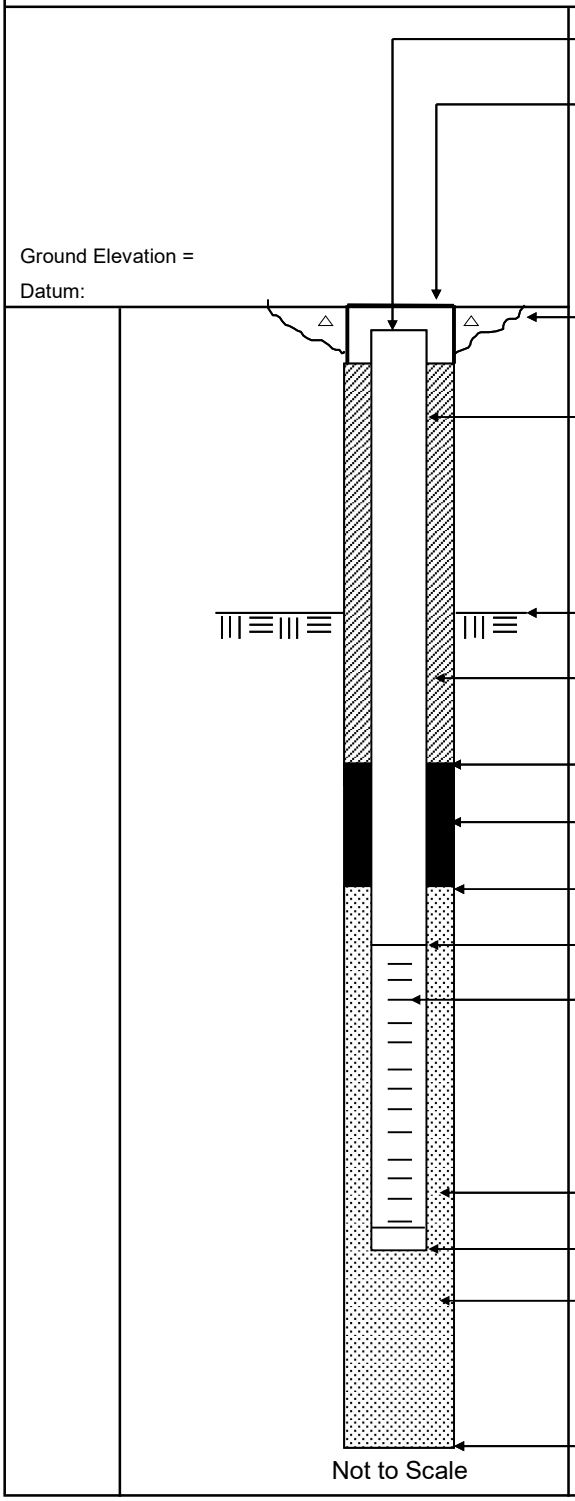
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0459
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/19/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

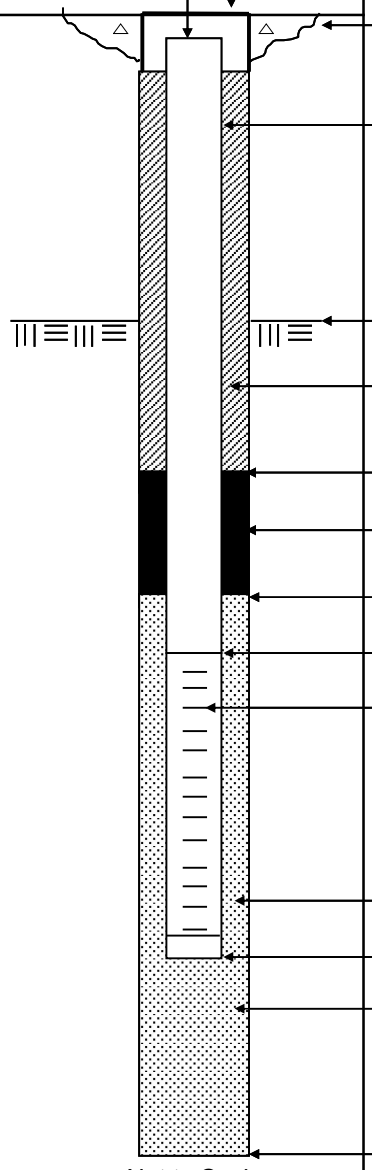
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0460
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/19/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Not to Scale

Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 30.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 33.5

Elevation / Depth of Top of Screen: / 34.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 36.0

Elevation / Depth of Bottom of Filter Pack: / 36.5

Type of Backfill Below Well: Native Soil

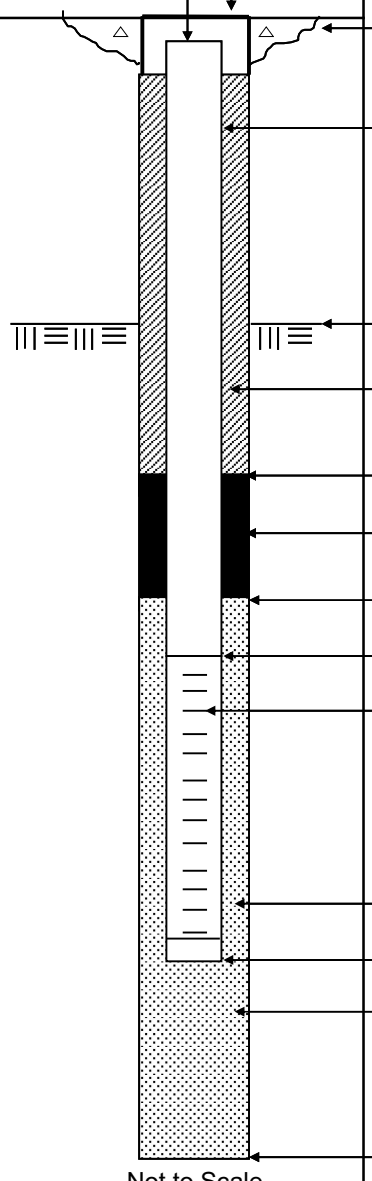
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0461
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/19/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

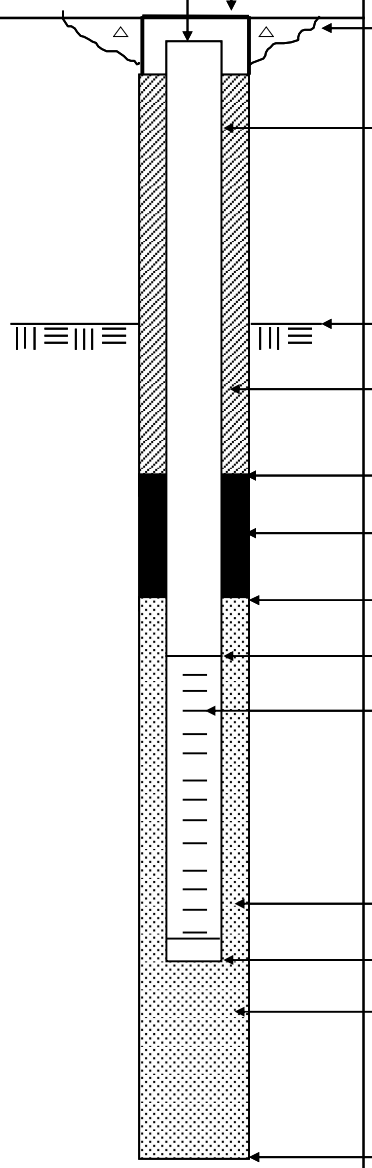
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0462
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/19/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 29.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 32.5

Elevation / Depth of Top of Screen: / 33.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 35.5

Type of Backfill Below Well: Native Soil

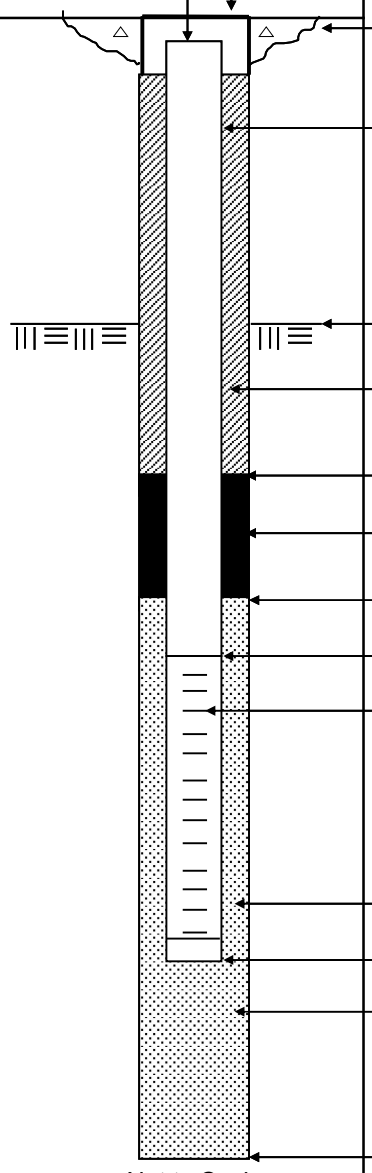
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0470
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/20/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

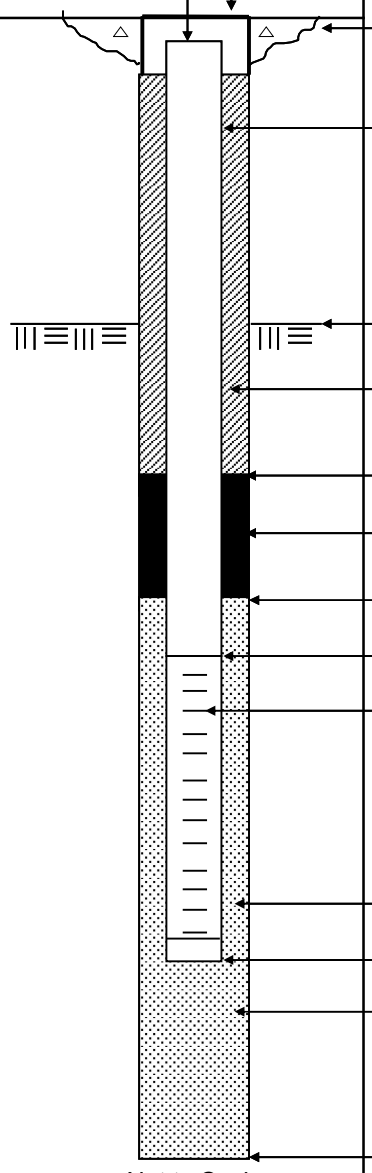
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0472
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/23/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

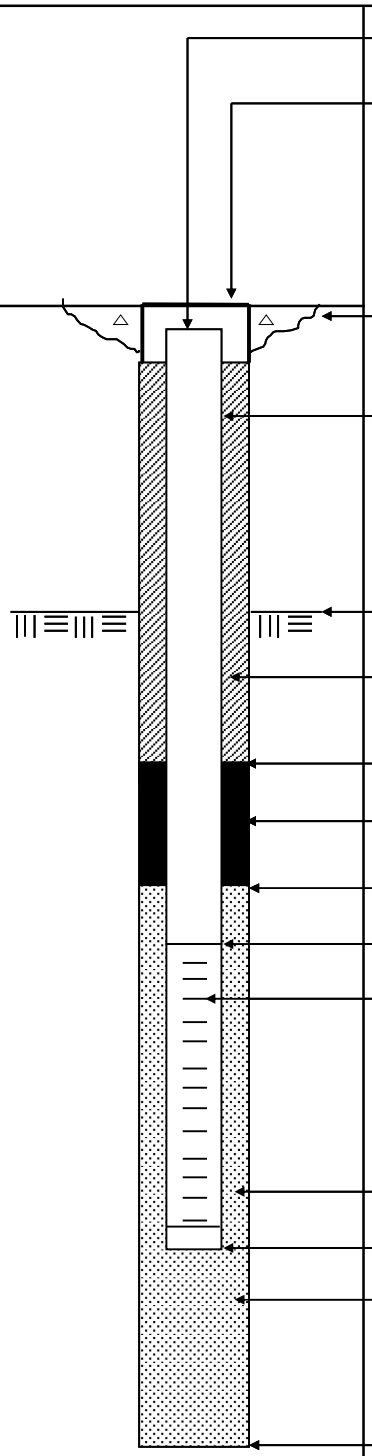
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0471
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/23/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 33.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 36.5

Elevation / Depth of Top of Screen: / 37.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.0

Elevation / Depth of Bottom of Filter Pack: / 39.5

Type of Backfill Below Well: Native Soil

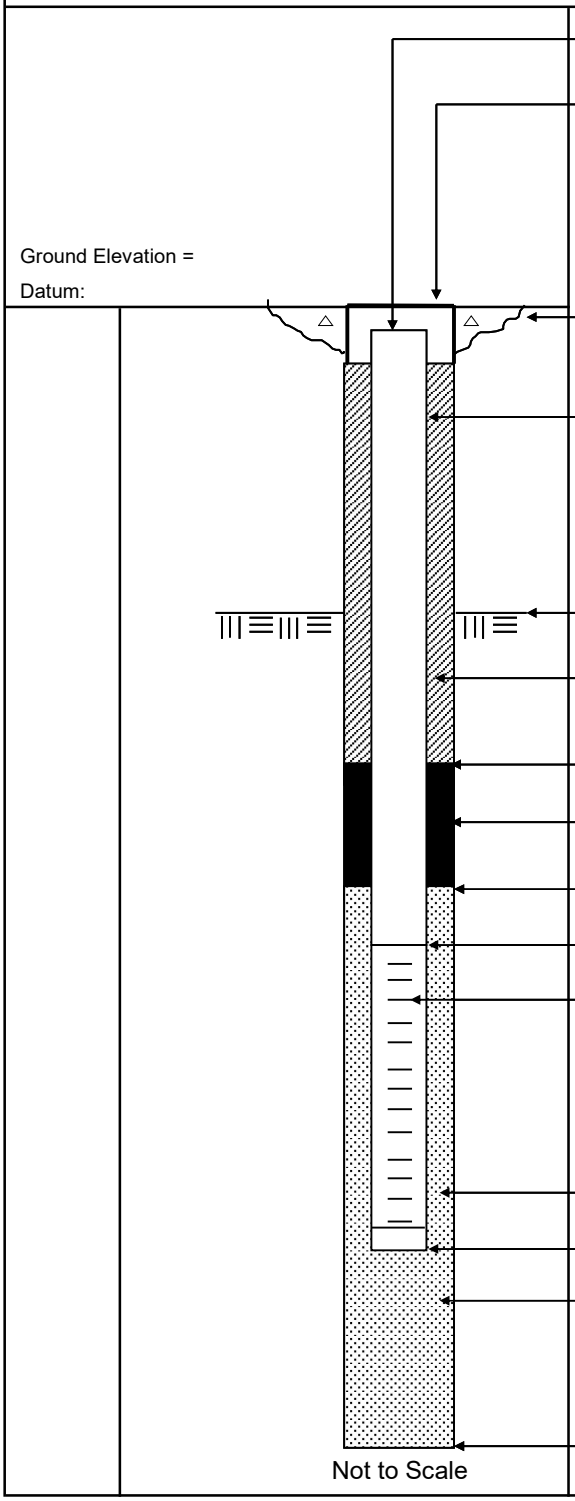
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0480
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/26/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

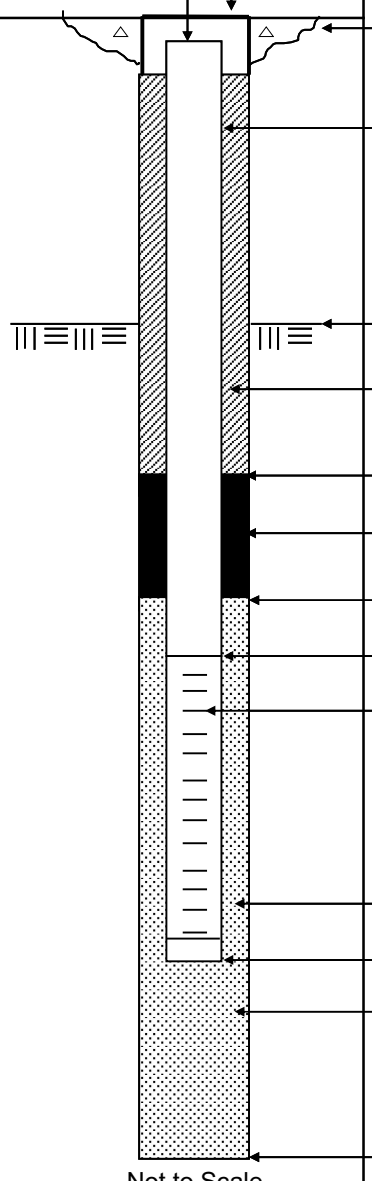
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0481
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/23/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 37.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 40.5

Elevation / Depth of Top of Screen: / 41.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 43.0

Elevation / Depth of Bottom of Filter Pack: / 43.5

Type of Backfill Below Well: Native Soil

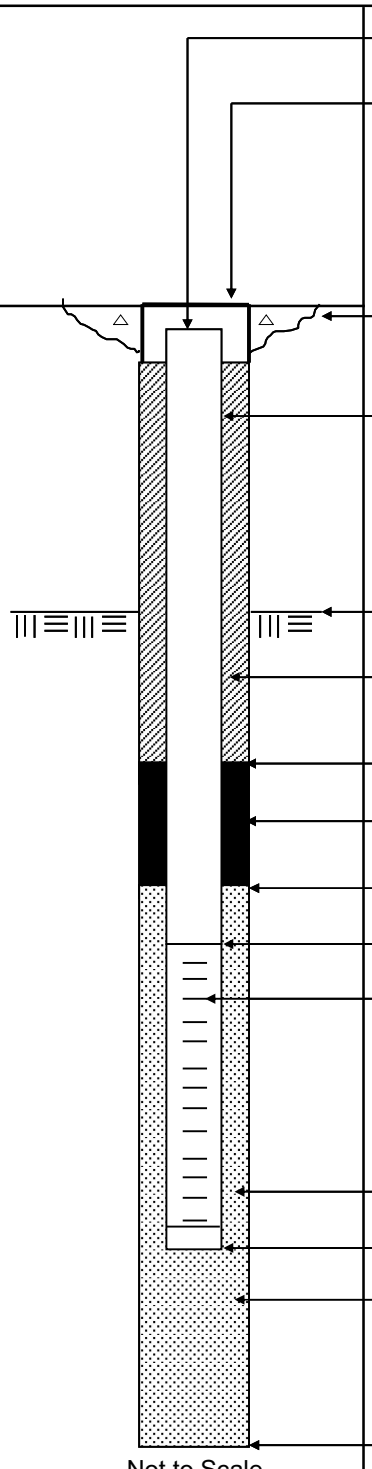
Elevation / Total Depth of Borehole: / 45.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0482
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/23/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 42.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 45.5

Elevation / Depth of Top of Screen: / 46.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 48.0

Elevation / Depth of Bottom of Filter Pack: / 48.5

Type of Backfill Below Well: Native Soil

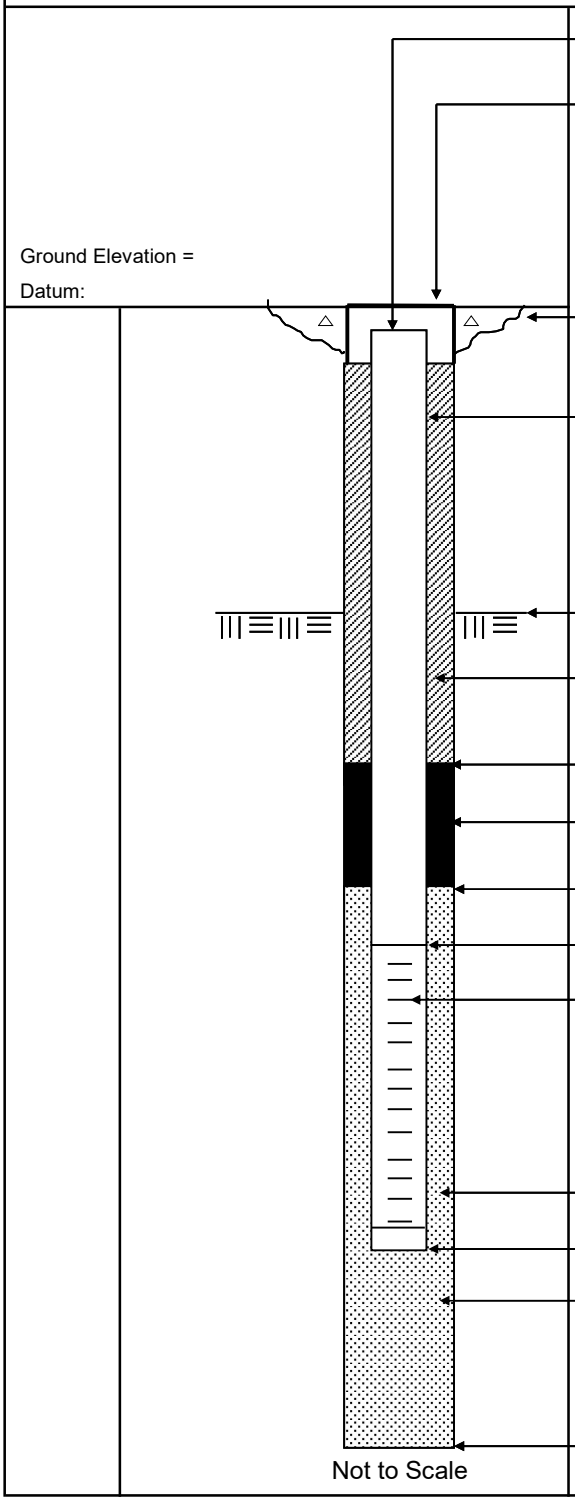
Elevation / Total Depth of Borehole: / 50.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0473
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/27/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 44.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 47.5

Elevation / Depth of Top of Screen: / 48.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 50.0

Elevation / Depth of Bottom of Filter Pack: / 50.0

Type of Backfill Below Well: Native Soil

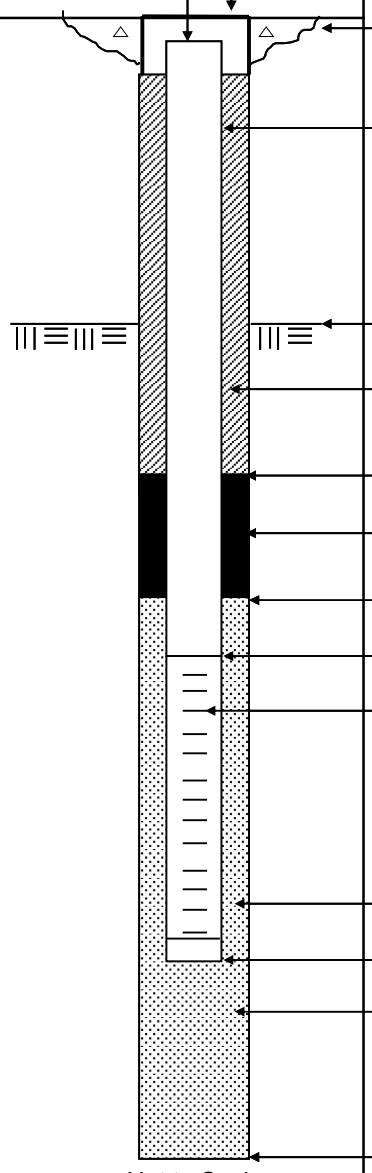
Elevation / Total Depth of Borehole: / 50.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0464
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/27/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 40.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 43.5

Elevation / Depth of Top of Screen: / 44.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 46.0

Elevation / Depth of Bottom of Filter Pack: / 46.5

Type of Backfill Below Well: Native Soil

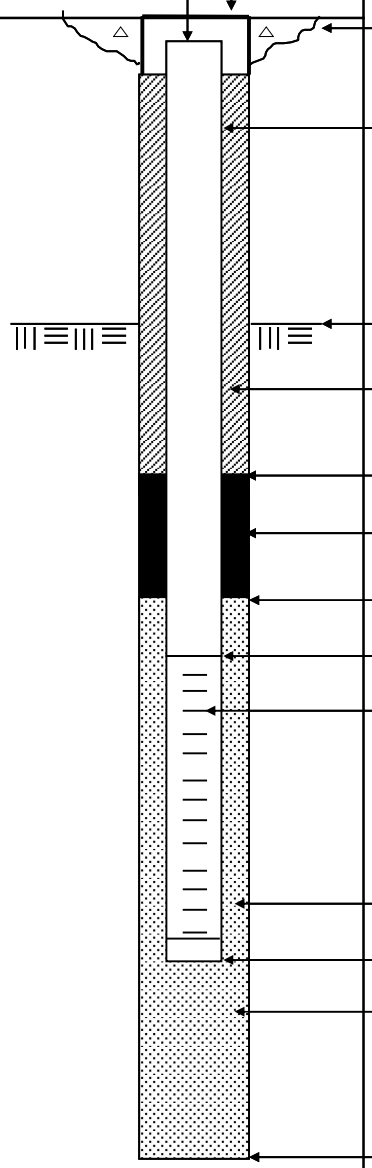
Elevation / Total Depth of Borehole: / 50.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0475
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/27/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Not to Scale

Ground Elevation =

Datum:

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal:

Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 44.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 47.5

Elevation / Depth of Top of Screen: / 48.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 50.0

Elevation / Depth of Bottom of Filter Pack: / 50.0

Type of Backfill Below Well:

Native Soil

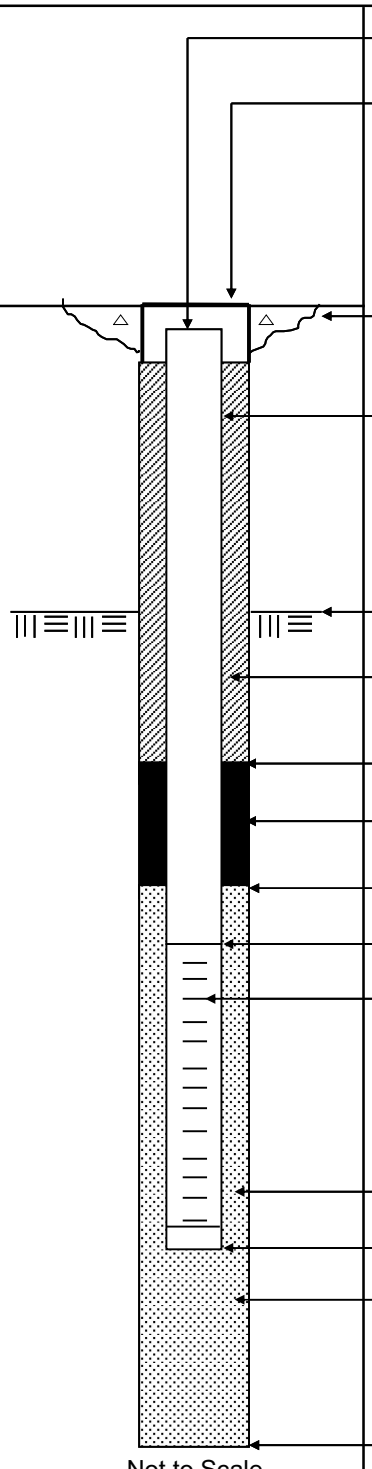
Elevation / Total Depth of Borehole: / 50.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0386
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/30/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

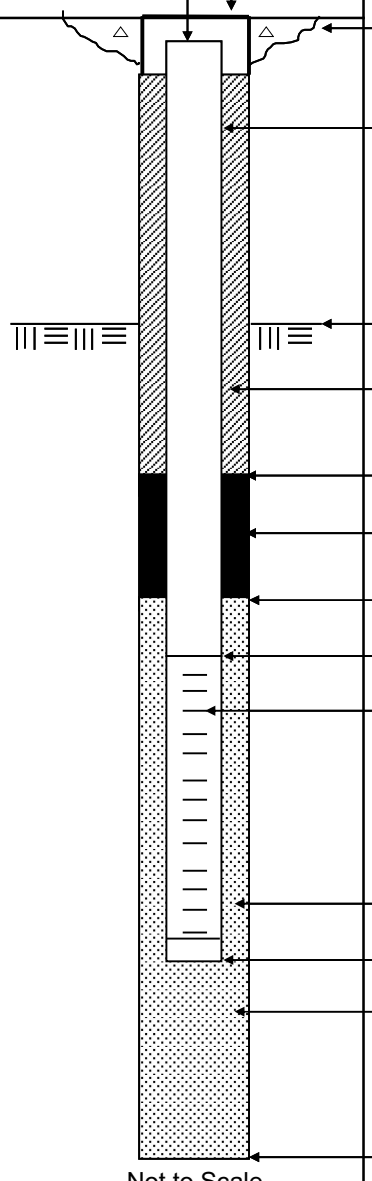
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0397
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/30/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.5

Elevation / Depth of Top of Screen: / 38.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.0

Elevation / Depth of Bottom of Filter Pack: / 40.0

Type of Backfill Below Well: Native Soil

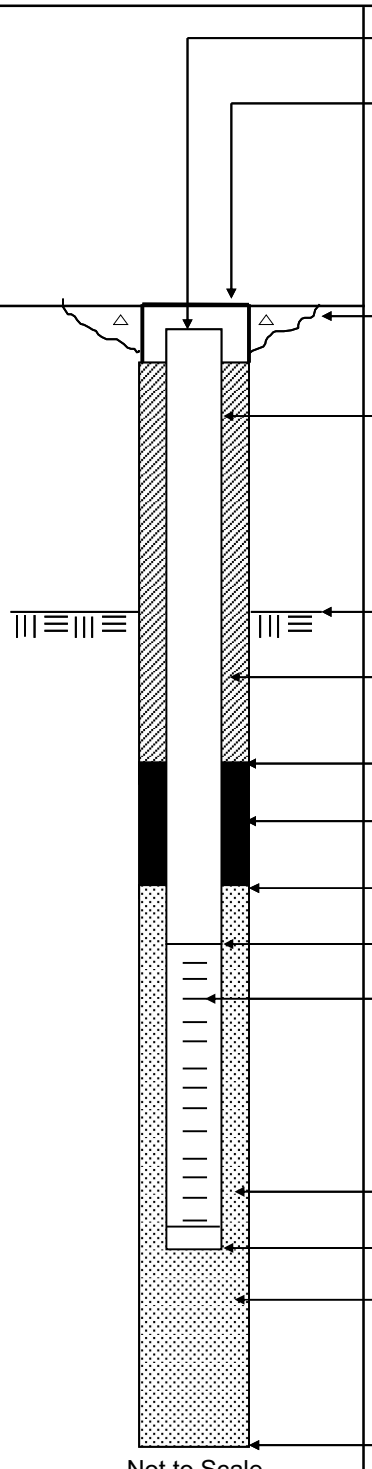
Elevation / Total Depth of Borehole: / 40.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0463
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/30/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.5

Elevation / Depth of Top of Screen: / 36.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.0

Elevation / Depth of Bottom of Filter Pack: / 38.5

Type of Backfill Below Well: Native Soil

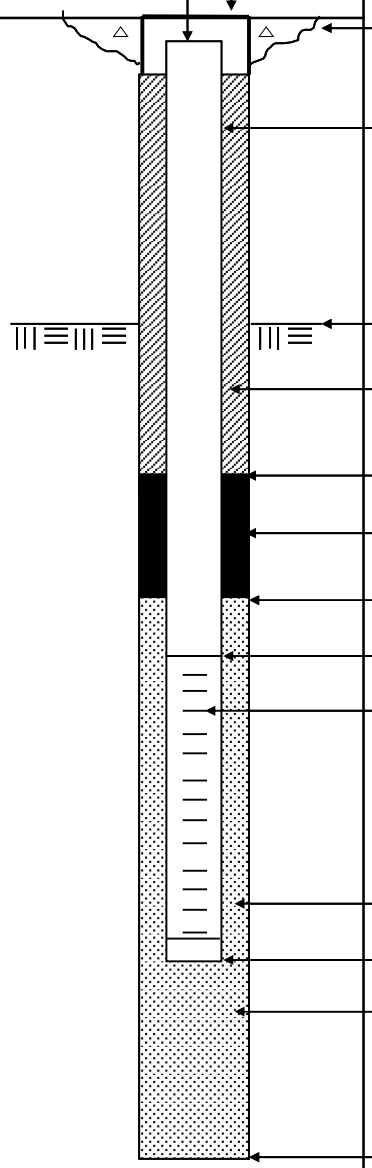
Elevation / Total Depth of Borehole: / 45.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0488
PROJECT No.:	112G08985	DRILLER:	Joel Aponte	DATE COMPLETED:	01/31/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / 3.0

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 39.5

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 42.5

Elevation / Depth of Top of Screen: / 43.0

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 45.0

Elevation / Depth of Bottom of Filter Pack: / 45.0

Type of Backfill Below Well: Native Soil

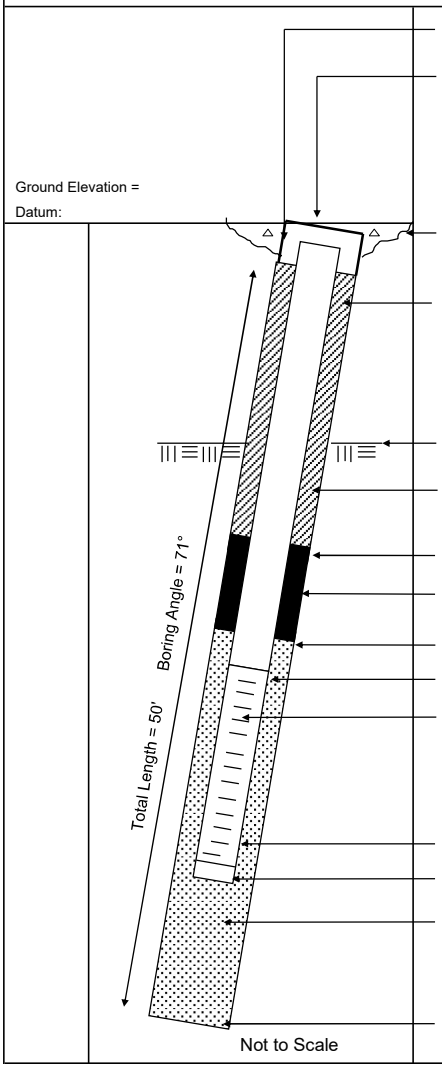
Elevation / Total Depth of Borehole: / 45.0

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0489
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	01/31/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / NA

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 41.8

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 44.8

Elevation / Depth of Top of Screen: / 45.3

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 47.3

Elevation / Depth of Bottom of Filter Pack: / 47.3

Type of Backfill Below Well:

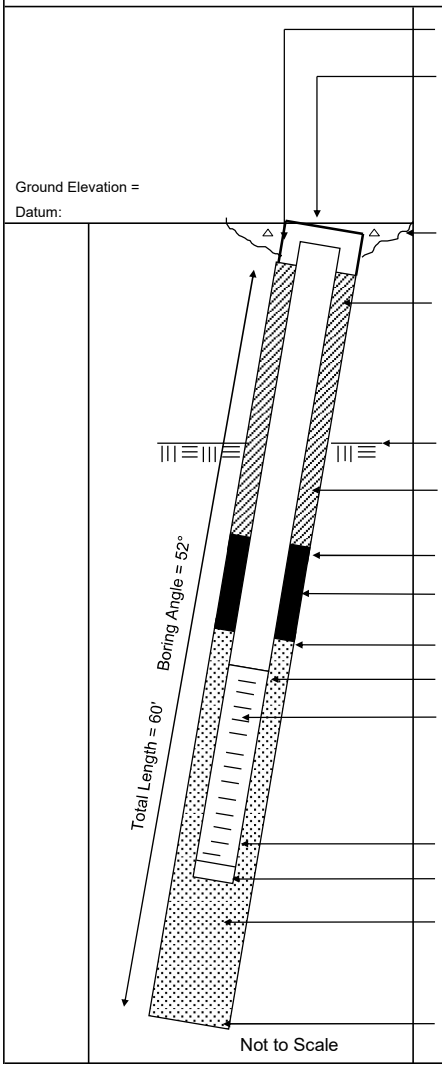
Elevation / Total Depth of Borehole: / 47.3

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0490
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/06/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / NA

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 41.8

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 44.8

Elevation / Depth of Top of Screen: / 45.3

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 47.3

Elevation / Depth of Bottom of Filter Pack: / 47.3

Type of Backfill Below Well:

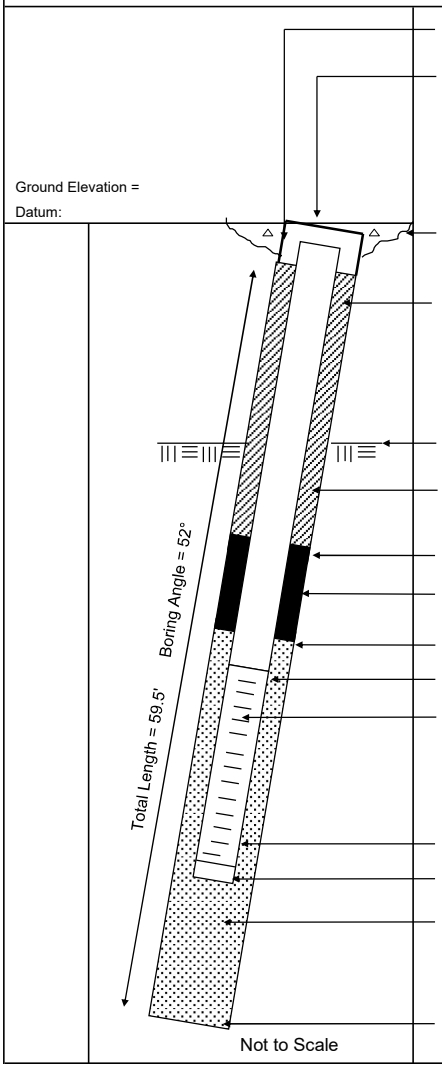
Elevation / Total Depth of Borehole: / 47.3

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0490
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/06/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



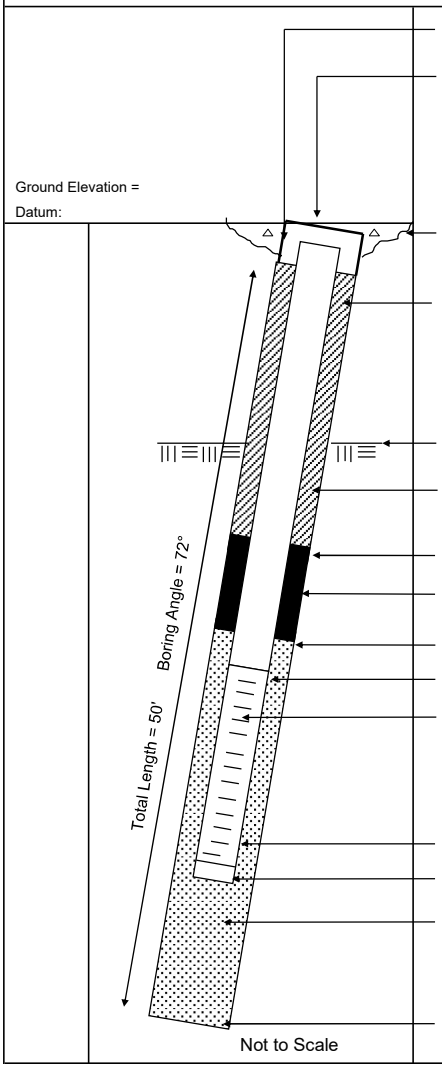
Elevation / Depth of Top of Riser:		/
Elevation / Height of Top of Surface Casing:		/ 0
I.D. of Surface Casing:		
Type of Surface Casing:		
Type of Surface Seal:		
Cement		
I.D. of Riser:	1"	
Type of Riser:	PVC	
Borehole Diameter:	4 Inch	
casing to foot depth		
Elevation / Depth Top of Rock:		/ NA
Type of Seal:	Portland	
Cement Grout		
Elevation / Depth of Seal:		/ 41.4
Type of Seal:	Bentonite	
Elevation / Depth of Top of Filter Pack:		/ 44.4
Elevation / Depth of Top of Screen:		/ 44.9
Type of Screen:	Schumasoil	
Slot Size x Length:	1" x 24" x 40 Micron	
I.D. of Screen:	1"	
Type of Filter Pack:	20/30 Filter Sand	
Elevation / Depth of Bottom of Screen:		/ 46.9
Elevation / Depth of Bottom of Filter Pack:		/ 46.9
Type of Backfill Below Well:		
Elevation / Total Depth of Borehole:		/ 46.9

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0474
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/07/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / NA

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 42.1

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 45.1

Elevation / Depth of Top of Screen: / 45.6

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 47.6

Elevation / Depth of Bottom of Filter Pack: / 47.6

Type of Backfill Below Well:

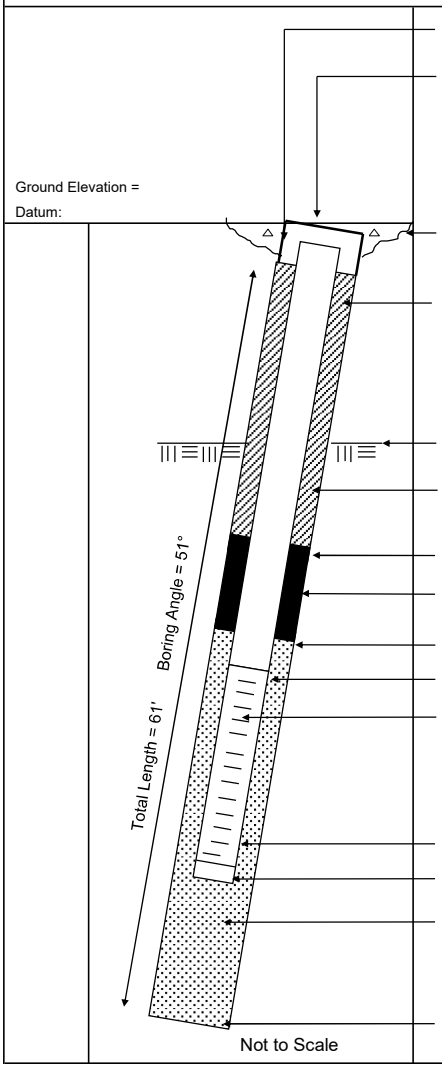
Elevation / Total Depth of Borehole: / 47.6

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0484
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/07/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



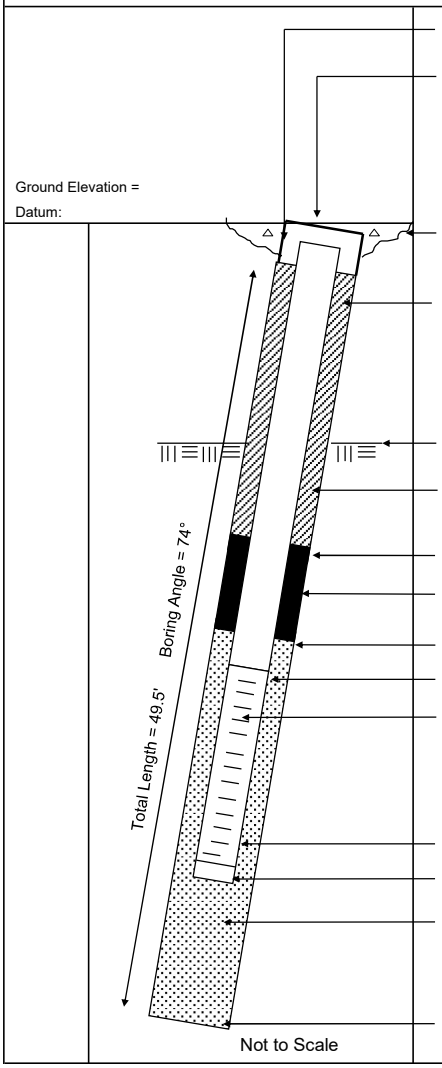
Elevation / Depth of Top of Riser:		/
Elevation / Height of Top of Surface Casing:		/ 0
I.D. of Surface Casing:		
Type of Surface Casing:		
Type of Surface Seal:	Cement	
I.D. of Riser:	1"	
Type of Riser:	PVC	
Borehole Diameter:	4 Inch	
casing to foot depth Elevation / Depth Top of Rock:		/ NA
Type of Seal:	Portland Cement Grout	
Elevation / Depth of Seal:		/ 41.9
Type of Seal:	Bentonite	
Elevation / Depth of Top of Filter Pack:		/ 44.9
Elevation / Depth of Top of Screen:		/ 45.4
Type of Screen:	Schumasoil	
Slot Size x Length:	1" x 24" x 40 Micron	
I.D. of Screen:	1"	
Type of Filter Pack:	20/30 Filter Sand	
Elevation / Depth of Bottom of Screen:		/ 47.4
Elevation / Depth of Bottom of Filter Pack:		/ 47.4
Type of Backfill Below Well:		
Elevation / Total Depth of Borehole:		/ 47.4

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0484
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/07/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



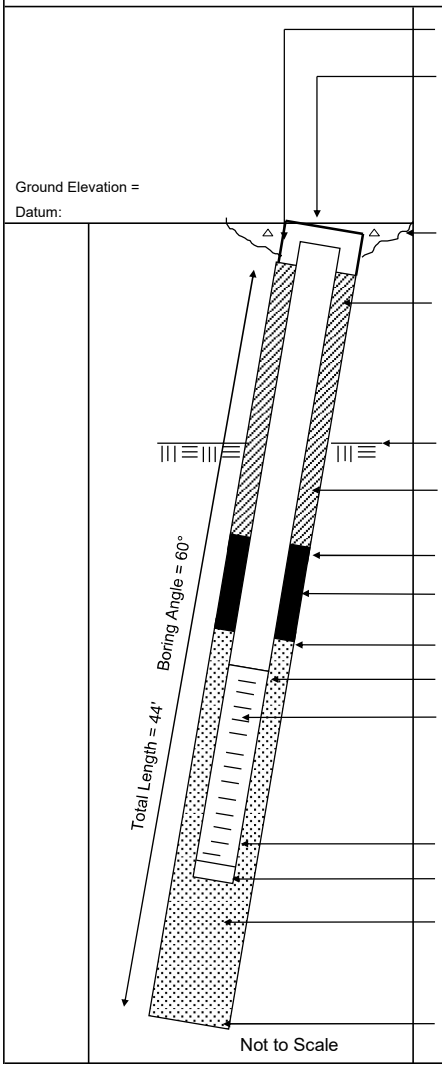
Elevation / Depth of Top of Riser:		/
Elevation / Height of Top of Surface Casing:		/ 0
I.D. of Surface Casing:		
Type of Surface Casing:		
Type of Surface Seal:	Cement	
I.D. of Riser:	1"	
Type of Riser:	PVC	
Borehole Diameter:	4 Inch	
casing to foot depth		
Elevation / Depth Top of Rock:		/ NA
Type of Seal:	Portland Cement Grout	
Elevation / Depth of Seal:		/ 42.1
Type of Seal:	Bentonite	
Elevation / Depth of Top of Filter Pack:		/ 45.1
Elevation / Depth of Top of Screen:		/ 45.6
Type of Screen:	Schumasoil	
Slot Size x Length:	1" x 24" x 40 Micron	
I.D. of Screen:	1"	
Type of Filter Pack:	20/30 Filter Sand	
Elevation / Depth of Bottom of Screen:		/ 47.6
Elevation / Depth of Bottom of Filter Pack:		/ 47.6
Type of Backfill Below Well:		
Elevation / Total Depth of Borehole:		/ 47.6

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0476
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/07/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / NA

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.6

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.6

Elevation / Depth of Top of Screen: / 36.1

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.1

Elevation / Depth of Bottom of Filter Pack: / 38.1

Type of Backfill Below Well:

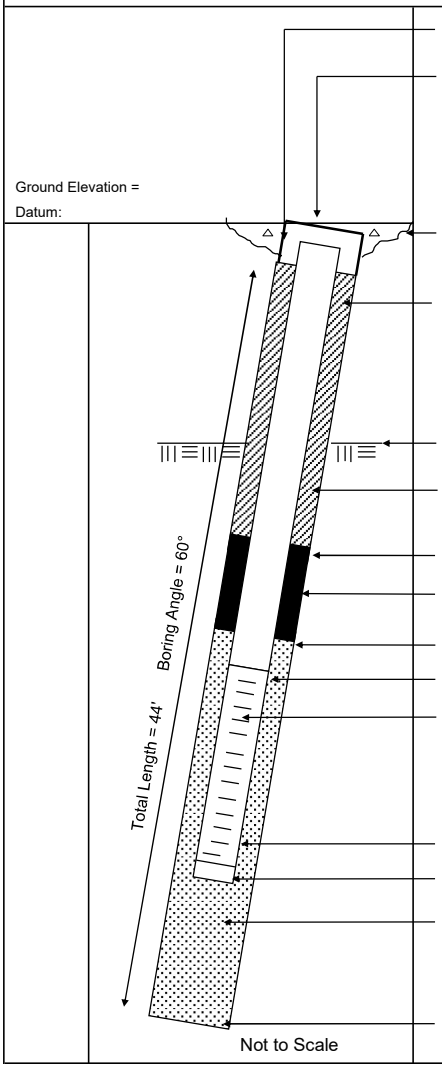
Elevation / Total Depth of Borehole: / 38.1

Tetra Tech, Inc.

BORING No.: _____

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0465
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/07/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing: _____

Type of Surface Casing: _____

Type of Surface Seal: _____
Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / NA

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 32.6

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 35.6

Elevation / Depth of Top of Screen: / 36.1

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 38.1

Elevation / Depth of Bottom of Filter Pack: / 38.1

Type of Backfill Below Well: _____

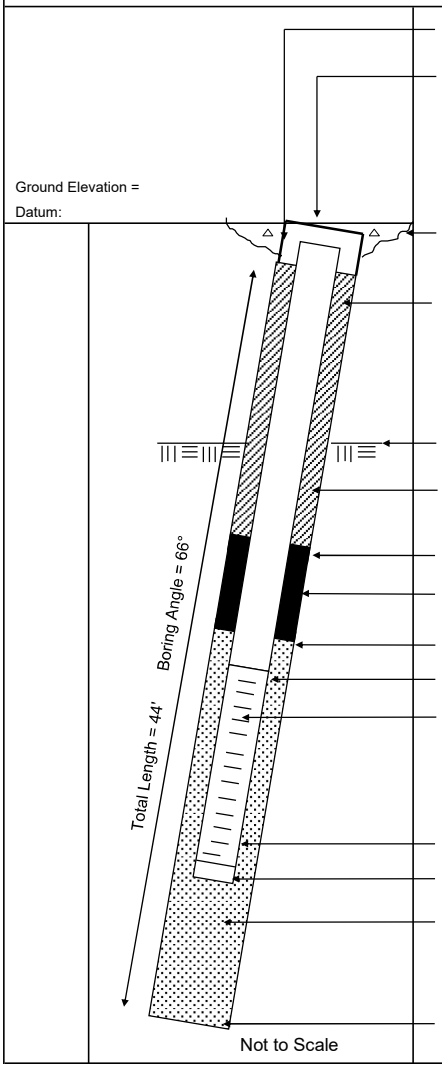
Elevation / Total Depth of Borehole: / 38.1

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0477
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/08/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



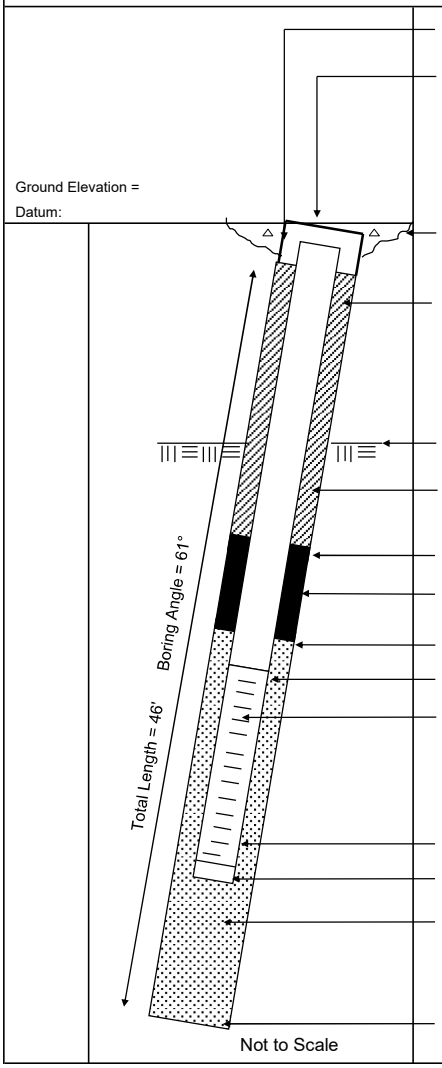
Elevation / Depth of Top of Riser:		/
Elevation / Height of Top of Surface Casing:		/ 0
I.D. of Surface Casing:		
Type of Surface Casing:		
Type of Surface Seal:	Cement	
I.D. of Riser:	1"	
Type of Riser:	PVC	
Borehole Diameter:	4 Inch	
casing to foot depth Elevation / Depth Top of Rock:		/ NA
Type of Seal:	Portland Cement Grout	
Elevation / Depth of Seal:		/ 34.7
Type of Seal:	Bentonite	
Elevation / Depth of Top of Filter Pack:		/ 37.7
Elevation / Depth of Top of Screen:		/ 38.2
Type of Screen:	Schumasoil	
Slot Size x Length:	1" x 24" x 40 Micron	
I.D. of Screen:	1"	
Type of Filter Pack:	20/30 Filter Sand	
Elevation / Depth of Bottom of Screen:		/ 40.2
Elevation / Depth of Bottom of Filter Pack:		/ 40.2
Type of Backfill Below Well:		
Elevation / Total Depth of Borehole:		/ 40.2

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0467
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/08/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / NA

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.7

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.7

Elevation / Depth of Top of Screen: / 38.2

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.2

Elevation / Depth of Bottom of Filter Pack: / 40.2

Type of Backfill Below Well:

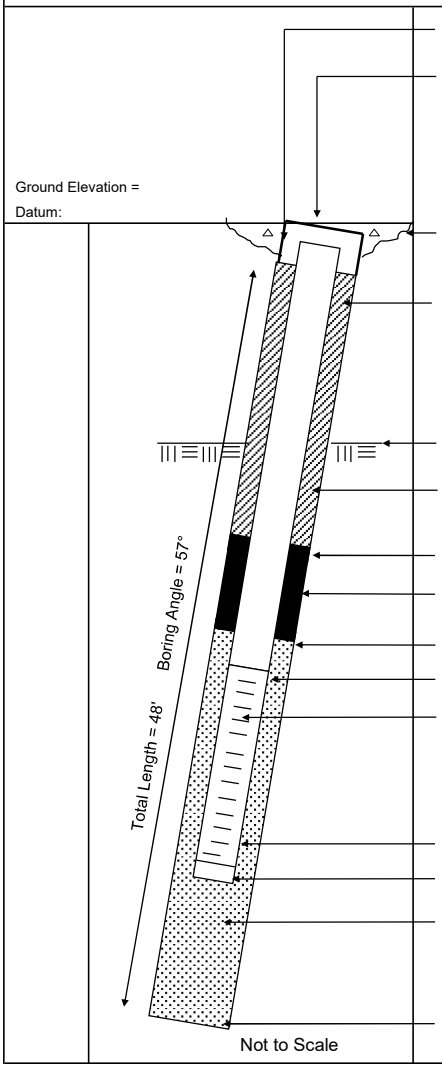
Elevation / Total Depth of Borehole: / 40.2

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0456
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/08/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



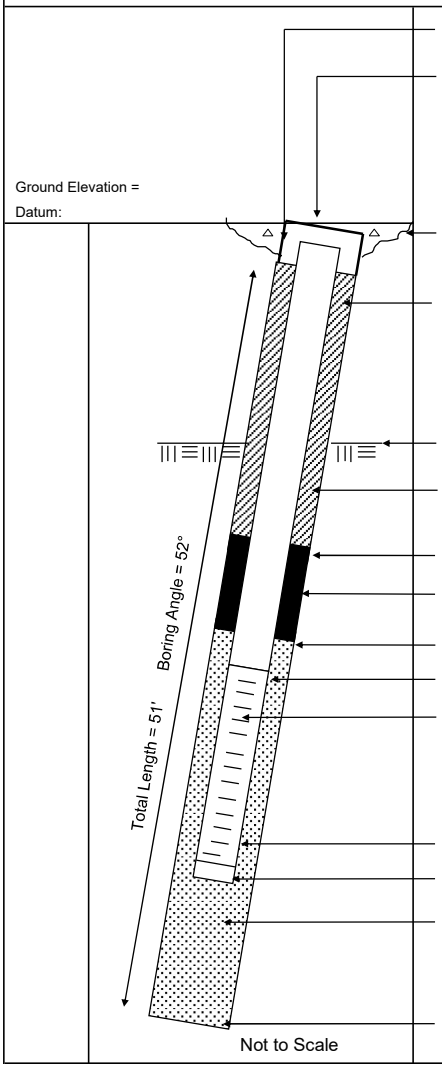
Elevation / Depth of Top of Riser:		/
Elevation / Height of Top of Surface Casing:		/ 0
I.D. of Surface Casing:		
Type of Surface Casing:		
Type of Surface Seal:	Cement	
I.D. of Riser:	1"	
Type of Riser:	PVC	
Borehole Diameter:	4 Inch	
casing to foot depth		
Elevation / Depth Top of Rock:		/ NA
Type of Seal:	Portland Cement Grout	
Elevation / Depth of Seal:		/ 34.8
Type of Seal:	Bentonite	
Elevation / Depth of Top of Filter Pack:		/ 37.8
Elevation / Depth of Top of Screen:		/ 38.3
Type of Screen:	Schumasoil	
Slot Size x Length:	1" x 24" x 40 Micron	
I.D. of Screen:	1"	
Type of Filter Pack:	20/30 Filter Sand	
Elevation / Depth of Bottom of Screen:		/ 40.3
Elevation / Depth of Bottom of Filter Pack:		/ 40.3
Type of Backfill Below Well:		
Elevation / Total Depth of Borehole:		/ 40.3

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0444
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/08/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



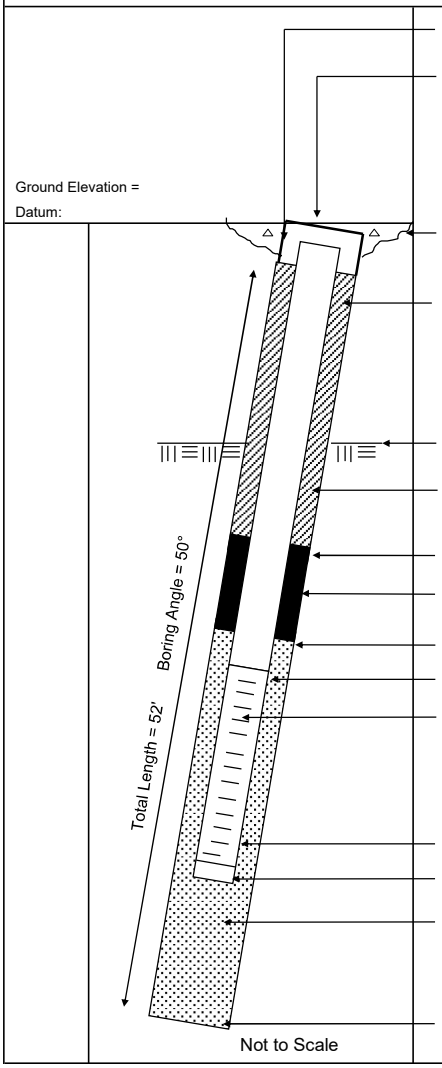
Elevation / Depth of Top of Riser:		/
Elevation / Height of Top of Surface Casing:		/ 0
I.D. of Surface Casing:		
Type of Surface Casing:		
Type of Surface Seal:	Cement	
I.D. of Riser:	1"	
Type of Riser:	PVC	
Borehole Diameter:	4 Inch	
casing to foot depth Elevation / Depth Top of Rock:		/ NA
Type of Seal:	Portland Cement Grout	
Elevation / Depth of Seal:		/ 34.7
Type of Seal:	Bentonite	
Elevation / Depth of Top of Filter Pack:		/ 37.7
Elevation / Depth of Top of Screen:		/ 38.2
Type of Screen:	Schumasoil	
Slot Size x Length:	1" x 24" x 40 Micron	
I.D. of Screen:	1"	
Type of Filter Pack:	20/30 Filter Sand	
Elevation / Depth of Bottom of Screen:		/ 40.2
Elevation / Depth of Bottom of Filter Pack:		/ 40.2
Type of Backfill Below Well:		
Elevation / Total Depth of Borehole:		/ 40.2

Tetra Tech, Inc.

BORING No.: _____

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0432
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/08/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing: _____

Type of Surface Casing: _____

Type of Surface Seal: _____
Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / NA

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.3

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.3

Elevation / Depth of Top of Screen: / 37.8

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.8

Elevation / Depth of Bottom of Filter Pack: / 39.8

Type of Backfill Below Well: _____

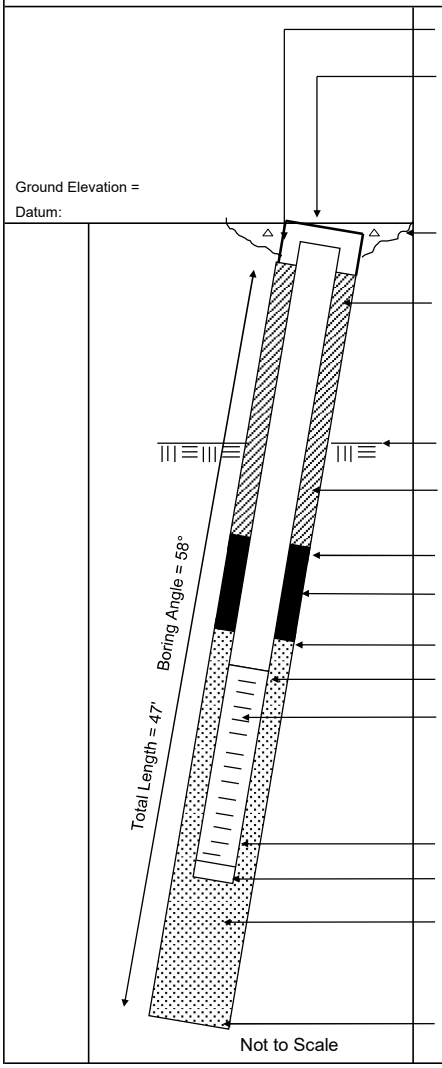
Elevation / Total Depth of Borehole: / 39.8

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0420
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/09/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / NA

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.4

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.4

Elevation / Depth of Top of Screen: / 37.9

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.9

Elevation / Depth of Bottom of Filter Pack: / 39.9

Type of Backfill Below Well:

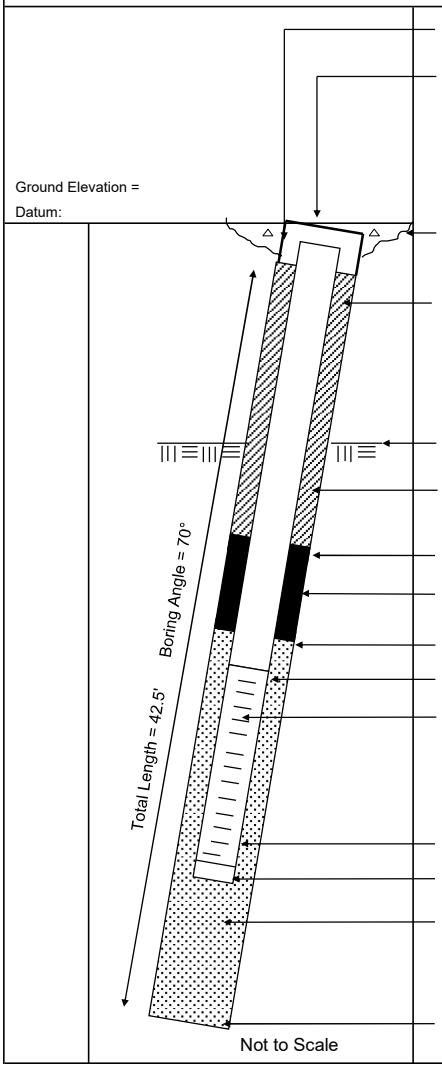
Elevation / Total Depth of Borehole: / 39.9

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0408
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/09/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / NA

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.4

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.4

Elevation / Depth of Top of Screen: / 37.9

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.9

Elevation / Depth of Bottom of Filter Pack: / 39.9

Type of Backfill Below Well:

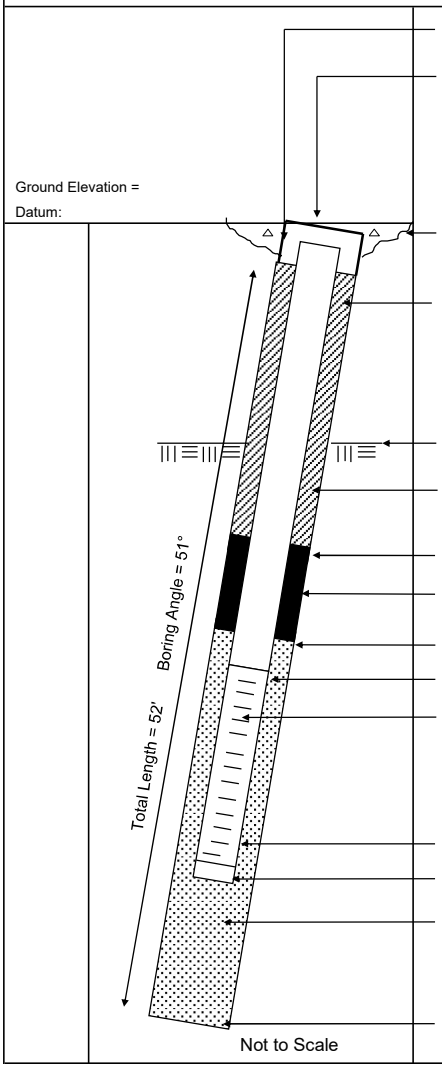
Elevation / Total Depth of Borehole: / 39.9

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0408
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/09/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch
casing to foot depth

Elevation / Depth Top of Rock: / NA

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.9

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.9

Elevation / Depth of Top of Screen: / 38.4

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.4

Elevation / Depth of Bottom of Filter Pack: / 40.4

Type of Backfill Below Well:

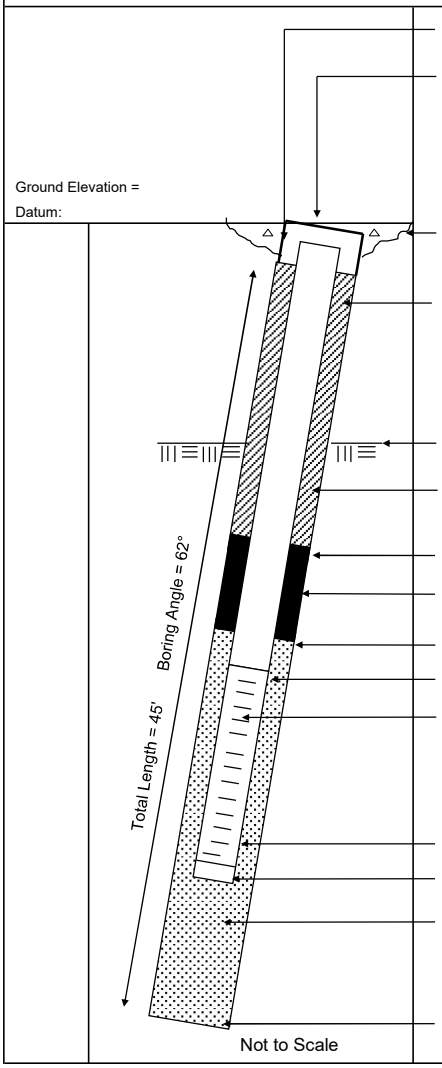
Elevation / Total Depth of Borehole: / 40.4

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0385
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/09/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / NA

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.2

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.2

Elevation / Depth of Top of Screen: / 37.7

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 39.7

Elevation / Depth of Bottom of Filter Pack: / 39.7

Type of Backfill Below Well:

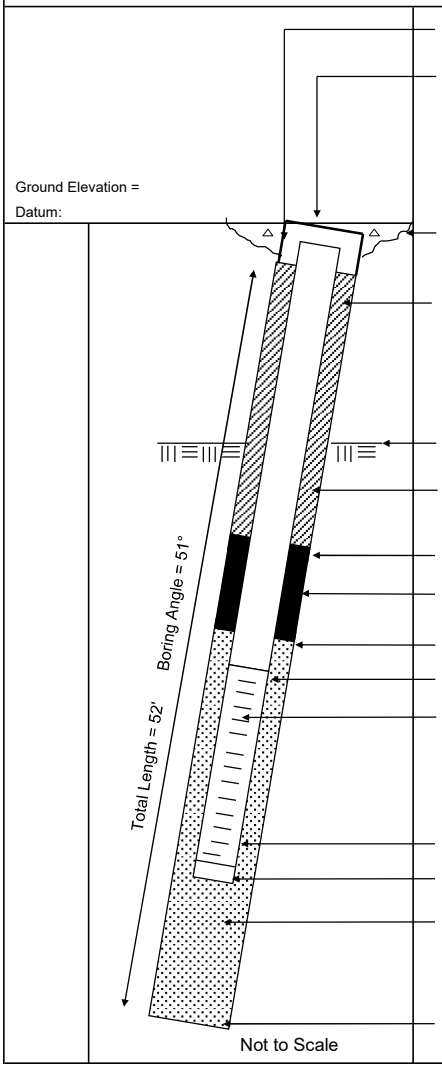
Elevation / Total Depth of Borehole: / 39.7

Tetra Tech, Inc.

BORING No.:

AIR SPARGING WELL SHEET with FLUSHMOUNT COMPLETION

PROJECT:	NASA-KSC	DRILLING Co.:	DrillPro	Well No:	AS0379
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	02/09/23
SITE:	LC34	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	C. Sorden	DEV. METHOD:	Pump	EASTING:	



Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: / 0

I.D. of Surface Casing:

Type of Surface Casing:

Type of Surface Seal: Cement

I.D. of Riser: 1"

Type of Riser: PVC

Borehole Diameter: 4 Inch

casing to foot depth

Elevation / Depth Top of Rock: / NA

Type of Seal: Portland Cement Grout

Elevation / Depth of Seal: / 34.9

Type of Seal: Bentonite

Elevation / Depth of Top of Filter Pack: / 37.9

Elevation / Depth of Top of Screen: / 38.4

Type of Screen: Schumasoil

Slot Size x Length: 1" x 24" x 40 Micron

I.D. of Screen: 1"

Type of Filter Pack: 20/30 Filter Sand

Elevation / Depth of Bottom of Screen: / 40.4

Elevation / Depth of Bottom of Filter Pack: / 40.4

Type of Backfill Below Well:

Elevation / Total Depth of Borehole: / 40.4

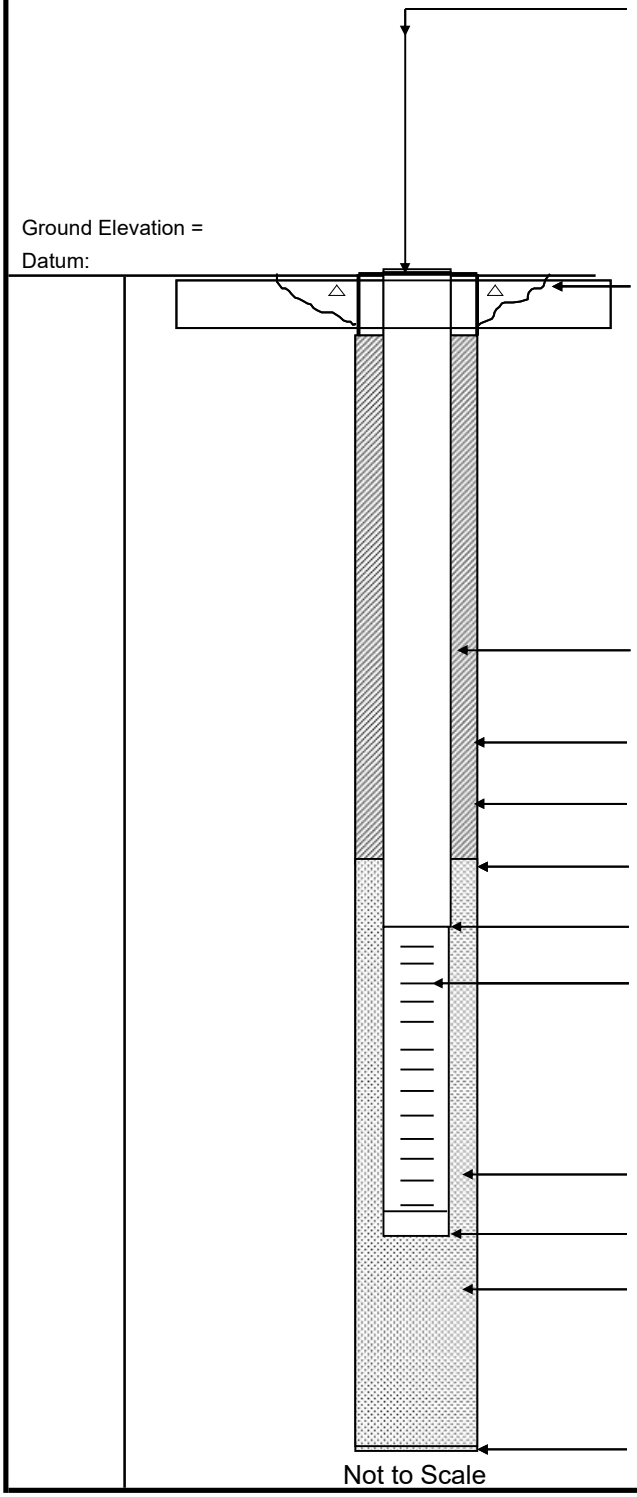
MONITORING WELL INSTALLATION LOG SHEETS

Tetra Tech, Inc.

WELL No.: IW0175

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-D
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/01/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 27.5

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 29.5

Elevation / Depth of Top of Screen: / 30.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 35.0

Type of Backfill Below Well: Undisturbed Native Soil

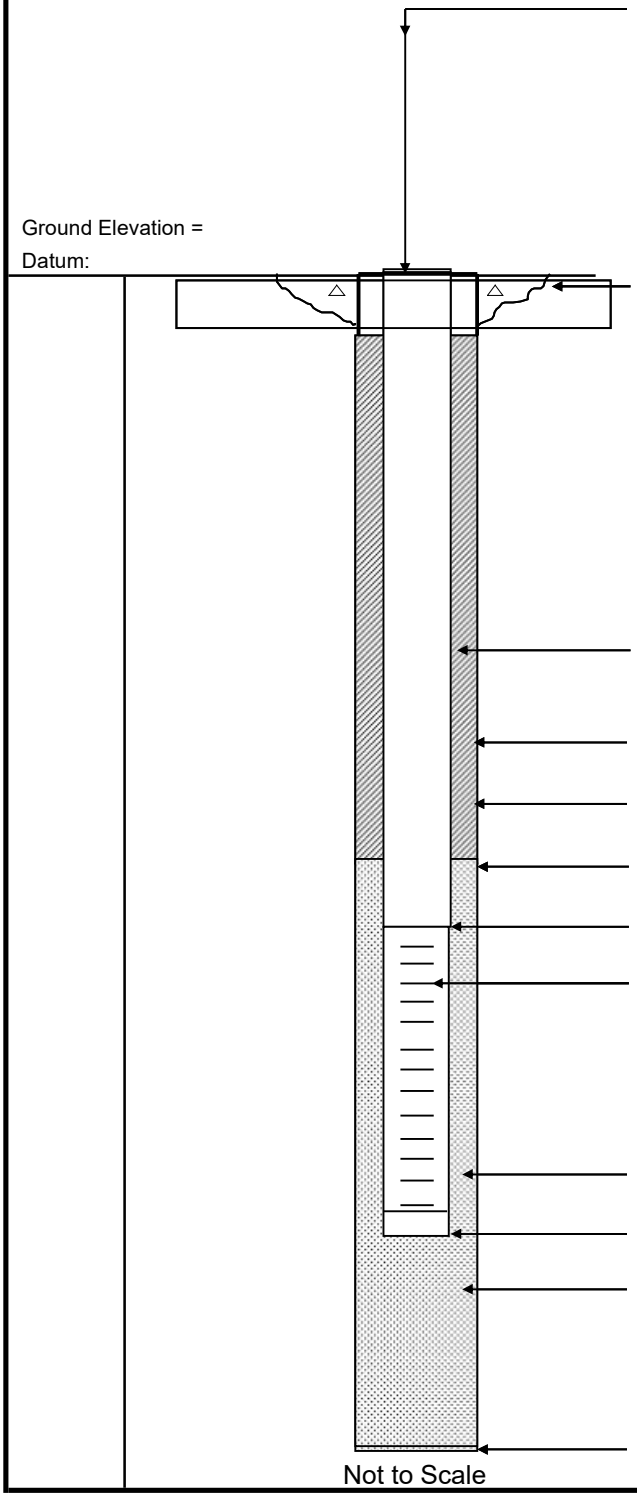
Elevation / Total Depth of Borehole: / 35.0

Tetra Tech, Inc.

WELL No.: IW0169

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-A
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/07/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 27.5

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 29.5

Elevation / Depth of Top of Screen: / 30.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 36.0

Type of Backfill Below Well: Undisturbed Native Soil

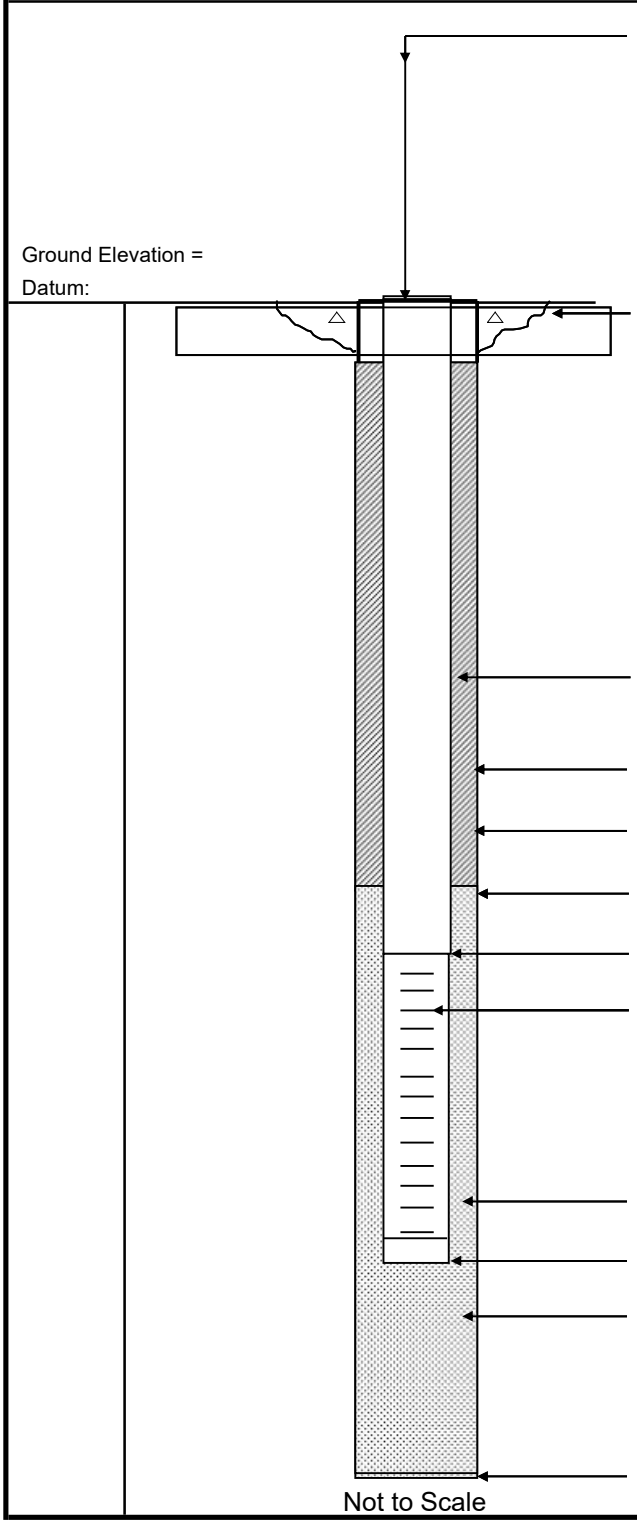
Elevation / Total Depth of Borehole: / 36.0

Tetra Tech, Inc.

WELL No.: IW0168

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-A
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/07/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 14.5

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 16.5

Elevation / Depth of Top of Screen: / 17.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 27.0

Elevation / Depth of Bottom of Filter Pack: / 27.0

Type of Backfill Below Well: Undisturbed Native Soil

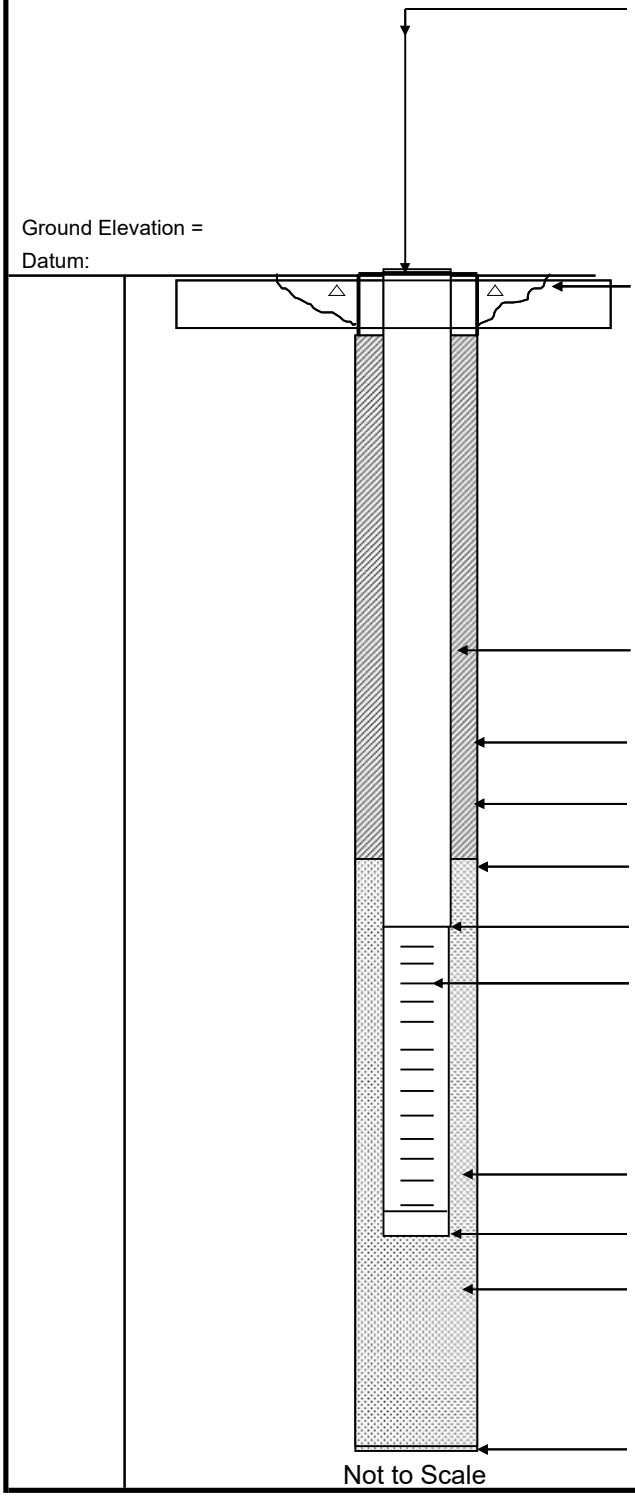
Elevation / Total Depth of Borehole: / 27.0

Tetra Tech, Inc.

WELL No.: IW0171

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-B
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/07/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 27.5

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 29.5

Elevation / Depth of Top of Screen: / 30.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 36.0

Type of Backfill Below Well: Undisturbed Native Soil

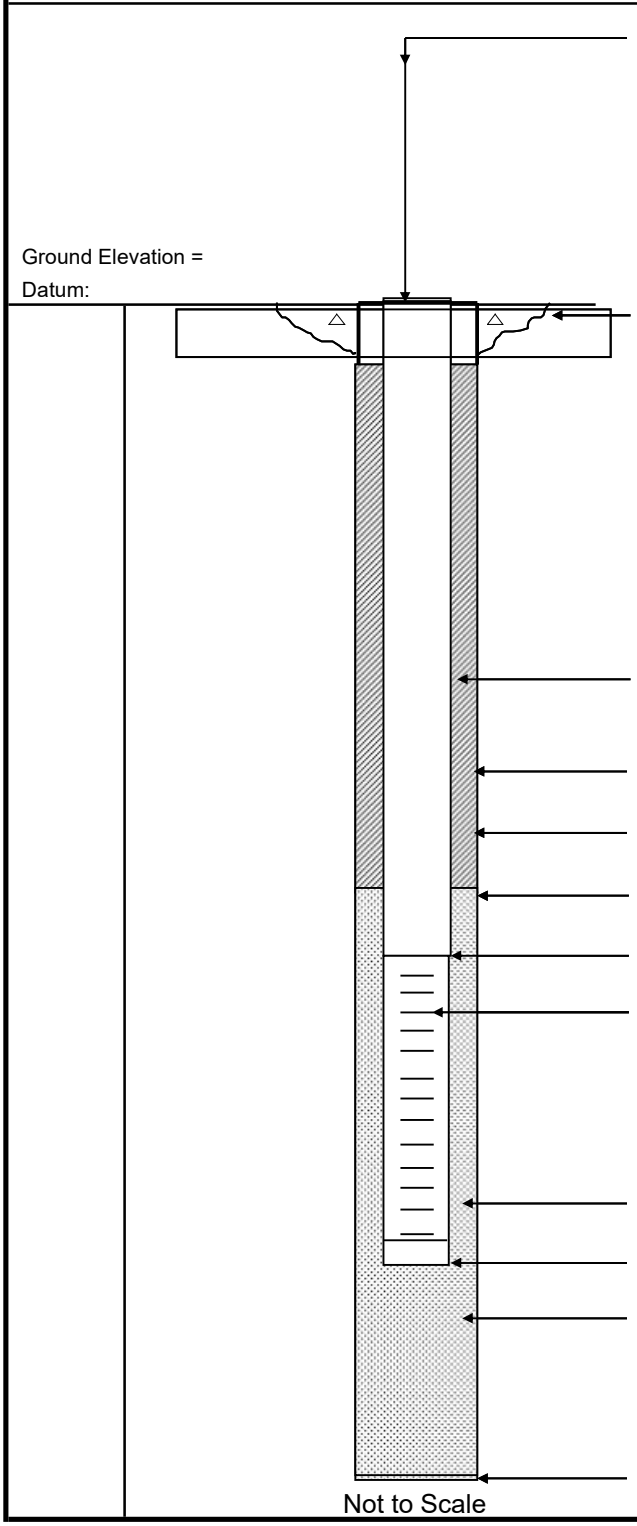
Elevation / Total Depth of Borehole: / 36.0

Tetra Tech, Inc.

WELL No.: IW0170

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-B
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/08/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 14.5

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 16.5

Elevation / Depth of Top of Screen: / 17.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 27.0

Elevation / Depth of Bottom of Filter Pack: / 27.0

Type of Backfill Below Well: Undisturbed Native Soil

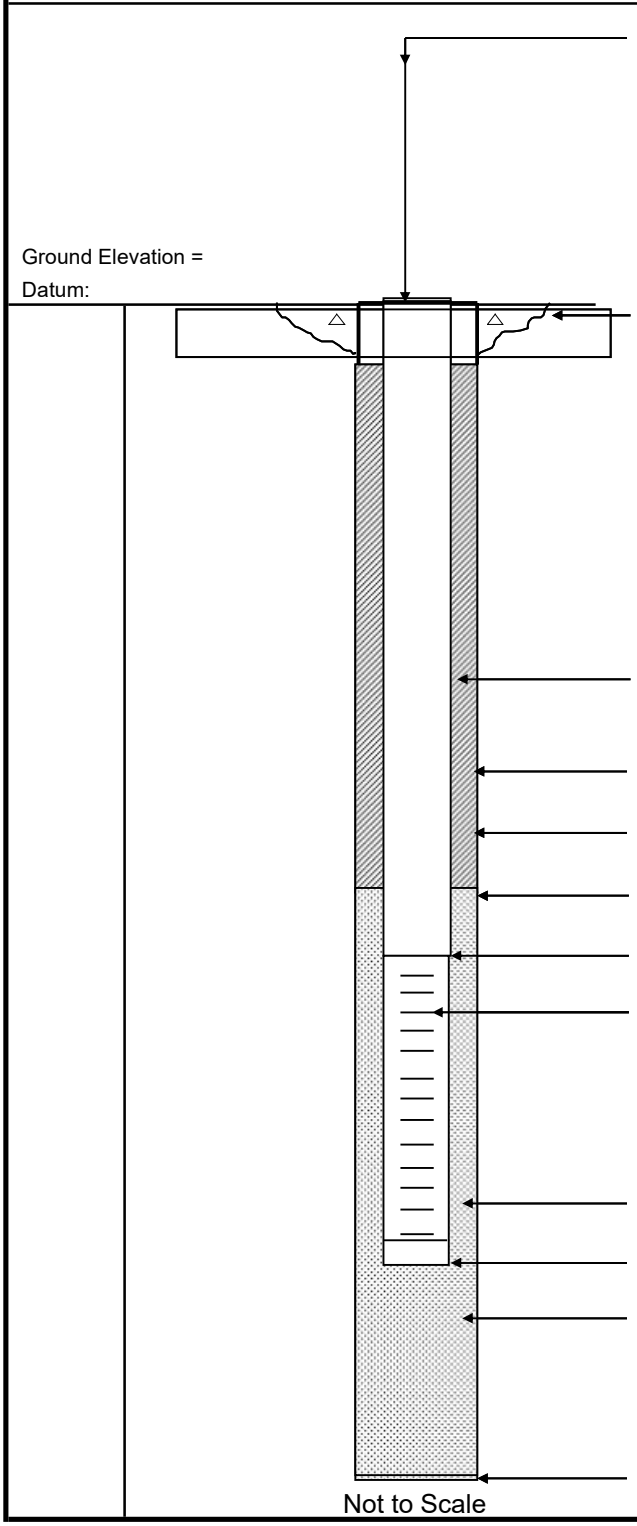
Elevation / Total Depth of Borehole: / 27.0

Tetra Tech, Inc.

WELL No.: IW0178

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-G
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/08/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 13.5

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 15.5

Elevation / Depth of Top of Screen: / 16.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 21.0

Elevation / Depth of Bottom of Filter Pack: / 21.0

Type of Backfill Below Well: Undisturbed Native Soil

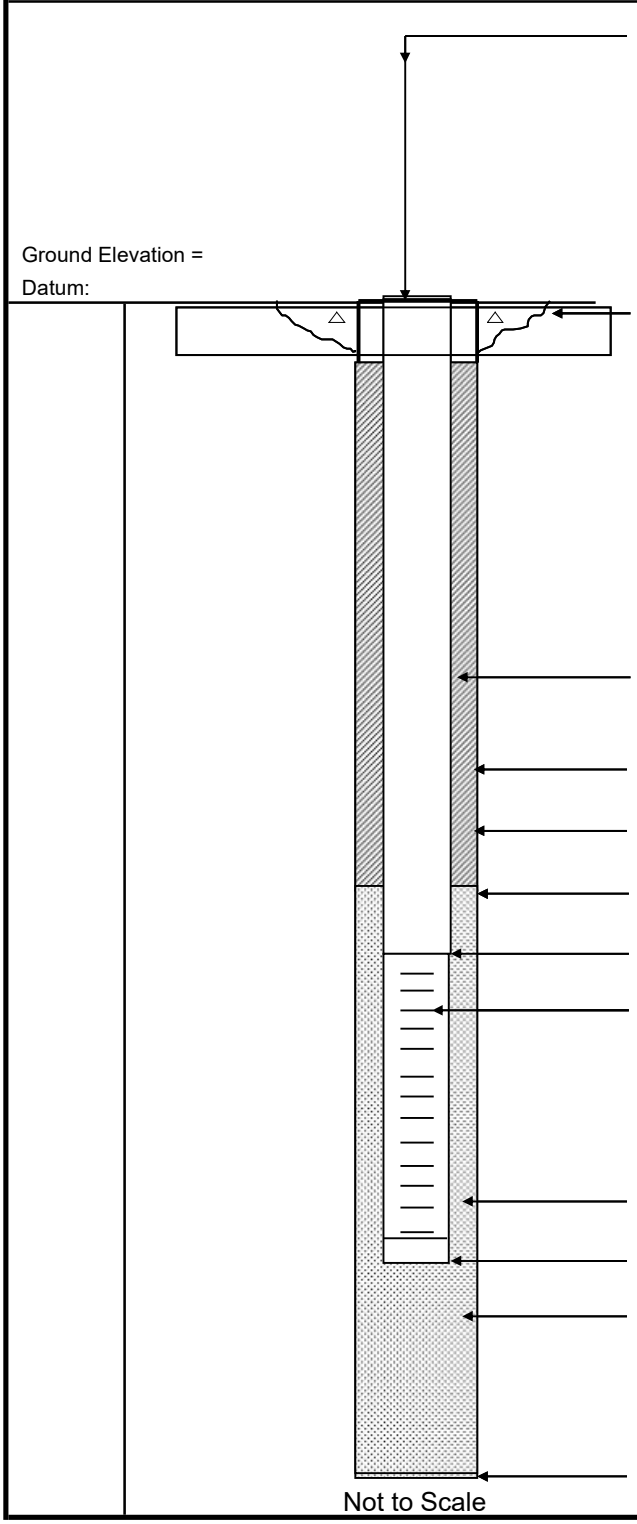
Elevation / Total Depth of Borehole: / 21.0

Tetra Tech, Inc.

WELL No.: IW0173

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-C
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/07/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 27.5

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 29.5

Elevation / Depth of Top of Screen: / 30.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 36.0

Type of Backfill Below Well: Undisturbed Native Soil

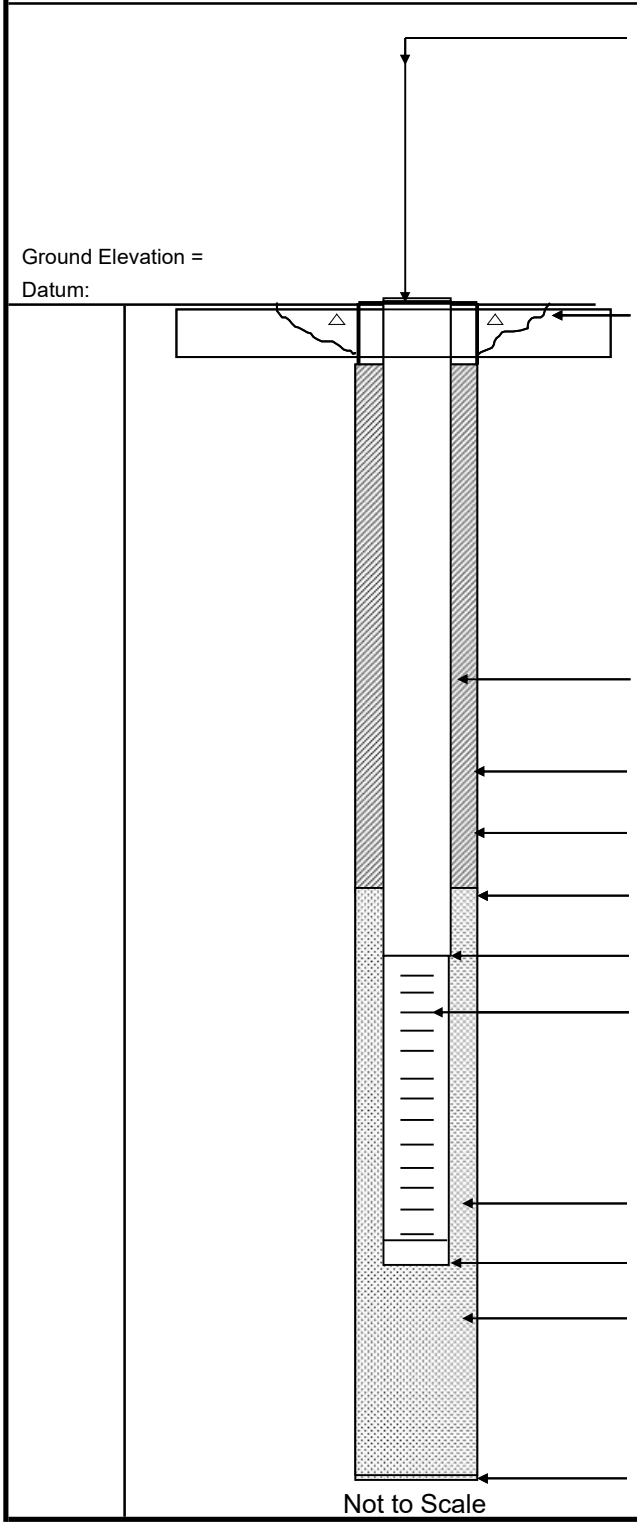
Elevation / Total Depth of Borehole: / 36.0

Tetra Tech, Inc.

WELL No.: IW0172

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-C
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/08/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 14.5

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 16.5

Elevation / Depth of Top of Screen: / 17.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 27.0

Elevation / Depth of Bottom of Filter Pack: / 27.0

Type of Backfill Below Well: Undisturbed Native Soil

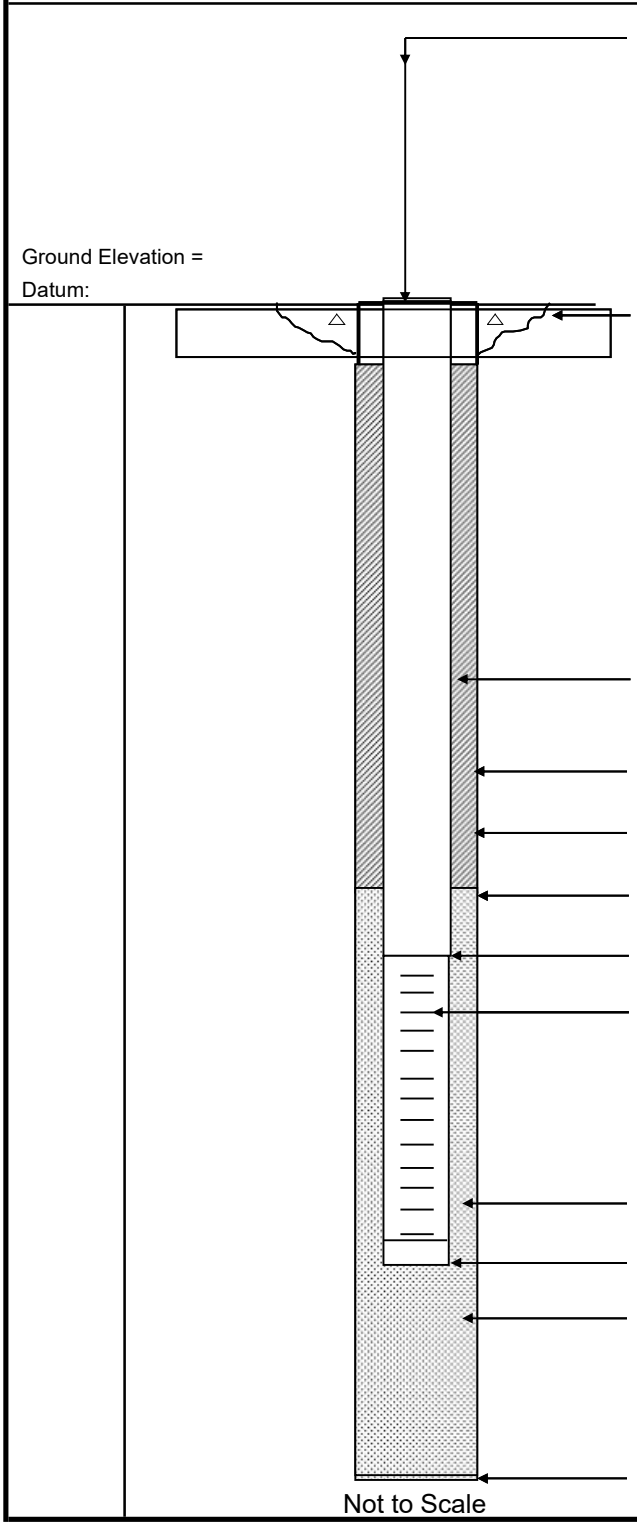
Elevation / Total Depth of Borehole: / 27.0

Tetra Tech, Inc.

WELL No.: IW0174

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-D
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/08/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 13.5

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 15.5

Elevation / Depth of Top of Screen: / 16.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 21.0

Elevation / Depth of Bottom of Filter Pack: / 21.0

Type of Backfill Below Well: Undisturbed Native Soil

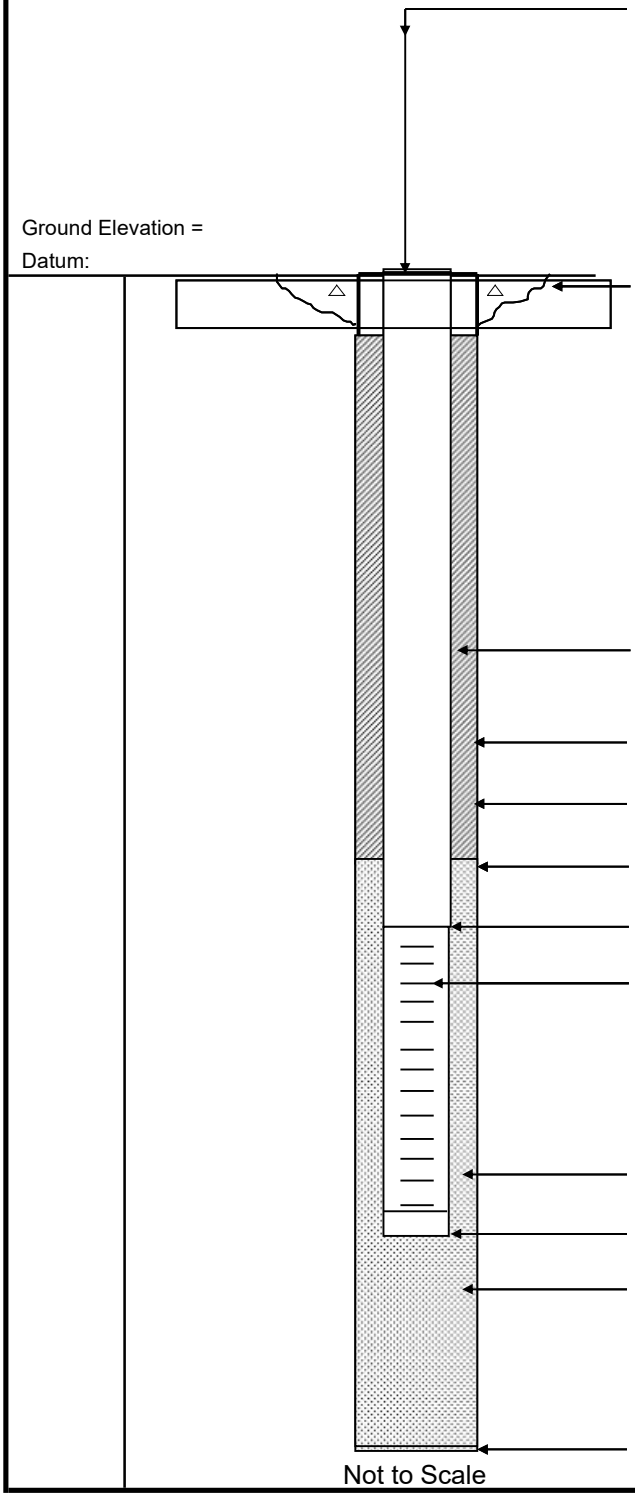
Elevation / Total Depth of Borehole: / 21.0

Tetra Tech, Inc.

WELL No.: IW0177

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-F
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	11/08/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 13.5

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 15.5

Elevation / Depth of Top of Screen: / 16.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 21.0

Elevation / Depth of Bottom of Filter Pack: / 21.0

Type of Backfill Below Well: Undisturbed Native Soil

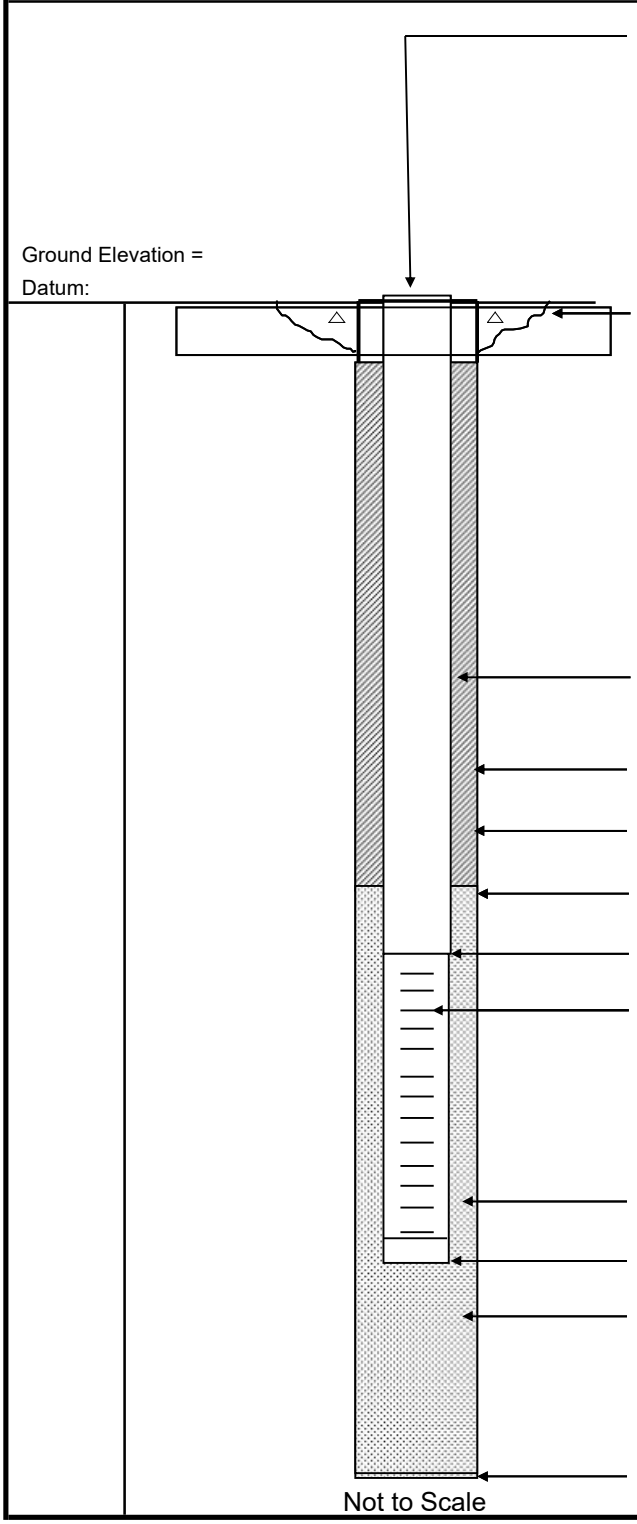
Elevation / Total Depth of Borehole: / 21.0

Tetra Tech, Inc.

WELL No.: IW0176

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-E
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/06/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 13.5

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 15.5

Elevation / Depth of Top of Screen: / 16.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 21.0

Elevation / Depth of Bottom of Filter Pack: / 21.0

Type of Backfill Below Well: Undisturbed Native Soil

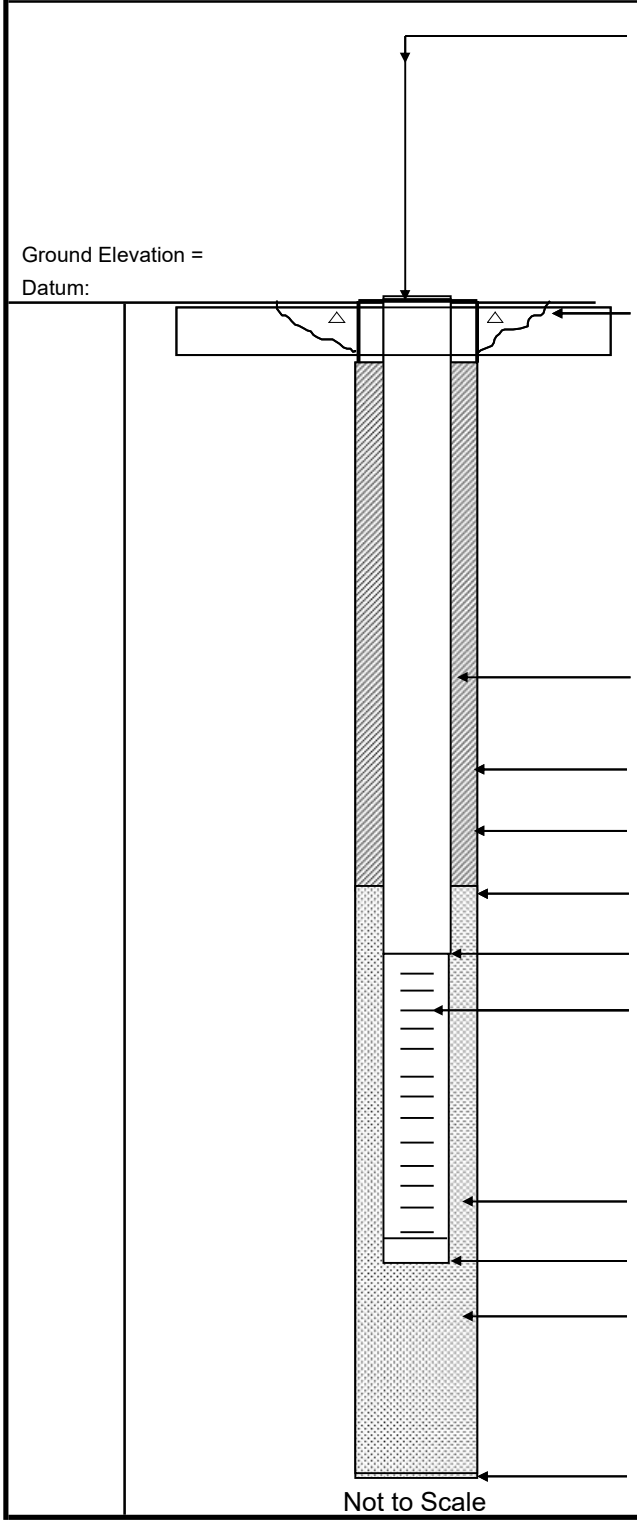
Elevation / Total Depth of Borehole: / 21.0

Tetra Tech, Inc.

WELL No.: IW0180

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-H
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/16/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 27.0

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 29.0

Elevation / Depth of Top of Screen: / 30.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 35.0

Type of Backfill Below Well: Undisturbed Native Soil

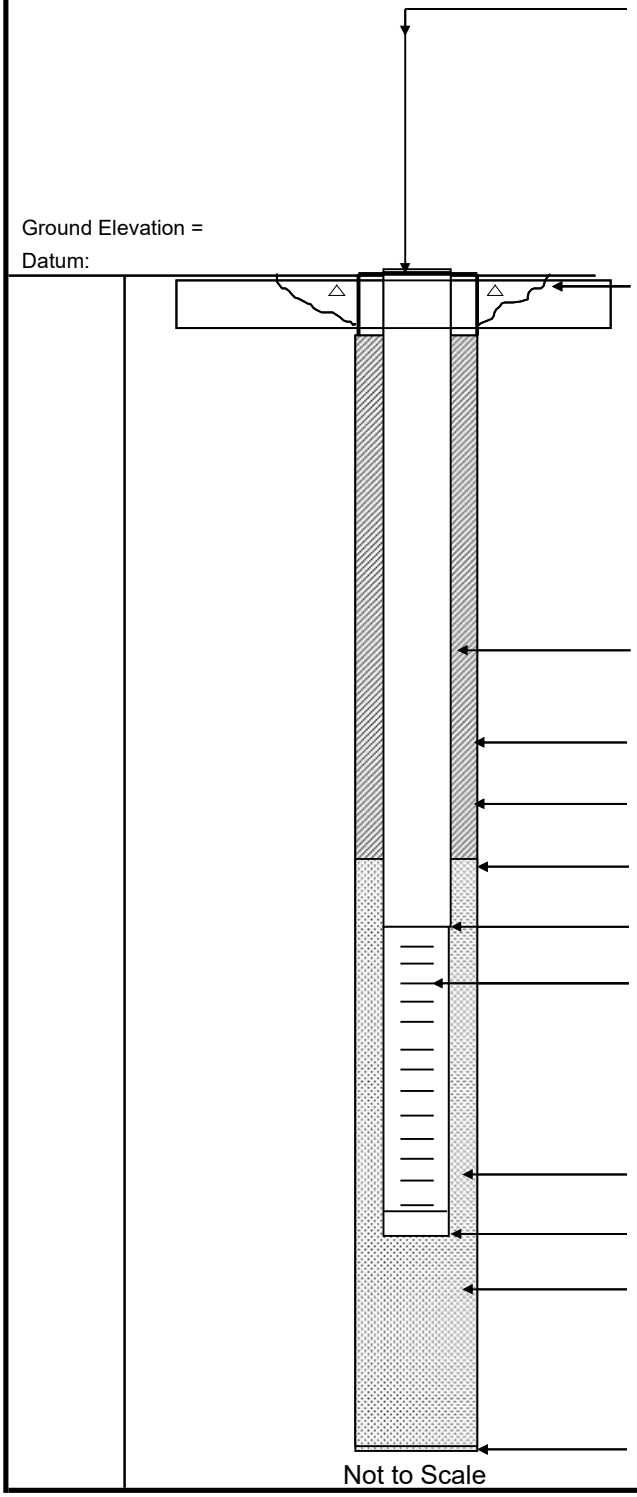
Elevation / Total Depth of Borehole: / 35.0

Tetra Tech, Inc.

WELL No.: IW0179

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-H
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/16/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 14.5

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 16.5

Elevation / Depth of Top of Screen: / 17.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 27.0

Elevation / Depth of Bottom of Filter Pack: / 27.0

Type of Backfill Below Well: Undisturbed Native Soil

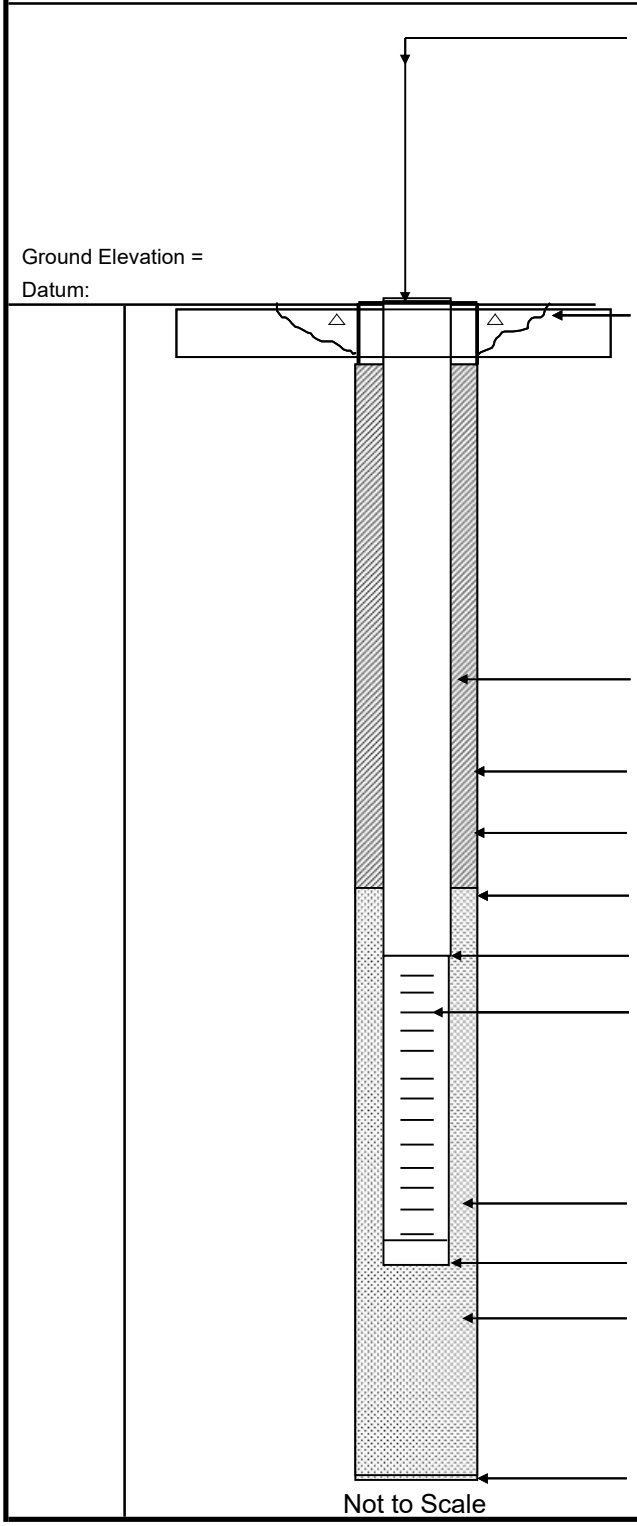
Elevation / Total Depth of Borehole: / 27.0

Tetra Tech, Inc.

WELL No.: IW0188

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-N
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/21/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 13.5

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 15.5

Elevation / Depth of Top of Screen: / 16.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 21.0

Elevation / Depth of Bottom of Filter Pack: / 21.0

Type of Backfill Below Well: Undisturbed Native Soil

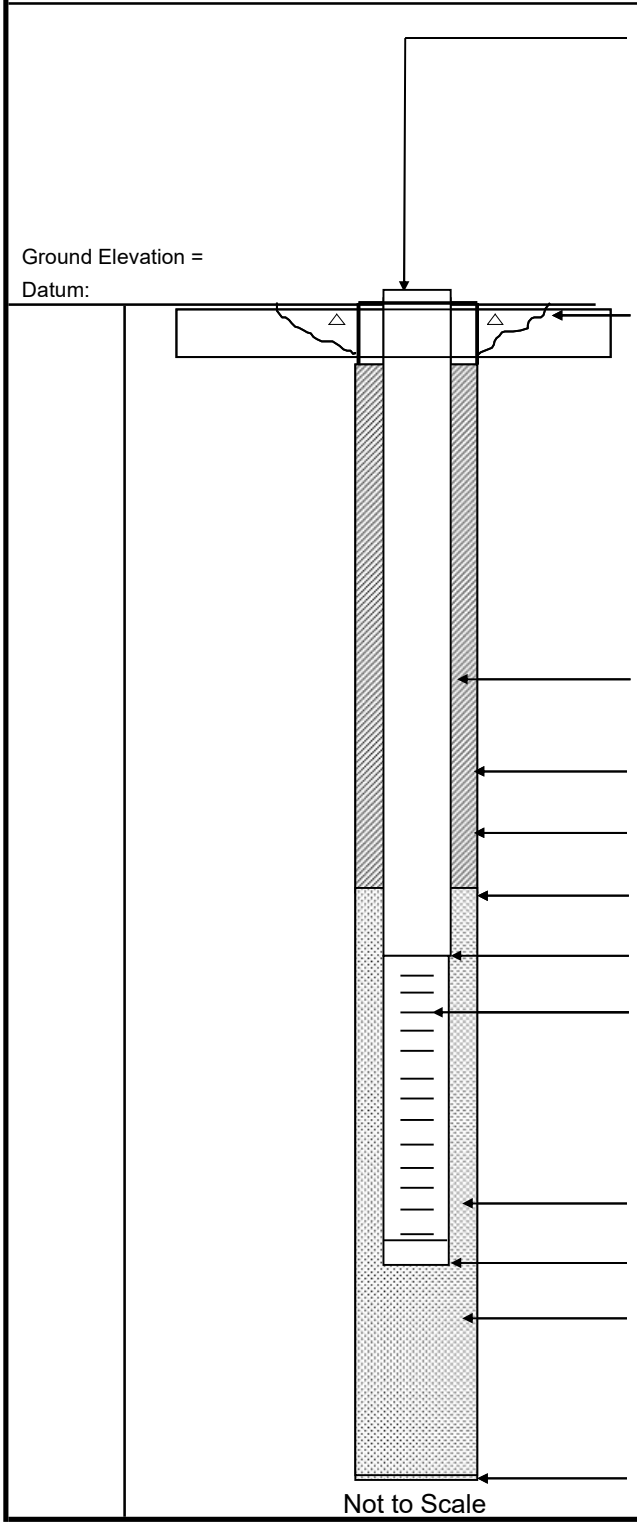
Elevation / Total Depth of Borehole: / 21.0

Tetra Tech, Inc.

WELL No.: IW0187

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-M
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/21/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 13.5

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 15.5

Elevation / Depth of Top of Screen: / 16.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 21.0

Elevation / Depth of Bottom of Filter Pack: / 21.0

Type of Backfill Below Well: Undisturbed Native Soil

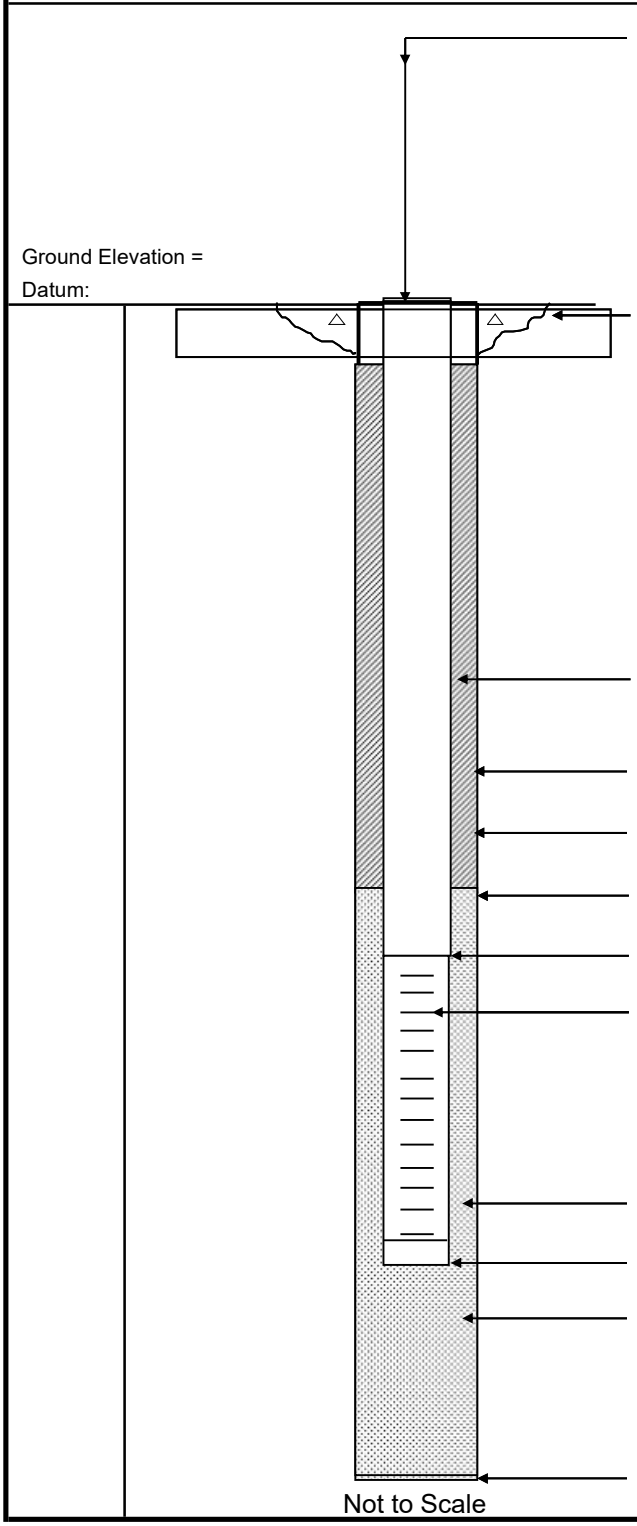
Elevation / Total Depth of Borehole: / 21.0

Tetra Tech, Inc.

WELL No.: IW0182

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-I
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/21/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 27.0

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 29.0

Elevation / Depth of Top of Screen: / 30.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 35.0

Type of Backfill Below Well: Undisturbed Native Soil

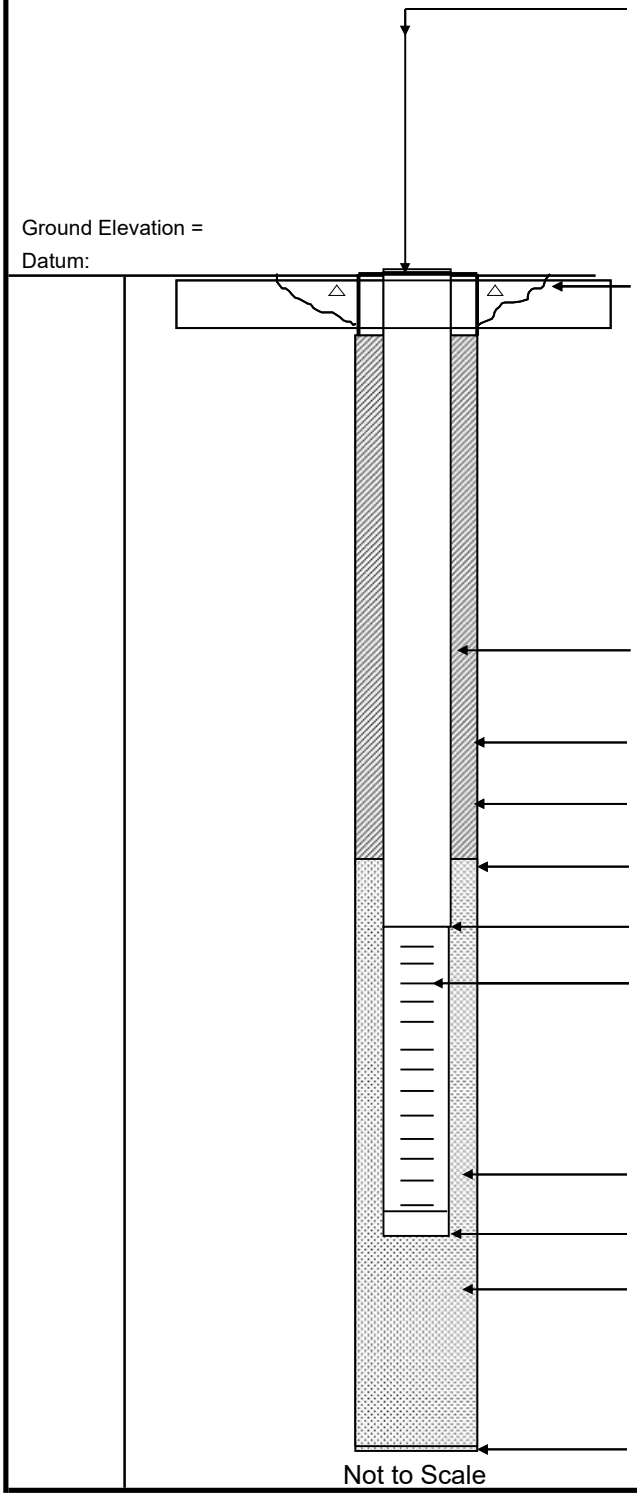
Elevation / Total Depth of Borehole: / 35.0

Tetra Tech, Inc.

WELL No.: IW0181

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-I
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	12/21/22
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 14.0

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 16.0

Elevation / Depth of Top of Screen: / 17.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 27.0

Elevation / Depth of Bottom of Filter Pack: / 27.0

Type of Backfill Below Well: Undisturbed Native Soil

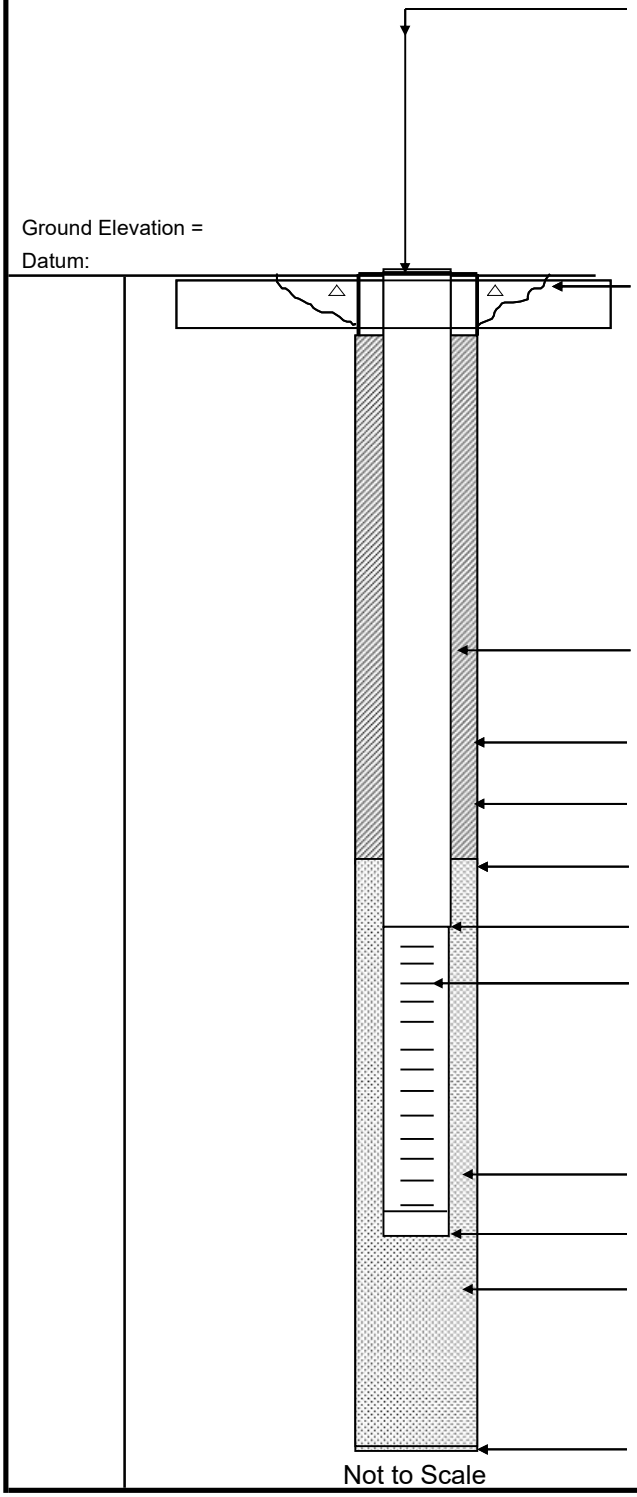
Elevation / Total Depth of Borehole: / 27.0

Tetra Tech, Inc.

WELL No.: IW0185

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-K
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	01/13/23
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 13.0

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 15.0

Elevation / Depth of Top of Screen: / 16.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 21.0

Elevation / Depth of Bottom of Filter Pack: / 21.0

Type of Backfill Below Well: Undisturbed Native Soil

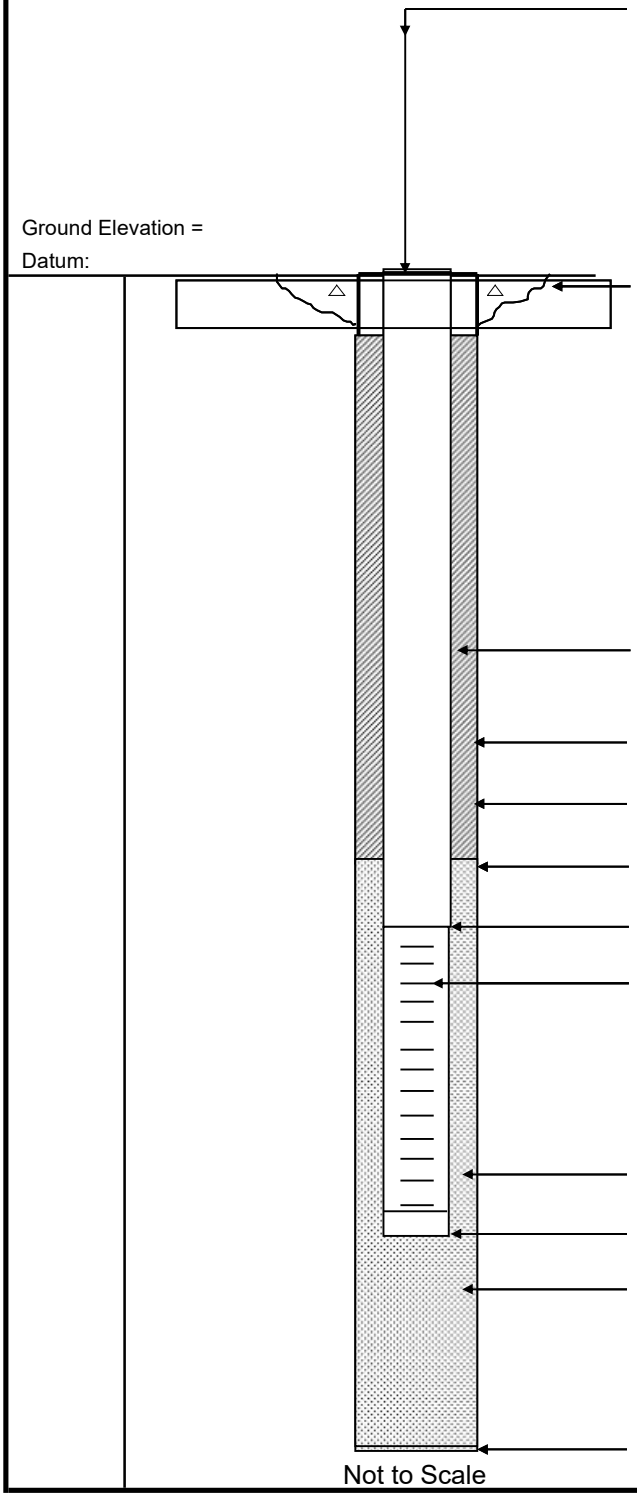
Elevation / Total Depth of Borehole: / 21.0

Tetra Tech, Inc.

WELL No.: IW0184

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-J
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	01/20/23
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 27.0

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 29.0

Elevation / Depth of Top of Screen: / 30.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 35.0

Elevation / Depth of Bottom of Filter Pack: / 35.0

Type of Backfill Below Well: Undisturbed Native Soil

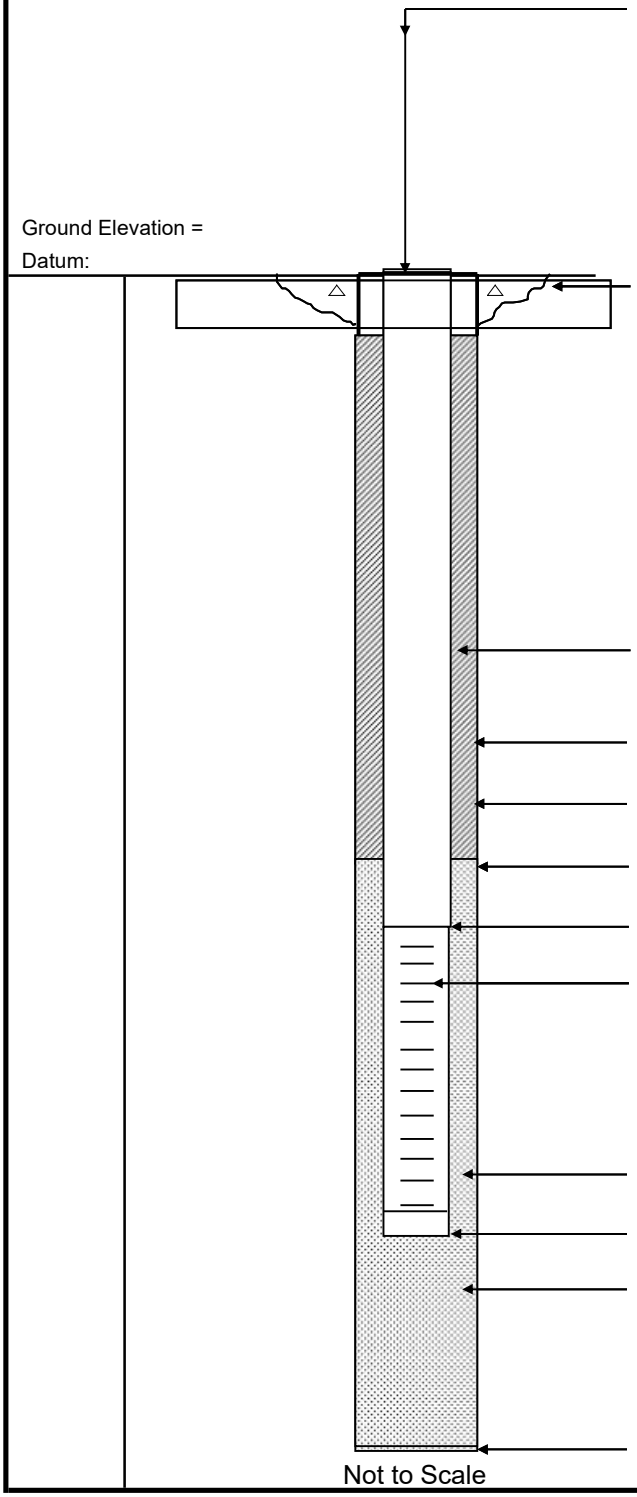
Elevation / Total Depth of Borehole: / 35.0

Tetra Tech, Inc.

WELL No.: IW0183

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-J
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	01/20/23
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 14.5

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 16.5

Elevation / Depth of Top of Screen: / 17.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 27.0

Elevation / Depth of Bottom of Filter Pack: / 27.0

Type of Backfill Below Well: Undisturbed Native Soil

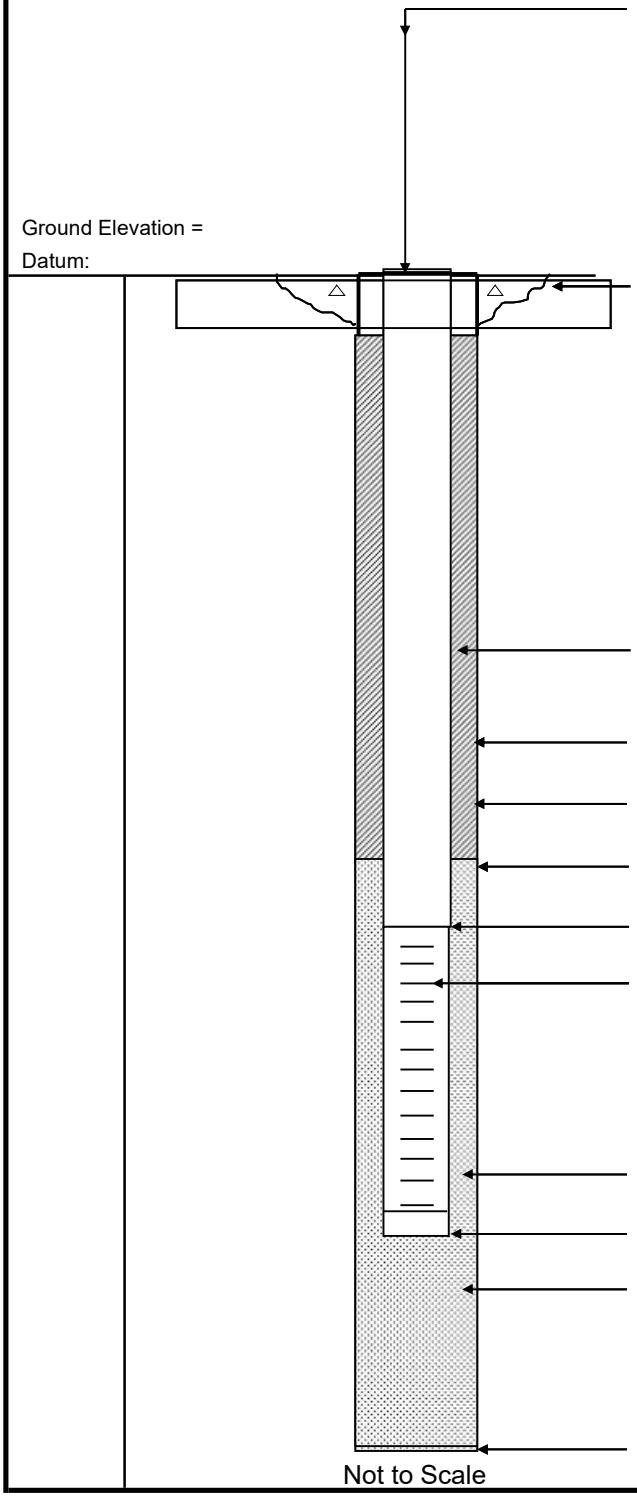
Elevation / Total Depth of Borehole: / 27.0

Tetra Tech, Inc.

WELL No.: IW0186

MONITORING WELL SHEET

PROJECT:	NASA-KSC	DRILLING Co.:	Drill Pro, LLC.	BORING No.:	Location MW-L
PROJECT No.:	112G08985	DRILLER:	Dave Longino	DATE COMPLETED:	01/20/23
SITE:	KSC-LC34	DRILLING METHOD:	Rotosonic	LATITUDE:	
ENG/GEO:	Chuck Sorden	DEV. METHOD:	Pump	LONGITUDE:	



Elevation of Top of Casing: /

Length of Riser (ft): N/A - Flush Mount

Type of Surface Casing: N/A - Flush Mount

Type of Surface Seal: Concrete

Type of Riser: 1" Sch. 40 PVC

Borehole Diameter: 4

Type of Backfill: Type I Portland Cement/Bentonite

Elevation / Depth of Seal: / 13.0

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 15.0

Elevation / Depth of Top of Screen: / 16.0

Type of Screen: Pre-Packed Screen

Slot Size x Length: 0.010 x 10

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 21.0

Elevation / Depth of Bottom of Filter Pack: / 21.0

Type of Backfill Below Well: Undisturbed Native Soil

Elevation / Total Depth of Borehole: / 21.0

MONITORING WELL SURVEYOR REPORT

Tetra Tech note: The well IDs were re-numbered after the survey was completed. The well IDs shown in this survey report changed by an order of 20. LC34-IW0148 was re-numbered as LC34-IW0168; LC34-IW0149 was re-numbered as LC34-IW0169, and so on.

KUGELMANN LAND SURVEYING, INC
30 N TROPICAL TRL, STE B, MERRITT ISLAND, FL 32953
klsinc@cfl.rr.com LB 6575 KLS# 2005119

2/15/2023

TETRA TECH
LAUNCH COMPLEX 34, CAPE CANAVERAL SPACE FORCE STATION

POINT #	NORTHING (FT)	EASTING (FT)	NORTHING (M)	EASTING (M)	TOC EL (FT)	GND EL (FT)	DESC	ID
21	1521778.31	796762.58	463838.962	242853.722	5.33	5.7	MW	LC34-IW0148
22	1521772.81	796762.00	463837.284	242853.546	5.44	5.7	MW	LC34-IW0149
17	1521748.12	796910.80	463829.758	242898.901	4.92	5.2	MW	LC34-IW0150
18	1521748.30	796907.11	463829.813	242897.774	5.01	5.2	MW	LC34-IW0151
7	1521725.75	797088.87	463822.942	242953.177	4.60	4.9	MW	LC34-IW0152
8	1521725.33	797085.06	463822.812	242952.013	4.62	4.9	MW	LC34-IW0153
11	1521661.30	797251.52	463803.296	243002.752	5.97	6.4	MW	LC34-IW0154
12	1521658.18	797253.87	463802.345	243003.468	6.39	6.4	MW	LC34-IW0155
13	1521624.62	797354.14	463792.115	243034.030	7.20	7.3	MW	LC34-IW0156
6	1521589.95	797095.40	463781.548	242955.165	4.78	5.0	MW	LC34-IW0157
16	1521871.95	797026.23	463867.504	242934.082	4.49	4.7	MW	LC34-IW0158
36	1521931.38	796637.47	463885.616	242815.589	5.27	5.4	MW	LC34-IW0159
37	1521929.78	796633.05	463885.129	242814.242	5.27	5.4	MW	LC34-IW0160
30	1521991.72	796383.51	463904.008	242738.181	7.47	7.6	MW	LC34-IW0161
31	1521994.22	796377.55	463904.772	242736.364	7.39	7.6	MW	LC34-IW0162
32	1522088.48	796540.91	463933.500	242786.158	7.88	8.1	MW	LC34-IW0163
33	1522088.09	796546.34	463933.381	242787.813	7.85	8.1	MW	LC34-IW0164
38	1522109.59	796835.83	463939.937	242876.049	5.22	5.3	MW	LC34-IW0165
27	1522277.75	796510.76	463991.190	242776.967	5.10	5.3	MW	LC34-IW0166
26	1522131.69	796230.98	463946.670	242691.692	6.30	6.3	MW	LC34-IW0167
23	1521865.83	796135.57	463865.637	242662.608	7.91	8.1	MW	LC34-IW0168

SURVEYOR'S NOTES:

1. THE SPECIFIC PURPOSE OF THIS SURVEY IS TO DETERMINE THE POSITION AND ELEVATION OF INJECTION WELLS.
2. HORIZONTAL COORDINATES ARE REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83), 1990 ADJUSTMENT AND ARE BASED ON THE UNITED STATES COAST AND GEODETIC MONUMENT "MOTR 1990", HAVING PUBLISHED COORDINATES OF N. 1520936.90 , E.796381.42.

3. ELEVATIONS DEPICTED HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988) AND ARE BASED ON UNITED STATES COAST AND GEODETIC SURVEY MONUMENT "MOTR 1990" HAVING A PUBLISHED ELEVATION OF 25.16 FEET.
4. UNDERGROUND FOUNDATIONS AND/OR UTILITIES NOT LOCATED AT TIME OF SURVEY.
5. THIS SURVEY WAS PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT(S) SHOWN HEREON AND COPIES ARE VALID ONLY WITH THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED PROFESSIONAL SURVEYOR & MAPPER UNLESS ELECTRONICALLY SIGNED AND SEALED IN ACCORDANCE WITH FLORIDA STATUTES CHAPTER 472.025 AND THE STANDARDS OF PRACTICE FOR SURVEYS AS REFERENCED BY CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODES.
AND SEALED IN ACCORDANCE WITH FLORIDA STATUTES CHAPTER 472.025 AND THE STANDARDS OF PRACTICE FOR SURVEYS AS REFERENCED BY CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODES.

ABBREVIATIONS:

TOC =	TOP OF CASING	(M) =	METER	(FT) =	FEET
GND =	GROUND	MW =	MONITORING WELL	ID =	IDENTIFICATION
EL =	ELEVATION	DESC =	DESCRIPTION	IW =	INJECTION WELL

APPENDIX H

HS 6 PHASE TWO EXPANSION AS SYSTEM INSTALLATION RECORDS AND PHOTOGRAPHIC LOG (PRVIDED IN ELECTRONIC VERSION ONLY)

DAILY ACTIVITY REPORTS

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	30-Jan
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Monday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	X
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X			
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL	X			
Joel Adues	GPI	JA	X			

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B
Jermy Ales	NASA Safety & Health	JA				
James Best	NASA Safety & Health	JB				

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF arrive onsite LC 34.
7:30	RL arrive onsite. DF and RL discuss the plan for the day.
8:00	Mini Ex arrives onsite and RL preforms the initial equipment inspection.
8:30	KH arrives onsite. All have a Site Safety Brief. All discuss the plan for HS6 expansion 3/4.
9:00	conclude work for HS6 exp 3/4
9:30	
10:00	CS, DL, driller onsite continue drilling Air Sparge wells.
10:30	
11:00	
11:30	
12:00	
12:30	
13:00	
13:30	
14:00	
14:30	
15:00	
15:30	
16:00	
16:30	DF departs site. End Day Site Secure
17:00	
17:30	
18:00	

Comments:

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Temperature Range: 70 -- 80 ^{0} F

Weather Conditions: Clear

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	31-Jan
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	X
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X			
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL	X			
Joel Adues	GPI	JA	X			

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA	X				
James Best	NASA Safety & Health	JB	X				

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	
7:30	DF arrive onsite CRCA to repair air stripper pump. CS, DL, driller onsite installing air sparge wells.
8:00	
8:30	
9:00	
9:30	
10:00	
10:30	
11:00	
11:30	
12:00	
12:30	
13:00	DF, KH arrive onsite LC 34 from CRCA. All have a Site Safety Brief. All discuss the plan for HS6 expansion 3/4.
13:30	DF, KH start to dig up existing HS6 air sparge wells 256, 245,152,148.
14:00	JA and JB arrive onsite for 10 minutes to do introductions.
14:30	KH trench in the found air sparge wells. DF works on RW21D connections.
15:00	
15:30	
16:00	KH departs site.
16:30	DF departs site. End Day Site Secure
17:00	
17:30	
18:00	

Comments:

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Temperature Range: 70 -- 80 ^{0} F

Weather Conditions: Clear

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	1-Feb
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	X
CM/Site Safety & Health Officer	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X			
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL	X			
Joel Adues	GPI	JA	X			

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B
Jermy Ales	NASA Safety & Health	JA				
James Best	NASA Safety & Health	JB				

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF arrive onsite LC 34.
7:30	KH arrive onsite and preform equipment inspections. Then starts to trench the east side of perimeter road. RL calls lost his badge and will be late.
8:00	
8:30	RL arrives onsite. All have a Site Safety stand down. Then continues to trench the east side of perimeter road. RL spots for KH in mini
9:00	
9:30	DF work on RW21D connections.
10:00	
10:30	
11:00	
11:30	
12:00	RL, KH go to lunch
12:30	RL, KH return to trenching.
13:00	
13:30	
14:00	
14:30	
15:00	
15:30	
16:00	RL, KH departs site.
16:30	
17:00	
17:30	
18:30	DF departs site. End Day Site Secure

Comments:

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Temperature Range: 70 -- 80 ^{0} F

Weather Conditions: Clear



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	2-Feb
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Thursday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	X
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X			
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL	X			
Joel Adues	GPI	JA	X			

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF arrive onsite LC 34.
7:30	KH, RL arrive onsite and preform equipment inspections. All walk trench paths and DF paints them.
8:00	
8:30	KH, RL begin trenching the east side of the block house. KH spots for RL in mini
9:00	
9:30	DF finishes painting the east side of the block houses trench lines.
10:00	DF work on RW21D connections.
10:30	
11:00	
11:30	
12:00	RL, KH go to lunch
12:30	RL, KH return to trenching.
13:00	
13:30	
14:00	
14:30	
15:00	
15:30	
16:00	RL, KH departs site.
16:30	DF departs site. End Day Site Secure
17:00	
17:30	
18:30	

Comments:

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Temperature Range: 70 -- 80 ^{0} F

Weather Conditions: Clear

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	6-Feb
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Monday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	X
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X			
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL	X			
Joel Adues	GPI	JA	X			

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF arrive onsite LC 34.
7:30	RL arrive onsite and preform equipment inspections and continues trenching. KH calls will be late.
8:00	DF to the Tiki Shack to receive a delivery
8:30	
9:00	KH arrives at barn then heads to 34.
9:30	DF, KH arrive back onsite 34. KH spots for RL. DF works on system maintaince.
10:00	DF work on RW21D connections.
10:30	
11:00	
11:30	
12:00	RL, KH go to lunch
12:30	RL, KH return to trenching.
13:00	
13:30	
14:00	
14:30	
15:00	
15:30	
16:00	RL, KH departs site.
16:30	DF departs site. End Day Site Secure
17:00	
17:30	
18:30	

Comments:

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Temperature Range: 70 -- 80 ^{0} F

Weather Conditions: Clear



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:	Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Date:	7-Feb
112G08985			Year:	2023
4045			Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF	X		Chuck Sorden	CS	X
CM/Site Safety & Health Officer:	Christopher Neumann	CN			Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X				
Project Support:							

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL	X			
Joel Adues	GPI	JA	X			

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF arrive onsite LC 34.
7:30	RL, KH arrive onsite and preform equipment inspections and continues trenching. KH is on miniEx and RL spot.
8:00	DF resample PFAS IDW.
8:30	
9:00	
9:30	
10:00	
10:30	
11:00	KH offsite for personnal reasons. RL continues to trench.
11:30	
12:00	RL go to lunch
12:30	RL return to trenching.
13:00	
13:30	
14:00	
14:30	
15:00	
15:30	
16:00	RL departs site.
16:30	DF departs site. End Day Site Secure
17:00	
17:30	
18:30	

Comments:

-- 1/3 E Blockhouse trenched
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Temperature Range: 70 -- 80 ^{0} F

Weather Conditions: Clear



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:	Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Date:	8-Feb
112G08985			Year:	2023
4045			Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	X
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X			
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL	X			
Joel Adues	GPI	JA	X			

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF arrive onsite LC 34.
7:30	RL arrive onsite and preform equipment inspections and continues trenching.
8:00	
8:30	
9:00	
9:30	
10:00	
10:30	
11:00	
11:30	
12:00	RL go to lunch
12:30	RL return to trenching. KH arrive onsite and spots.
13:00	
13:30	
14:00	
14:30	
15:00	DF fuel the mini.
15:30	
16:00	RL, KH departs site.
16:30	DF departs site. End Day Site Secure
17:00	
17:30	
18:30	

Comments:

-- 1/2 E blockhouse trenched
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Temperature Range: 70 -- 80 ^{0} F

Weather Conditions: Clear

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:	Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Date:	9-Feb
112G08985			Year:	2023
4045			Day:	Thursday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF	X		Chuck Sorden	CS	X
CM/Site Safety & Health Officer:	Christopher Neumann	CN			Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X				
Project Support:							

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL	X			
Joel Adues	GPI	JA	X			

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ	X	Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA	X				
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF arrive onsite LC 34.
7:30	RL, KH arrive onsite and preform equipment inspections and continues trenching. RL in the miniex and KH spot.
8:00	DF stake PFAS sites FS3, FS1, STP1. DF asks CS to oversee construction while DF offsite.
8:30	
9:15	DJ onsite observe work.
9:30	
10:00	DJ offsite
10:30	JA onsite for 5 minutes.
11:00	
11:30	
12:00	RL, KH go to lunch. DF back onsite on calls.
12:30	RL, KH return to trenching. KH on Mini and RL spot.
13:00	
13:30	
14:00	
14:30	
15:00	RL departs site.
15:30	
16:00	KH departs site.
16:30	DF helps CS reset MOT.
17:00	
17:30	
18:30	DF departs site. End Day Site Secure

Comments:

-- 1/2 E blockhouse trenched
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Temperature Range: 70 -- 80 ^{0} F

Weather Conditions: Clear

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	13-Feb
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Monday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF	X		Chuck Sorden	CS	
CM/Site Safety & Health Officer:	Christopher Neumann	CN			Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X				
Project Support:							

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL				
Joel Adues	GPI	JA				

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF arrive onsite LC 34.
7:30	RL, KH arrive onsite all have site safety brief.
8:00	RL, KH insert tee post, cones, rope, and flaging all around HS6 expansion 3/4 to prevent unauthorized access.
8:30	DF work on HCS.
9:15	
9:30	
10:00	
10:30	
11:00	
11:30	
12:00	RL, KH go to lunch.
12:30	RL, KH return to trenching. KH on Mini and RL spot.
13:00	
13:30	
14:00	
14:30	
15:00	
15:30	
16:00	KH, RL departs site.
16:30	DF departs site. End Day Site Secure
17:00	
17:30	
18:30	

Comments:

-- 1/2 E blockhouse trenched
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Temperature Range: 70 -- 80 ^{0} F

Weather Conditions: Clear

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:	Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Date:	20-Feb
112G08985			Year:	2023
4045			Day:	Monday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF	X		Chuck Sorden	CS	
CM/Site Safety & Health Officer:	Christopher Neumann	CN			Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X				
Project Support:							

Subcontractor:			Onsite				Onsite
Dave Langaro	GPI	DL					
Joel Adues	GPI	JA					

Visitors:			Onsite				Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF arrive onsite LC 34.
7:30	RL, KH arrive onsite all have site safety brief.
8:00	RL, preforms equipment inspections and continues trenching.
8:30	KH off site work on SpaceX.
9:15	
9:30	
10:00	
10:30	
11:00	
11:30	
12:00	RL goes to lunch.
12:30	
13:00	KH back onsite LC34 move equipment and materials.
13:30	
14:00	
14:30	
15:00	
15:30	KH, RL departs site.
16:00	
16:30	DF departs site. End Day Site Secure
17:00	
17:30	
18:30	

Comments:

-- 1/2 E blockhouse trenched
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Temperature Range: 70 -- 80 ^{0} F

Weather Conditions: Clear

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	21-Feb
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X			
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL				
Joel Adues	GPI	JA				

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF arrive onsite LC 34.
7:30	RL, KH arrive onsite. RL, preforms equipment inspections and continues trenching. KH moves materials and helps CS.
8:00	DF works on HSC system
8:30	
9:15	
9:30	
10:00	
10:30	
11:00	
11:30	
12:00	RL,KH goes to lunch.
12:30	
13:00	RL continues trenching. KH moves materials and helps CS.
13:30	
14:00	
14:30	
15:00	
15:30	
16:00	KH, RL departs site.
16:30	DF departs site. End Day Site Secure
17:00	
17:30	
18:30	

Comments:

-- 3/4 E blockhouse trenched
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Temperature Range: 80 -- 90 ^{0} F

Weather Conditions: Clear

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	22-Feb
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X			
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL				
Joel Adues	GPI	JA				

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF arrive onsite LC 34.
7:30	RL, KH arrive onsite. RL, preforms equipment inspections and continues trenching. DF, KH moves materials and organize 3 sided structure.
8:00	
8:30	
9:15	
9:30	
10:00	
10:30	
11:00	
11:30	
12:00	DF, RL,KH go to lunch.
12:30	All resume.
13:00	DF offsite to Home Depot of supplies.
13:30	
14:00	DF back onsite. Continue mmoving materialss with KH.
14:30	
15:00	
15:30	
16:00	KH, RL departs site.
16:30	
17:00	
17:30	
18:30	DF departs site. End Day Site Secure

Comments:

-- 3/4 E blockhouse trenched
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Temperature Range: 80 -- 90 ^{0} F

Weather Conditions: Clear



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	23-Feb
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Thursday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	X
Field Engineer:	Dan Forester	DF	X			
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL				
Joel Adues	GPI	JA				

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ	X	Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA	X				
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF, RS arrive onsite LC 34.
7:30	RL arrive onsite preforms equipment inspections and continues trenching. DF, RS moves materials and organize 3 sided structure.
8:00	
8:30	
9:15	KH arrive onsite from mowing CCB berm and mowes 34 HCS.
9:30	KH helps DF and RS move materials.
10:00	
10:30	
11:00	
11:30	
12:00	RS, RL go to lunch.
12:30	
13:00	RS, RL resume.
13:30	KH departs for personnel appointment.
14:00	
14:30	
15:00	
15:30	
16:00	RL departs site.
16:30	RS departs site.
17:00	
17:30	
18:30	DF departs site. End Day Site Secure

Comments:

-- 3/4 E blockhouse trenched
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Temperature Range: 80 -- 90 ^{0} F

Weather Conditions: Clear



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	24-Feb
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Friday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	
Project Engineer:				Kyle Hoard	KH	
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X			
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL				
Joel Adues	GPI	JA				

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	
7:30	
8:00	
8:30	
9:15	
9:30	
10:00	
10:30	
11:00	
11:30	
12:00	
12:30	
13:00	
13:30	
14:00	DF arrive onsite LC 34 moves equipment for pick up due to filming.
14:30	
15:00	
15:30	
16:00	DF departs site. End Day Site Secure
16:30	
17:00	
17:30	
18:30	

Comments:

-- 3/4 E blockhouse trenched
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Temperature Range: 80 -- 90 ^{0} F

Weather Conditions: Clear

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	27Feb - 3Mar
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Mon-Fri

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	
Project Engineer:				Kyle Hoard	KH	
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X			
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL				
Joel Adues	GPI	JA				

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	
7:30	
8:00	
8:30	
9:15	
9:30	
10:00	
10:30	
11:00	
11:30	
12:00	DF arrive onsite LC 34 inspect trenches
12:30	DF departs site. End Day Site Secure
13:00	
13:30	
14:00	
14:30	
15:00	
15:30	
16:00	
16:30	
17:00	
17:30	
18:30	

Comments:

-- 3/4 E blockhouse trenched
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Temperature Range: 80 -- 90 ^{0} F

Weather Conditions: Clear



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	6-Mar
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Monday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	
Project Engineer:				Kyle Hoard	KH	
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X			
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL				
Joel Adues	GPI	JA				

Visitors:			Onsite				Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF, arrive onsite LC 34. no access
7:30	
8:00	
8:30	
9:00	
9:30	
10:00	
10:30	
11:00	
11:30	
12:00	
12:30	
13:00	
13:30	
14:00	
14:30	
15:00	
15:30	
16:00	
16:30	
17:00	
17:30	
18:30	

Comments:

-- 3/4 E blockhouse trenched
-- no work due to site access.
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Temperature Range: 80 -- 90 ^{0} F

Weather Conditions: Clear



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	7-Mar
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X			
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL				
Joel Adues	GPI	JA				

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF, arrive onsite LC 34.
7:30	RL, arrive onsite, site safety brief and plan for the week, preforms equipment inspections and continues trenching.
8:00	KH arrive onsite
8:30	KH off site to mark trails at HBF. DF to get fuel.
9:00	
9:30	All cleared from site by CCSF Police clearing for the pending launch.
10:00	
10:30	
11:00	
11:30	
12:00	
12:30	
13:00	
13:30	
14:00	
14:30	KH, RL departs site.
15:00	
15:30	
16:00	
16:30	DF departs site. End Day Site Secure
17:00	
17:30	
18:30	

Comments:

-- 3/4 E blockhouse trenched
-- no work due to site access.
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Temperature Range: 80 -- 90 ^{0} F

Weather Conditions: Clear



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	8-Mar
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X			
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL				
Joel Adues	GPI	JA				

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF, arrive onsite LC 34.
7:30	
8:00	RL arrive onsite, site safety brief and plan for the week, preforms equipment inspections and continues trenching.
8:30	KH arrives onsite, hangs LC 34 Project signs.
9:15	
9:30	
10:00	
10:30	
11:00	KH mounts pipe rack.
11:30	
12:00	KH, RL go to lunch.
12:30	KH, RL resume.
13:00	
13:30	
14:00	
14:30	KH, departs site.
15:00	
15:30	
16:00	RL, departs site.
16:30	DF departs site. End Day Site Secure
17:00	
17:30	
18:30	

Comments:

-- 7/8 E blockhouse trenched
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Temperature Range: 80 -- 90 ^{0} F

Weather Conditions: Clear



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	9-Mar
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Thursday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X			
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL				
Joel Adues	GPI	JA				

Visitors:			Onsite				Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA	X				
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF, arrive onsite LC 34.
7:30	RL arrive onsite, site safety brief and plan for the week, preforms equipment inspections and continues trenching.
8:00	KH arrives onsite
8:30	KH assembles tees.
9:15	
9:30	
10:00	JB onsite for 5 minutes.
10:30	
11:00	
11:30	
12:00	KH, RL go to lunch.
12:30	KH, RL resume.
13:00	
13:30	
14:00	All watch SpaceX launch and landing
14:30	All resume.
15:00	
15:30	
16:00	RL, KH departs site.
16:30	
17:00	DF departs site. End Day Site Secure
17:30	
18:30	

Comments:

-- 7/8 E blockhouse trenched
--
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Temperature Range: 80 -- 90 ^{0} F

Weather Conditions: Clear

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	14-Mar
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	
Project Engineer:				Kyle Hoard	KH	
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X	Jishnu Adhikari	JA	X
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL				
Joel Adues	GPI	JA				

Visitors:			Onsite				Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
6:30	JA arrive at badging.
7:00	DF arrive at badging
8:00	
8:30	DF, JA arrive onsite LC 34. Have site safety brief and site review.
9:00	DF, JA set up to start pulling pipe.
9:30	
10:00	Start pulling pipe.
10:30	
11:00	
11:30	
12:00	
12:30	
13:00	
13:30	
14:00	
14:30	
15:00	
15:30	
16:00	
16:30	
17:00	complete pulling pipe for day and clean up.
18:00	DF, JA departs site. End Day Site Secure
18:30	

Comments:

-- 7/8 E blockhouse trenched
-- 8500 feet of pipe pulled today
-- 8500 feet total pipe laid
--

Temperature Range: 70 -- 80 ^{0} F

Weather Conditions: Clear



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	15-Mar
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X	Jishnu Adhikari	JA	X
Project Support:						

Subcontractor:			Onsite				Onsite
Dave Langaro	GPI	DL					
Joel Adues	GPI	JA					

Visitors:			Onsite				Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF arrive onsite LC 34.
7:30	
8:00	
8:30	JA arrive onsite. Set up to start pulling pipe.
9:00	Start pulling pipe.
9:30	
10:00	RL arrive onsite start half back filling trenches on east side of block house.
10:30	
11:00	
11:30	
12:00	All to lunch
12:30	All resume
13:00	
13:30	JA offsite for meeting call
14:00	
14:30	JA back onsite pulling pipe.
15:00	
15:30	
16:00	RL departs.
16:30	
17:00	Complete pulling pipe for day and clean up.
18:00	DF, JA departs site. End Day Site Secure
18:30	

Comments:

-- 7/8 E blockhouse trenched
-- 7000 feet of pipe pulled today
-- 15500 feet total pipe laid
--

Temperature Range: 60 -- 70 ^{0} F

Weather Conditions: Clear

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	16-Mar
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Thursday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	
CM/Site Safety & Health Officer:	Christopher Neumann	CN		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X	Jishnu Adhikari	JA	X
Project Support:						

Subcontractor:			Onsite				Onsite
Dave Langaro	GPI	DL					
Joel Adues	GPI	JA					

Visitors:			Onsite				Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF arrive onsite LC 34.
7:30	
8:00	
8:30	JA arrive onsite. DF JA work on another sites task for the day.
9:00	
9:30	
10:00	RL arrive onsite start half back filling trenches on east side of block house.
10:30	
11:00	
11:30	
12:00	RL, JA to lunch
12:30	RL, JA resume
13:00	
13:30	
14:00	
14:30	
15:00	
15:30	
16:00	RL departs.
16:30	
17:00	
18:00	DF, JA departs site. End Day Site Secure
18:30	

Comments:

-- 7/8 E blockhouse trenched
-- 7000 feet of pipe pulled today
-- 15500 feet total pipe laid
--

Temperature Range: 60 -- 80 ^{0} F

Weather Conditions: Clear

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	17-Mar
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Friday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	
Field Operations Supervisor:	Dan Forester	DF	X	Chuck Sorden	CS	
CM/Site Safety & Health Officer:	Christopher Neumann	CN	X	Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X	Jishnu Adhikari	JA	X
Project Support:						

Subcontractor:			Onsite			Onsite
Dave Langaro	GPI	DL				
Joel Adues	GPI	JA				

Visitors:			Onsite			Onsite
Anne Crest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jermy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF arrive onsite LC 34.
7:30	
8:00	
8:30	JA arrive onsite cleans area. DF work on another sites task.
9:00	
9:30	JA Assembles tees.
10:00	
10:30	
11:00	
11:30	
12:00	DF JA work on another sites task.
12:30	
13:00	
13:30	DF, JA paint the west side trenches.
14:00	
14:30	CN onsite receive turnover details.
15:00	CN departs site. DF,JA work on another sites task.
15:30	
16:00	
16:30	JA departs site. End Day Site Secure
17:00	
18:00	DF depart site, End Day Site Secure
18:30	

Comments:

-- 7/8 E blockhouse trenched
-- 7000 feet of pipe pulled today
-- 15500 feet total pipe laid
--

Temperature Range: 70 -- 80 ^{0} F

Weather Conditions: Clear



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	22-Mar
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF		Chuck Sorden	CS	
CM/Site Safety & Health Officer:	Christopher Neumann	CN	X	Rob Siegel	RS	
Field Engineer:	Dan Forester	DF		Jishnu Adhikari	JA	
Project Support:						

Subcontractor:			Onsite			Onsite

Visitors:			Onsite				Onsite
Anne Chrest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brett	COMM Police	B	
Jeremy Ales	NASA Safety & Health	JA					
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	DF arrive onsite LC 34.
7:30	
8:00	
8:30	JA arrive onsite cleans area. DF work on another sites task.
9:00	
9:30	JA Assembles tees.
10:00	
10:30	
11:00	
11:30	
12:00	DF JA work on another sites task.
12:30	
13:00	
13:30	DF, JA paint the west side trenches.
14:00	
14:30	CN onsite receive turnover details.
15:00	CN departs site. DF,JA work on another sites task.
15:30	
16:00	
16:30	JA departs site. End Day Site Secure
17:00	
18:00	DF depart site, End Day Site Secure
18:30	

Comments:

-- 7/8 E blockhouse trenched
-- 7000 feet of pipe pulled today
-- 15500 feet total pipe laid
--

Temperature Range: 70 -- 80 ^{0} F

Weather Conditions: Clear



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	27-Mar
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Monday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN		X	Rob Siegel	RS	
Field Engineer:	Dan Forester	DF		X	Jishnu Adhikari	JA	
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Anne Chrest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	X
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	CN onsite, DF already onsite; CN assisting DF unloading and storing tools and supplies; KH called in, going to be late
8:30	RL onsite; Tailgate
8:45	RL assembling tees
9:10	KH onsite, assistiong RL assembling tees
10:00	DF offsite
10:45	RL and KH offsite for break
11:15	RL and KH return; All repairing flat tire on 4x4
11:30	RL and KH installing tees in parking lot area near the 3-sided structure; MM onsite briefly performing inspections
1:00	RL and KH installing warning tape and marking wire in trenches in vicinity of the 3-sided structure
2:00	RL on mini, KH on tractor placing backfill
4:00	All offsite

Comments:

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Temperature Range: 73 -- 85 ^{0} F

Weather Conditions: Partly cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	28-Mar
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF			Jishnu Adhikari	JA	
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Anne Chrest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
8:30	CN onsite, KH already onsite asembling tees
9:00	CN and KH installing tees
11:30	KH offsite to pick up samples at POL to meet courier at KSC Badging Office; CN housekeeping
12:00	Lunch
1:00	CN offsite

Comments:

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Temperature Range: 80 -- 81 ^{0} F

Weather Conditions: Mostly sunny

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	29-Mar
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF			Jishnu Adhikari	JA	X
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Anne Chrest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
1:00	CN, RL, and KH to LC34
1:30	RL on mini placing backfill; CN placing temporary marker at AS wells to be replaced by location stakes after tape and wire
1:45	KH and JA onsite assisting CN
2:00	CN loading tools in truck to deliver to DF; KH and JA placing tape and wire
4:00	RL offsite
4:30	All offsite

Comments:

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Temperature Range: 69 -- 76 ^{0} F

Weather Conditions: Cloudy



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	30-Mar
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Thursday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF		Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X	Rob Siegel	RS	
Field Engineer:	Dan Forester	DF		Jishnu Adhikari	JA	X
Project Support:						

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Anne Chrest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:55	CN and JA onsite, RL and KH already onsite; Tailgate
8:15	RL on mini placing backfill; KH and JA installing tees, tape, wire, and AS well markers
11:15	JA and KH break
11:35	JA and KH resume
12:00	All to lunch
1:00	All return and resume
2:30	JA and KH complete installing tees and continue placing tape, wire, and markers
3:30	JA and KH housekeeping
4:00	All offsite

Comments:

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Temperature Range: 68 -- 78 ^{0} F

Weather Conditions: Mostly sunny

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	3-Apr
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Monday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF		Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X	Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X	Jishnu Adhikari	JA	
Project Support:						

Subcontractor:			Onsite			Onsite

Visitors:			Onsite				Onsite
Anne Chrest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:30	DF onsite
7:50	RL and KH onsite
8:00	CN onsite; Tailgate
8:15	RL on tractor loading reel with HDPE to deploy piping to ASWs 334, 336, 337, and 338; DF stepping off distances to Asws being used to feed these four ASWs
9:30	DF and KH installing tees; RL on mini placing backfill; CN erecting four tees with two HDPE connectors
9:45	CN shoveling out out four old ASWs to prepare for connection
11:15	DF and KH cleaning out 4x4 and putting tools and supplies away and loading 4x4 onto trailer for KH to transport to HBF for RS to sample wells
12:15	KH and RL to HBF to drop 4x4, to WCs to drop trailer, and pick-up trailer with skidsteer; CN to lunch; DF offsite
1:00	CN returns to site
2:15	RL and KH return and offload skidsteer; RL on mini resumes backfilling trenches
2:17	Phase II
4:00	RL and KH offsite; light rain; DF onsite
4:45	CN and DF offsite
5:00	Phase II terminated

Comments:

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Temperature Range: 76 -- 83 ^{0} F

Weather Conditions: Cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	4-Apr
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF		Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X	Rob Siegel	RS	
Field Engineer:	Dan Forester	DF		Jishnu Adhikari	JA	
Project Support:						

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Anne Chrest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
8:00	CN onsite
8:10	RL onsite; KH texts that he is at POL with CS dropping off COC; RL on mini resumes placing backfill
9:00	KH onsite; CN and KH replacing temporary ASW markers with orange stakes on backfilled, taped, wired trenches to allow backfill completion and grading
9:45	KH on skidsteer placing backfill and grading
12:00	Lunch
1:00	KH and RL resume; CN placing temporary ASW markers and housekeeping
2:45	CN and KH placing warning tape and marking wire
3:45	KH offsite to HBF to retrieve 4x4, then offsite
4:15	CN and RL offsite
4:45	CN stop to fill diesel tank

Comments:

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Temperature Range: 72 -- 83 ^{0} F

Weather Conditions: Mostly sunny

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	5-Apr
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN		X	Rob Siegel	RS	
Field Engineer:	Dan Forester	DF			Jishnu Adhikari	JA	
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Anne Chrest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	CN onsite
8:00	KH onsite, cleaning out fan and filter on skidsteer
8:23	RL onsite; KH unloading 4x4 from trailer; RL on mini resumes placing backfill to half the depth of the trenches
8:45	KH on skidsteer placing backfill and grading trenches with tape, wire, and marking stakes
10:45	KH pauses to grease skidsteer
11:45	Lunch
12:45	Return to site; KH and RL resume placing backfill and grading
2:30	KH offsite to pickup parts
4:00	RL offsite; CN fuel mini
4:45	CN offsite

Comments:

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Temperature Range: 70 -- 81 ^{0} F

Weather Conditions: Mostly sunny

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	17-Apr
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Monday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF		Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X	Rob Siegel	RS	X
Field Engineer:	Dan Forester	DF	X	Jishnu Adhikari	JA	
Project Support:						

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Anne Chrest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:50	CN, DF, and RL onsite
8:00	Tailgate
8:15	RS and KH with skidsteer onsite; KH offloading skidsteer; RL and KH retrieve wire from camera pad trailer and move to tool trailer
9:00	RL on mini resumes placing backfill
9:15	CN call to Cape Support for Dig Clearance; Clear to excavate; CN and KH laying tape and wire
10:15	Phase II and heavy rains; KH, RL, and RS housekeeping at camera pad trailers
11:15	Phase II terminated; RL on mini and KH on skidsteer placing backfill and grading
12:30	RL offsite; CN, KH, and RS offsite to lunch
1:30	All return; CN and KH placing tape, wire , and markers
2:30	KH resumes backfilling and grading; CN housekeeping
3:00	KH offsite
4:30	CN offsite

Comments:

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Temperature Range: 70 -- 71 ^{0} F

Weather Conditions: Cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	18-Apr
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN		X	Rob Siegel	RS	
Field Engineer:	Dan Forester	DF		X	Jishnu Adhikari	JA	
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Anne Chrest	NASA Technical Lead	AC		Sean O'Brien	Dig Police	SO	
Deda Johansen	NASA RPM	DJ		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA	X	Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:30	CN onsite; DF at HCS system
7:45	KH onsite; Tailgate
8:45	RL onsite; RL on mini and KH on skidsteer resume placing and grading backfill
10:20	JA onsite briefly and walks site with DF as he informs DF he is moving on to another group
12:00	CN, KH, and RL offsite to lunch
1:00	All return; RL and KH resume; CN re-marking trench lines north of blockhouse
2:30	RL and KH placing tape and wire on 7 ASWs south of Perimeter Road in order to complete backfilling
3:00	RL on mini, KH on skidsteer, resume backfilling and grading
4:00	RL and KH offsite
4:15	CN offsite

Comments:

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Temperature Range: 64 -- 73 ^{0} F

Weather Conditions: Sunny

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	20-Apr
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Thursday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Rob Siegel	RS	
Field Engineer:	Dan Forester	DF	X		Jishnu Adhikari	JA	
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ	X	Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO	X	Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:40	CN onsite; DF and KH already onsite; KH mowing north field
7:50	RL onsite; Tailgate
8:15	RL on mini resumes placing and grading backfill
10:00	RL tracking mini to north side of blockhouse to begin excavating at manifold pipe rack area
10:30	CN call to Cape Support for Dig Clearance; Clear to excavate; KH moving tool trailer to north side of blockhouse
10:45	KH on skidsteer placing backfill and grading last trenchon east side, south of Perimeter Rd
12:00	CN, KH, and RL offsite for lunch
1:00	All return; RL on tractor and KH on skidsteer assisting DF
1:45	RL on mini resumes excavating rack area as KH cuts and labels ASWs so RL can straddle them with mini
2:00	KH working on disconnecting old manifold trailer in woods for eventual relocation
2:45	DJ, RO, and guest from HQ onsite; DF provides tour of GW system; Offsite 3pm
3:00	KH requests assistance from RL on tractor to get trailer off cinder blocks; CN, RL, and KH move manifold trailer to near 3-sided structure
4:00	RL and KH offsite
4:30	CN offsite

Comments:

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Temperature Range: 64 -- 73 ^{0} F

Weather Conditions: Sunny

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	24-Apr
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Monday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN		X	Mark Kendall	MK	X
Field Engineer:	Dan Forester	DF		X	Steve Lane	SL	X
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	RL onsite
7:50	CN and KH onsite; Tailgate
8:00	Second mini from Synergy arrives onsite; CN texts Pat Davis of Synergy to request a smaller bucket and fire extinguisher
8:15	KH inspecting mini; CN talks through excavation sequence plans
8:35	CN call to Cape Support for Dig Clearance; Clear to excavate; KH and RL on minis trenching
10:00	DF onsite with MK and SL
12:00	CN, KH, and RL offsite for lunch
1:00	All return and resume
2:00	Phase II; RL and KH in trailer assembling tees
3:00	CN offsite to office
4:00	RL and KH offsite

Comments:

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Temperature Range: 73 -- 76 ^{0} F

Weather Conditions: Cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	25-Apr
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	RL and KH onsite
7:50	CN onsite; Tailgate
8:15	CN call to Cape Support for Dig Clearance; Clear to excavate; KH and RL on minis resume trenching
10:30	CN hanging multiple "Danger - Open Excavation" signs along the perimeter rope boundary
12:00	CN, KH, and RL offsite for lunch
1:00	All return and resume
1:30	Pat Davis of Synergy onsite with a mechanic to look at cylinder on mini mobilized yesterday
2:30	Phase II, heavy rains; All offsite

Comments:

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Temperature Range: 73 -- 74 ^{0} F

Weather Conditions: Mostly cloudy, heavy rains

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	26-Apr
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF	X		Steve Lane	SL	
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:50	CN onsite
8:00	RL onsite; Tailgate
8:15	CN call to Cape Support for Dig Clearance; Clear to excavate; RL on mini resumes trenching
10:45	DF onsite
12:00	CN and RL offsite for lunch
1:00	CN and RL return and resume
1:30	CN fuels RL's mini with 5-gal can to holdover until tomorrow
2:30	Phase II; All offsite; CN stop to fill diesel tank

Comments:

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Temperature Range: 75 -- 78 ^{0} F

Weather Conditions: Mostly sunny

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	27-Apr
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Thursday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN		X	Mark Kendall	MK	X
Field Engineer:	Dan Forester	DF		X	Steve Lane	SL	X
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ	X	Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	RL and KH onsite
8:00	CN onsite; Tailgate; CN call to Cape Support for Dig Clearance; Clear to excavate
8:30	DF and DJ onsite with Space Force personnel to look at beach area for potential project site
8:45	CN, RL, and KH discussing optimal trench routing
9:00	DF and DJ stop by to discuss project progress
9:30	DJ offsite; KH and RL on minis resume trenching; CN painting trench paths; MK and SL onsite
12:00	CN, KH, and RL offsite for lunch
12:30	MK and SL offsite
1:00	CN, KH, and RL return and resume
2:00	DF offsite
2:15	CN fueling RL's mini
3:25	CN placing remainder of fuel in KH's mini
4:00	All offsite
4:25	CN stop to fill diesel tank

Comments:

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Temperature Range: 75 -- 81 ^{0} F

Weather Conditions: Mostly cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	28-Apr
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Friday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	RL and KH onsite
8:00	CN onsite; Tailgate; CN call to Cape Support for Dig Clearance; Clear to excavate
8:30	KH and RL on minis resume trenching; Rob Siegel (RS) and Sam Hone (SH) onsite to sample MWs
10:45	RS and SH offsite
11:30	CN repairing section of rope barricade; RL completes trenching on eastern half and tracks to alternate trench legs on west side with KH
12:00	CN, KH, and RL offsite for lunch
1:00	CN, KH, and RL return and resume
2:45	CN offsite; Emailed status update to MJ; Texted Pat Davis to take mini off rent and schedule for pickup
4:00	RL and KH offsite

Comments:

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Temperature Range: 71 -- 80 ^{0} F

Weather Conditions: Partly cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	2-May
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN		X	Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	RL onsite; CN picking up KH after stop at Home Depot for unistrut
8:00	CN and KH onsite; Tailgate; CN call to Cape Support for Dig Clearance; Clear to excavate
8:30	All gathering tools and supplies to install pipe rack
8:45	RL on mini resumes trenching; CN and KH laying out rack and gathering parts
10:00	CN and KH inventory delivery; Synergy onsite to demobilize second mini
12:30	CN, KH, and RL offsite for lunch
1:30	CN, KH, and RL return and resume
3:00	Pipe rack complete; All housekeeping
3:45	All offsite

Comments:

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Temperature Range: 76 -- 83 ^{0} F

Weather Conditions: Sunny

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	3-May
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN		X	Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
8:00	CN and KH onsite; Tailgate; CN call to Cape Support for Dig Clearance; Clear to excavate with waiver
8:05	DF onsite; RL called in, will be late
8:45	DF offsite; KH potholing for water line at trench crossing
9:15	RL onsite in mini assisting KH cross water lines with trench
11:00	Following 4 water line crossings RL continues trenching as KH goes to old manifold trailers to label lines
12:15	CN, KH, and RL offsite for lunch
1:15	CN, KH, and RL return and resume
3:30	CN assisting KH
3:45	CN fueling mini
4:00	All offsite

Comments:

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Temperature Range: 68 -- 81 ^{0} F

Weather Conditions: Mostly cloudy



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	4-May
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Thursday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF		Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X	Mark Kendall	MK	
Field Engineer:	Dan Forester	DF		Steve Lane	SL	
Project Support:						

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:15	CN stop to fill diesel tank
7:30	CN stop to pick up KH
7:45	RL onsite
8:00	RL on mini resumes trenching
8:30	CN and KH onsite; CN call to Cape Support for Dig Clearance; Clear to excavate; KH fueling 4x4 then to old manifold trailer to resume labeling flex lines and pipe racks; CN moving rope barricades and marking ASWs
10:00	KH completes marking lines and begins spotting RL for utility crossings
12:15	CN and KH restoring rope boundary where it was moved for mini to more easily trench up to the boundary
12:30	RL offsite for appointment; CN and KH offsite for lunch
1:15	CN and KH return; KH in mini excavating last trench on north side of blockhouse
3:00	KH completes trenching; CN texts DF to request he GPS the trenches tomorrow; KH on tractor moving reels and spool to set up to deploy 1-inch HDPE piping tomorrow
4:00	CN and KH offsite

Comments:

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Temperature Range: 67 -- 86 ^{0} F

Weather Conditions: Sunny

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	5-May
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Friday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF		Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X	Mark Kendall	MK	
Field Engineer:	Dan Forester	DF	X	Steve Lane	SL	
Project Support:						

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	RL onsite
7:50	CN and KH onsite; KH gathering tools and supplies for 1-inch HDPE pipe deployment and racking on pipe rack and assisting RL with bag filter changeout at the HCS
9:00	All marking rack for pipe locations and zones
9:30	All deploying pipe
10:00	DF onsite walking trenches with GPS
11:00	DF completes GPS and leaves to work on HCS
11:45	CN, RL, and KH housekeeping
12:00	RL and KH offsite
12:15	CN offsite

Comments:

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Temperature Range: 70 -- 79 ^{0} F

Weather Conditions: Mostly cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	8-May
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Monday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
9:30	CN onsite, RL already onsite, KH enroute
9:45	KH onsite; Tailgate
10:00	All deploying and racking 1-inch HDPE piping
12:00	All offsite for lunch
1:00	All return and resume
4:00	RL and KH offsite
4:10	CN offsite

Comments:

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Temperature Range: 75 -- 79 ^{0} F

Weather Conditions: Sunny



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	9-May
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN		X	Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
8:00	CN and KH onsite, RL already onsite; Tailgate
8:15	KH and RL setting up to resume deploying 1-inch HDPE piping
8:30	All deploying and racking 1-inch HDPE piping
9:20	CN call with MJ to request trench lengths to reduce/minimize scrap/waste
9:25	All resume
9:50	Second call with MJ
9:55	All resume
12:00	All offsite for lunch
1:00	All return and resume (with trench length list from MJ)
4:00	KH and RL offsite
5:00	CN offsite

Comments:

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Temperature Range: 72 -- 83 ^{0} F

Weather Conditions: Mostly Sunny



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	10-May
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN		X	Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
8:00	CN and KH onsite, RL already onsite; Tailgate
8:15	KH and RL setting up to resume deploying 1-inch HDPE piping
8:30	All deploying and racking 1-inch HDPE piping
12:00	All offsite for lunch
1:00	All return and resume
4:00	All offsite

Comments:

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Temperature Range: 74 -- 81 ^{0} F

Weather Conditions: Sunny



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	11-May
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Thursday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN		X	Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
8:15	CN and KH onsite, setting up to resume 1-inch HDPE piping deployment
8:30	RL onsite; All resume deploying and racking 1-inch HDPE piping
12:30	All offsite for lunch
1:30	All return and resume
3:15	Complete 1-inch HDPE piping
3:30	KH and RL offsite
4:00	CN offsite

Comments:

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Temperature Range: 77 -- 83 ^{0} F

Weather Conditions: Partly Cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	12-May
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Friday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF	X		Steve Lane	SL	
Project Support:							

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ	X	Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
8:00	CN and KH onsite
8:20	RL onsite; KH and RL unloading supplies from truck and setting up to install tees
10:45	CN call with DF to go over schedule
11:45	All offsite for lunch
12:45	All return, RL and KH resume
1:00	DJ and DF onsite; CN poivides project update; DJ taking photographs
1:40	DJ offsite
1:55	DF offsite
3:30	KH and RL housekeeping
3:45	All offsite

Comments:

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Temperature Range: 76 -- 81 ^{0} F

Weather Conditions: Partly Cloudy



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	15-May
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Monday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN			Mark Kendall	MK	
Field Engineer:	Dan Forester	DF	X		Steve Lane	SL	
Project Support:					Natalie Volk	NV	X

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ	X	Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:50	KH onsite
8:00	RL onsite; KH and RL assembling tees and laying out in field
9:15	DF onsite
12:30	KH and RL offsite for lunch
1:00	NV onsite; DF briefs NV on SSHASP
1:30	KH and RL return
1:45	DJ offsite; All installing tees
3:15	All offsite

Comments:

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Temperature Range: 73 -- 85 ^{0} F

Weather Conditions: Mostly Sunny



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	16-May
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:					Natalie Volk	NV	X

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:35	CN onsite, NV already onsite
7:40	RL and KH onsite; Tailgate
8:15	KH and NV loading 4x4 with tools and supplies to resume installing tees at ASWs; RL on mini begins placing backfill
8:30	KH and NV installing tees
12:00	All offsite for lunch
1:00	All return and resume
2:00	CN emailed DJ asking if buried asphalt encountered during trenching could be transported to Schwartz/DARCY
3:45	All housekeeping
4:00	All offsite; CN stop for gas and to fill diesel tank

Comments:

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Temperature Range: 69 -- 82 ^{0} F

Weather Conditions: Mostly Sunny

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	17-May
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF	X		Steve Lane	SL	
Project Support:					Natalie Volk	NV	X

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:30	NV and DF onsite
7:45	RL and KH onsite; All setting up
8:10	CN onsite; Tailgate
8:30	RL on mini resumes placing backfill to half depth of trenches for warning tape and marking wire placement and KH and NV resume installing tees
11:00	KH and NV complete installing tees and begin housekeeping of excess piping
11:30	DF offsite
12:15	All offsite for lunch
1:15	All return and resume
3:30	KH offsite; NV assembling "toppers" (HDPE to brass transitions, bushings, and shark bite adapters) to be fused on piping at rack
4:00	RL offsite
4:15	NV offsite
5:45	CN offsite

Comments:

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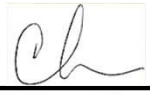
Temperature Range: 69 -- 82 ^{0} F

Weather Conditions: Mostly Sunny



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:	Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Date:	18-May
112G08985			Year:	2023
4045			Day:	Thursday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:					Natalie Volk	NV	X

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:30	NV onsite erecting parts
8:30	CN onsite fueling mini
9:00	RL and KH onsite; Tailgate
9:15	RL on mini resumes placing backfill to half depth of trenches for warning tape and marking wire placement and CN, KH, and NV begin placing tape, wire, and ASW stakes
11:15	KH on skidsteer placing backfill to top of trench and grading; NV installing SAW marking stakes and pulling temporary PVC markers
12:30	All offsite for lunch
1:30	All return; RL and KH resume; NV offsite
3:30	Phase II; All offsite

Comments:

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Temperature Range: 75 -- 83 ^{0} F

Weather Conditions: Mostly Sunny

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:	Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Date:	22-May
112G08985			Year:	2023
4045			Day:	Monday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	X
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:					Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	RL onsite
8:00	CN onsite; Tailgate
8:15	RL on skidsteer placing and grading backfill
8:40	KH and CS onsite to retrieve mini to assist with stuck driller truck at HBF
9:15	KH and CS offsite
11:45	KH and CS onsite to return mini and load tractor to take to POL for mowing POL, CHP, and HMFN on Thursday
12:10	Phase II; KH and CS offsite
12:15	CN and RL offsite for lunch
1:15	CN and RL return
1:42	Phase II terminated; RL on mini resumes half backfilling trenches
2:00	Phase II; RL stops work
2:21	Phase II terminated; RL resumes
4:00	CN and RL offsite

Comments:

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Temperature Range: 78 -- 90 ^{0} F

Weather Conditions: Partly Cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	23-May
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:					Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	RL and KH onsite greasing skidsteer and mini
8:30	CN onsite; Tailgate
9:00	CN call to Schwartz Landfill (Phil) to ask what information is needed to receive asphalt from LC34; Phil needs a PCN# from Alex Garcia
9:30	RL and KH laying tape and wire in a few trenches
9:45	RL on mini, KH on skidsteer, resume placing and grading backfill
10:00	Heavy rain for approximately 15 minutes
12:00	KH and RL offsite for lunch; CN offsite to LC39A to swap trucks in order to transport skidsteer to WC's to move parts delivered on pallets under cover
1:00	CN returns; RL and KH return; RL resumes; CN and KH load skidsteer
1:30	CN and KH offsite to WC's
3:15	CN and KH return, offload skidsteer, and fuel skidsteer and mini
3:30	Aaron Kupper (AK) and Natalie Fabbri (NF) onsite to swap trucks
3:45	AK and NF offsite
4:00	All offsite

Comments:

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Temperature Range: 78 -- 81 ^{0} F

Weather Conditions: Cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	24-May
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:					Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	RL onsite on mini resumes placing half backfill
8:20	CN onsite
9:41	Phase II
10:00	KH onsite
10:46	Phase II terminated; RL resumes, KH on skidsteer placing and grading backfill in trenches with tape, wire, and stakes
12:15	All offsite for lunch
1:15	All return, KH and RL resume
2:30	CN stopped KH due to tracks making odd noise. Found nut missing allowing pin in sprocket to back out but caught before any damage occurred. Looked for replacement nut onsite to no avail.
3:00	CN and KH load tractor onto flatbed for transport to HMFN for mowing HMFN, POL, and CHP tomorrow
3:15	CN and KH offsite to HMFN
3:45	CN and KH drop tractor at HMFN then trailer at POL
4:00	All offsite

Comments:

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Temperature Range: 72 -- 79 ^{0} F

Weather Conditions: Cloudy



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	30-May
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN			Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:					Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB					

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	RL onsite on mini resumes placing half backfill
12:00	RL offsite for lunch
1:00	RL returns and resumes
4:00	RL offsite

Comments:

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Temperature Range: 75 -- 80 ^{0} F

Weather Conditions: Partly Cloudy



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	31-May
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF	X		Steve Lane	SL	
Project Support:					Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO	X	Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	X

Description of Work Performed, Problems Encountered and Resolutions:

Time	
8:00	KH and RL onsite; KH and RL placingf last of tape and wire
9:30	KH offsite to 516 to resume mowing; RL on mini resumes placing backfill
12:00	RL offsite for lunch
1:00	RL returns and resumes
2:30	CN, DF, RO, and CA onsite
3:30	RL offsite
4:00	RO and CA offsite; CN and DF walk through old manifold trailers to discuss relocation and connections and walk, measure, and paint header piping trench path
5:15	CN offsite
5:30	DF offsite

Comments:

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Temperature Range: 76 -- 84 ^{0} F

Weather Conditions: Sunny



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:	Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Date:	1-Jun
112G08985			Year:	2023
4045			Day:	Thursday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:					Natalie Fabbri	NF	X

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:40	CN onsite
8:15	RL onsite; Tailgate
9:00	RL on mini resumes placing backfill
12:00	CN and RL offsite to lunch
12:30	CN and RL return
12:40	NF onsite for CN and RL to fuel mini
1:00	NF offsite; RL resumes backfilling, CN gathers tools and supplies to place wire, tape, and markers
1:45	KH onsite placing tape, wire, and markers
2:00	CN assisting KH
3:00	KH erecting parts
4:30	All offsite

Comments:

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Temperature Range: 77 -- 80 ^{0} F

Weather Conditions: Cloudy with showers



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	7-Jun
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	
Field Operations Supervisor:	Dan Forester	DF		Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X	Mark Kendall	MK	
Field Engineer:	Dan Forester	DF		Steve Lane	SL	
Project Support:				Natalie Fabbri	NF	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:50	RL onsite on mini resumes placing backfill
8:00	CN onsite; Tailgate
11:40	CN call to CCSFS Cape Support for dig clearance, all clear
12:30	CN break for lunch
12:45	RL offsite for lunch
1:03	Phase II
1:15	RL returns
1:20	Heavy rains begin
2:06	Phase II terminated; CN and RL replace tire on 4x4
2:30	CN and RL walk through remaining trenches to be excavated
2:45	RL on mini excavating trenches on east side of block house across perimeter road to connect ASWs 306 to 301
4:00	CN and RL offsite

Comments:

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Temperature Range: 83 -- 84 ^{0} F

Weather Conditions: Mostly Sunny

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	8-Jun
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Thursday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF	X		Steve Lane	SL	
Project Support:					Natalie Fabbri	NF	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	RL onsite assembling toppers
8:30	CN onsite; Tailgate
9:00	CN potholing for HCS piping
9:45	CN call to CCSFS Cape Support for dig clearance; RL on mini resumes trenching with CN spotting
10:15	CN installing rope barricade from Perimeter Road south to the air sparge compressor trailer
11:15	RL on mini removing palmettos to straighten header trench alignment
11:45	CN and RL layout header trench alignment from east trenching area to Perimeter Road crossing area
12:15	CN and RL offsite for lunch
1:15	CN and RL return; RL resumes trenching
2:00	CN pruning treeline with pole saw for header trench to pass between recovery well and tree line
2:30	CN completing rope barricade
2:40	Phase II; RL assembling toppers in trailer
3:00	Heavy rains
3:50	DF onsite
4:00	RL offsite
5:30	CN and DF offsite

Comments:

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Temperature Range: 75 -- 84 ^{0} F

Weather Conditions: Partly cloudy with showers



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	12-Jun
112G08985		Launch Complex 34, SWMU CC054	Year:	2023
4045		Hot Spot Area 6 Groundwater Remediation	Day:	Monday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF		Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X	Mark Kendall	MK	
Field Engineer:	Dan Forester	DF	X	Steve Lane	SL	
Project Support:				Chris Walter	CW	X

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:00	CN text KH and RL to mobilize skidsteer and mower
8:00	CN onsite
9:20	KH and RL onsite with skidsteer and mower; Tailgate
9:30	KH offsite to return WC's pickup truck
10:30	KH returns; KH on skidsteer grading trenches north of the blockhouse
11:30	CN call to CCSFS Cape Support for dig clearance; RL on mini trenching across Perimeter Road
12:40	KH mowing header trench pathway and rope barricade alignment
1:30	RL offsite; CN and KH offsite for lunch
2:30	CN and KH return; KH resumes grading
3:30	DF and CW onsite briefly
4:00	KH offsite
4:10	CN offsite

Comments:

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Temperature Range: 85 -- 91 ^{0} F

Weather Conditions: Sunny

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	13-Jun
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:	Natalie Fabbri	NF	X		Chris Walter	CW	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:35	CN onsite
7:45	RL onsite; Tailgate
8:15	KH onsite; All potholing to find old HCS piping and conduit before crossing with trenching
9:00	CN call to CCSFS Cape Support for dig clearance; RL on mini resumes trenching
10:30	KH on skidsteer resumes grading trenches north of the blockhouse; CN adding cones, flagging, and signage to rope barricade
12:15	All offsite for lunch
1:15	All return; KH and RL resume trenching and grading
2:45	NF onsite with fuel for mini and skidsteer
3:00	NF offsite; KH and RL resume
4:00	All offsite

Comments:

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Temperature Range: 80 -- 92 ^{0} F

Weather Conditions: Partly Cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	14-Jun
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF	X		Steve Lane	SL	
Project Support:	Natalie Fabbri	NF			Chris Walter	CW	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:50	CN onsite, RL already onsite
8:00	CN call to CCSFS Cape Support for dig clearance; Critical Day but clear due to waiver; KH onsite; Tailgate
8:15	RL on mini resumes excavating header trench; CN and KH placing tape and wire on a small trench in the pathway needed for deployment of 2-inch HDPE header piping
8:30	KH on skidsteer gradingh pathway; CN spotting RL at south end of trench
9:30	All gathering tools and supplies to deploy 1-inch HDPE piping for ASWs 301, 302, 303, 304, and 306
10:30	All deploying pipe
11:30	All installing tees
12:00	All offsite for lunch
1:00	All return; RL on mini and KH on skidsteer placing backfill; CN housekeeping
2:15	CN and RL placing tape, wire, and markers in trench as KH places steel plates over header trench at Perimeter Road crossing and relocates the reel and 4 rolls of 2-inch HDPE in position for deployment
3:30	DF onsite
4:00	All offsite

Comments:

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Temperature Range: 79 -- 94 ^{0} F

Weather Conditions: Partly Cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	15-Jun
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Thursday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:	Natalie Fabbri	NF			Chris Walter	CW	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	RL and KH onsite on mini and skidsteer moving steel plates for mini to clean out several trench sidewall cave-ins
8:30	CN onsite; Tailgate
8:15	RL on mini resumes excavating header trench; CN and KH placing tape and wire on a small trench in the pathway needed for deployment of 2-inch HDPE header piping
8:45	All set up to deploy 2-inch HDPE piping
12:00	Three 1,000-ft rolls deployed; All offsite to lunch
1:00	All return and resume deploying 4th line
1:45	KH on skidsteer placing backfill in several portions of the header trench to allow trench crossing and for CN and RL on tracto to relocate reel and several spools of piping to install header lines to the southeast pipe rack
2:30	All deploying 5th and 6th header lines
1:00	All return; RL on mini and KH on skidsteer placing backfill; CN housekeeping
3:45	All housekeeping
4:00	All offsite

Comments:

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Temperature Range: 77 -- 93 ^{0} F

Weather Conditions: Mostly Cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	19-Jun
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Monday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	X
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF		Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X	Mark Kendall	MK	
Field Engineer:	Dan Forester	DF		Steve Lane	SL	
Project Support:	Natalie Fabbri	NF		Chris Walter	CW	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:30	CN text RL and KH to check trench for sidewall cave-ins and to set up to deploy 2-inch piping
8:45	CN onsite; RL and KH already deploying 2-inch piping, CN assisting
9:15	RL and KH relocating reel and spool to north side of the blockhouse to deploy header piping
9:30	CN assisting KH and RL deploying and welding header piping
12:00	All offsite to lunch
1:15	All return and resume
4:00	RL and KH offsite; CN replacing barricades
4:15	CN offsite

Comments:

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Temperature Range: 81 -- 90 ^{0} F

Weather Conditions: Mostly Cloudy



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	20-Jun
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:	Natalie Fabbri	NF			Natalie Volk	NV	X

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:30	CN text RL and KH to place backfill in header trench in preparation for tape and wire placement and for NV to resume erecting toppers and for DF to walk header trench with GPS
8:30	KH offsite to deliver RL's badge left in tractor overnight
8:45	CN onsite
9:05	KH and RL onsite; Tailgate
9:20	RL on mini and KH on skidsteer placing excavated asphalt into trailer
10:15	KH offsite to transport asphalt to Schwartz Road Landfill; RL on mini resumes placing backfill
11:45	KH returns to site
12:00	All offsite to lunch
1:00	All return; NV offsite; RL on mini and KH on skidsteer resume placing backfill
4:00	All offsite

Comments:

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Temperature Range: 82 -- 86 ^{0} F

Weather Conditions: Mostly Cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:	Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Date:	21-Jun
112G08985			Year:	2023
4045			Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:	Natalie Fabbri	NF			Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:30	CN text RL and KH to resume placing backfill
10:00	CN onsite; RL and KH unloading supplies and storm prepping the site; CN assisting
12:15	All offsite to lunch
1:15	All return and resume
2:00	RL on mini resumes placing backfill
4:00	All offsite

Comments:

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Temperature Range: 85 -- 87 ^{0} F

Weather Conditions: Cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	22-Jun
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Thursday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:	Natalie Fabbri	NF			Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:30	CN text RL and KH to resume placing backfill
9:05	CN onsite; RL on mini placing backfill; KH storm prepping the site; CN assisting
10:00	KH offsite to transport trailer load of pallets to Schwartz Road Landfill
11:30	KH returns and resumes backfilling and grading in skidsteer
12:15	All offsite to lunch
1:15	All return and resume
2:00	KH fueling skidsteer
2:15	CN and KH housekeeping
3:45	RL and KH offsite
4:00	CN fueling mini
4:15	CN offsite

Comments:

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Temperature Range: 85 -- 88 ^{0} F

Weather Conditions: Partly Cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	26-Jun
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Monday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:	Natalie Fabbri	NF			Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:30	CN text RL and KH to place tape and wire in header trench
8:30	CN onsite; KH going through CCSFS Inspection with skidsteer and trailer; RL off today
9:00	KH onsite offloading skidsteer; CN asked KH to get ice/water and measure lengths of steel pipe needed to erect header piping over blockhouse wall (10' 2" and 9' 7")
9:45	CN and KH load tractor and 2-inch steel pipe onto flatbed trailer
10:15	CN and KH offsite to assist Chuck Sorden and Aaron Kupper at SW3 site
11:30	CN and KH to WC's to cut and thread steel piping
11:45	Lunch
12:45	CN and KH set up band saw and cut 2-inch steel pipes to length
1:45	CN and KH set up threader and oiler to thread pipes; Threader teeth not biting after multiple attempts
2:30	CN and KH take pipe to SF Travis to have pipe threaded
3:30	KH takes CN to site to retireve pickup truck
4:15	CN to SF Travis to pick up pipe; KH to WC's to to clean up and put away threader
4:45	KH notices 8th pipe was left at WC's and takes it to SF Travis for threading
5:30	CN and KH leave SF Travis

Comments:

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Temperature Range: 81 -- 90 ^{0} F

Weather Conditions: Hazy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	27-Jun
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:	Natalie Fabbri	NF			Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:30	CN, KH, and RL at WC's to hook up trailer with tractor and transfer pipe to KH's truck
8:00	CN to CCB to drop tractor and trailer for DF; RL and KH to LC34 to begin assembling steel piping to go over blockhouse wall
9:15	CN onsite assisting RL and KH
11:00	RL on mini lifting pipes guided by KH and CN to saddle on wall
12:00	All offsite for lunch
1:00	All return and proceed to place tape and wire in header trench
2:00	All gathering tools and supplies to rack 2-inch piping
2:25	RL on mini and KH on skidsteer placing and grading backfill
3:30	Air conditioning stopped working in skidsteer; KH loads it onto trailer to take offsite for repair; CN making calls for a replacement
4:00	All offsite

Comments:

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Temperature Range: 86 -- 93 ^{0} F

Weather Conditions: Sunny



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	28-Jun
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:	Natalie Fabbri	NF			Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:30	CN stop for fuel and gas
8:00	RL and KH onsite; RL on mini resumes placing backfill; CN at CCB picking up tractor
8:45	CN onsite offloading tractor
9:00	CN and RL gathering parts and tools and erecting unistrut bracing for 2-inch steel piping to existing unistrut embedded in the blockhouse wall
12:00	CN and KH pause to loosen all of the 1-inch HDPE in the north pipe rack to release tension from backfill being placed on the area
12:30	All offsite for lunch
1:30	All return; RL placing tape, wire, and ASW stakes in header trench and resumes backfilling; CN and KH resume mounting steel piping
3:15	All housekeeping due to incoming storms; Phase II
3:30	RL and KH offsite; Rains begin
3:45	CN offsite

Comments:

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Temperature Range: 82 -- 91 ^{0} F

Weather Conditions: Partly cloudy with showers



Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	29-Jun
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Thursday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:	Natalie Fabbri	NF			Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:30	CN text RL and KH to resume placing backfill and grading
10:30	CN onsite; Tailgate
10:45	CN and KH install unistrut braces on south side of steel piping going over blockhouse wall with RL on mini lifting apparatus for KH to plumb cam-lock fittings on north side
11:45	CN fueling mini and tractor
12:00	CN offsite; RL and KH continue backfilling and grading
4:00	RL and KH offsite

Comments:

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Temperature Range: 79 -- 88 ^{0} F

Weather Conditions: Sunny

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	5-Jul
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:	Natalie Fabbri	NF			Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	CN onsite
8:00	KH onsite gathering tools and supplies
8:45	RL onsite assisting KH; DF onsite briefly to discuss connection to AS trailer and shut down legs to be tied to
9:00	DF offsite; CN, KH, and RL installing unistrut rack along edge of sidewalk adjacent to north side of blockhouse wall and installing HDPE to brass transitions and cam-lock fittings and connecting steel pipe to HDPE with 2-inch flex hose
11:15	All welding 2-inch transitions at north pipe rack
11:45	CN and KH offsite for lunch; RL offsite
1:00	CN and KH return and begin working on connections at south side of blockhouse wall
1:15	RL onsite assisting
1:30	Need unistrut to continue; All move to tie HDPE to steel adjacent to AS trailer, unthreading pipe at joint and installing cam-lock fittings
3:30	All gathering additional fittings and hoses from 3-sidedstructure to resume in the morning
4:00	All offsite

Comments:

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Temperature Range: 75 -- 91 ^{0} F

Weather Conditions: Partly Cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	6-Jul
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Thursday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:	Natalie Fabbri	NF			Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	RL onsite
7:50	CN onsite
8:00	KH onsite; Tailgate
8:15	RL and KH cutting and banding 2-inch hosing to cam-lock 7 header lines to steel piping to AS trailer and adjusting hosing to trailer to prevent hose kinks due to slight movement of steel piping
12:00	All offsite for lunch
1:00	All return; All tying south header lines to steel piping on south side of blockhouse wall
3:30	All welding HDPE to brass transitions at south pipe rack then housekeeping
4:00	All offsite

Comments:

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Temperature Range: 78 -- 93 ^{0} F

Weather Conditions: Partly Cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	7-Jul
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Friday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:	Natalie Fabbri	NF			Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:35	CN text RL and KH to place backfill and install toppers at south pipe rack
8:15	RL onsite on mini placing backfill adjacent to south side of blockhouse wall
8:30	CN onsite
8:45	KH onsite, sets up and begins welding toppers on south rack
10:15	RL assisting KH
11:20	CN assisting RL and KH move tools and tent to north rack to set up tent
11:45	All offsite for lunch
12:45	All return; CN cutting off excess 1-inch HDPE; KH tightening hose clamps; RL begins welding transitions
1:30	CN and KH preparing to remove anchors and cut flex lines to move manifold trailers; Brief heavy rains; Assist RL gathering tools: Phase II, heavyrains
2:00	All offsite

Comments:

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Temperature Range: 80 -- 90 ^{0} F

Weather Conditions: Partly Cloudy with showers

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	10-Jul
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Monday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	X
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF	X		Steve Lane	SL	
Project Support:	Natalie Fabbri	NF	X		Natalie Volk	NV	X

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:15	CN text to RL resume backfilling in manifold areas and grading
8:30	CN onsite; NF and NV onsite re-sampling due to cooler lost by FedEx; CS onsite dropping off 4x4s from HBF for NF and NV (one has a dead battery)
9:45	KH onsite gathering tools and supplies to resume installing HDPE to brass transitions
10:30	DF onsite working on HCS; KH welding transitions
11:30	CN assisting KH by tightening pipe clamps
12:15	CN, RL, and KH offsite for lunch
1:15	CN, RL, and KH return; RL and KH resume
2:30	CN and KH gather tools and begin disconnecting old manifold trailers to move to new locations
3:15	KH offsite, CN continues
4:05	CN and RL offsite

Comments:

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Temperature Range: 84 -- 93 ^{0} F

Weather Conditions: Cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	11-Jul
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Tuesday

Personnel Summary

Tetra Tech, Inc.			Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS		Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ		Ron Linton	RL	
Project Engineer:				Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF		Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X	Mark Kendall	MK	
Field Engineer:	Dan Forester	DF		Steve Lane	SL	
Project Support:	Natalie Fabbri	NF		Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
8:00	CN and KH onsite; Tailgate
8:15	KH strapping hoses to manifold trailers to prep for movement
9:00	CN assisting KH hitch manifold trailer to truck and relocate to north manifold rack and block and level it
10:40	CN and KH removing short piece of 6-inch steel piping and coupler on south manifold pad to allow trailer axle clearance
11:30	CN and KH strap hosing to second manifold trailer to prepare for relocation to south manifold pad
12:00	CN and KH offsite for lunch
1:00	CN and KH return; KH on tractor moving second manifold trailer with CN spotting; Brief heavy rains
2:45	CN and KH blocking and leveling trailer
3:45	CN and KH offsite

Comments:

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Temperature Range: 83 -- 86 ^{0} F

Weather Conditions: Cloudy with Showers

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	12-Jul
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Wednesday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF			Steve Lane	SL	
Project Support:	Natalie Fabbri	NF			Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:45	KH onsite cleaning out the manifold trailers
8:00	CN onsite
9:00	CN and KH remove rope barricade from north field to facilitate mowing by SC Jones crew
9:45	RL onsite; All installing 1/2-inch flex line to connect north manifold trailer to pipe rack
1:00	RL and KH offsite to lunch; CN offsite
2:00	RL and KH return and resume
4:00	RL and KH offsite

Comments:

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Temperature Range: 83 -- 90 ^{0} F

Weather Conditions: Partly Cloudy

Field Operations Supervisor Signature

DAILY ACTIVITY REPORT

Project No.:	Project Title:		Date:	13-Jul
112G08985		Launch Complex 34, SWMU CC054 Hot Spot Area 6 Groundwater Remediation	Year:	2023
4045			Day:	Thursday

Personnel Summary

Tetra Tech, Inc.				Onsite	Support Personnel:		Onsite
Program Manager:	Mark Speranza	MS			Wayne Crisafulli	WC	X
Project Manager	Mark Jonnet	MJ			Ron Linton	RL	X
Project Engineer:					Kyle Hoard	KH	X
Field Operations Supervisor:	Dan Forester	DF			Chuck Sorden	CS	
CM/Site Safety & Health Officer	Christopher Neumann	CN	X		Mark Kendall	MK	
Field Engineer:	Dan Forester	DF	X		Chris Walter	CW	X
Project Support:	Natalie Fabbri	NF			Natalie Volk	NV	

Subcontractor:			Onsite				Onsite

Visitors:			Onsite				Onsite
Deda Johansen	NASA RPM	DJ		Sean O'Brien	Dig Police	SO	
Ryan O'Meara	NASA RPM	RO		Brent Oakley	COMM Police	BO	
Jeremy Ales	NASA Safety & Health	JA		Michelle Moore	NEMCON	MM	
James Best	NASA Safety & Health	JB		Chris Adkison	NASA RPM	CA	

Description of Work Performed, Problems Encountered and Resolutions:

Time	
7:30	CN texts RL and KH to resume connecting flex lines
8:00	RL and KH onsite and resume connecting flex lines
8:45	CN onsite; All removing south rope barricades to facilitate mowing by SC Jones crew
9:15	RL and KH resume connecting flex lines on north manifold trailer; CN housekeeping
10:15	CN showing KH plumbing modifications to tie-in additional ASWs from a dismantled zone to each of the other 3 zones
10:30	DF and CW onsite; CW working on HCS system; RL and KH plumbing manifolds
11:00	Mike Deliz (MD) onsite with NASA HQ management touring site
11:45	WC onsite with dump truck and lowboy to transport mini to 516S; MD and entourage offsite; CN, DF, CW, loading HDPE pipe and reel onto lowboy with mini and loading tractor on flatbed
12:30	WC, DF, and CW to 516S; RL and KH to lunch; CN offsite to office
1:30	RL and KH return and begin flex line connections on south manifold trailer
4:00	RL and KH offsite

Comments:

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Temperature Range: 84 -- 89 ^{0} F

Weather Conditions: Sunny

Field Operations Supervisor Signature

PHOTOGRAPHIC LOG



Figure 1: 12/6/2022 3:41:59 PM; Looking west, installing angled air sparge well beneath Perimeter Road.



Figure 2: 12/7/2022 10:34:43 AM; Looking northwest, installing angled air sparge well beneath the 3-sided structure.



Figure 3: 12/7/2022 2:02:43 PM; Looking north, installing angled air sparge well beneath the blockhouse.



Figure 4: 1/5/2023 9:34:14 AM; Looking northeast, installing angled air sparge well beneath the blockhouse.



Figure 5: 1/5/2023 9:35:34 AM; Looking east, installed air sparge wells.



Figure 6: 1/5/2023 9:36:10 AM; Looking northwest, installed air sparge wells, installing angled well in foreground.



Figure 7: 1/5/2023 9:37:52 AM; Installing angled air sparge well beneath the blockhouse.



Figure 8: 1/13/2023 12:25:42 PM; Looking east, installing air sparge well along toe of slope.



Figure 9: 1/13/2023 12:25:55 PM; Looking east, installing air sparge well along toe of slope.



Figure 10: 1/27/2023 11:33:35 AM; Looking east, installing air sparge well along top of slope.



Figure 11: 1/31/2023 12:55:35 PM; Looking northwest, installing angled air sparge well beneath concrete slabs.



Figure 12: 2/6/2023 2:46:50 PM; Looking south, air sparge lateral trenching south of Perimeter Road.



Figure 13: 2/6/2023 2:47:00 PM; Looking northeast, excavating air sparge lateral trenching east of blockhouse.



Figure 14: 2/6/2023 2:47:28 PM; Looking northeast, excavated air sparge lateral trenching east of blockhouse.



Figure 15: 2/6/2023 2:47:36 PM; Looking west, excavating air sparge lateral trenching east of blockhouse.



Figure 16: 2/7/2023 8:16:36 AM; Looking west, installing angled air sparge well beneath concrete slabs.



Figure 17: 2/8/2023 8:26:53 AM; Looking west, excavating air sparge lateral trenching east of blockhouse.



Figure 18: 2/8/2023 8:26:56 AM; Looking southwest, excavated air sparge lateral trenching east of blockhouse.



Figure 19: 2/9/2023 11:44:35 AM; Looking north, installing angled air sparge well beneath Perimeter Road.



Figure 20: 2/9/2023 1:03:10 PM; Looking east, excavated air sparge lateral trenching east of blockhouse.



Figure 21: 2/9/2023 1:03:12 PM; Looking north, excavating air sparge lateral trenching east of blockhouse.



Figure 22: 2/9/2023 3:55:58 PM; Looking north, installing angled air sparge well beneath Perimeter Road.



Figure 23: 2/13/2023 1:29:27 PM; Looking southwest, perimeter barricade along western boundary.



Figure 24: 2/20/2023 4:47:40 PM; Looking east, perimeter barricade and signage at southeastern Perimeter Road entrance.



Figure 25: 3/14/2023 4:56:25 PM; Looking east, excavated air sparge lateral trenching east of blockhouse.



Figure 26: 3/14/2023 4:56:27 PM; Looking east, excavated air sparge lateral trenching east of blockhouse.



Figure 27: 3/15/2023 1:31:28 PM; Looking northeast, deploying 1-inch HDPE lateral piping.



Figure 28: 3/29/2023 3:34:44 PM; Looking west, installing warning tape and marker wire along lateral trenching.



Figure 29: 3/29/2023 4:01:48 PM; Looking northwest, excavated air sparge lateral trenching east of blockhouse during rocket launch.



Figure 30: 3/30/2023 3:05:58 PM; Looking east, placing backfill, warning tape, and marking wire in excavated air sparge lateral trenching east of blockhouse.



Figure 31: 3/30/2023 3:07:37 PM; Looking northwest, installed air sparge wells.



Figure 32: 3/30/2023 3:08:28 PM; Looking east, placing warning tape, and marking wire in excavated air sparge lateral trenching east of blockhouse.



Figure 33: 4/3/2023 8:28:08 AM; Looking west, placing backfill, warning tape, and marking wire in excavated air sparge lateral trenching east of blockhouse.



Figure 34: 4/3/2023 9:01:49 AM; Looking southwest, deploying 1-inch HDPE lateral piping south of Perimeter Road.



Figure 35: 4/4/2023 1:47:38 PM; Looking east, placing and grading backfill in air sparge lateral trenching east of blockhouse.



Figure 36: 4/5/2023 1:37:40 PM; Looking west, graded backfill in air sparge lateral trenching east of blockhouse.



Figure 37: 4/17/2023 2:53:32 PM; Looking northeast, grading backfill in air sparge lateral trenching east of blockhouse.



Figure 38: 4/24/2023 11:42:21 AM; Looking northwest, excavating air sparge lateral trenching north of blockhouse.



Figure 39: 4/26/2023 2:13:56 PM; Looking south, excavating air sparge lateral trenching north of blockhouse.



Figure 40: 4/28/2023 11:00:49 AM; Looking southeast, excavating air sparge lateral trenching north of blockhouse.



Figure 41: 4/28/2023 2:35:28 PM; Looking west, excavating air sparge lateral trenching north of blockhouse.



Figure 42: 4/28/2023 2:35:34 PM; Looking north, excavated air sparge lateral trenching north of blockhouse.



Figure 43: 4/28/2023 2:35:50 PM; Looking northwest, excavating air sparge lateral trenching north of blockhouse.



Figure 44: 4/28/2023 2:37:00 PM; Looking east, graded backfill in air sparge lateral trenching and open header trench in foreground, east of blockhouse.



Figure 45: 4/28/2023 2:37:07 PM; Looking east, graded backfill in air sparge lateral trenching and open header trench in foreground, east of blockhouse.



Figure 46: 4/28/2023 2:37:19 PM; Looking east, graded backfill in air sparge lateral trenching and open header trench in foreground, east of blockhouse.



Figure 47: 5/2/2023 2:37:29 PM; Looking southeast, erecting pipe rack for manifold trailer north of blockhouse.



Figure 48: 5/2/2023 2:37:51 PM; Looking south, erecting pipe rack for manifold trailer north of blockhouse.



Figure 49: 5/4/2023 3:25:31 PM; Looking west, excavating air sparge lateral trenching north of blockhouse.



Figure 50: 5/4/2023 3:25:42 PM; Looking north, excavated air sparge lateral trenching north of blockhouse.



Figure 51: 5/4/2023 3:25:53 PM; Looking northwest, excavating air sparge lateral trenching north of blockhouse.



Figure 52: 5/4/2023 3:30:44 PM; Looking west, preparing to deploy 1-inch HDPE lateral piping north of blockhouse.



Figure 53: 5/5/2023 11:39:27 AM; Looking northeast, deploying 1-inch HDPE lateral piping north of blockhouse.



Figure 54: 5/9/2023 11:48:07 AM; Looking east, deploying 1-inch HDPE lateral piping north of blockhouse.



Figure 55: 5/9/2023 11:48:14 AM; Looking south, 1-inch HDPE lateral piping within trench.



Figure 56: 5/12/2023 12:40:17 PM; Looking northwest, 1-inch HDPE lateral piping temporarily racked on pipe rack.



Figure 57: 5/12/2023 12:40:36 PM; Looking northeast, 1-inch HDPE lateral piping temporarily racked on pipe rack.



Figure 58: 5/12/2023 12:40:59 PM; Looking southeast, 1-inch HDPE lateral piping temporarily racked on pipe rack.



Figure 59: 5/12/2023 12:41:40 PM; Looking southwest, 1-inch HDPE lateral piping temporarily racked on pipe rack.



Figure 60: 5/12/2023 12:41:53 PM; Looking northeast, 1-inch HDPE lateral piping within trench.



Figure 61: 5/12/2023 12:41:59 PM; Looking east, 1-inch HDPE lateral piping within trench.



Figure 62: 5/12/2023 12:42:04 PM; Looking northwest, 1-inch HDPE lateral piping within trench.



Figure 63: 5/12/2023 12:42:09 PM; Looking west, 1-inch HDPE lateral piping within trench.



Figure 64: 5/12/2023 12:42:50 PM; Looking west, 1-inch HDPE lateral piping temporarily racked on pipe rack.



Figure 65: 5/12/2023 12:43:34 PM; Looking northeast, 1-inch HDPE lateral piping within trench.



Figure 66: 5/12/2023 12:43:42 PM; Looking northeast, 1-inch HDPE lateral piping within trench, unfinished air sparge well in foreground.



Figure 67: 5/12/2023 12:43:51 PM; Looking south, 1-inch HDPE lateral piping within trench.



Figure 68: 5/16/2023 8:59:09 AM; Preparing to cut 1-inch HDPE lateral piping to length and 1-inch PVC air sparge well to depth for connection.

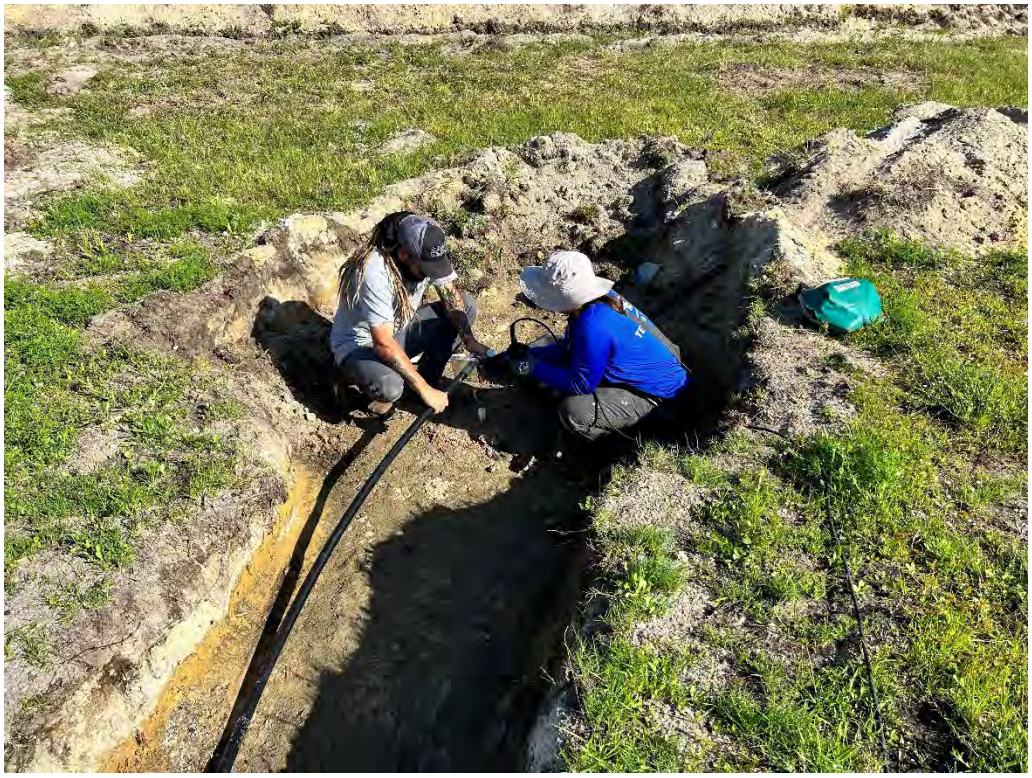

Figure 69: 5/16/2023 9:02:28 AM; Fusion welding 1-inch HDPE lateral piping to tee for connection to 1-inch PVC air sparge well.



Figure 70: 5/16/2023 9:02:35 AM; Fusion welding 1-inch HDPE lateral piping to tee for connection to 1-inch PVC air sparge well.



Figure 71: 5/16/2023 9:03:33 AM; PVC gluing tee to 1-inch PVC air sparge well.



Figure 72: 5/16/2023 9:03:37 AM; PVC gluing tee to 1-inch PVC air sparge well.



Figure 73: 5/16/2023 9:03:50 AM; PVC gluing tee to 1-inch PVC air sparge well.



Figure 74: 5/16/2023 1:10:03 PM; Buried asphalt chunks encountered during lateral trenching transported to Schwartz Road Landfill for disposal.



Figure 75: 5/16/2023 1:10:10 PM; Looking north, buried asphalt chunks encountered during lateral trenching transported to Schwartz Road Landfill for disposal.



Figure 76: 5/18/2023 10:33:25 AM; Looking southeast, laying warning tape and marking wire within lateral trenches.



Figure 77: 5/18/2023 10:34:13 AM; Looking southeast, laying warning tape and marking wire within lateral trenches.



Figure 78: 5/18/2023 10:35:15 AM; Looking southeast, placing backfill within lateral trenches.



Figure 79: 5/22/2023 11:31:10 AM; Looking northeast, placing backfill within lateral trenches.



Figure 80: 5/24/2023 11:12:51 AM; Looking south, placing and grading backfill within lateral trenches.



Figure 81: 6/1/2023 2:26:07 PM; Looking southeast, backfilled and rough graded lateral trenches.



Figure 82: 6/13/2023 9:56:25 AM; Looking northeast, excavated header trench across Perimeter Road.



Figure 83: 6/13/2023 12:12:09 PM; Looking northeast, shallow abandoned water line encountered during header trench excavation.



Figure 84: 6/13/2023 3:38:38 PM; Looking northeast, excavating header trench.



Figure 85: 6/15/2023 9:55:37 AM; Looking southwest, deploying 2-inch HDPE header piping.



Figure 86: 6/15/2023 9:58:34 AM; Looking northeast, deploying 2-inch HDPE header piping.



Figure 87: 6/15/2023 10:29:20 AM; Adding new spool of 2-inch HDPE header piping to reel for deployment.



Figure 88: 6/15/2023 10:46:53 AM; Looking northeast, deploying 2-inch HDPE header piping.



Figure 89: 6/15/2023 10:49:48 AM; Looking northeast, deploying 2-inch HDPE header piping.



Figure 90: 6/22/2023 1:19:10 PM; Looking southwest, placing backfill within header trench.



Figure 91: 6/26/2023 1:58:49 PM; Threading 2-inch steel piping.



Figure 92: 6/28/2023 3:19:50 PM; Installing 2-inch steel piping to continue header lines over blockhouse wall.



Figure 93: 6/28/2023 3:20:03 PM; Looking west, laying warning tape and marking wire within lateral trenches.



Figure 94: 6/29/2023 11:21:23 AM; Installing 2-inch steel piping to continue header lines over blockhouse wall.



Figure 95: 7/5/2023 9:44:12 AM; Erecting pipe rack for 2-inch HDPE header piping at sidewalk adjacent to blockhouse wall.



Figure 96: 7/6/2023 11:14:11 AM; Looking northeast, newly installed header piping plumbed to existing steel header lines with 2-inch hosing and cam-lock fittings.



Figure 97: 7/6/2023 3:17:07 PM; Looking east, HDPE header piping plumbed to steel header piping over blockhouse wall with 2-inch hosing and cam-lock fittings.



Figure 98: 7/6/2023 3:17:27 PM; Looking northeast, HDPE header piping plumbed to steel header piping over blockhouse wall with 2-inch hosing and cam-lock fittings.



Figure 99: 7/7/2023 11:21:40 AM; Looking south, fusion welding HDPE to brass transitions (toppers) to racked lateral piping for plumbing with ½-inch flex line to manifold trailer.



Figure 100: 7/7/2023 11:30:16 AM; Looking northeast, fusion welded HDPE to brass transitions (toppers) to racked lateral piping for plumbing with ½-inch flex line to manifold trailer.



Figure 101: 7/7/2023 11:30:46 AM; Looking northwest, fusion welded HDPE to brass transitions (toppers) to racked lateral piping for plumbing with ½-inch flex line to manifold trailer.



Figure 102: 7/7/2023 11:31:08 AM; Looking east, fusion welded HDPE to brass transitions (toppers) to racked lateral piping for plumbing with ½-inch flex line to manifold trailer.



Figure 103: 7/10/2023 3:40:42 PM; Looking west, fusion welded HDPE to brass transitions (toppers) to racked lateral piping for plumbing with ½-inch flex line to manifold trailer.



Figure 104: 7/10/2023 3:40:59 PM; Looking south, fusion welded HDPE to brass transitions (toppers) to racked lateral piping for plumbing with ½-inch flex line to manifold trailer.



Figure 105: 7/10/2023 3:53:04 PM; Looking southwest, placing backfill at manifold pipe rack.



Figure 106: 7/11/2023 1:27:21 PM; Looking north, relocating manifold trailer.



Figure 107: 7/12/2023 12:55:10 PM; Looking northwest, plumbing ½-inch flex line from toppers to manifold trailer.



Figure 108: 7/13/2023 11:47:24 AM; Looking northwest, plumbing ½-inch flex line from toppers to manifold trailer.



Figure 109: 7/13/2023 11:47:39 AM; Looking northwest, plumbing ½-inch flex line from toppers to manifold trailer.



Figure 110: 7/13/2023 11:47:42 AM; Looking northwest, plumbing ½-inch flex line from toppers to manifold trailer.

APPENDIX I

HS 6 SYSTEM DATA LOG SHEETS
(PRVIDED IN ELECTRONIC VERSION ONLY)

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
4/1/2023	0:40:31	289.0	45.9	-0.2	-0.2	110.1	-0.2	199.4	0.0	0.2	1.1	0.1	0.2	20.7	0.0	31.0	0.1	0.3	0.1
4/1/2023	6:40:31	287.4	46.0	-0.2	138.1	-0.2	0.1	0.2	0.3	181.4	0.2	0.1	21.6	10.2	0.0	10.0	0.1	29.4	0.1
4/1/2023	12:40:31	5.4	50.6	-0.2	-0.2	-0.2	-0.2	-0.1	-0.3	0.2	0.2	0.1	0.1	0.6	0.1	2.7	0.1	9.1	0.1
4/1/2023	18:40:31	4.4	49.3	-0.2	0.1	-0.2	0.3	-0.2	-0.2	0.3	-0.1	0.1	0.1	0.3	-0.1	0.1	0.0	0.1	0.1
4/2/2023	0:40:31	289.3	46.1	-0.2	0.1	109.8	0.1	194.6	0.3	0.2	0.2	0.1	0.1	20.7	0.0	30.9	0.0	0.3	0.1
4/2/2023	6:40:31	292.7	46.0	-0.2	138.4	-0.2	0.4	0.0	0.3	182.9	0.2	0.1	21.7	10.4	0.0	10.1	0.1	29.5	0.1
4/2/2023	12:40:31	6.0	51.2	-0.2	0.0	-0.2	0.0	-0.1	-0.2	0.3	0.1	0.0	0.1	0.3	0.0	2.5	0.0	10.2	0.1
4/2/2023	18:40:31	4.0	50.5	-0.2	0.5	-0.2	0.1	0.3	-0.1	0.3	0.0	0.1	0.1	0.0	-0.1	0.1	0.0	0.1	0.1
4/3/2023	0:40:31	293.6	46.1	-0.2	-0.2	110.2	0.2	194.4	0.5	0.3	0.3	0.1	0.1	20.7	0.0	31.0	0.0	0.3	0.1
4/3/2023	6:40:31	291.5	46.1	-0.2	142.1	-0.2	0.1	0.2	0.0	183.3	0.2	0.1	21.6	10.2	0.0	10.0	0.1	29.5	0.2
4/3/2023	12:40:31	5.4	50.3	-0.2	-0.1	-0.2	0.2	0.0	0.0	0.2	0.3	0.0	0.1	0.9	0.1	2.7	0.0	7.3	0.1
4/3/2023	18:40:30	104.4	48.5	-0.2	0.0	-0.2	104.4	0.1	0.6	0.1	0.1	0.1	0.1	0.5	33.4	0.2	0.0	0.1	1.2
4/4/2023	0:40:31	289.1	46.1	-0.2	-0.2	108.9	-0.1	196.0	0.0	0.1	0.1	0.1	0.1	20.7	11.3	30.9	0.0	0.3	0.5
4/4/2023	6:40:30	285.6	46.0	-0.2	140.1	-0.2	0.2	-0.2	0.1	185.1	0.3	0.1	21.6	10.7	11.2	10.0	0.0	29.4	0.2
4/4/2023	12:40:31	107.1	48.3	-0.2	-0.2	-0.2	101.9	0.0	0.2	0.3	0.0	0.1	0.1	3.2	33.4	2.5	0.0	10.2	0.1
4/4/2023	18:40:31	111.6	48.3	-0.2	-0.1	-0.2	108.6	0.2	0.2	0.1	0.1	0.1	0.1	0.4	32.9	0.1	-0.1	0.1	0.0
4/5/2023	0:40:30	289.1	46.0	-0.2	0.0	109.2	0.1	195.8	0.0	0.2	0.9	0.1	0.1	20.7	11.2	30.8	0.0	0.2	0.1
4/5/2023	6:40:31	291.9	46.0	-0.2	138.2	-0.2	0.1	0.0	0.1	186.4	-0.1	0.1	21.5	10.7	12.1	10.0	0.1	29.4	0.1
4/5/2023	12:40:30	111.1	48.4	-0.2	0.0	-0.2	102.4	0.1	0.2	0.2	0.2	0.0	0.1	2.0	33.2	2.6	0.0	10.2	0.1
4/5/2023	18:40:31	114.2	48.3	-0.2	0.1	-0.2	108.3	0.0	0.3	0.3	0.2	0.1	0.1	0.1	32.9	0.1	-0.1	0.1	0.0
4/6/2023	0:40:31	288.9	46.1	-0.2	0.1	110.4	0.0	198.5	0.0	0.2	-0.1	0.1	0.1	20.7	11.6	30.9	0.0	0.2	0.1
4/6/2023	6:40:30	286.4	46.2	-0.2	137.8	-0.2	0.4	0.2	-0.1	189.0	0.2	0.1	21.6	10.6	12.2	10.0	0.0	29.5	0.1
4/6/2023	12:40:30	117.2	48.3	-0.2	-0.3	-0.2	104.3	-0.2	0.7	0.1	0.1	0.1	0.1	0.9	33.1	2.7	0.1	10.3	0.1
4/6/2023	18:40:30	113.6	48.3	-0.2	0.4	-0.2	107.7	0.0	0.1	0.2	0.3	0.1	0.1	0.1	32.9	0.1	-0.1	0.1	0.0
4/7/2023	0:40:31	290.9	46.2	-0.2	0.0	110.4	0.3	195.1	0.2	0.0	0.1	0.1	0.1	20.7	11.6	30.9	0.0	0.3	0.1
4/7/2023	6:40:30	290.9	46.2	-0.2	140.7	-0.2	-0.1	0.2	0.0	187.9	0.1	0.1	21.6	10.7	12.3	10.0	0.0	29.4	0.1
4/7/2023	12:40:31	115.1	48.2	-0.2	0.0	-0.2	105.2	-0.1	0.1	0.3	0.2	0.1	0.1	0.6	33.1	2.9	0.1	10.2	0.1
4/7/2023	18:40:31	118.4	48.4	0.1	0.1	-0.2	109.8	-0.1	0.3	0.3	0.9	0.1	0.1	0.1	32.8	0.1	0.0	0.1	0.0
4/8/2023	0:40:31	286.0	46.2	-0.2	-0.2	110.4	0.1	195.4	0.2	0.2	-0.1	0.1	0.1	20.7	11.5	30.9	0.1	0.3	0.1
4/8/2023	6:40:30	287.2	46.1	-0.2	138.4	-0.2	0.2	0.1	0.0	184.3	-0.2	0.1	21.6	10.7	12.2	10.0	0.0	29.5	0.1
4/8/2023	12:40:31	112.9	48.3	-0.2	0.5	-0.2	104.7	0.2	-0.1	0.1	0.4	0.1	0.1	0.6	32.8	2.8	0.1	10.2	0.1
4/8/2023	18:40:31	117.4	48.3	-0.2	-0.2	-0.2	108.5	0.0	0.1	0.3	0.1	0.1	0.1	0.2	32.6	0.1	0.0	0.1	0.0
4/9/2023	0:40:31	297.5	46.0	-0.2	-0.1	110.7	0.0	197.5	-0.1	0.4	0.1	0.1	0.1	20.6	11.5	30.9	0.0	0.3	0.1
4/9/2023	6:40:31	286.5	46.2	-0.2	138.9	-0.2	0.1	-0.2	0.0	188.6	-0.1	0.1	21.6	10.7	12.2	10.0	0.0	29.5	0.1
4/9/2023	12:40:30	112.8	48.4	-0.2	0.1	-0.2	105.3	0.0	0.1	0.3	0.0	0.1	0.1	0.5	33.0	2.7	0.1	10.1	0.1
4/9/2023	18:40:31	113.0	48.4	-0.2	-0.3	-0.2	109.7	0.2	0.2	0.2	0.2	0.1	0.2	0.1	32.7	0.2	0.1	0.1	0.1
4/10/2023	0:40:31	292.6	46.1	-0.2	-0.2	111.0	0.2	195.0	0.4	0.2	0.1	0.1	0.1	20.6	11.4	30.9	0.1	0.3	0.1
4/10/2023	6:40:30	295.5	46.2	-0.2	142.5	-0.2	0.3	0.0	0.0	187.1	-0.1	0.1	21.6	10.8	12.0	9.9	0.1	29.5	0.1
4/10/2023	12:40:31	114.8	48.2	-0.2	0.1	-0.2	105.1	0.1	-0.1	0.3	1.0	0.1	0.1	0.4	33.0	2.8	0.1	10.1	0.1
4/10/2023	18:40:31	-0.2	4.9	-0.2	-0.2	-0.2	0.8	0.0	0.3	0.3	0.1	0.1	0.2	0.1	10.2	0.1	0.0	0.1	0.1
4/11/2023	0:40:31	-0.2	0.0	-0.2	-0.2	-0.2	-0.1	0.0	0.1	0.3	0.2	0.1	0.1	0.1	0.5	0.1	0.1	0.1	0.1
4/11/2023	6:40:31	-0.1	0.0	-0.2	-0.1	-0.2	-0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.4	0.1	0.1	0.0	0.1
4/11/2023	12:40:31	1.9	0.1	-0.2	0.1	-0.2	-0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.4	0.2	0.1	0.0	0.2
4/11/2023	18:40:31	-0.1	0.0	-0.2	0.2	-0.2	0.2	0.0	0.2	0.3	-0.1	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0
4/12/2023	0:40:31	-0.2	0.0	-0.2	-0.2	-0.2	0.1	0.0	0.2	0.4	0.3	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.1
4/12/2023	6:40:30	0.3	0.0	-0.2	-0.1	-0.2	0.2	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.1
4/12/2023	12:40:31	0.1	0.0	-0.2	0.0	-0.2	0.2	-0.1	0.1	0.2	0.9	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.1
4/12/2023	18:40:31	0.1	0.0	-0.2	0.0	-0.2	-0.3	0.3	0.0	0.8	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.1
4/13/2023	0:40:31	0.7	0.0	-0.2	-0.2	-0.2	0.2	-0.1	-0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
4/13/2023	6:40:30	0.4	0.0	-0.2	-0.2	-0.2	0.2	-0.3	0.1	0.3	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
4/13/2023	12:40:31	-0.2	0.0	-0.2	-0.1	-0.2	0.2	0.0	0.1	0.4	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1
4/13/2023	18:40:31	-0.5	0.0	-0.2	-0.1	-0.2	0.1	-0.1	0.0	0.4	-0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
4/14/2023	0:40:31	-0.3	-0.1	-0.2	-0.4	-0.2	0.0	-0.2	0.1	0.3	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1
4/14/2023	6:40:31	0.6	-0.1	-0.2	0.6	-0.2	0.1	0.7	0.6	0.3	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.1
4/14/2023	12:40:31	15.9	48.8	-0.2	0.0	-0.2	0.1	0.1	-0.1	0.3	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.1
4/14/2023	18:40:31	16.7	50.3	-0.2	-0.1	-0.2	0.1	-0.2	-0.1	0.2	0.2	0.0	0.1	0.1	0.0	0.0	0.0	-0.1	0.0
4/15/2023	0:40:30	18.6	51.9	-0.2	0.1	-0.2	0.9	0.8	0.2	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1
4/15/2023	6:40:31	16.5	50.3	-0.2	-0.1	-0.2	0.3	0.1	0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.1
4/15/2023	12:40:31	16.0	51.0	-0.2	0.0	-0.2	-0.1	0.1	0.0	0.4	0.0	0.0	0.1	0.1	0.0	0.1	0.0	-0.1	0.1
4/15/2023	18:40:31	15.3	51.5	-0.2	0.1	-0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.1	0.1	0.0	0.0	-0.1	-0.1	0.0
4/16/2023	0:40:31	14.8	49.7	-0.2	-0.1	-0.2	0.2	0.2	-0.2	0.2	0.8	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1
4/16/2023	6:40:31	15.8	51.4	-0.2	-0.2	-0.2	-0.1	0.0	-0.1	0.4	0.2	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.1
4/16/2023	12:40:31	17.6	51.2	-0.2	0.0	-0.2	0.3	-0.2	0.1	0.3	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1
4/16/2023	18:40:31	16.7	49.1	-0.1	0.1	-0.2	0.0	-0.1	-0.1	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
4/17/2023	0:40:31	17.0	51.0	-0.2	-0.1	-0.2	0.2	0.4	0.0	0.2	-0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1
4/17/2023	6:40:31	16.8	50.1	-0.2	-0.1	-0.2	0.1	0.0	0.3	0.2	0.3	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1
4/17/2023	12:40:31	16.2	49.2	-0.2	0.0	-0.2	0.3	0.0	0.2	0.2	-0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.1
4/17/2023	18:40:31	16.7	51.7	-0.2	-0.2	-0.2	0.1	0.4	0.0	0.2	-0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
4/18/2023	0:40:30	16.7	50.6	-0.2	-0.1	-0.2	0.2	0.2	0.0	0.3	0.5	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0
4/18/2023	6:40:31	18.3	49.7	-0.2	0.0	-0.2	0.1	-0.1	0.0	0.3	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.1
4/18/2023	12:40:31	6.5	50.3	-0.2	0.1	-0.2	0.5	0.1	0.7	0.2	0.2	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.1
4/18/2023	18:40:30	14.4	50.6	-0.2	0.2	-0.2	-0.1	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
4/19/2023	0:40:31	13.1	52.0	-0.2	-0.4	-0.2	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.1
4/19/2023	6:40:31	6.4	51.3	-0.2	-0.2	-0.2	0.1	0.0	0.3	0.1	0.2	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.1
4/19/2023	12:40:31	6.5	50.6	-0.2	-0.1	-0.2	0.2	0.2	0.1	0.1	0.0	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.2
4/19/2023	18:40:31	5.6	51.4	-0.2	0.7	-0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0
4/20/2023	0:40:30	6.1	49.2	-0.2	-0.1	-0.2	-0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.1
4/20/2023	6:40:31	5.7	50.9	-0.2	0.0	-0.2	0.0	0.1	-0.1	0.3	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.1
4/20/2023	12:40:31	4.9	51.1	-0.2	0.6	-0.2	0.2	0.0	0.2	0.1	0.2	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.2
4/20/2023	18:40:30	5.4	50.5	-0.2	0.0	-0.2	0.2	0.1	0.3	0.3	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0
4/21/2023	0:40:31	6.1	51.4	-0.2	0.0	-0.2	0.2	0.1	-0.1	0.3	-0.1	0.1	0.2	0.2	0.0	0.1	0.0	0.0	0.1
4/21/2023	6:40:30	4.3	51.5	-0.2	0.0	-0.2	0.1	0.1	0.0	0.3	0.0	0.1	0.2	0.2	0.0	0.1	0.1	0.0	0.1
4/21/2023	12:40:31	8.3	50.8	-0.2	0.0	-0.2	0.2	0.0	0.0	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.2
4/21/2023	18:40:31	4.3	51.3	-0.2	-0.2	-0.2	0.0	0.0	-0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.1
4/22/2023	0:40:31	4.5	49.6	-0.2	-0.2	-0.2	0.1	0.1	0.6	0.1	0.2	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.1
4/22/2023	6:40:31	5.4	50.2	-0.2	0.1	-0.2	-0.1	0.2	-0.1	0.2	0.1	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.1
4/22/2023	12:40:31	5.1	51.8	-0.2	0.0	-0.2	0.3	0.0	0.0	0.3	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.1
4/22/2023	18:40:31	3.5	50.7	-0.2	0.0	-0.2	0.4	0.1	0.1	0.3	0.6	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0
4/23/2023	0:40:31	7.4	50.2	-0.2	0.0	-0.2	0.1	0.1	-0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.1
4/23/2023	6:40:31	5.9	50.7	-0.2	0.1	-0.2	0.3	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.1
4/23/2023	12:40:31	3.8	51.5	-0.2	0.1	-0.2	0.6	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.1
4/23/2023	18:40:31	6.1	51.3	-0.2	-0.1	-0.2	0.2	0.0	-0.1	0.7	0.0	0.1	0.1	0.2	0.0	0.0	0.0	-0.1	0.0
4/24/2023	0:40:31	3.7	48.9	-0.2	-0.1	-0.2	0.3	-0.2	-0.1	0.2	0.0	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.1
4/24/2023	6:40:31	5.7	50.5	-0.2	0.1	-0.2	0.3	0.0	-0.1	0.1	-0.2	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.1
4/24/2023	12:40:31	5.3	51.7	-0.2	0.2	-0.2	-0.1	-0.2	0.0	0.2	0.4	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.1
4/24/2023	18:40:31	5.7	49.5	-0.2	-0.2	-0.2	-0.1	-0.1	0.3	0.2	-0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.1
4/25/2023	0:40:31	7.7	50.3	-0.2	-0.1	-0.2	-0.2	-0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.1
4/25/2023	6:40:30	7.2	49.6	-0.2	-0.1	-0.2	0.0	0.0	-0.1	0.5	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.1
4/25/2023	12:40:31	3.4	49.4	-0.2	-0.1	-0.2	0.2	0.1	0.0	0.4	0.1	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.1
4/25/2023	18:40:31	5.4	49.0	-0.2	-0.3	-0.2	0.2	0.1	0.1	0.3	-0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.1

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
4/26/2023	0:40:30	4.3	49.7	-0.2	0.4	-0.2	0.1	0.0	-0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.1
4/26/2023	6:40:30	4.6	50.1	-0.2	0.1	-0.2	0.2	-0.3	0.1	0.1	0.2	0.1	0.1	0.2	0.0	0.1	0.0	0.0	0.1
4/26/2023	12:40:31	113.4	48.1	-0.2	0.0	-0.2	107.4	-0.3	0.1	0.2	0.1	0.1	0.1	0.2	33.1	0.3	0.0	7.9	0.1
4/26/2023	18:40:31	111.4	48.3	-0.2	0.3	0.1	111.4	0.5	0.3	0.0	0.1	0.1	0.1	0.2	32.8	0.1	0.0	0.0	0.1
4/27/2023	0:40:31	280.5	46.2	-0.2	-0.1	106.6	0.2	193.5	0.3	0.2	-0.2	0.1	0.1	20.7	11.7	31.0	0.1	0.3	0.1
4/27/2023	6:40:31	287.5	46.2	-0.2	134.8	-0.2	0.1	0.1	0.1	184.0	0.1	0.1	21.7	11.0	12.2	10.5	0.0	29.4	0.1
4/27/2023	12:40:31	111.3	48.2	-0.2	0.0	-0.2	105.1	0.0	0.0	0.2	0.1	0.1	0.1	0.6	33.0	3.5	0.0	8.6	0.1
4/27/2023	18:40:31	118.8	48.3	-0.2	0.0	-0.2	108.0	0.2	0.1	0.3	0.2	0.1	0.1	0.3	32.8	0.1	0.0	0.0	0.0
4/28/2023	0:40:31	286.4	46.3	-0.2	0.1	104.9	0.2	194.5	0.2	0.2	0.2	0.1	0.1	20.9	11.9	30.9	0.0	0.2	0.1
4/28/2023	6:40:31	283.7	46.1	-0.2	134.0	-0.2	0.3	0.0	-0.1	183.7	0.2	0.1	21.8	11.2	11.1	10.4	0.0	29.5	0.1
4/28/2023	12:40:31	111.6	48.3	-0.2	-0.2	-0.2	103.4	0.0	-0.1	0.2	0.1	0.0	0.1	1.4	33.2	3.1	0.0	8.4	0.1
4/28/2023	18:40:31	117.6	48.4	-0.2	-0.1	-0.1	105.3	0.0	0.2	0.2	0.0	0.1	0.1	0.3	33.0	0.0	-0.1	0.0	0.0
4/29/2023	0:40:31	290.4	46.1	-0.2	0.1	105.5	0.1	194.7	0.3	0.3	0.0	0.0	0.1	20.8	11.9	31.0	0.0	0.3	0.1
4/29/2023	6:40:31	284.5	46.2	-0.2	134.6	-0.2	-0.1	-0.1	-0.1	184.2	0.2	0.1	21.7	11.2	11.7	10.5	0.0	29.5	0.1
4/29/2023	12:40:31	107.1	48.2	-0.2	-0.3	-0.2	101.2	-0.2	0.1	0.1	0.0	0.0	0.1	0.9	33.3	3.3	0.0	10.2	0.1
4/29/2023	18:40:31	113.7	48.4	-0.2	-0.2	-0.2	105.3	0.1	0.4	0.2	-0.2	0.1	0.1	0.3	33.3	0.1	-0.1	0.0	0.0
4/30/2023	0:40:31	287.4	46.2	-0.2	0.1	104.8	0.0	194.4	0.3	0.4	0.1	0.1	0.1	20.9	12.2	31.0	0.1	0.3	0.1
4/30/2023	6:40:31	285.0	46.3	-0.2	131.0	0.0	0.3	0.1	-0.2	180.9	0.3	0.1	21.8	11.2	11.8	10.7	0.1	29.5	0.1
4/30/2023	12:40:31	111.2	48.3	-0.2	-0.3	-0.2	100.2	0.3	0.5	1.1	0.3	0.0	0.1	0.7	33.3	3.2	0.1	9.8	0.1
4/30/2023	18:40:31	111.4	48.4	-0.2	0.8	-0.2	104.7	0.4	0.0	0.1	0.1	0.1	0.1	0.3	33.2	0.1	0.0	0.0	0.0
5/1/2023	0:40:31	285.0	46.1	-0.2	-0.1	105.4	0.2	193.3	0.2	0.3	0.2	0.1	0.1	20.9	12.2	31.0	0.0	0.3	0.1
5/1/2023	6:40:31	291.1	46.3	-0.2	134.0	-0.2	-0.2	0.2	0.0	182.4	-0.1	0.1	21.9	11.2	11.9	10.3	0.0	29.6	0.1
5/1/2023	12:40:31	108.9	48.3	-0.2	0.0	-0.2	101.1	-0.2	0.0	0.2	-0.1	0.1	0.1	0.6	33.6	2.9	0.1	9.0	0.1
5/1/2023	18:40:31	114.4	48.4	-0.2	0.0	-0.2	103.0	-0.1	0.1	0.1	0.1	0.1	0.1	0.3	33.3	0.1	0.0	0.1	0.0
5/2/2023	0:40:31	290.6	46.2	-0.2	0.0	106.4	0.1	195.2	0.3	0.0	-0.1	0.1	0.2	20.9	12.2	31.1	0.0	0.3	0.1
5/2/2023	6:40:31	284.8	46.2	-0.2	133.9	-0.2	0.2	-0.2	0.0	183.8	0.3	0.1	21.9	11.1	12.0	10.4	0.1	29.5	0.1
5/2/2023	12:40:31	110.5	48.3	-0.2	0.0	-0.2	99.9	0.6	-0.2	0.3	0.0	0.1	0.2	0.4	33.5	2.5	0.1	9.2	0.1
5/2/2023	18:40:31	112.0	48.4	-0.2	0.0	-0.1	104.6	0.0	0.0	0.3	-0.1	0.1	0.1	0.1	33.3	0.1	0.0	0.1	0.0
5/3/2023	0:40:31	286.5	46.2	-0.2	0.1	106.9	0.0	193.2	0.0	0.1	0.5	0.1	0.2	20.8	12.2	31.1	0.0	0.3	0.1
5/3/2023	6:40:31	283.0	46.2	-0.2	136.1	-0.2	0.2	0.1	-0.1	184.0	0.3	0.1	21.8	11.1	11.8	10.4	0.1	29.6	0.1
5/3/2023	12:40:31	7.0	51.1	-0.2	0.1	-0.2	0.2	0.0	0.0	0.3	0.1	0.1	0.2	0.5	10.4	2.4	0.1	2.4	0.2
5/3/2023	18:40:30	5.8	52.0	-0.2	0.1	-0.2	0.0	0.0	0.2	0.3	0.1	0.1	0.2	0.1	7.1	3.7	0.0	3.7	0.9
5/4/2023	0:40:32	5.6	50.7	-0.2	-0.2	-0.2	0.7	0.1	0.4	0.3	-0.2	0.1	0.2	0.1	4.7	0.3	0.0	0.2	0.2
5/4/2023	6:40:32	8.3	50.0	-0.2	0.0	-0.2	0.0	-0.2	0.0	0.1	0.2	0.1	0.2	0.1	3.1	0.2	0.1	0.1	0.2
5/4/2023	12:40:32	6.6	52.0	-0.2	0.1	-0.2	0.2	-0.1	-0.1	0.3	0.1	0.1	0.2	0.1	1.7	0.2	0.1	0.1	0.3
5/4/2023	18:40:32	4.6	51.1	-0.2	-0.1	-0.2	0.2	0.0	0.0	0.2	-0.1	0.1	0.1	0.1	0.9	0.1	0.0	0.1	0.1
5/5/2023	0:40:32	6.0	51.8	-0.2	-0.2	-0.2	0.0	-0.2	-0.2	0.2	0.2	0.1	0.2	0.1	0.3	0.1	0.1	0.1	0.2
5/5/2023	6:40:32	5.1	51.0	-0.2	-0.1	-0.2	0.0	-0.2	0.1	0.8	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2
5/5/2023	12:40:32	7.5	49.9	-0.2	0.1	-0.2	0.1	0.1	0.2	0.3	-0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.2
5/5/2023	18:40:32	111.0	48.4	-0.2	0.0	-0.2	105.2	-0.1	0.1	0.2	-0.2	0.2	5.7	0.2	33.5	0.1	0.0	0.1	0.1
5/6/2023	0:40:32	288.9	46.2	-0.2	0.0	105.8	0.0	202.2	0.1	0.4	0.2	0.1	0.5	20.9	12.3	31.0	0.0	15.3	0.2
5/6/2023	6:40:32	289.7	46.2	-0.2	134.3	-0.2	0.7	-0.2	-0.1	188.5	0.2	0.1	21.9	11.0	12.8	11.9	0.1	29.5	0.2
5/6/2023	12:40:32	108.0	48.3	-0.2	0.0	-0.2	103.8	0.1	0.0	0.3	0.2	0.1	10.5	0.3	33.7	10.1	0.0	10.7	0.1
5/6/2023	18:40:32	113.9	48.4	-0.2	0.0	-0.2	106.8	0.1	0.9	0.1	0.1	0.1	1.9	0.2	33.4	2.0	0.1	1.9	0.2
5/7/2023	0:40:32	292.7	46.1	-0.2	0.0	107.5	0.2	202.5	-0.2	0.2	0.1	0.1	0.3	20.8	12.2	30.8	0.1	15.2	0.2
5/7/2023	6:40:32	295.8	46.2	-0.2	136.6	-0.2	0.3	0.1	-0.1	190.8	0.6	0.1	21.8	11.0	12.1	11.8	0.1	29.7	0.2
5/7/2023	12:40:32	109.3	48.2	-0.2	-0.1	-0.2	101.1	-0.2	0.7	0.1	0.1	0.1	10.6	0.5	33.7	10.3	0.1	10.9	0.2
5/7/2023	18:40:32	117.6	48.4	-0.2	0.0	-0.2	103.0	0.0	0.3	0.0	0.3	0.1	2.8	0.3	33.5	2.3	0.0	2.2	0.1
5/8/2023	0:40:32	294.0	46.1	-0.2	-0.2	107.5	0.3	201.8	-0.1	0.3	0.1	0.1	0.2	20.9	12.1	30.9	0.1	15.1	0.2
5/8/2023	6:40:32	296.7	46.2	-0.2	137.2	-0.2	-0.2	0.1	0.2	188.8	0.1	0.1	21.9	8.7	12.0	11.8	0.1	29.8	0.2

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
5/8/2023	12:40:32	107.0	48.2	-0.2	0.0	-0.2	100.7	0.1	0.1	0.0	0.1	0.1	10.4	1.8	33.7	10.4	0.1	10.7	0.2
5/8/2023	18:40:32	111.6	48.4	-0.2	0.1	-0.2	105.2	0.1	-0.2	0.8	0.2	0.2	2.8	1.2	33.5	2.2	0.0	2.1	0.1
5/9/2023	0:40:32	295.6	46.1	-0.2	0.4	106.3	0.1	199.1	0.2	0.3	0.1	0.1	0.2	21.0	12.1	30.9	0.0	15.1	0.1
5/9/2023	6:40:32	294.3	46.2	-0.2	137.3	-0.2	0.3	0.1	-0.2	186.7	0.4	0.1	21.8	11.0	11.6	11.7	0.1	29.7	0.2
5/9/2023	12:40:32	111.7	48.2	-0.2	0.1	-0.2	99.6	-0.1	0.2	0.1	0.0	0.1	10.3	2.0	33.6	8.5	0.1	10.9	0.2
5/9/2023	18:40:32	115.3	48.4	-0.2	0.0	-0.2	102.2	0.1	0.2	0.2	0.1	0.1	2.7	0.3	33.3	2.1	-0.1	2.1	0.1
5/10/2023	0:40:32	292.0	46.1	-0.2	-0.1	106.0	-0.1	199.8	0.3	1.0	0.6	0.2	0.2	21.0	12.1	30.8	0.1	15.0	0.2
5/10/2023	6:40:32	283.0	46.2	-0.2	136.3	-0.2	0.2	-0.1	0.0	179.2	0.1	0.1	21.8	11.0	11.4	10.6	0.1	29.8	0.2
5/10/2023	12:40:32	109.6	48.2	-0.2	0.1	-0.2	98.6	0.2	0.0	0.2	0.1	0.1	10.3	1.1	33.5	1.1	0.1	10.8	0.2
5/10/2023	18:40:32	117.9	48.4	-0.2	-0.3	-0.2	103.1	0.2	0.2	0.2	0.0	0.1	2.6	0.2	33.2	0.2	-0.1	4.7	0.0
5/11/2023	0:40:31	289.4	46.2	-0.2	-0.2	106.0	0.2	198.8	0.4	0.2	-0.2	0.1	0.2	21.0	12.0	30.8	0.0	15.0	0.1
5/11/2023	6:40:31	287.3	46.2	-0.2	138.8	-0.2	0.2	-0.2	-0.1	181.7	-0.2	0.1	21.7	10.9	11.3	10.6	0.1	29.8	0.2
5/11/2023	12:40:32	112.6	48.2	-0.2	-0.1	-0.2	99.6	-0.1	0.0	0.3	0.0	0.1	10.3	0.8	33.5	2.0	0.1	10.6	0.1
5/11/2023	18:40:32	116.2	48.3	-0.2	-0.1	-0.2	105.0	-0.1	0.2	0.3	0.1	0.1	2.8	0.1	33.2	0.5	-0.1	4.1	0.0
5/12/2023	0:40:32	287.2	46.2	-0.2	-0.2	106.0	0.1	200.7	0.3	0.3	0.3	0.1	0.2	20.9	12.0	30.8	0.0	14.9	0.1
5/12/2023	6:40:32	285.5	46.2	-0.2	138.2	-0.2	0.3	0.0	-0.2	180.6	0.5	0.1	21.7	10.9	11.3	10.7	0.0	29.8	0.1
5/12/2023	12:40:32	111.7	48.3	-0.2	0.0	-0.2	99.1	-0.1	0.0	0.2	-0.3	0.1	10.3	0.5	33.5	6.7	0.1	10.5	0.1
5/12/2023	18:40:32	111.5	48.4	-0.2	0.1	-0.2	104.3	0.8	0.2	0.5	0.2	0.1	2.1	0.2	33.2	2.4	0.0	2.4	0.0
5/13/2023	0:40:32	295.1	46.2	-0.2	0.3	106.3	0.1	198.4	0.0	0.1	0.2	0.1	0.2	20.9	11.9	30.8	0.0	14.9	0.1
5/13/2023	6:40:31	286.9	46.2	-0.2	137.2	-0.2	0.2	0.0	-0.1	178.4	0.1	0.1	21.7	10.8	11.3	10.7	0.1	29.8	0.1
5/13/2023	12:40:32	109.1	48.3	-0.2	0.1	-0.2	101.4	0.2	-0.1	0.1	-0.1	0.1	10.2	0.4	33.5	5.0	0.1	10.5	0.1
5/13/2023	18:40:32	114.9	48.4	-0.2	-0.1	-0.2	105.9	-0.1	0.1	0.2	0.3	0.1	2.3	0.1	33.2	2.0	0.0	1.9	0.0
5/14/2023	0:40:32	292.8	46.2	-0.2	0.1	107.2	0.0	200.1	0.1	0.6	0.0	0.1	0.2	20.9	12.0	30.8	0.0	14.8	0.1
5/14/2023	6:40:32	287.8	46.2	-0.2	139.8	-0.2	0.3	0.0	-0.1	182.6	0.3	0.1	21.7	10.8	11.2	10.5	0.0	29.8	0.2
5/14/2023	12:40:31	112.8	48.3	-0.2	-0.2	-0.2	100.0	-0.1	0.0	0.1	0.1	0.1	10.2	0.5	33.5	1.5	0.0	10.5	0.1
5/14/2023	18:40:32	116.4	48.3	-0.2	-0.1	-0.2	105.0	0.1	0.2	0.1	0.0	0.1	2.6	0.3	33.3	0.3	0.0	4.5	0.1
5/15/2023	0:40:32	291.8	46.1	-0.2	0.1	107.2	0.0	202.0	0.2	-0.1	0.2	0.1	0.2	20.9	11.9	30.8	0.0	14.7	0.1
5/15/2023	6:40:32	288.3	46.2	-0.2	140.4	-0.2	-0.1	0.1	0.2	180.0	0.2	0.1	21.7	10.7	11.1	10.4	0.1	29.9	0.1
5/15/2023	12:40:32	111.9	48.2	-0.2	-0.1	-0.2	101.6	-0.1	0.0	0.3	0.4	0.1	10.2	0.3	33.6	2.5	0.1	10.7	0.1
5/15/2023	18:40:32	111.0	48.4	-0.2	-0.1	-0.2	105.0	-0.2	0.0	0.1	0.1	0.1	2.3	0.2	33.3	1.0	-0.1	2.5	0.0
5/16/2023	0:40:31	298.9	46.2	-0.2	0.0	107.5	0.0	201.5	0.8	0.3	0.2	0.1	0.2	20.9	12.0	30.8	0.1	14.7	0.1
5/16/2023	6:40:31	296.9	46.2	-0.2	140.9	-0.2	0.0	0.0	0.0	180.5	0.2	0.1	21.7	10.9	11.2	10.5	0.0	29.8	0.2
5/16/2023	12:40:32	107.1	48.2	-0.2	0.1	-0.2	99.8	-0.1	-0.2	0.3	-0.2	0.1	10.2	0.5	33.6	1.6	0.0	10.5	0.1
5/16/2023	18:40:32	112.0	48.4	-0.2	0.0	-0.2	104.2	0.2	0.2	0.5	0.0	0.1	2.5	0.3	33.3	0.3	0.0	4.3	0.0
5/17/2023	0:40:32	294.0	46.1	-0.2	0.1	106.6	0.0	204.3	0.0	0.3	0.0	0.1	0.2	20.9	11.9	30.8	0.0	14.6	0.1
5/17/2023	6:40:32	285.5	46.2	-0.2	140.0	-0.2	0.3	0.1	-0.1	177.3	0.4	0.1	21.7	10.7	11.1	10.3	0.0	29.8	0.1
5/17/2023	12:40:32	110.1	48.2	-0.2	0.4	-0.2	100.3	0.1	0.0	0.0	0.4	0.1	10.2	0.2	33.4	8.9	0.0	10.4	0.1
5/17/2023	18:40:32	116.1	48.4	-0.2	0.1	-0.2	104.9	-0.1	0.1	0.3	0.2	0.1	2.7	0.0	33.2	2.7	-0.2	2.7	0.0
5/18/2023	0:40:31	291.9	46.1	-0.2	0.0	108.4	0.1	199.3	0.2	0.1	0.0	0.1	0.2	20.8	11.9	30.8	0.0	14.5	0.1
5/18/2023	6:40:32	293.5	46.1	-0.2	139.0	-0.1	0.2	-0.1	-0.3	184.3	0.5	0.1	21.7	10.8	11.0	10.2	0.1	29.9	0.1
5/18/2023	12:40:32	111.0	48.2	-0.2	0.0	-0.2	98.5	-0.1	-0.1	0.2	-0.1	0.1	10.2	0.3	33.6	2.3	0.1	10.5	0.1
5/18/2023	18:40:31	117.9	48.3	-0.2	0.1	-0.2	105.2	-0.1	0.1	0.0	0.1	0.1	1.6	0.2	33.3	0.6	-0.1	3.9	0.0
5/19/2023	0:40:31	295.0	46.1	-0.2	-0.3	108.1	0.0	203.0	0.2	0.2	0.0	0.1	0.2	20.8	11.8	30.7	0.1	14.5	0.1
5/19/2023	6:40:32	289.0	46.2	-0.2	138.9	-0.1	0.2	0.0	0.2	182.5	-0.1	0.1	21.6	10.9	11.0	10.2	0.0	29.9	0.1
5/19/2023	12:40:31	110.9	48.3	-0.2	-0.3	-0.2	98.5	-0.2	-0.1	0.3	0.1	0.1	10.1	0.6	33.6	1.6	0.1	10.5	0.1
5/19/2023	18:40:32	115.9	48.4	-0.2	0.1	-0.2	105.8	-0.1	0.0	0.3	0.1	0.1	2.0	0.5	33.3	0.3	-0.1	4.6	0.0
5/20/2023	0:40:31	293.9	46.0	-0.2	0.1	109.8	0.1	199.3	0.2	0.2	0.2	0.1	0.2	20.8	11.8	30.6	0.0	14.7	0.1
5/20/2023	6:40:32	287.8	46.2	-0.2	137.9	-0.2	0.0	0.0	0.2	179.9	0.4	0.1	21.6	9.4	10.9	10.2	0.0	29.8	0.1
5/20/2023	12:40:32	111.4	48.2	-0.2	-0.1	-0.2	99.7	0.1	0.1	0.3	0.1	0.1	10.1	1.1	33.5	1.6	0.0	10.5	0.0
5/20/2023	18:40:32	113.5	48.3	-0.2	-0.3	-0.2	103.1	0.0	-0.1	0.3	0.1	0.1	2.1	0.7	33.2	0.3	-0.1	4.6	0.1

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
5/21/2023	0:40:32	284.7	46.1	-0.2	0.4	107.8	0.3	200.7	0.2	0.4	0.1	0.1	0.2	20.9	11.8	30.6	0.0	14.7	0.1
5/21/2023	6:40:31	293.0	46.2	-0.2	139.1	-0.2	0.2	0.0	0.1	179.8	0.2	0.1	21.7	10.5	11.0	10.2	0.0	29.8	0.1
5/21/2023	12:40:31	110.9	48.3	-0.2	0.2	-0.2	100.1	0.1	0.0	0.2	0.1	0.0	10.1	0.5	33.5	1.6	0.1	10.5	0.1
5/21/2023	18:40:32	114.0	48.3	-0.2	-0.2	-0.2	103.3	0.0	-0.1	0.3	-0.1	0.1	2.2	0.2	33.3	0.3	-0.1	4.7	0.0
5/22/2023	0:40:32	289.2	46.0	-0.2	-0.1	108.1	0.8	200.3	0.2	0.4	0.0	0.1	0.2	20.9	11.8	30.6	0.0	14.6	0.1
5/22/2023	6:40:32	285.8	46.2	-0.2	140.6	-0.2	0.3	0.0	0.4	181.2	0.2	0.1	21.6	10.5	11.0	10.2	0.0	29.8	0.1
5/22/2023	12:40:32	109.5	48.2	-0.2	0.0	-0.2	99.6	0.3	0.2	0.1	0.2	0.1	10.0	0.7	33.5	1.5	-0.2	10.6	-0.1
5/22/2023	18:40:32	116.3	48.4	-0.2	0.2	-0.2	104.9	0.0	-0.2	0.3	0.1	0.1	1.3	0.5	33.2	0.4	0.0	4.3	0.1
5/23/2023	0:40:31	297.1	46.1	-0.2	-0.2	107.2	0.3	202.7	0.9	0.2	0.0	0.1	0.2	20.9	11.8	30.7	0.0	14.4	0.1
5/23/2023	6:40:32	285.2	46.2	-0.2	139.2	-0.2	0.1	-0.1	0.2	182.1	0.0	0.1	21.6	10.6	11.0	10.3	0.1	29.9	0.1
5/23/2023	12:40:32	109.8	48.3	-0.2	-0.1	-0.2	100.0	0.1	0.3	0.2	0.2	0.1	10.1	0.6	33.5	1.6	0.0	10.5	0.1
5/23/2023	18:40:32	115.3	48.4	-0.2	0.0	-0.2	105.3	0.3	0.1	0.2	0.3	0.1	1.3	0.2	33.1	0.4	0.0	4.3	0.1
5/24/2023	0:40:32	293.5	46.1	-0.2	0.1	109.0	0.6	199.3	0.3	0.1	-0.1	0.1	0.2	20.7	11.8	30.7	0.1	14.6	0.1
5/24/2023	6:40:31	290.6	46.2	-0.2	137.7	-0.2	0.2	-0.2	0.0	180.1	1.1	0.0	21.6	6.9	10.6	10.4	0.0	29.8	0.1
5/24/2023	12:40:31	111.3	48.3	-0.2	-0.1	-0.2	100.3	0.0	0.1	0.2	0.2	0.1	10.2	1.0	33.5	1.7	0.1	10.7	0.1
5/24/2023	18:40:32	115.6	48.4	-0.2	0.1	-0.2	105.7	-0.1	-0.1	0.3	0.3	0.1	1.5	0.7	33.1	0.4	0.0	3.8	0.1
5/25/2023	0:40:31	285.3	46.1	-0.2	0.8	108.1	0.3	199.0	-0.1	0.2	0.1	0.1	0.2	20.8	11.8	30.8	0.0	14.3	0.1
5/25/2023	6:40:32	283.8	46.1	-0.2	137.6	-0.2	0.2	0.1	-0.1	180.6	0.1	0.1	21.6	8.5	10.8	10.3	0.0	29.8	0.1
5/25/2023	12:40:32	110.3	48.3	-0.2	-0.1	-0.2	100.9	0.1	0.0	0.2	0.2	0.1	10.3	1.1	33.5	1.6	0.1	10.7	0.1
5/25/2023	18:40:32	114.4	48.3	-0.2	0.0	-0.2	106.4	0.0	0.0	0.3	0.2	0.1	2.3	0.6	33.1	0.3	-0.1	3.7	0.0
5/26/2023	0:40:32	295.0	46.1	-0.2	0.1	108.7	0.1	201.5	0.1	0.2	0.0	0.1	0.2	20.8	11.8	30.7	0.0	14.2	0.1
5/26/2023	6:40:32	285.6	46.2	-0.2	136.8	-0.2	0.0	0.0	0.0	182.4	-0.1	0.1	21.7	5.6	10.8	10.3	0.0	29.9	0.1
5/26/2023	12:40:32	107.3	48.3	-0.2	-0.1	-0.2	98.8	0.0	0.2	0.3	0.2	0.0	10.2	0.7	33.5	1.7	0.0	10.7	0.1
5/26/2023	18:40:32	111.9	48.3	-0.2	0.2	-0.2	105.3	0.2	0.1	0.2	0.2	0.1	1.2	0.4	33.1	0.3	0.0	3.3	0.1
5/27/2023	0:40:32	298.3	46.0	-0.2	0.1	109.6	0.4	203.0	0.1	0.2	1.0	0.1	0.2	20.7	11.8	30.7	0.0	14.0	0.1
5/27/2023	6:40:31	287.3	46.2	-0.2	139.3	-0.2	0.0	-0.2	-0.1	183.7	-0.1	0.1	21.7	5.3	10.4	10.1	0.0	29.9	0.1
5/27/2023	12:40:32	105.8	48.2	-0.2	0.0	-0.2	98.6	-0.2	0.1	0.3	0.1	0.1	10.1	0.8	33.7	1.5	0.1	10.7	0.1
5/27/2023	18:40:32	111.4	48.4	-0.2	-0.3	-0.2	105.0	0.0	0.1	0.1	0.3	0.1	2.5	0.3	33.3	0.3	-0.1	3.6	0.0
5/28/2023	0:40:32	294.0	46.0	-0.2	0.0	109.3	0.2	198.0	0.0	0.2	0.2	0.1	0.2	20.7	11.8	30.7	0.0	14.0	0.1
5/28/2023	6:40:32	288.2	46.2	-0.2	137.5	-0.2	0.1	0.2	0.0	182.9	0.3	0.1	21.6	5.7	10.5	10.1	0.0	29.8	0.1
5/28/2023	12:40:32	102.1	48.2	-0.2	-0.2	-0.2	98.2	0.0	0.1	0.1	0.1	0.1	10.2	0.7	33.8	1.6	0.0	10.7	0.1
5/28/2023	18:40:32	115.3	48.3	-0.2	-0.1	-0.2	104.1	-0.1	-0.1	1.0	0.2	0.1	2.5	0.3	33.3	0.3	0.0	3.5	0.0
5/29/2023	0:40:32	287.0	46.0	-0.2	0.1	109.3	0.0	196.4	0.0	0.2	0.2	0.1	0.2	20.7	11.8	30.7	0.0	14.3	0.1
5/29/2023	6:40:32	283.4	46.1	-0.2	138.9	-0.2	0.2	0.0	0.2	179.0	0.1	0.1	21.6	5.4	10.7	10.3	0.0	29.8	0.1
5/29/2023	12:40:31	102.4	48.2	-0.2	0.1	-0.2	97.8	0.1	0.0	0.3	0.2	0.1	10.2	0.6	33.8	1.4	0.0	10.7	0.1
5/29/2023	18:40:32	109.4	48.4	-0.2	-0.1	-0.2	104.6	-0.2	0.2	0.2	0.2	0.1	2.6	0.2	33.3	0.3	0.0	3.8	0.0
5/30/2023	0:40:32	292.2	46.0	-0.2	-0.1	110.1	0.1	199.9	0.9	0.0	0.0	0.1	0.2	20.7	11.8	30.8	0.0	14.1	0.1
5/30/2023	6:40:32	283.9	46.3	-0.2	138.1	-0.2	0.3	0.3	0.1	184.1	0.1	0.1	21.7	5.2	10.5	10.2	0.1	29.9	0.1
5/30/2023	12:40:32	113.1	48.1	-0.2	-0.1	-0.2	99.7	-0.4	0.0	0.2	0.2	0.1	10.1	0.7	33.6	1.4	0.0	10.7	0.1
5/30/2023	18:40:32	124.3	48.2	-0.2	0.3	-0.2	104.4	-0.3	0.3	0.3	0.3	0.1	2.6	0.4	33.2	0.3	-0.1	3.6	0.0
5/31/2023	0:40:32	298.5	46.1	-0.2	-0.1	109.0	0.2	199.4	0.2	0.4	0.3	0.1	0.2	20.7	11.8	30.7	0.0	14.0	0.1
5/31/2023	6:40:32	288.1	46.2	-0.2	138.1	-0.2	0.0	0.0	-0.1	179.2	0.2	0.1	21.6	5.2	10.9	10.4	0.0	29.8	0.1
5/31/2023	12:40:32	105.6	48.3	-0.2	0.1	-0.2	96.7	0.2	0.1	0.3	0.1	0.1	10.2	0.6	33.8	1.6	0.0	10.7	0.1
5/31/2023	18:40:32	117.2	48.4	-0.2	-0.2	-0.2	102.2	0.1	0.0	0.3	0.5	0.1	2.2	0.3	33.3	0.3	-0.1	3.7	0.1
6/1/2023	0:40:32	297.6	46.0	-0.2	-0.2	111.6	0.2	201.4	0.2	0.1	-0.1	0.1	0.2	20.6	11.8	30.8	0.1	14.0	0.1
6/1/2023	6:40:32	285.4	46.1	-0.2	137.5	-0.1	0.2	0.2	-0.3	179.3	0.0	0.1	21.6	5.1	11.0	10.6	0.0	29.8	0.1
6/1/2023	12:40:32	108.6	48.2	-0.2	0.0	-0.2	96.8	0.1	-0.3	0.1	0.9	0.1	10.2	0.6	33.8	1.5	0.1	10.7	0.1
6/1/2023	18:40:32	109.0	48.4	-0.2	0.0	-0.2	104.4	0.0	0.2	0.7	0.1	0.1	2.7	0.2	33.4	0.3	0.0	3.7	0.1
6/2/2023	0:40:32	297.0	46.0	-0.2	-0.2	110.7	0.1	201.3	-0.1	0.2	0.2	0.1	0.2	20.7	11.8	30.8	0.1	14.1	0.1
6/2/2023	6:40:31	283.8	46.0	-0.2	137.7	-0.2	0.2	0.0	0.1	179.9	0.3	0.1	21.6	5.1	10.8	10.4	0.0	29.8	0.1

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
6/2/2023	12:40:32	108.0	48.2	-0.2	-0.1	-0.2	97.5	0.0	0.0	0.1	0.1	0.1	10.2	0.6	33.7	1.6	0.1	10.7	0.1
6/2/2023	18:40:32	114.4	48.2	-0.2	0.1	-0.2	103.2	0.0	0.1	0.1	0.2	0.1	3.5	0.2	33.2	0.3	-0.1	4.1	0.0
6/3/2023	0:40:32	295.4	46.0	-0.2	-0.2	109.5	0.0	203.0	0.3	0.1	0.2	0.1	0.2	20.7	11.8	30.8	0.0	14.0	0.1
6/3/2023	6:40:32	286.7	46.2	-0.2	136.2	-0.2	0.0	0.3	0.5	179.6	0.2	0.1	21.7	5.5	10.7	10.3	0.0	29.8	0.1
6/3/2023	12:40:32	105.2	48.2	-0.2	-0.1	-0.2	98.5	0.2	-0.2	0.2	0.0	0.1	10.4	0.4	33.6	1.5	-0.1	10.7	0.0
6/3/2023	18:40:32	112.8	48.3	-0.2	1.0	-0.2	103.7	0.2	0.1	0.3	0.1	0.1	2.7	0.1	33.2	0.3	-0.1	3.6	0.1
6/4/2023	0:40:32	299.6	46.0	-0.2	-0.3	109.6	0.1	200.9	0.1	0.1	0.0	0.1	0.2	20.7	11.8	30.9	0.1	14.0	0.1
6/4/2023	6:40:32	289.5	46.2	-0.2	136.6	-0.2	0.0	0.2	0.3	181.3	0.1	0.1	21.7	5.3	11.0	10.3	0.0	29.8	0.1
6/4/2023	12:40:32	111.7	48.1	-0.2	0.0	-0.2	97.6	0.2	0.0	0.3	0.2	0.1	10.2	0.6	33.6	1.5	0.0	10.6	0.1
6/4/2023	18:40:32	111.8	48.3	-0.2	0.1	-0.2	101.5	-0.1	0.0	0.2	0.1	0.1	2.9	0.3	33.2	0.3	-0.1	4.0	0.0
6/5/2023	0:40:32	295.9	46.1	-0.2	-0.2	109.8	0.1	201.6	0.1	0.4	0.4	0.1	0.2	20.7	11.7	30.8	0.0	13.9	0.1
6/5/2023	6:40:32	283.1	46.2	-0.2	138.4	-0.2	0.1	0.0	0.1	179.8	0.4	0.1	21.6	5.2	11.1	10.2	0.0	29.8	0.1
6/5/2023	12:40:32	107.1	48.3	-0.2	-0.1	-0.2	98.3	0.1	0.3	0.1	0.2	0.1	10.2	0.7	33.5	1.4	0.1	10.6	0.1
6/5/2023	18:40:32	114.0	48.3	-0.2	0.1	-0.2	104.0	0.0	-0.1	0.3	0.1	0.1	3.5	0.3	33.1	0.3	0.0	3.8	0.1
6/6/2023	0:40:32	300.6	46.2	-0.2	-0.2	111.6	0.0	201.1	0.8	0.2	0.2	0.1	0.2	20.7	11.7	30.8	0.0	13.6	0.1
6/6/2023	6:40:32	287.4	46.1	-0.2	136.1	0.1	0.1	0.0	0.1	181.2	0.2	0.1	21.6	5.0	11.0	10.3	0.0	29.8	0.1
6/6/2023	12:40:32	112.0	48.2	-0.2	-0.2	-0.2	98.4	0.1	0.2	0.2	-0.1	0.1	10.3	0.6	33.5	1.4	0.1	10.6	0.1
6/6/2023	18:40:32	115.7	48.3	-0.2	0.0	-0.2	102.8	0.1	-0.1	0.3	-0.1	0.1	3.8	0.3	33.2	0.3	0.0	3.8	0.0
6/7/2023	0:40:33	301.0	46.0	-0.2	0.0	111.1	0.1	204.1	0.2	0.2	0.1	0.1	0.2	20.7	11.7	30.9	0.0	13.7	0.1
6/7/2023	6:40:33	284.5	46.2	-0.2	138.9	-0.1	0.0	-0.2	0.0	182.5	0.3	0.1	21.8	5.0	11.1	10.2	0.1	29.8	0.1
6/7/2023	12:40:33	109.9	48.1	-0.2	-0.2	-0.2	99.8	-0.1	0.2	0.2	-0.1	0.1	10.2	0.5	33.3	1.3	0.0	10.6	0.1
6/7/2023	18:40:32	114.4	48.4	-0.2	0.1	-0.2	107.3	-0.2	-0.2	0.1	0.2	0.1	2.3	0.2	33.1	0.4	0.0	3.5	0.1
6/8/2023	0:40:33	293.4	46.1	-0.2	0.0	111.3	-0.2	204.3	-0.1	0.0	0.2	0.1	0.2	20.7	11.8	30.9	0.1	13.9	0.1
6/8/2023	6:40:33	281.3	46.2	-0.2	137.4	-0.2	0.0	-0.1	0.0	181.8	1.0	0.1	21.7	5.0	10.9	10.2	0.0	29.9	0.1
6/8/2023	12:40:32	110.0	48.3	-0.2	-0.2	-0.2	97.8	-0.1	0.0	0.3	-0.1	0.1	10.3	0.8	33.2	1.5	0.0	10.7	0.1
6/8/2023	18:40:32	112.2	48.2	-0.2	0.0	0.1	103.5	-0.1	0.0	0.2	0.2	0.1	2.1	0.4	33.0	0.4	0.1	3.6	0.1
6/9/2023	0:40:33	300.4	46.1	-0.2	-0.2	109.6	0.2	202.3	0.1	0.1	0.1	0.1	0.2	20.8	11.9	30.9	0.0	14.3	0.1
6/9/2023	6:40:33	284.2	46.1	-0.2	133.6	-0.2	0.0	-0.1	0.0	179.9	0.1	0.1	21.8	5.2	10.6	10.5	0.0	29.8	0.1
6/9/2023	12:40:33	108.9	48.1	-0.2	-0.3	-0.2	101.0	0.0	0.0	0.2	0.0	0.0	10.6	0.7	33.3	1.3	0.0	10.8	0.1
6/9/2023	18:40:33	117.4	48.2	-0.2	0.0	-0.2	104.8	0.0	0.2	0.3	0.1	0.1	3.6	0.3	32.9	0.2	-0.2	4.0	-0.1
6/10/2023	0:40:33	295.1	46.1	-0.2	0.2	110.4	0.0	202.8	-0.1	0.1	0.1	0.1	0.2	20.8	11.9	30.9	0.1	14.2	0.1
6/10/2023	6:40:32	281.0	46.1	-0.2	133.8	-0.2	0.2	0.1	0.0	180.6	0.2	0.1	21.8	5.3	10.8	10.4	0.0	29.9	0.1
6/10/2023	12:40:33	111.1	48.2	-0.2	-0.3	-0.2	100.7	0.9	0.0	0.2	0.1	0.1	10.6	0.8	33.3	1.4	0.1	10.8	0.1
6/10/2023	18:40:33	113.9	48.2	-0.2	0.0	-0.2	103.8	0.2	-0.1	0.4	0.0	0.1	3.7	0.4	32.9	0.3	0.0	3.8	0.0
6/11/2023	0:40:33	295.4	46.0	-0.2	0.1	110.7	-0.1	200.1	0.1	0.1	0.7	0.1	0.2	20.8	12.0	30.8	0.0	14.4	0.0
6/11/2023	6:40:33	280.2	46.2	-0.2	136.3	-0.2	0.2	-0.2	0.1	179.3	0.2	0.1	21.7	5.3	10.8	10.4	0.0	29.8	0.1
6/11/2023	12:40:33	108.8	48.2	-0.2	-0.1	-0.2	98.1	-0.2	0.1	0.2	0.0	0.0	10.5	0.7	33.5	1.3	0.0	10.8	0.1
6/11/2023	18:40:33	113.2	48.2	-0.2	-0.2	-0.2	103.3	0.4	0.2	0.3	0.1	0.1	4.0	0.2	33.1	0.3	-0.1	3.8	0.0
6/12/2023	0:40:33	287.2	46.1	-0.2	0.1	111.3	0.3	202.5	0.3	0.1	0.1	0.1	0.3	20.7	12.0	30.7	0.0	14.2	0.0
6/12/2023	6:40:33	285.5	46.2	-0.2	137.5	-0.1	0.0	0.2	0.0	180.2	0.1	0.1	21.7	5.3	11.0	10.4	0.0	29.8	0.1
6/12/2023	12:40:33	105.0	48.3	-0.2	0.0	-0.2	98.6	0.0	0.0	1.1	0.0	0.0	10.6	0.9	33.4	1.4	0.0	10.8	0.0
6/12/2023	18:40:33	115.5	48.3	-0.2	-0.2	-0.2	104.5	0.0	0.0	0.2	0.1	0.1	4.4	0.6	33.1	0.3	0.0	4.3	0.0
6/13/2023	0:40:33	291.1	46.2	-0.2	0.1	111.0	0.3	200.7	0.2	0.2	0.0	0.1	0.4	20.7	12.0	30.7	0.0	14.2	0.1
6/13/2023	6:40:33	283.2	46.2	-0.2	136.2	-0.2	0.1	0.2	0.1	179.8	-0.1	0.1	21.7	5.2	11.0	10.4	0.0	29.8	0.1
6/13/2023	12:40:33	106.7	48.2	-0.2	0.0	-0.2	98.7	0.2	0.1	0.1	0.1	0.0	10.6	0.5	33.3	1.3	0.1	10.8	0.0
6/13/2023	18:40:33	114.7	48.4	-0.2	-0.3	-0.2	106.0	0.2	0.2	0.1	0.2	0.1	4.3	0.2	33.0	0.3	-0.1	3.7	0.0
6/14/2023	0:40:33	291.8	46.1	-0.2	0.2	111.3	-0.1	200.7	0.1	0.1	0.2	0.1	0.4	20.7	11.9	30.6	0.0	13.9	0.1
6/14/2023	6:40:33	285.8	46.2	-0.2	134.3	-0.1	0.1	0.0	0.2	177.8	0.2	0.1	21.7	5.3	11.0	10.4	0.1	29.9	0.1
6/14/2023	12:40:33	111.8	48.3	-0.2	0.0	-0.2	100.6	-0.1	0.3	0.3	-0.1	0.0	10.4	0.6	33.3	1.4	0.0	10.7	0.0
6/14/2023	18:40:33	116.5	48.3	-0.2	-0.3	-0.2	105.0	0.0	-0.1	0.3	0.1	0.1	4.2	0.2	33.0	0.4	0.0	4.0	0.0

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
6/15/2023	0:40:33	288.1	46.2	-0.2	-0.2	111.6	0.2	202.0	0.0	0.1	0.1	0.1	0.3	20.7	11.9	30.7	0.0	14.3	0.1
6/15/2023	6:40:33	286.2	46.2	-0.2	135.7	-0.2	0.2	0.0	0.1	179.1	0.1	0.1	21.8	5.6	10.8	10.3	0.0	29.9	0.1
6/15/2023	12:40:32	106.4	48.4	-0.2	0.0	-0.2	94.9	0.1	0.1	0.2	0.1	0.1	1.2	0.1	33.9	0.2	0.1	0.4	0.1
6/15/2023	18:40:33	118.1	48.4	-0.2	-0.1	-0.2	106.9	0.0	0.0	1.0	0.7	0.1	0.1	-0.1	32.8	0.1	-0.2	0.4	-0.1
6/16/2023	0:40:33	292.0	46.2	-0.2	0.1	109.6	0.3	201.3	-0.2	0.3	0.2	0.1	0.2	20.7	11.9	30.8	0.0	13.4	0.1
6/16/2023	6:40:33	286.0	46.3	-0.2	138.4	-0.2	-0.1	0.0	0.2	179.6	0.2	0.1	21.7	5.6	11.8	10.3	0.0	29.8	0.1
6/16/2023	12:40:33	112.2	48.3	-0.2	0.0	-0.2	102.9	-0.1	0.6	0.4	0.1	0.0	10.4	0.9	33.1	1.3	0.1	10.7	0.1
6/16/2023	18:40:33	118.9	48.5	-0.2	0.0	-0.2	105.2	0.2	0.0	0.3	-0.2	0.1	3.6	0.6	32.9	0.4	0.0	4.8	0.1
6/17/2023	0:40:32	296.2	46.3	-0.2	0.1	109.8	0.3	198.0	0.3	0.2	0.1	0.1	0.2	20.8	11.8	30.7	0.0	13.8	0.0
6/17/2023	6:40:33	288.8	46.5	-0.2	136.5	-0.2	0.1	-0.3	-0.1	179.1	0.1	0.1	21.6	5.4	11.0	10.3	0.1	29.8	0.1
6/17/2023	12:40:33	118.5	48.5	-0.2	0.3	-0.2	102.7	-0.2	0.0	0.1	-0.1	0.1	10.1	0.4	33.3	1.3	-0.1	10.7	0.0
6/17/2023	18:40:33	124.4	48.5	-0.2	0.0	-0.2	106.6	0.0	0.0	0.4	0.1	0.1	1.5	0.4	32.9	0.4	0.0	3.9	0.1
6/18/2023	0:40:33	301.5	46.2	-0.2	0.0	109.8	-0.2	197.9	0.3	0.4	0.0	0.1	0.2	20.8	11.8	30.7	0.0	14.1	0.1
6/18/2023	6:40:33	292.8	46.4	-0.2	137.0	-0.2	-0.1	0.1	0.0	179.7	0.1	0.1	21.7	5.2	10.6	10.3	0.1	29.8	0.1
6/18/2023	12:40:33	116.6	48.3	-0.2	-0.3	-0.2	100.0	0.0	0.2	0.1	0.3	0.0	10.5	0.8	33.1	1.5	0.0	10.7	0.1
6/18/2023	18:40:32	123.8	48.4	-0.2	0.0	-0.2	107.1	0.1	-0.1	0.3	0.2	0.1	3.8	0.5	32.8	0.3	0.0	4.2	0.0
6/19/2023	0:40:33	290.2	46.1	-0.2	-0.1	110.1	0.2	200.3	-0.2	0.4	0.0	0.1	0.2	20.8	11.9	30.7	0.0	13.8	0.1
6/19/2023	6:40:33	292.7	46.5	-0.2	139.4	-0.1	0.0	0.0	-0.2	180.9	0.0	0.1	21.7	5.3	10.9	10.3	0.0	29.8	0.1
6/19/2023	12:40:33	110.9	48.3	-0.2	-0.2	-0.2	102.3	0.1	-0.1	1.0	-0.1	0.0	10.5	0.8	33.0	2.9	0.0	10.7	0.0
6/19/2023	18:40:33	117.0	48.5	-0.2	0.0	-0.2	105.9	1.0	0.3	0.1	0.2	0.1	4.0	0.4	32.8	1.4	-0.1	2.4	0.0
6/20/2023	0:40:32	294.6	46.3	-0.2	-0.4	111.3	0.2	200.7	-0.1	0.1	0.2	0.1	0.3	20.8	11.9	30.7	0.0	13.7	0.1
6/20/2023	6:40:33	287.7	46.5	-0.2	138.2	-0.2	0.0	-0.2	0.0	182.9	0.1	0.1	21.8	5.4	10.6	10.4	0.1	29.9	0.1
6/20/2023	12:40:33	111.0	48.2	-0.2	-0.1	-0.1	102.3	0.1	-0.1	0.2	0.8	0.0	10.5	0.7	33.1	1.5	0.0	10.8	0.0
6/20/2023	18:40:33	116.2	48.5	-0.2	0.1	-0.2	106.0	0.2	0.2	0.2	0.0	0.1	1.4	0.5	32.8	0.4	0.0	3.4	0.1
6/21/2023	0:40:33	297.6	46.3	-0.2	-0.1	110.7	-0.2	198.9	0.3	0.1	0.0	0.1	0.2	20.8	11.9	30.7	0.1	14.0	0.1
6/21/2023	6:40:32	286.2	46.3	-0.2	134.6	-0.2	0.0	0.1	0.2	179.4	0.1	0.1	21.8	5.6	10.7	10.4	0.1	29.8	0.1
6/21/2023	12:40:33	112.5	48.2	-0.2	0.0	-0.2	99.9	-0.1	0.5	0.2	0.1	0.1	10.5	0.8	33.2	1.3	0.1	10.9	0.1
6/21/2023	18:40:33	112.6	48.4	-0.2	0.1	-0.2	106.8	0.1	-0.2	0.2	0.0	0.1	2.8	0.5	32.9	0.3	-0.1	3.7	0.0
6/22/2023	0:40:33	286.0	46.3	-0.2	-0.3	109.8	0.3	201.0	0.3	0.0	0.0	0.1	0.2	20.8	12.1	30.8	0.0	14.0	0.1
6/22/2023	6:40:33	277.8	46.4	-0.2	133.0	-0.2	0.1	-0.2	0.1	179.0	0.1	0.1	21.7	5.1	10.8	10.5	0.1	29.8	0.1
6/22/2023	12:40:32	110.2	48.4	-0.2	0.0	-0.2	99.8	-0.3	0.3	0.4	0.1	0.0	10.6	0.8	33.2	1.5	0.0	11.0	0.0
6/22/2023	18:40:33	111.0	48.5	-0.2	-0.1	-0.2	104.5	0.1	0.0	0.2	0.1	0.1	2.8	0.3	33.1	0.4	0.0	3.6	0.1
6/23/2023	0:40:33	285.9	46.4	-0.2	-0.2	109.2	0.2	196.8	0.2	0.6	0.1	0.1	0.2	20.8	12.1	30.8	0.1	13.8	0.1
6/23/2023	6:40:32	278.2	46.4	-0.2	133.1	-0.2	0.0	0.0	0.1	178.2	0.2	0.1	21.8	5.2	11.0	10.6	0.0	29.8	0.1
6/23/2023	12:40:33	110.0	48.3	-0.2	-0.1	-0.2	100.0	0.1	0.2	0.4	0.1	0.1	10.6	0.8	33.3	1.5	0.0	11.1	0.2
6/23/2023	18:40:33	118.7	48.5	-0.2	0.0	-0.2	105.2	0.0	0.3	0.2	0.1	0.1	3.3	0.4	33.0	0.4	0.0	4.0	0.1
6/24/2023	0:40:33	289.6	46.3	-0.2	-0.3	109.6	-0.2	199.5	0.0	0.1	0.1	0.1	0.2	20.8	12.2	30.7	0.0	14.1	0.1
6/24/2023	6:40:33	279.4	46.5	-0.2	133.3	-0.2	0.3	0.0	1.0	177.8	0.0	0.1	21.8	5.3	11.1	10.6	0.0	29.8	0.1
6/24/2023	12:40:32	106.9	48.2	-0.2	0.0	-0.2	99.8	0.1	0.0	0.1	0.3	0.0	10.7	0.7	33.3	1.3	0.0	11.0	0.1
6/24/2023	18:40:33	115.6	48.5	-0.2	0.1	-0.2	103.7	0.2	0.3	0.1	0.2	0.1	3.8	0.3	33.1	0.3	-0.1	4.1	0.0
6/25/2023	0:40:33	283.1	46.3	-0.2	-0.1	109.3	0.2	198.9	0.0	0.2	0.3	0.1	0.2	20.8	12.2	30.7	0.0	14.1	0.1
6/25/2023	6:40:33	278.5	46.4	-0.2	135.4	-0.2	0.1	-0.1	0.0	180.0	0.4	0.1	21.8	5.4	11.0	10.6	0.1	29.9	0.1
6/25/2023	12:40:33	110.3	48.3	-0.2	-0.3	-0.2	98.9	0.3	0.1	0.2	-0.2	0.0	10.6	0.6	33.3	1.7	0.0	11.0	0.1
6/25/2023	18:40:33	112.0	48.4	-0.2	-0.2	-0.2	104.8	0.1	0.4	0.6	0.1	0.1	3.2	0.3	33.0	0.3	-0.1	4.0	0.0
6/26/2023	0:40:33	290.4	46.2	-0.2	0.0	109.5	0.0	201.3	0.0	0.3	0.3	0.1	0.2	20.7	12.1	30.8	0.0	14.4	0.1
6/26/2023	6:40:33	284.5	46.5	-0.2	135.1	-0.2	0.2	0.1	-0.1	177.8	0.2	0.1	21.7	5.3	11.3	10.5	0.0	29.8	0.1
6/26/2023	12:40:33	109.0	48.3	-0.2	-0.3	-0.2	99.6	0.0	0.0	0.2	0.0	0.0	10.6	0.6	33.3	1.3	0.0	11.0	0.1
6/26/2023	18:40:32	118.4	48.4	-0.2	-0.1	-0.2	106.1	0.2	0.0	0.1	1.2	0.1	3.1	0.3	33.0	0.3	-0.1	4.0	0.0
6/27/2023	0:40:33	289.7	46.2	-0.2	0.0	109.8	0.1	196.7	0.0	0.5	0.0	0.1	0.2	20.7	12.2	30.7	0.0	14.1	0.1
6/27/2023	6:40:33	283.5	46.4	-0.2	133.5	-0.1	0.2	0.8	0.1	178.6	0.2	0.1	21.7	4.6	11.3	10.6	0.0	29.8	0.1

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
6/27/2023	12:40:33	111.9	48.3	-0.2	-0.3	-0.2	101.1	-0.1	0.0	0.1	0.1	0.0	10.5	0.6	33.3	1.3	0.0	11.0	0.1
6/27/2023	18:40:33	117.9	48.4	-0.2	-0.2	-0.2	102.8	-0.2	0.4	0.2	0.1	0.1	3.3	0.3	33.0	0.3	-0.1	4.3	0.0
6/28/2023	0:40:33	282.8	46.3	-0.2	0.1	109.6	0.1	197.4	0.1	-0.1	0.8	0.1	0.2	20.7	12.1	30.6	0.0	14.4	0.0
6/28/2023	6:40:32	284.2	46.5	-0.1	134.6	-0.1	-0.1	0.1	0.2	178.0	0.1	0.1	21.7	4.6	11.4	10.5	0.0	29.8	0.1
6/28/2023	12:40:33	111.4	48.2	-0.2	-0.3	-0.2	100.4	-0.1	0.1	0.1	-0.1	0.0	10.6	0.6	33.1	1.1	0.0	10.9	0.0
6/28/2023	18:40:34	115.5	48.6	-0.2	0.0	-0.2	105.6	0.0	0.2	0.2	0.0	0.1	3.1	0.3	32.9	0.4	-0.1	3.6	0.1
6/29/2023	0:40:33	294.3	46.4	-0.2	0.1	110.1	0.1	199.6	0.1	0.2	0.2	0.1	0.2	20.8	12.1	30.7	0.0	14.6	0.1
6/29/2023	6:40:33	286.4	46.5	-0.2	131.6	-0.2	0.2	0.2	0.2	179.1	0.0	0.1	21.8	4.8	11.0	10.6	0.0	29.9	0.1
6/29/2023	12:40:32	111.7	48.3	-0.2	0.1	-0.2	99.0	-0.1	0.0	0.3	0.1	0.0	10.6	0.7	33.2	1.3	0.0	11.0	0.1
6/29/2023	18:40:33	114.8	48.4	-0.2	-0.2	-0.2	103.9	-0.1	0.0	0.4	0.0	0.1	3.6	0.4	32.9	0.3	-0.1	4.2	0.0
6/30/2023	0:40:33	285.5	46.3	-0.2	-0.2	109.8	0.1	197.0	0.1	0.2	0.9	0.1	0.2	20.7	12.1	30.6	0.0	14.7	0.1
6/30/2023	6:40:33	285.2	46.5	-0.2	133.4	-0.2	-0.1	-0.1	0.1	176.8	0.1	0.1	21.8	4.9	11.0	10.5	0.0	29.9	0.1
6/30/2023	12:40:32	116.9	48.4	-0.2	0.0	-0.2	101.2	-0.1	-0.1	0.3	0.0	0.1	10.5	0.8	33.1	2.4	0.1	11.0	0.1
6/30/2023	18:40:33	118.1	48.5	-0.2	-0.2	-0.1	103.5	0.3	0.0	0.3	0.0	0.1	3.4	0.4	33.0	0.9	0.0	2.4	0.0
7/1/2023	0:40:33	287.9	46.2	-0.2	-0.1	109.6	0.1	200.2	0.1	0.1	0.2	0.1	0.2	20.8	12.1	30.6	0.0	14.2	0.1
7/1/2023	6:40:32	278.2	46.5	-0.2	135.0	-0.2	0.2	0.1	0.2	181.6	0.1	0.1	21.8	5.0	11.3	10.9	0.0	29.9	0.1
7/1/2023	12:40:33	114.7	48.4	-0.2	-0.2	-0.2	102.6	0.0	0.2	0.3	-0.2	0.1	10.5	0.7	33.2	1.1	0.0	10.9	0.1
7/1/2023	18:40:33	114.1	48.5	-0.1	-0.1	-0.2	105.3	-0.1	0.0	0.1	0.2	0.1	3.6	0.4	32.9	0.3	0.0	4.1	0.0
7/2/2023	0:40:33	285.5	46.4	-0.2	0.1	110.7	0.1	196.2	0.2	0.3	0.1	0.1	0.2	20.7	12.1	30.6	0.0	14.1	0.1
7/2/2023	6:40:33	284.1	46.4	-0.2	134.3	-0.2	0.1	-0.1	0.1	180.1	0.3	0.1	21.8	4.8	11.2	10.4	0.0	29.8	0.1
7/2/2023	12:40:33	111.7	48.3	-0.2	0.0	-0.2	100.0	-0.1	0.0	0.1	0.2	0.1	10.5	0.6	33.2	1.1	0.0	10.9	0.1
7/2/2023	18:40:33	117.0	48.4	-0.2	0.0	-0.2	103.8	0.0	0.9	0.1	0.7	0.1	3.5	0.3	32.9	0.3	0.0	3.8	0.0
7/3/2023	0:40:33	294.9	46.4	-0.2	0.1	109.8	0.0	195.7	-0.1	0.1	0.1	0.1	0.2	20.7	12.1	30.5	0.0	14.1	0.1
7/3/2023	6:40:33	281.8	46.5	-0.2	134.9	-0.2	0.1	0.0	0.0	179.8	0.2	0.1	21.7	4.6	11.4	10.5	0.0	29.9	0.1
7/3/2023	12:40:33	111.9	48.4	-0.2	0.8	-0.2	103.1	0.2	0.0	0.1	0.2	0.1	10.5	0.5	33.1	1.1	0.0	10.9	0.1
7/3/2023	18:40:33	113.8	48.4	-0.2	-0.2	-0.2	105.6	0.1	0.2	0.5	0.1	0.1	3.7	0.2	32.8	0.3	0.0	3.8	0.0
7/4/2023	0:40:33	294.3	46.2	-0.2	-0.1	110.7	0.2	200.2	0.3	0.3	0.1	0.1	0.2	20.7	12.0	30.6	0.0	14.0	0.1
7/4/2023	6:40:33	280.7	46.5	-0.2	135.3	-0.2	0.0	0.2	-0.1	178.9	0.1	0.0	21.7	4.8	11.2	10.4	0.0	29.8	0.1
7/4/2023	12:40:33	111.3	48.3	-0.2	-0.2	-0.2	101.2	-0.3	0.2	0.0	0.2	0.1	10.5	0.6	33.1	1.3	0.0	10.8	0.0
7/4/2023	18:40:33	118.2	48.4	-0.2	-0.2	-0.2	107.0	0.2	0.0	0.0	0.2	0.1	3.5	0.2	32.8	0.3	-0.1	3.9	0.0
7/5/2023	0:40:33	288.9	46.4	-0.2	-0.1	110.1	0.0	197.8	0.0	0.2	0.3	0.1	0.2	20.7	12.0	30.6	0.0	13.6	0.1
7/5/2023	6:40:33	288.3	46.5	-0.2	135.8	-0.1	0.1	0.5	0.1	179.7	0.1	0.1	21.7	4.5	11.2	10.4	0.0	29.8	0.1
7/5/2023	12:40:33	9.0	51.3	-0.2	0.0	-0.2	0.3	0.0	0.5	0.3	0.2	0.1	0.2	0.0	0.0	0.1	0.1	0.0	0.1
7/5/2023	18:40:33	8.0	50.3	-0.2	0.0	-0.2	0.2	0.0	-0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1
7/6/2023	0:40:33	8.2	51.7	-0.2	0.0	-0.2	0.0	0.6	0.1	0.1	0.4	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1
7/6/2023	6:40:33	9.6	51.4	-0.2	-0.1	-0.2	0.0	0.0	0.1	0.1	0.0	0.1	0.2	0.1	0.0	0.1	0.1	0.0	0.2
7/6/2023	12:40:33	9.6	49.6	-0.2	0.0	-0.2	0.0	-0.3	0.3	0.0	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.0	0.2
7/6/2023	18:40:32	8.8	50.3	-0.2	0.0	-0.2	0.2	0.0	-0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0
7/7/2023	0:40:33	9.7	50.1	-0.2	0.2	-0.2	0.0	-0.2	0.0	0.3	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1
7/7/2023	6:40:33	9.1	49.6	-0.2	-0.1	-0.2	0.4	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1
7/7/2023	12:40:33	10.2	49.0	-0.2	-0.2	-0.2	1.0	-0.1	-0.2	0.1	1.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1
7/7/2023	18:40:33	9.4	50.6	-0.2	0.1	-0.2	0.2	0.1	-0.1	0.2	-0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1
7/8/2023	0:40:33	11.1	51.6	-0.2	0.2	-0.2	-0.1	0.1	0.2	0.4	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1
7/8/2023	6:40:33	11.1	50.3	-0.2	-0.1	-0.2	0.4	0.1	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1
7/8/2023	12:40:33	7.4	50.4	-0.2	-0.1	-0.2	0.0	0.1	0.0	0.3	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1
7/8/2023	18:40:33	9.6	51.6	-0.2	0.0	-0.2	-0.2	0.2	0.1	0.0	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0
7/9/2023	0:40:33	10.3	51.0	-0.2	0.0	-0.2	0.3	0.0	0.5	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1
7/9/2023	6:40:33	9.3	49.6	-0.2	-0.1	-0.2	-0.1	0.2	-0.2	0.1	-0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1
7/9/2023	12:40:33	8.9	50.6	-0.2	-0.1	-0.2	0.0	0.1	-0.1	0.1	0.4	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1
7/9/2023	18:40:33	7.7	50.2	-0.2	-0.1	-0.2	0.0	0.0	0.2	0.3	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
7/10/2023	0:40:33	7.4	50.9	-0.2	1.0	-0.2	0.2	-0.2	0.0	0.3	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1
7/10/2023	6:40:33	7.7	50.8	-0.2	-0.3	-0.2	0.1	-0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1
7/10/2023	12:40:32	8.0	49.9	-0.2	-0.2	-0.2	0.0	0.0	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1
7/10/2023	18:40:34	8.1	51.4	-0.2	0.5	-0.2	0.2	0.2	-0.1	0.0	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1
7/11/2023	0:40:34	8.1	49.8	-0.2	0.0	-0.2	0.8	0.1	0.0	0.9	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1
7/11/2023	6:40:34	8.8	48.9	-0.2	-0.2	-0.2	0.2	0.1	0.0	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1
7/11/2023	12:40:34	7.1	49.3	-0.2	0.3	-0.2	0.0	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1
7/11/2023	18:40:34	7.6	49.6	-0.2	-0.1	-0.2	0.4	0.0	0.0	0.1	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1
7/12/2023	0:40:34	8.9	49.9	-0.2	0.0	-0.2	-0.2	0.0	0.0	0.3	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1
7/12/2023	6:40:34	6.5	49.1	-0.2	-0.2	-0.2	-0.1	0.1	0.2	0.1	0.8	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1
7/12/2023	12:40:34	8.5	51.1	-0.2	-0.2	-0.2	0.3	-0.2	0.3	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1
7/12/2023	18:40:34	8.3	49.4	-0.2	0.0	-0.2	0.2	-0.2	0.1	0.3	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1
7/13/2023	0:40:34	9.3	48.9	-0.2	0.1	-0.2	0.1	-0.2	0.1	0.2	0.3	0.1	0.1	0.0	-0.1	0.1	0.1	0.0	0.1
7/13/2023	6:40:34	7.0	50.7	-0.2	0.1	-0.2	0.0	-0.1	1.1	0.0	0.3	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1
7/13/2023	12:40:34	8.5	50.0	-0.2	0.0	-0.2	-0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1
7/13/2023	18:40:34	9.3	49.9	-0.2	-0.1	-0.2	0.1	0.0	0.1	0.7	-0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1
7/14/2023	0:40:34	9.6	50.5	-0.2	0.0	-0.2	0.1	0.0	-0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1
7/14/2023	6:40:34	11.8	50.6	-0.2	0.0	-0.2	-0.1	0.2	-0.1	0.4	0.4	0.1	0.1	0.0	-0.1	0.1	0.1	0.0	0.1
7/14/2023	12:40:34	9.7	50.3	-0.2	-0.2	-0.2	-0.1	0.2	0.0	0.2	0.4	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1
7/14/2023	18:40:34	8.6	49.0	-0.2	0.0	-0.2	0.2	0.2	0.2	0.2	0.0	0.1	0.1	0.0	-0.1	0.1	0.1	0.0	0.1
7/15/2023	0:40:34	10.1	51.3	-0.2	0.1	-0.2	0.3	0.2	-0.1	0.2	0.4	0.1	0.1	0.0	-0.1	0.1	0.1	0.0	0.1
7/15/2023	6:40:34	9.5	51.4	-0.2	0.1	-0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1
7/15/2023	12:40:34	9.3	49.6	-0.2	-0.1	-0.2	-0.2	0.0	0.2	0.1	-0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1
7/15/2023	18:40:34	10.7	50.1	-0.2	-0.1	-0.2	0.1	-0.2	0.3	0.6	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1
7/16/2023	0:40:34	9.7	51.3	-0.2	-0.1	-0.2	0.2	0.0	0.0	0.3	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1
7/16/2023	6:40:34	9.7	51.1	-0.2	0.7	-0.2	0.3	-0.1	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1
7/16/2023	12:40:34	9.2	49.0	-0.2	-0.3	-0.2	0.1	0.1	-0.1	0.3	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1
7/16/2023	18:40:34	7.6	48.9	-0.2	-0.3	-0.2	0.7	-0.2	0.3	0.1	0.0	0.1	0.1	0.0	-0.1	0.0	0.1	0.0	0.1
7/17/2023	0:40:33	9.8	51.5	-0.2	0.8	-0.2	0.0	0.1	0.0	0.4	0.5	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1
7/17/2023	6:40:34	12.6	50.4	-0.2	-0.1	-0.2	0.2	0.1	0.3	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1
7/17/2023	12:40:34	15.2	50.2	0.7	0.3	1.2	4.3	-0.1	0.0	0.0	0.2	11.0	9.1	8.2	9.4	13.1	0.0	-0.1	0.1
7/17/2023	18:40:34	17.1	50.7	0.4	1.5	1.2	3.3	0.1	0.0	0.0	0.3	11.2	9.1	8.1	9.4	12.7	0.1	0.0	0.1
7/18/2023	0:40:34	17.1	50.0	0.4	0.1	1.3	3.2	-0.2	0.1	0.1	0.0	11.2	9.1	8.1	9.5	12.5	0.1	0.0	0.1
7/18/2023	6:40:34	15.5	50.4	0.4	-0.2	1.3	2.7	0.1	0.3	0.2	0.0	11.3	9.1	8.1	9.4	12.4	0.1	0.0	0.1
7/18/2023	12:40:34	17.4	49.3	0.4	-0.3	1.3	3.9	-0.1	-0.1	0.2	0.0	11.3	9.2	8.1	9.5	12.8	0.0	0.0	0.1
7/18/2023	18:40:34	15.9	51.6	0.4	0.0	1.3	2.7	-0.4	0.0	0.3	0.1	11.4	9.2	8.1	9.5	13.1	0.0	0.0	0.1
7/19/2023	0:40:34	18.1	50.7	0.4	0.9	1.5	2.8	-0.1	0.0	0.3	0.2	11.3	9.1	8.1	9.4	12.5	0.1	0.0	0.1
7/19/2023	6:40:34	17.0	49.8	0.7	0.2	1.5	3.4	0.2	0.0	0.2	0.3	11.3	9.1	8.1	9.4	12.3	0.1	0.0	0.1
7/19/2023	12:40:34	18.0	50.5	0.4	-0.1	1.0	5.0	-0.1	0.0	0.1	-0.1	11.3	9.2	8.7	9.3	13.1	0.0	0.0	0.1
7/19/2023	18:40:34	18.7	51.1	0.4	-0.1	1.6	4.6	1.1	0.1	0.2	0.6	11.4	9.2	8.6	9.3	12.9	0.0	0.0	0.1
7/20/2023	0:40:34	21.2	49.5	0.4	0.7	1.9	5.0	0.2	0.2	0.0	0.2	11.4	9.1	8.6	9.3	12.5	0.0	0.0	0.1
7/20/2023	6:40:34	17.1	49.0	0.4	0.2	1.2	3.7	0.8	-0.1	0.1	0.1	11.4	9.1	8.6	9.3	12.4	0.0	0.0	0.1
7/20/2023	12:40:34	16.9	49.5	0.4	-0.1	0.7	5.3	0.1	0.0	0.1	-0.1	11.3	9.2	8.6	9.3	12.9	0.0	0.0	0.1
7/20/2023	18:40:34	18.9	51.4	0.7	0.0	1.0	4.8	0.0	0.2	0.3	0.0	11.2	9.2	8.7	9.3	13.0	0.0	0.0	0.1
7/21/2023	0:40:34	16.7	49.6	0.9	0.1	1.8	5.1	0.1	0.8	0.2	-0.1	11.2	9.1	8.7	9.3	12.4	0.0	0.0	0.1
7/21/2023	6:40:34	15.8	48.7	0.4	0.1	2.4	4.1	-0.2	0.0	0.4	0.2	11.2	9.0	8.7	9.3	12.4	0.0	0.0	0.1
7/21/2023	12:40:34	21.9	49.2	0.7	-0.1	1.0	4.9	-0.1	0.2	0.1	0.2	11.1	9.1	8.7	9.4	12.9	0.0	0.0	0.1
7/21/2023	18:40:34	16.4	50.3	0.7	0.7	0.9	4.4	0.1	0.3	0.3	0.2	11.2	9.1	8.7	9.3	12.9	0.0	0.0	0.1
7/22/2023	0:40:34	17.4	48.8	0.4	-0.3	2.2	5.8	0.1	-0.1	0.5	0.0	11.2	9.0	8.7	9.4	12.4	0.0	0.0	0.1
7/22/2023	6:40:34	20.2	49.0	0.4	-0.2	2.4	6.8	0.0	0.1	0.1	0.0	11.2	9.0	8.7	9.4	12.2	0.0	0.0	0.1

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
7/22/2023	12:40:34	15.8	49.0	0.7	-0.1	1.0	4.7	-0.2	0.2	0.1	0.6	11.1	9.1	8.7	9.3	12.9	0.0	0.0	0.1
7/22/2023	18:40:34	17.2	50.6	0.7	0.4	0.9	4.6	0.1	-0.2	0.1	0.0	11.2	8.9	8.7	9.3	12.0	0.0	0.0	0.1
7/23/2023	0:40:34	17.4	51.1	0.7	1.1	1.0	4.5	0.4	-0.1	0.1	0.0	11.2	8.9	8.7	9.3	11.9	0.1	0.0	0.1
7/23/2023	6:40:34	16.6	49.4	0.7	0.0	1.0	4.8	0.1	-0.1	0.4	0.2	11.2	8.9	8.7	9.3	12.0	0.1	0.0	0.1
7/23/2023	12:40:34	15.7	50.8	0.7	0.1	1.0	3.8	0.0	0.2	0.3	-0.1	11.2	9.1	8.7	9.3	13.0	0.0	0.0	0.1
7/23/2023	18:40:34	19.8	49.5	0.7	1.0	0.9	5.8	-0.1	-0.1	0.2	0.0	11.2	8.9	8.7	9.3	12.0	0.1	0.0	0.2
7/24/2023	0:40:34	17.3	49.7	0.7	0.7	2.1	6.1	0.8	0.1	0.3	0.0	11.2	8.9	8.7	9.4	11.9	0.1	0.0	0.1
7/24/2023	6:40:34	20.5	51.4	0.7	0.1	1.3	4.8	0.1	0.3	0.1	0.0	11.2	8.9	8.7	9.3	11.9	0.1	0.0	0.1
7/24/2023	12:40:33	20.0	48.7	0.7	-0.3	1.3	5.1	0.1	0.3	0.1	0.0	11.2	9.0	8.7	9.4	13.2	0.1	0.0	0.1
7/24/2023	18:40:33	16.8	50.7	0.7	-0.4	1.0	4.0	-0.2	-0.1	0.2	0.2	11.2	9.0	8.7	9.3	12.9	0.0	0.0	0.1
7/25/2023	0:40:34	19.9	50.9	0.7	2.1	1.5	4.3	0.0	0.2	0.3	0.2	11.3	8.9	8.7	9.4	12.2	0.1	0.0	0.1
7/25/2023	6:40:34	23.9	51.2	0.7	0.5	1.0	4.9	0.0	-0.1	0.1	0.2	11.3	8.9	8.7	9.3	12.0	0.1	0.0	0.1
7/25/2023	12:40:34	19.8	50.5	0.4	-0.2	1.0	5.0	0.1	0.0	0.2	-0.2	11.2	9.0	8.8	9.4	13.1	0.0	0.0	0.1
7/25/2023	18:40:34	20.5	49.5	0.7	0.2	1.0	4.2	0.1	0.3	0.3	0.0	11.3	8.9	8.7	9.3	11.8	0.1	0.0	0.1
7/26/2023	0:40:34	22.4	50.9	0.7	0.4	1.3	4.6	1.2	0.3	0.2	0.3	11.3	8.9	8.7	9.4	11.8	0.1	0.0	0.1
7/26/2023	6:40:34	19.4	48.9	0.6	1.2	2.1	5.1	0.9	-0.1	0.0	0.2	11.3	8.8	8.7	9.4	11.7	0.1	0.0	0.1
7/26/2023	12:40:34	18.6	50.0	0.7	0.1	0.7	4.2	-0.2	-0.1	0.1	0.2	11.2	9.0	8.7	9.4	13.1	0.0	0.0	0.1
7/26/2023	18:40:34	20.6	49.5	0.4	0.0	1.6	4.5	-0.1	0.1	0.7	-0.1	11.3	9.0	8.7	9.4	13.1	0.0	0.0	0.1
7/27/2023	0:40:34	20.3	51.3	0.7	2.8	1.3	4.4	-0.3	-0.1	0.2	0.0	11.3	8.9	8.7	9.4	12.2	0.1	0.0	0.1
7/27/2023	6:40:34	18.3	49.9	0.7	0.4	1.0	4.2	-0.1	0.1	0.3	0.5	11.3	8.9	8.7	9.3	12.1	0.1	0.0	0.1
7/27/2023	12:40:34	23.0	50.4	0.7	-0.2	1.2	4.3	-0.1	0.3	0.3	0.0	11.3	8.9	8.7	9.4	11.9	0.1	0.0	0.1
7/27/2023	18:40:34	18.7	50.5	0.7	1.1	1.2	4.5	0.0	-0.1	0.3	0.3	11.3	8.9	8.7	9.3	12.6	0.1	0.0	0.1
7/28/2023	0:40:34	19.8	49.6	0.7	1.0	1.2	4.3	-0.1	0.3	0.3	0.2	11.3	8.9	8.7	9.3	11.9	0.1	0.0	0.1
7/28/2023	6:40:34	20.3	51.5	0.7	1.0	1.3	4.5	0.4	0.1	0.4	-0.1	11.3	8.8	8.7	9.3	11.9	0.0	0.0	0.1
7/28/2023	12:40:34	20.5	49.7	0.7	0.0	0.9	4.7	0.8	0.1	0.3	0.0	11.3	9.0	8.7	9.4	13.1	0.0	0.0	0.1
7/28/2023	18:40:34	17.8	49.9	0.7	0.1	0.9	4.6	0.3	0.0	0.3	0.1	11.3	8.9	8.7	9.3	12.8	0.0	0.0	0.1
7/29/2023	0:40:34	26.3	51.0	1.0	0.7	1.2	5.0	0.1	0.0	0.3	0.0	11.3	8.8	8.7	9.4	12.1	0.1	0.0	0.1
7/29/2023	6:40:34	20.8	50.2	1.0	0.7	1.5	4.8	-0.3	0.2	0.2	0.1	11.3	8.8	8.7	9.4	12.0	0.1	0.0	0.1
7/29/2023	12:40:34	19.5	51.2	0.7	-0.1	1.3	3.6	0.1	0.1	0.2	0.2	11.3	8.9	8.7	9.4	12.9	0.0	0.0	0.0
7/29/2023	18:40:34	20.1	50.1	1.0	0.6	0.9	4.3	-0.2	0.0	0.2	-0.1	11.3	8.9	8.7	9.4	12.6	0.0	0.0	0.1
7/30/2023	0:40:34	18.2	49.5	0.7	1.0	1.0	4.6	0.2	0.1	0.2	0.7	11.3	8.8	8.7	9.4	12.2	0.0	0.0	0.1
7/30/2023	6:40:34	20.8	50.3	1.0	0.9	1.3	4.4	0.1	-0.1	0.4	0.1	11.3	8.8	8.7	9.4	12.1	0.1	0.0	0.1
7/30/2023	12:40:34	18.8	49.5	0.7	0.1	1.0	5.0	0.4	-0.2	0.3	0.3	11.3	9.0	8.8	9.4	13.1	0.0	0.0	0.1
7/30/2023	18:40:34	18.4	50.9	0.7	-0.1	1.0	4.9	-0.2	0.2	0.2	0.1	11.3	9.0	8.7	9.4	13.2	0.0	0.0	0.1
7/31/2023	0:40:34	17.3	51.2	0.7	0.3	1.0	4.3	-0.2	0.3	0.1	0.1	11.4	8.9	8.7	9.4	12.1	0.1	0.0	0.1
7/31/2023	6:40:34	25.7	50.6	0.7	0.1	0.9	5.3	0.2	-0.1	0.1	-0.2	11.3	8.8	8.7	9.4	11.8	0.1	0.0	0.1
7/31/2023	12:40:34	18.9	49.0	0.7	-0.2	0.9	4.5	0.0	0.1	0.1	0.1	11.3	9.0	8.8	9.4	13.1	0.2	0.0	0.1
7/31/2023	18:40:34	19.0	49.4	0.7	0.8	1.6	4.7	0.9	0.1	0.3	-0.1	11.3	8.8	8.7	9.4	11.4	-0.1	0.0	0.1
8/1/2023	0:40:34	19.7	50.3	1.0	0.6	1.3	4.4	0.9	-0.2	0.4	0.3	11.3	8.8	8.7	9.4	11.6	0.0	0.0	0.2
8/1/2023	6:40:34	18.9	50.8	0.7	0.6	1.3	4.5	0.0	0.8	0.4	0.1	11.3	8.8	8.7	9.3	11.5	0.0	0.0	0.1
8/1/2023	12:40:34	18.8	50.2	0.4	1.3	1.2	4.1	-0.2	0.1	0.1	0.2	11.3	8.6	8.7	9.4	13.0	0.2	0.0	0.1
8/1/2023	18:40:34	64.8	48.4	1.3	1.9	25.1	14.8	4.5	-0.2	0.2	0.0	14.6	14.9	16.8	15.2	15.2	0.0	0.0	0.1
8/2/2023	0:40:34	66.9	48.6	1.3	2.2	26.3	15.2	4.8	-0.1	0.3	0.0	14.7	14.9	16.8	15.2	15.2	0.0	0.0	0.1
8/2/2023	6:40:34	65.7	48.6	0.9	2.1	26.3	15.5	5.0	0.0	0.0	0.1	14.7	14.9	16.8	15.3	15.1	0.0	0.0	0.1
8/2/2023	12:40:34	63.4	48.4	1.0	2.4	26.3	14.9	4.7	0.3	0.0	0.1	14.6	14.9	16.7	15.2	15.2	0.1	0.0	0.1
8/2/2023	18:40:34	65.5	48.6	1.3	2.5	26.6	15.8	4.7	-0.1	0.2	0.2	14.6	14.8	16.7	15.2	15.1	0.0	0.0	0.0
8/3/2023	0:40:34	65.5	48.5	1.0	2.1	26.6	15.7	4.7	-0.1	0.1	0.1	14.7	14.9	16.7	15.2	15.1	0.0	0.0	0.1
8/3/2023	6:40:34	64.4	48.5	1.0	2.2	27.2	15.3	5.3	0.0	0.3	0.1	14.7	14.8	16.7	15.2	15.1	0.0	0.0	0.1
8/3/2023	12:40:34	206.8	47.4	1.3	2.9	28.4	14.5	4.8	0.0	0.1	152.0	14.6	14.8	16.7	15.2	15.1	0.2	0.0	28.6
8/3/2023	18:40:34	211.5	47.4	1.3	2.8	28.7	15.8	5.6	0.0	0.3	152.9	14.7	14.9	16.7	15.3	15.1	0.1	0.0	28.7

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
8/4/2023	0:40:34	216.7	47.3	1.5	3.3	29.2	16.1	4.9	0.0	0.9	154.8	14.7	14.9	16.8	15.3	15.1	0.0	0.0	28.8
8/4/2023	6:40:34	208.8	47.2	1.5	2.9	29.2	15.5	5.8	-0.1	0.0	154.6	14.8	14.9	16.7	15.3	15.0	0.0	0.0	28.9
8/4/2023	12:40:34	207.4	47.2	1.3	2.3	29.2	15.9	5.8	0.0	0.3	153.3	14.6	14.7	16.6	15.2	15.0	0.2	0.0	28.6
8/4/2023	18:40:34	214.0	47.2	1.6	3.1	30.1	15.9	4.9	0.0	0.2	153.2	14.6	14.7	16.7	15.3	15.0	0.0	0.0	28.7
8/5/2023	0:40:34	211.1	47.3	1.5	3.5	30.1	15.3	5.1	0.2	0.1	152.7	14.7	14.8	16.7	15.3	15.0	0.0	0.0	28.8
8/5/2023	6:40:34	219.0	47.3	1.5	3.4	30.1	16.0	7.4	0.2	0.1	153.5	14.7	14.8	16.7	15.3	15.0	0.0	0.0	28.8
8/5/2023	12:40:34	208.4	47.2	1.3	2.8	30.5	16.0	5.1	0.4	0.2	151.1	14.6	14.7	16.6	15.2	15.0	0.2	0.0	28.7
8/5/2023	18:40:34	211.1	47.3	1.6	4.0	31.0	15.3	5.2	0.1	0.1	154.0	14.7	14.8	16.6	15.3	14.9	0.0	0.0	28.8
8/6/2023	0:40:34	218.1	47.3	1.6	4.1	30.9	17.2	7.2	-0.1	0.4	154.2	14.7	14.8	16.6	15.2	14.9	0.0	0.0	28.8
8/6/2023	6:40:33	217.3	47.2	1.8	4.5	31.0	15.8	5.1	-0.1	0.2	153.6	14.7	14.8	16.6	15.2	14.9	-0.1	0.0	28.8
8/6/2023	12:40:34	210.4	47.1	1.9	3.3	31.3	16.0	4.6	-0.1	0.3	153.0	14.5	14.7	16.6	15.2	14.9	0.2	0.0	28.6
8/6/2023	18:40:34	209.0	47.3	1.9	3.8	31.3	17.0	7.1	0.0	0.6	152.1	14.7	14.8	16.6	15.2	14.9	0.0	0.0	28.8
8/7/2023	0:40:34	218.3	47.2	2.2	4.1	31.5	16.0	5.5	0.1	0.0	153.7	14.7	14.8	16.6	15.2	14.9	-0.1	0.0	28.8
8/7/2023	6:40:34	215.4	47.2	1.9	4.2	31.9	16.2	5.2	0.0	0.1	154.2	14.7	14.8	16.6	15.2	14.9	0.0	0.0	28.8
8/7/2023	12:40:34	215.5	47.2	1.9	2.3	31.8	16.4	5.7	0.2	0.2	150.5	14.5	14.7	16.5	15.1	14.8	0.2	0.0	28.6
8/7/2023	18:40:34	216.2	47.3	1.8	2.3	31.9	15.5	4.8	0.1	0.3	148.3	14.5	14.7	16.5	15.2	14.8	0.0	0.0	28.6
8/8/2023	0:40:34	212.3	47.2	1.6	4.1	32.4	15.7	4.8	0.1	0.1	149.5	14.7	14.7	16.6	15.2	14.8	-0.1	0.0	28.8
8/8/2023	6:40:34	214.3	47.3	1.9	4.6	32.4	16.4	4.6	-0.1	0.4	152.8	14.7	14.7	16.6	15.2	14.8	0.0	0.0	28.8
8/8/2023	12:40:34	213.5	47.2	1.6	2.4	32.2	15.4	5.0	-0.2	0.0	150.4	14.5	14.7	16.5	15.2	14.8	0.2	0.0	28.7
8/8/2023	18:40:34	209.2	47.2	1.6	3.6	31.6	15.3	4.6	0.0	0.6	150.2	14.6	14.7	16.6	15.2	14.8	0.0	0.0	28.7
8/9/2023	0:40:34	210.4	47.2	1.6	4.3	31.6	15.6	5.0	0.0	0.1	150.8	14.7	14.8	16.6	15.2	14.9	0.0	0.0	28.8
8/9/2023	6:40:34	212.1	47.2	1.6	3.9	32.1	15.6	4.9	0.0	0.2	147.9	14.7	14.7	16.6	15.2	14.8	0.0	0.0	28.8
8/9/2023	12:40:34	209.2	47.2	1.6	2.2	32.2	15.5	4.9	0.1	0.2	149.7	14.6	14.7	16.5	15.2	14.9	0.2	0.0	28.7
8/9/2023	18:40:34	208.9	47.3	1.6	2.3	32.1	16.1	5.0	0.2	0.0	149.1	14.6	14.8	16.5	15.2	14.8	0.0	0.0	28.7
8/10/2023	0:40:34	210.8	47.3	1.6	4.4	32.4	16.4	5.4	0.2	0.2	148.9	14.7	14.7	16.6	15.2	14.8	-0.1	0.0	28.8
8/10/2023	6:40:34	211.7	47.2	1.9	6.2	32.5	15.7	4.6	0.2	0.2	148.0	14.7	14.7	16.6	15.2	14.8	0.0	0.0	28.8
8/10/2023	12:40:34	213.0	47.1	2.2	2.7	32.2	15.8	5.1	0.1	0.2	146.6	14.5	14.6	16.5	15.1	14.8	0.2	0.0	28.6
8/10/2023	18:40:33	216.7	47.2	1.6	4.3	31.6	15.4	6.0	0.2	0.3	145.3	14.8	14.8	16.6	15.3	14.9	0.0	0.0	28.8
8/11/2023	0:40:34	210.7	47.3	1.6	5.1	31.3	15.8	5.1	0.5	0.0	145.9	14.8	14.8	16.7	15.2	14.9	0.0	0.0	28.9
8/11/2023	6:40:34	207.9	47.3	1.6	4.0	31.3	16.4	4.9	-0.1	0.1	148.9	14.7	14.8	16.6	15.2	14.8	0.0	0.0	28.8
8/11/2023	12:40:34	216.5	47.3	1.3	2.1	31.6	15.4	6.5	0.0	0.4	146.2	14.7	14.7	16.6	15.2	14.9	0.2	0.0	28.7
8/11/2023	18:40:34	209.0	47.2	1.7	2.3	31.9	15.5	5.1	0.4	0.2	148.7	14.6	14.7	16.6	15.2	14.8	0.0	0.0	28.7
8/12/2023	0:40:34	212.6	47.2	1.6	3.5	31.9	15.9	4.8	-0.1	0.2	146.5	14.7	14.7	16.6	15.2	14.8	-0.1	0.0	28.7
8/12/2023	6:40:34	218.1	47.3	1.8	3.7	31.8	15.8	5.6	-0.2	0.2	144.9	14.7	14.7	16.6	15.2	14.8	0.0	0.0	28.8
8/12/2023	12:40:34	207.6	47.2	1.6	2.7	31.9	14.6	4.7	0.8	0.0	146.3	14.6	14.6	16.5	15.2	14.8	0.1	0.0	28.7
8/12/2023	18:40:34	210.4	47.2	1.9	3.9	32.2	16.3	5.0	0.3	0.3	146.1	14.6	14.7	16.5	15.2	14.8	0.0	0.0	28.7
8/13/2023	0:40:34	219.4	47.2	1.3	3.9	31.9	15.6	5.5	0.2	0.2	147.3	14.7	14.7	16.5	15.2	14.7	-0.1	0.0	28.8
8/13/2023	6:40:34	211.0	47.2	1.6	4.2	32.1	15.9	5.4	-0.1	0.1	147.2	14.7	14.7	16.6	15.2	14.8	0.0	0.0	28.8
8/13/2023	12:40:34	214.6	47.2	1.8	4.0	32.5	15.9	5.3	0.0	0.2	144.2	14.6	14.6	16.5	15.2	14.8	0.2	0.0	28.7
8/13/2023	18:40:35	215.6	47.1	1.9	3.4	32.5	15.5	5.0	0.1	0.2	144.4	14.6	14.6	16.5	15.2	14.8	0.0	0.0	28.7
8/14/2023	0:40:35	211.0	47.2	1.6	4.5	33.1	16.3	4.9	0.2	0.2	146.8	14.7	14.7	16.5	15.2	14.8	-0.1	0.0	28.8
8/14/2023	6:40:35	211.9	47.2	2.1	4.4	32.5	18.2	4.7	0.1	0.5	146.5	14.6	14.7	16.5	15.1	14.8	0.0	0.0	28.8
8/14/2023	12:40:35	210.4	47.2	1.6	4.0	32.7	15.7	4.9	0.0	0.1	144.8	14.5	14.6	16.5	15.1	14.8	0.1	0.0	28.7
8/14/2023	18:40:35	212.5	47.4	1.9	4.3	32.8	15.9	5.1	0.0	0.2	146.0	14.6	14.7	16.5	15.2	14.8	0.0	0.0	28.8
8/15/2023	0:40:35	215.4	47.1	1.9	4.8	32.7	17.1	5.3	0.3	0.2	147.1	14.7	14.7	16.5	15.1	14.7	0.0	0.0	28.8
8/15/2023	6:40:35	218.3	47.1	2.1	4.6	33.0	16.4	5.2	0.5	0.2	145.7	14.7	14.7	16.5	15.2	14.7	0.0	0.0	28.8
8/15/2023	12:40:35	208.2	47.2	1.9	3.1	32.7	15.7	5.1	0.2	0.1	144.4	14.5	14.6	16.4	15.1	14.7	0.2	0.0	28.6
8/15/2023	18:40:35	210.6	47.1	2.2	2.8	33.0	15.5	5.4	0.2	0.2	145.3	14.6	14.7	16.5	15.2	14.7	0.0	0.0	28.7
8/16/2023	0:40:35	209.4	47.2	2.0	4.0	33.3	15.9	4.7	0.6	0.1	146.6	14.6	14.6	16.5	15.1	14.7	0.0	0.0	28.8
8/16/2023	6:40:35	210.5	47.2	2.2	5.1	33.0	16.4	5.2	-0.2	1.1	146.4	14.6	14.7	16.5	15.1	14.7	0.0	0.0	28.8

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
8/16/2023	12:40:35	214.7	47.2	1.9	2.8	33.1	16.3	5.2	-0.1	0.1	144.1	14.5	14.6	16.4	15.1	14.7	0.2	0.0	28.7
8/16/2023	18:40:35	214.4	47.2	2.5	4.7	32.8	15.3	5.6	0.0	0.2	147.0	14.6	14.7	16.5	15.1	14.7	0.0	0.0	28.8
8/17/2023	0:40:35	214.1	47.2	2.4	4.6	33.0	16.3	5.4	0.1	0.3	145.8	14.7	14.7	16.5	15.1	14.7	0.0	0.0	28.9
8/17/2023	6:40:35	215.7	47.1	2.1	5.2	33.3	15.7	5.4	0.2	0.3	144.7	14.7	14.7	16.5	15.1	14.7	0.0	0.0	28.8
8/17/2023	12:40:35	214.9	47.2	2.2	2.8	33.3	16.0	4.7	0.2	0.2	145.6	14.5	14.6	16.4	15.1	14.8	0.2	0.0	28.6
8/17/2023	18:40:35	217.8	47.1	2.5	4.4	33.0	16.1	6.1	0.3	0.1	145.0	14.7	14.7	16.5	15.2	14.7	-0.1	0.0	28.8
8/18/2023	0:40:35	215.8	47.2	2.1	4.5	32.7	16.5	5.5	-0.1	0.2	144.8	14.7	14.7	16.5	15.1	14.7	0.0	0.0	28.8
8/18/2023	6:40:35	219.8	47.1	2.2	4.9	33.3	16.7	5.4	0.0	0.6	147.2	14.6	14.7	16.5	15.1	14.7	0.0	0.0	28.8
8/18/2023	12:40:35	215.4	47.2	2.2	3.7	32.7	15.7	6.1	0.0	0.3	145.3	14.5	14.6	16.4	15.1	14.7	0.2	0.0	28.6
8/18/2023	18:40:35	212.6	47.2	2.5	4.7	33.0	18.5	5.5	0.2	0.4	145.4	14.6	14.7	16.5	15.1	14.7	0.0	0.0	28.8
8/19/2023	0:40:35	218.6	47.1	2.5	4.5	33.0	16.0	5.4	0.1	0.4	144.6	14.6	14.7	16.5	15.1	14.7	0.0	0.0	28.8
8/19/2023	6:40:35	216.8	47.2	2.5	4.7	33.6	16.5	6.6	0.2	0.0	146.6	14.6	14.6	16.5	15.1	14.7	0.0	0.0	28.8
8/19/2023	12:40:35	214.5	47.2	2.5	4.0	33.0	16.7	5.5	0.5	0.2	144.8	14.5	14.6	16.4	15.1	14.7	0.2	0.0	28.8
8/19/2023	18:40:35	209.5	47.2	2.5	4.9	33.3	16.7	5.3	-0.2	0.1	145.1	14.5	14.6	16.4	15.1	14.7	0.1	0.0	28.7
8/20/2023	0:40:35	212.5	47.2	2.4	4.3	33.3	16.9	7.1	-0.1	0.2	147.5	14.5	14.5	16.4	15.1	14.6	0.0	0.0	28.7
8/20/2023	6:40:35	216.2	47.2	2.1	4.7	33.1	16.8	5.2	-0.2	0.1	146.0	14.6	14.5	16.4	15.1	14.6	0.0	0.0	28.8
8/20/2023	12:40:35	213.1	47.2	2.7	5.4	33.6	16.6	5.0	0.1	0.2	144.7	14.5	14.5	16.4	15.1	14.7	0.1	0.0	28.7
8/20/2023	18:40:35	212.3	47.2	3.0	4.6	33.3	16.7	5.5	0.3	0.0	145.7	14.5	14.5	16.4	15.1	14.7	0.0	0.0	28.7
8/21/2023	0:40:35	214.3	47.1	2.8	5.0	33.0	16.4	5.3	0.3	0.7	144.6	14.5	14.5	16.4	15.1	14.6	-0.1	0.0	28.7
8/21/2023	6:40:35	214.8	47.2	2.7	5.1	33.0	16.1	5.7	0.0	0.2	146.5	14.5	14.6	16.4	15.1	14.6	0.0	0.0	28.8
8/21/2023	12:40:34	236.1	46.8	10.1	6.7	38.6	19.5	10.7	-0.1	0.1	143.0	15.4	15.4	17.0	15.6	15.3	0.2	0.0	28.6
8/21/2023	18:40:35	233.7	46.9	13.4	8.4	38.9	19.3	11.7	0.0	0.3	143.0	15.4	15.4	17.1	15.6	15.3	0.0	0.0	28.7
8/22/2023	0:40:35	236.6	46.8	16.3	8.3	38.9	19.4	12.1	-0.1	0.1	145.4	15.4	15.4	17.1	15.6	15.3	-0.1	0.0	28.7
8/22/2023	6:40:34	240.0	46.8	16.9	8.5	39.5	19.9	11.4	0.2	0.0	144.9	15.4	15.4	17.1	15.6	15.3	0.0	0.0	28.7
8/22/2023	12:40:35	239.2	46.9	16.3	8.7	39.4	20.2	11.5	0.1	0.1	141.9	15.3	15.3	17.0	15.6	15.3	0.2	0.0	28.6
8/22/2023	18:40:35	235.3	46.8	16.3	8.7	39.5	20.4	11.9	0.2	0.1	143.4	15.3	15.3	17.0	15.6	15.2	0.0	0.0	28.7
8/23/2023	0:40:35	238.5	46.8	16.9	9.7	39.5	20.6	11.1	0.5	0.3	145.2	15.4	15.3	17.1	15.6	15.2	0.0	0.0	28.7
8/23/2023	6:40:35	245.8	46.9	17.2	9.5	39.8	20.5	11.1	-0.2	0.3	145.8	15.4	15.3	17.1	15.6	15.3	0.0	0.0	28.7
8/23/2023	12:40:35	235.5	46.8	16.6	9.2	39.5	19.9	11.8	-0.2	0.2	146.0	15.3	15.3	17.0	15.6	15.2	0.1	0.0	28.7
8/23/2023	18:40:35	239.7	46.9	16.0	9.5	39.8	19.9	12.5	-0.2	0.6	144.0	15.3	15.3	17.1	15.5	15.2	0.0	0.0	28.7
8/24/2023	0:40:35	238.2	46.8	16.0	9.3	39.8	20.7	11.2	-0.2	0.2	145.4	15.3	15.3	17.0	15.6	15.2	0.0	0.0	28.7
8/24/2023	6:40:35	243.9	46.8	16.6	9.1	39.8	20.4	12.0	-0.1	0.2	144.0	15.3	15.3	17.1	15.6	15.2	0.0	0.0	28.7
8/24/2023	12:40:35	242.1	46.8	15.7	9.1	39.8	20.8	12.2	-0.1	0.3	142.5	15.3	15.2	17.0	15.5	15.2	0.1	0.0	28.6
8/24/2023	18:40:35	241.7	46.8	16.3	9.3	40.1	20.4	12.3	-0.1	0.0	144.2	15.3	15.3	17.0	15.5	15.2	0.0	0.0	28.6
8/25/2023	0:40:35	242.4	46.8	16.6	8.7	40.1	21.3	12.0	0.2	0.3	144.0	15.3	15.3	17.1	15.6	15.2	-0.1	0.0	28.7
8/25/2023	6:40:35	243.2	46.9	16.6	8.4	40.1	21.8	12.2	0.3	0.2	143.8	15.3	15.3	17.1	15.6	15.2	0.0	0.0	28.7
8/25/2023	12:40:35	242.0	46.8	15.4	7.9	40.1	20.7	13.3	0.3	0.3	144.1	15.3	15.2	17.0	15.6	15.2	0.2	0.0	28.7
8/25/2023	18:40:35	240.7	46.9	15.7	8.5	40.1	21.1	12.3	-0.1	0.3	144.7	15.3	15.3	17.0	15.5	15.2	0.1	0.1	28.7
8/26/2023	0:40:35	245.2	46.9	16.9	8.6	40.4	22.0	12.7	-0.1	0.3	144.5	15.3	15.3	17.1	15.6	15.2	0.0	0.0	28.7
8/26/2023	6:40:35	248.5	46.8	16.9	9.3	40.1	21.1	12.1	-0.1	0.2	145.5	15.4	15.3	17.1	15.5	15.2	0.0	0.0	28.8
8/26/2023	12:40:35	241.5	46.9	16.6	7.9	40.1	21.9	12.5	0.2	0.6	144.2	15.3	15.3	17.0	15.5	15.2	0.3	0.1	28.7
8/26/2023	18:40:35	242.2	46.8	16.6	7.9	40.4	21.6	11.9	0.0	0.1	144.3	15.3	15.3	17.1	15.6	15.2	0.1	0.1	28.7
8/27/2023	0:40:35	249.0	46.8	16.7	8.7	40.4	21.6	10.6	0.2	0.3	145.1	15.3	15.3	17.0	15.5	15.1	0.0	0.0	28.8
8/27/2023	6:40:35	249.3	46.8	16.8	9.4	40.7	22.4	11.8	0.0	0.3	143.9	15.3	15.3	17.0	15.5	15.1	0.0	0.0	28.8
8/27/2023	12:40:35	241.5	46.8	16.0	8.4	40.6	22.0	11.4	0.1	0.0	143.1	15.3	15.2	17.0	15.6	15.2	0.3	0.0	28.7
8/27/2023	18:40:35	241.1	46.8	16.6	9.1	40.6	21.8	12.2	0.0	0.3	144.6	15.3	15.3	17.0	15.5	15.2	0.0	0.0	28.6
8/28/2023	0:40:35	248.0	46.8	16.9	10.1	40.6	22.0	11.1	0.1	0.2	145.4	15.3	15.3	17.0	15.5	15.1	0.0	0.0	28.7
8/28/2023	6:40:35	251.3	46.8	16.9	9.4	40.9	22.7	10.8	-0.3	0.2	145.5	15.3	15.3	17.0	15.5	15.1	0.0	0.0	28.7
8/28/2023	12:40:35	239.7	46.8	15.7	8.8	40.6	21.7	11.3	0.4	0.2	143.4	15.2	15.2	17.0	15.5	15.1	0.1	0.0	28.6
8/28/2023	18:40:35	243.4	46.8	16.3	9.2	40.6	22.0	11.1	0.1	0.1	142.4	15.2	15.2	17.0	15.5	15.1	0.0	0.0	28.6

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
8/29/2023	0:40:35	251.4	46.7	16.0	9.5	40.9	22.7	11.4	-0.2	0.3	145.3	15.3	15.3	17.0	15.5	15.1	-0.1	0.0	28.7
8/29/2023	6:40:35	249.9	46.8	15.4	10.0	40.6	22.4	10.5	0.7	0.3	145.0	15.3	15.2	17.0	15.5	15.1	0.0	0.0	28.7
8/29/2023	12:40:35	242.7	46.8	15.7	8.9	40.6	22.6	11.6	-0.3	0.2	143.2	15.2	15.2	17.0	15.5	15.1	0.2	0.0	28.6
8/29/2023	18:40:35	252.5	46.8	16.3	10.2	40.6	23.3	11.1	-0.2	0.4	145.0	15.3	15.3	17.0	15.5	15.1	0.0	0.0	28.7
8/30/2023	0:40:35	244.2	46.7	12.5	10.3	40.7	23.1	10.5	0.0	0.2	145.4	15.3	15.3	17.0	15.5	15.2	0.0	0.0	28.8
8/30/2023	6:40:35	245.6	46.8	15.4	9.8	40.9	22.0	11.1	0.1	0.2	143.8	15.3	15.3	17.0	15.5	15.1	0.0	0.0	28.7
8/30/2023	12:40:35	248.1	46.8	14.2	10.2	40.4	23.1	11.5	0.1	0.4	145.0	15.3	15.3	17.0	15.5	15.1	0.0	0.0	28.7
8/30/2023	18:40:35	248.7	46.7	12.8	9.9	41.0	23.0	11.2	0.1	0.2	145.9	15.3	15.2	17.0	15.5	15.1	0.0	0.0	28.6
8/31/2023	0:40:35	244.6	46.7	13.3	10.2	41.3	22.9	11.2	0.3	0.1	146.1	15.3	15.2	17.0	15.5	15.1	0.0	0.0	28.7
8/31/2023	6:40:34	252.7	46.8	14.0	9.9	40.6	23.1	12.2	0.3	0.7	145.3	15.3	15.2	17.0	15.5	15.1	0.0	0.0	28.7
8/31/2023	12:40:35	245.5	46.7	16.0	9.6	40.9	23.2	11.2	0.2	0.1	145.1	15.2	15.2	16.9	15.5	15.1	0.1	0.0	28.6
8/31/2023	18:40:35	250.7	46.8	16.6	10.3	41.0	22.5	11.3	0.3	0.1	144.9	15.3	15.3	17.0	15.5	15.1	-0.1	0.0	28.7
9/1/2023	0:40:35	246.8	46.7	13.9	10.0	40.7	22.7	12.3	0.0	0.3	145.6	15.4	15.3	17.1	15.5	15.2	-0.1	0.0	28.7
9/1/2023	6:40:35	250.2	46.8	15.7	10.4	40.6	22.8	11.1	-0.1	0.4	144.2	15.3	15.3	17.0	15.5	15.1	-0.1	0.0	28.7
9/1/2023	12:40:35	243.7	46.8	16.9	10.1	40.7	22.2	11.3	0.2	0.2	142.9	15.3	15.2	17.0	15.5	15.1	0.1	0.0	28.6
9/1/2023	18:40:35	245.0	46.7	16.6	10.1	40.6	23.0	13.0	0.3	0.0	144.5	15.3	15.2	17.0	15.5	15.1	0.0	0.0	28.6
9/2/2023	0:40:35	251.0	46.8	16.2	10.2	40.9	22.6	11.0	0.0	0.1	144.8	15.3	15.2	17.0	15.5	15.1	-0.1	0.0	28.7
9/2/2023	6:40:35	244.9	46.8	14.2	10.4	41.2	22.4	11.4	0.1	0.5	143.4	15.3	15.2	17.0	15.5	15.1	0.0	0.0	28.7
9/2/2023	12:40:35	248.7	46.7	16.3	9.9	40.9	23.5	11.4	0.9	0.2	143.6	15.3	15.2	17.0	15.5	15.1	0.1	0.0	28.7
9/2/2023	18:40:35	249.5	46.8	15.4	10.3	41.3	23.3	12.4	0.0	0.1	146.1	15.3	15.2	17.0	15.5	15.1	0.0	0.0	28.7
9/3/2023	0:40:35	248.3	46.8	14.8	11.1	41.0	22.8	11.9	0.0	0.2	144.9	15.3	15.2	17.0	15.5	15.1	0.0	0.0	28.7
9/3/2023	6:40:35	249.2	46.9	13.9	10.2	40.9	23.6	12.1	0.0	0.0	145.4	15.3	15.2	17.0	15.5	15.1	0.0	0.0	28.7
9/3/2023	12:40:35	244.7	46.7	15.4	9.9	41.0	23.7	12.0	0.2	0.3	142.8	15.3	15.2	17.0	15.5	15.1	0.3	0.0	28.7
9/3/2023	18:40:35	251.9	46.8	14.6	10.4	40.9	23.0	12.0	0.2	0.3	144.8	15.3	15.2	17.0	15.5	15.1	0.0	0.0	28.8
9/4/2023	0:40:35	251.3	46.7	13.9	10.8	40.9	23.4	11.4	-0.1	0.1	145.5	15.3	15.2	17.0	15.5	15.1	0.0	0.0	28.8
9/4/2023	6:40:35	247.8	46.7	13.3	11.0	41.2	23.5	11.4	-0.1	0.2	144.6	15.3	15.2	17.1	15.5	15.1	0.0	0.0	28.8
9/4/2023	12:40:35	244.8	46.8	14.5	10.7	41.4	23.1	12.5	-0.1	0.1	143.4	15.3	15.2	17.0	15.5	15.1	0.3	0.0	28.7
9/4/2023	18:40:35	243.0	46.8	13.7	10.6	41.5	23.4	12.6	0.1	0.1	145.0	15.3	15.2	17.0	15.5	15.1	0.1	0.1	28.7
9/5/2023	0:40:35	248.2	46.8	15.1	10.4	41.5	23.4	11.7	0.2	1.1	143.6	15.3	15.2	17.0	15.5	15.1	0.0	0.0	28.8
9/5/2023	6:40:35	248.2	46.8	15.4	12.6	41.5	23.0	11.5	0.7	0.1	145.0	15.4	15.2	17.0	15.5	15.1	0.0	0.0	28.8
9/5/2023	12:40:35	245.2	46.7	14.0	10.0	41.2	23.1	12.3	-0.1	0.3	145.1	15.3	15.2	17.0	15.5	15.1	0.3	0.0	28.6
9/5/2023	18:40:34	248.1	46.7	14.5	11.1	41.8	23.3	12.3	0.0	0.2	143.6	15.3	15.2	17.0	15.5	15.1	0.0	0.0	28.7
9/6/2023	0:40:35	246.2	46.8	15.1	11.2	41.5	23.1	12.5	0.1	0.3	145.0	15.3	15.2	17.0	15.5	15.1	0.0	0.1	28.7
9/6/2023	6:40:35	252.5	46.8	15.4	11.1	41.8	24.3	11.4	0.2	0.3	145.3	15.4	15.2	17.0	15.5	15.1	0.0	0.0	28.8
9/6/2023	12:40:35	248.4	46.8	14.5	10.5	41.2	22.6	13.1	0.2	0.0	142.7	15.2	15.1	17.0	15.5	15.1	0.3	0.1	28.7
9/6/2023	18:40:35	252.2	46.7	13.9	10.7	41.5	23.0	13.2	0.2	0.2	144.3	15.2	15.2	17.0	15.5	15.1	0.1	0.0	28.7
9/7/2023	0:40:35	251.1	46.7	14.8	11.7	41.9	23.7	12.5	-0.2	0.6	144.7	15.3	15.3	17.0	15.4	15.1	0.0	0.0	28.8
9/7/2023	6:40:35	252.1	46.7	14.8	11.8	42.1	23.6	13.0	-0.1	0.3	144.4	15.3	15.2	17.0	15.5	15.0	0.0	0.0	28.8
9/7/2023	12:40:35	249.8	46.8	14.2	10.5	41.5	24.2	14.0	0.0	0.3	144.1	15.2	15.2	16.9	15.4	15.1	0.3	0.0	28.7
9/7/2023	18:40:35	248.1	46.7	15.2	10.9	41.6	23.8	14.0	0.1	1.0	143.1	15.2	15.2	17.0	15.5	15.0	0.1	0.1	28.6
9/8/2023	0:40:35	257.3	46.6	14.8	11.6	41.7	23.1	13.5	0.2	0.1	145.4	15.2	15.2	17.0	15.4	15.0	0.0	0.0	28.8
9/8/2023	6:40:35	251.6	46.6	15.4	10.8	41.6	23.6	12.9	0.1	0.1	145.9	15.3	15.2	17.0	15.4	15.0	0.0	0.0	28.7
9/8/2023	12:40:35	251.6	46.7	14.6	10.6	41.5	23.6	13.9	-0.3	0.3	142.8	15.2	15.1	16.9	15.4	15.0	0.1	0.1	28.6
9/8/2023	18:40:35	254.7	46.7	15.1	11.1	41.2	23.7	12.9	0.8	0.3	146.0	15.4	15.3	17.1	15.5	15.1	0.0	0.0	28.8
9/9/2023	0:40:35	253.8	46.7	14.8	12.1	41.3	23.6	12.7	0.1	0.1	146.4	15.4	15.3	17.1	15.5	15.1	0.0	0.0	28.8
9/9/2023	6:40:35	257.3	46.7	15.1	12.1	41.2	23.8	12.4	0.0	0.3	144.7	15.4	15.3	17.0	15.5	15.1	0.0	0.0	28.8
9/9/2023	12:40:35	245.0	46.6	14.2	10.5	41.2	23.1	12.5	0.1	0.1	143.4	15.2	15.2	16.9	15.4	15.1	0.2	0.0	28.6
9/9/2023	18:40:35	246.6	46.7	14.0	11.3	41.5	24.6	14.2	0.3	0.5	144.9	15.2	15.2	17.0	15.4	15.1	0.0	0.0	28.6
9/10/2023	0:40:35	247.4	46.8	15.1	11.0	41.9	23.4	13.2	0.2	0.3	143.9	15.3	15.2	17.0	15.4	15.1	0.0	0.0	28.7
9/10/2023	6:40:35	256.7	46.6	15.1	11.2	41.8	24.1	13.1	-0.1	0.1	146.3	15.3	15.2	16.9	15.4	15.0	0.0	0.0	28.7

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
9/10/2023	12:40:35	247.1	46.7	14.6	10.6	41.5	23.8	13.5	0.0	0.3	144.4	15.2	15.1	16.9	15.4	15.1	0.3	0.0	28.6
9/10/2023	18:40:35	252.3	46.7	14.6	11.5	41.3	23.8	13.5	0.2	0.1	144.5	15.2	15.2	16.9	15.4	15.0	0.0	0.0	28.6
9/11/2023	0:40:35	245.9	46.6	15.1	10.9	41.8	23.9	14.9	0.0	0.1	144.9	15.2	15.2	16.9	15.4	15.0	0.0	0.0	28.7
9/11/2023	6:40:35	250.0	46.8	15.1	11.7	41.8	24.1	13.1	0.1	0.3	144.9	15.3	15.2	17.0	15.4	15.0	0.0	0.0	28.8
9/11/2023	12:40:35	246.1	46.8	15.1	11.1	41.5	24.2	13.7	0.0	0.1	144.2	15.1	15.1	16.9	15.4	15.0	0.3	0.0	28.6
9/11/2023	18:40:35	247.1	46.7	14.6	11.3	41.8	24.2	15.3	0.2	0.2	145.9	15.1	15.1	16.9	15.4	15.0	0.0	0.0	28.6
9/12/2023	0:40:35	251.0	46.7	15.1	11.7	41.5	24.2	13.9	0.2	0.3	145.2	15.2	15.1	16.9	15.3	15.0	0.0	0.0	28.7
9/12/2023	6:40:35	255.1	46.7	15.7	11.6	42.1	24.7	13.6	1.0	0.1	146.3	15.2	15.2	17.0	15.4	15.0	0.0	0.0	28.7
9/12/2023	12:40:35	245.8	46.7	14.6	11.7	41.5	23.9	13.2	-0.2	0.6	144.8	15.2	15.1	16.9	15.4	15.0	0.3	0.0	28.6
9/12/2023	18:40:35	248.3	46.7	14.8	11.2	42.1	23.9	13.7	-0.2	0.2	143.2	15.1	15.1	16.9	15.4	15.0	0.0	0.0	28.6
9/13/2023	0:40:35	252.8	46.8	15.1	11.2	41.8	23.8	13.5	0.1	0.1	143.4	15.2	15.2	16.9	15.4	15.0	0.0	0.0	28.6
9/13/2023	6:40:35	252.8	46.8	15.7	12.0	41.8	24.0	13.9	0.0	0.3	145.7	15.2	15.2	17.0	15.4	15.0	0.0	0.0	28.7
9/13/2023	12:40:35	249.8	46.7	15.1	10.9	41.8	24.1	12.9	0.2	-0.1	144.0	15.2	15.2	16.9	15.3	15.0	0.2	0.0	28.7
9/13/2023	18:40:35	251.4	46.7	15.2	11.6	41.9	24.8	13.5	0.1	0.1	143.2	15.2	15.2	16.9	15.4	15.0	0.0	0.0	28.7
9/14/2023	0:40:35	255.1	46.7	15.1	11.2	42.1	24.3	13.2	0.2	0.3	145.2	15.2	15.1	16.9	15.4	15.0	0.0	0.0	28.7
9/14/2023	6:40:35	251.4	46.8	15.1	11.9	41.8	24.8	13.2	-0.1	0.3	144.8	15.2	15.2	16.9	15.4	15.0	0.0	0.0	28.7
9/14/2023	12:40:35	249.7	46.6	15.7	11.4	41.8	23.6	13.6	0.0	0.3	144.1	15.2	15.1	16.9	15.3	15.0	0.3	0.1	28.6
9/14/2023	18:40:35	249.6	46.8	15.7	11.4	41.8	23.9	14.3	-0.1	0.3	144.5	15.2	15.2	16.9	15.4	15.0	0.0	0.0	28.7
9/15/2023	0:40:35	245.9	46.7	15.1	11.5	42.2	23.9	13.9	0.1	0.1	145.0	15.2	15.1	16.9	15.4	15.0	0.0	0.0	28.7
9/15/2023	6:40:35	249.8	46.7	15.4	11.8	42.1	24.8	14.1	0.0	0.7	145.5	15.2	15.2	16.9	15.4	15.0	0.0	0.0	28.7
9/15/2023	12:40:35	249.6	46.5	15.4	11.8	41.9	24.0	13.7	0.2	0.0	142.9	15.1	15.1	16.9	15.3	15.0	0.3	0.0	28.6
9/15/2023	18:40:35	249.4	46.8	15.4	12.2	42.3	25.0	14.1	0.7	0.2	144.5	15.2	15.2	16.9	15.4	15.0	0.0	0.0	28.7
9/16/2023	0:40:35	257.5	46.8	15.1	11.1	42.2	24.6	12.8	0.0	0.2	146.0	15.2	15.2	16.9	15.3	15.0	0.0	0.0	28.7
9/16/2023	6:40:35	246.6	46.7	15.1	11.8	41.8	23.8	13.9	-0.3	0.4	144.9	15.2	15.2	16.9	15.4	15.0	0.0	0.0	28.7
9/16/2023	12:40:35	251.9	46.7	15.4	11.1	41.8	25.0	13.7	-0.3	0.1	142.1	15.1	15.1	16.9	15.3	15.0	0.1	0.0	28.6
9/16/2023	18:40:36	257.0	46.6	15.1	12.0	41.9	24.0	13.9	0.0	0.1	145.0	15.2	15.1	16.9	15.3	15.0	0.0	0.0	28.6
9/17/2023	0:40:36	246.4	46.6	14.8	11.3	42.1	24.9	13.9	0.2	0.1	145.4	15.2	15.1	16.9	15.3	14.9	0.0	0.0	28.6
9/17/2023	6:40:36	252.8	46.7	14.9	12.1	41.9	24.9	13.0	0.3	0.4	144.1	15.2	15.2	16.9	15.3	15.0	0.0	0.0	28.7
9/17/2023	12:40:36	249.2	46.6	15.2	11.0	42.1	23.5	13.9	0.2	0.2	143.1	15.1	15.1	16.9	15.3	14.9	0.3	0.0	28.5
9/17/2023	18:40:36	243.3	46.7	15.1	12.3	42.1	23.7	13.7	0.1	0.2	144.9	15.1	15.1	16.9	15.3	14.9	0.0	0.0	28.6
9/18/2023	0:40:36	242.6	46.9	15.7	10.5	40.3	22.4	10.6	0.0	0.3	145.4	15.5	15.4	17.1	15.6	15.2	-0.1	0.0	28.8
9/18/2023	6:40:36	250.8	46.8	15.8	10.5	40.6	22.7	10.8	0.2	0.1	146.3	15.5	15.3	17.2	15.5	15.2	0.0	0.0	28.8
9/18/2023	12:40:36	244.4	46.9	16.9	10.5	40.1	22.2	10.1	0.1	0.3	143.4	15.4	15.3	17.1	15.5	15.2	0.1	0.0	28.8
9/18/2023	18:40:36	254.1	46.7	15.7	11.2	40.4	23.5	10.2	-0.1	0.3	144.2	15.4	15.3	17.1	15.5	15.2	0.0	0.0	28.7
9/19/2023	0:40:36	245.9	46.8	15.7	10.6	40.6	23.4	10.4	0.0	0.2	144.5	15.4	15.4	17.2	15.5	15.1	-0.1	0.0	28.8
9/19/2023	6:40:36	246.3	46.8	15.4	10.3	40.4	23.4	10.2	0.5	0.4	145.0	15.4	15.3	17.1	15.5	15.2	0.0	0.0	28.8
9/19/2023	12:40:36	245.6	46.7	16.3	11.0	40.3	23.4	10.1	0.1	0.2	140.4	15.4	15.3	17.1	15.6	15.2	0.2	0.0	28.8
9/19/2023	18:40:36	245.6	46.9	15.4	10.4	40.7	22.7	10.2	-0.2	0.1	144.2	15.4	15.3	17.1	15.5	15.2	0.0	0.0	28.8
9/20/2023	0:40:36	246.9	46.9	14.8	10.0	40.7	22.7	10.7	0.0	0.4	144.2	15.4	15.3	17.1	15.5	15.2	0.0	0.0	28.8
9/20/2023	6:40:36	244.4	46.8	14.2	10.5	40.6	22.9	10.4	0.0	0.3	144.1	15.4	15.3	17.1	15.5	15.2	0.0	0.0	28.7
9/20/2023	12:40:36	244.0	46.9	16.3	10.3	40.9	23.9	11.0	0.0	0.1	143.3	15.3	15.3	17.1	15.5	15.2	0.3	0.0	28.7
9/20/2023	18:40:36	245.7	46.9	15.4	9.9	40.6	23.0	10.5	0.1	0.3	144.1	15.4	15.3	17.1	15.5	15.2	0.0	0.1	28.8
9/21/2023	0:40:36	244.4	46.8	14.8	11.0	40.3	23.0	10.5	-0.1	0.1	143.1	15.5	15.4	17.2	15.6	15.2	0.0	0.0	28.8
9/21/2023	6:40:36	250.8	46.8	15.4	10.7	40.4	22.4	12.4	0.0	0.1	144.8	15.5	15.3	17.1	15.5	15.2	0.0	0.0	28.8
9/21/2023	12:40:36	245.7	46.8	16.3	10.7	40.1	23.2	10.1	0.0	0.1	142.6	15.4	15.3	17.1	15.5	15.2	0.2	0.0	28.8
9/21/2023	18:40:36	245.7	46.8	15.4	10.5	40.4	22.8	9.9	-0.1	0.2	143.7	15.4	15.3	17.1	15.5	15.2	0.1	0.0	28.8
9/22/2023	0:40:36	250.2	46.8	13.7	10.2	40.3	23.0	11.3	0.0	0.3	144.7	15.4	15.3	17.1	15.5	15.1	0.0	0.0	28.8
9/22/2023	6:40:36	242.9	46.8	12.8	10.1	40.3	23.3	10.5	0.1	0.1	144.0	15.4	15.3	17.1	15.5	15.1	0.0	0.0	28.8
9/22/2023	12:40:36	241.1	47.0	12.5	11.1	40.1	23.6	10.2	0.1	0.2	140.3	15.3	15.3	17.1	15.5	15.2	0.3	0.0	28.7
9/22/2023	18:40:36	240.8	46.9	13.9	10.1	40.7	23.3	10.8	0.8	0.5	144.7	15.4	15.3	17.1	15.5	15.1	0.0	0.0	28.8

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
9/23/2023	0:40:36	239.6	47.0	12.8	10.1	40.7	24.1	10.5	-0.1	0.3	143.4	15.4	15.3	17.1	15.5	15.1	0.0	0.0	28.8
9/23/2023	6:40:36	246.9	46.9	13.0	12.0	40.3	23.3	10.3	0.0	0.1	144.4	15.4	15.3	17.1	15.5	15.1	0.0	0.0	28.8
9/23/2023	12:40:36	244.2	47.0	13.1	9.9	40.6	22.9	10.5	0.1	0.2	143.9	15.4	15.3	17.1	15.5	15.2	0.3	0.0	28.8
9/23/2023	18:40:36	241.9	47.0	12.8	10.0	40.6	23.0	10.3	0.2	0.3	144.2	15.4	15.3	17.1	15.5	15.1	0.1	0.0	28.8
9/24/2023	0:40:36	245.2	46.9	13.1	11.0	41.0	24.1	10.4	0.2	0.0	145.9	15.4	15.3	17.1	15.5	15.1	0.0	0.0	28.8
9/24/2023	6:40:36	251.8	46.8	13.3	11.0	40.9	23.1	10.3	0.0	0.2	146.5	15.4	15.3	17.1	15.5	15.1	0.0	0.0	28.8
9/24/2023	12:40:36	244.8	46.8	13.6	10.1	40.3	23.8	9.8	0.1	0.2	143.5	15.3	15.2	17.0	15.5	15.2	0.3	0.0	28.7
9/24/2023	18:40:36	242.0	46.8	13.3	9.9	40.6	23.5	10.6	0.2	0.5	145.2	15.3	15.2	17.0	15.5	15.1	0.1	0.0	28.7
9/25/2023	0:40:36	243.5	46.8	13.1	10.6	41.0	23.2	10.7	0.2	0.2	144.3	15.3	15.2	17.0	15.5	15.1	0.0	0.0	28.7
9/25/2023	6:40:36	245.9	46.8	13.4	10.3	40.4	23.6	11.0	-0.2	0.2	144.8	15.4	15.2	17.0	15.5	15.1	0.0	0.0	28.8
9/25/2023	12:40:36	247.8	46.9	13.1	10.2	40.6	23.7	10.6	0.7	0.0	144.1	15.3	15.2	17.0	15.5	15.1	0.2	0.0	28.7
9/25/2023	18:40:36	253.5	46.8	13.4	9.9	40.6	23.2	10.5	-0.1	0.0	143.6	15.3	15.2	17.0	15.5	15.1	0.0	0.0	28.7
9/26/2023	0:40:36	244.0	46.8	13.1	10.2	41.0	23.0	10.1	0.2	0.1	143.3	15.3	15.3	17.0	15.5	15.1	0.0	0.0	28.8
9/26/2023	6:40:36	251.1	46.7	12.7	10.4	40.6	24.5	10.6	0.3	0.1	143.9	15.3	15.3	17.0	15.5	15.1	0.0	0.0	28.7
9/26/2023	12:40:36	249.8	46.7	13.9	10.1	40.7	23.2	10.3	0.2	0.2	143.1	15.2	15.1	17.0	15.5	15.1	0.2	0.0	28.6
9/26/2023	18:40:36	245.9	46.8	13.1	10.4	40.9	23.4	10.7	0.0	0.3	144.2	15.3	15.2	17.0	15.5	15.1	0.0	0.0	28.7
9/27/2023	0:40:36	249.3	46.8	13.1	10.5	40.6	24.1	10.5	-0.1	0.3	145.2	15.3	15.3	17.0	15.5	15.1	0.0	0.0	28.7
9/27/2023	6:40:36	245.7	46.7	12.8	10.3	40.6	23.4	10.8	0.0	0.2	145.0	15.3	15.2	17.0	15.4	15.0	0.0	0.0	28.7
9/27/2023	12:40:36	245.5	46.7	12.8	9.9	40.7	23.1	11.2	0.2	0.4	144.0	15.3	15.2	16.9	15.5	15.1	0.2	0.0	28.6
9/27/2023	18:40:36	242.1	46.8	13.1	10.4	41.0	24.0	10.2	0.0	0.2	143.7	15.3	15.2	17.0	15.4	15.1	0.0	0.0	28.7
9/28/2023	0:40:36	253.8	46.8	13.3	10.5	40.6	23.6	10.6	0.2	0.1	144.0	15.3	15.2	17.0	15.4	15.1	0.0	0.0	28.7
9/28/2023	6:40:36	249.5	46.7	12.8	10.7	40.4	23.6	11.1	0.2	0.3	145.6	15.4	15.3	17.0	15.5	15.1	0.0	0.0	28.7
9/28/2023	12:40:36	244.2	46.9	12.8	9.9	40.4	22.9	10.9	-0.1	0.1	143.5	15.3	15.3	17.0	15.5	15.1	0.3	0.0	28.7
12/7/2023	12:07:31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/7/2023	18:07:31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/8/2023	0:07:31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/8/2023	6:07:31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/8/2023	12:07:31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/8/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/9/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/9/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/9/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/9/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/10/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/10/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/10/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/10/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/11/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/11/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/11/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/11/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/12/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/12/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/12/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/12/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/13/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/13/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/13/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/13/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/14/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
12/14/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/14/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/14/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/15/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/15/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/15/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/15/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/16/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/16/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/16/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/16/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/17/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/17/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/17/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/17/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/18/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/18/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/18/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/18/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/19/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/19/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/19/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/19/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/20/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/20/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/20/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/20/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/21/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/21/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/21/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/21/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/22/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/22/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/22/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/22/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/23/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/23/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/23/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/23/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/24/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/24/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/24/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/24/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/25/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/25/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/25/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/25/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/26/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/26/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/26/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
12/26/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/27/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/27/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/27/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/27/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/28/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/28/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/28/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/28/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/29/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/29/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/29/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/29/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/30/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/30/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/30/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/30/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/31/2023	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/31/2023	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/31/2023	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/31/2023	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/1/2024	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/1/2024	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/1/2024	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/1/2024	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/2/2024	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/2/2024	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/2/2024	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/2/2024	18:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/3/2024	0:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/3/2024	6:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/3/2024	12:04:44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/3/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/4/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/4/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/4/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/4/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/5/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/5/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/5/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/5/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/6/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/6/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/6/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/6/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/7/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/7/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/7/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/7/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/8/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
1/8/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/8/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/8/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/9/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/9/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/9/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/9/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/10/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/10/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/10/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/10/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/11/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/11/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/11/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/11/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/12/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/12/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/12/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/12/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/13/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/13/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/13/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/13/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/14/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/14/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/14/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/14/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/15/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/15/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/15/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/15/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/16/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/16/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/16/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/16/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/17/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/17/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/17/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/17/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/18/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/18/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/18/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/18/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/19/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/19/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/19/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/19/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/20/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/20/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/20/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
1/20/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/21/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/21/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/21/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/21/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/22/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/22/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/22/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/22/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/23/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/23/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/23/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/23/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/24/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/24/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/24/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/24/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/25/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/25/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/25/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/25/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/26/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/26/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/26/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/26/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/27/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/27/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/27/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/27/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/28/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/28/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/28/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/28/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/29/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/29/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/29/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/29/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/30/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/30/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/30/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/30/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/31/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/31/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/31/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/31/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/1/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/1/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/1/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/1/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/2/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
2/2/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/2/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/2/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/3/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/3/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/3/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/3/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/4/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/4/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/4/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/4/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/5/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/5/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/5/2024	12:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/5/2024	18:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/6/2024	0:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/6/2024	6:04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/6/2024	12:04:46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/6/2024	18:04:46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/7/2024	0:04:46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/7/2024	6:04:46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/7/2024	12:04:46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/7/2024	18:20:28	0.5	8.9	0.0	-0.3	-0.2	0.0	0.0	0.2	0.1	0.1	12.6	3.8	0.2	0.1	1.3	17.7	17.6	3.7
2/8/2024	0:20:28	0.0	0.1	-0.2	-0.2	-0.2	0.1	0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.9
2/8/2024	6:20:28	0.5	0.1	-0.2	-0.1	-0.2	0.3	0.0	0.2	0.4	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.3
2/8/2024	12:20:28	0.4	0.1	-0.2	0.0	-0.2	0.0	0.0	-0.2	0.2	0.0	0.1	0.1	0.0	0.1	0.2	0.2	0.0	0.3
2/8/2024	18:20:28	-0.3	0.0	-0.2	-0.1	-0.2	0.2	-0.1	0.0	0.3	-0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.1	0.2
2/9/2024	0:20:28	-0.3	0.1	-0.2	0.0	-0.2	0.2	0.1	0.2	0.3	-0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.0	0.3
2/9/2024	6:20:28	-0.2	0.0	-0.2	0.2	-0.2	1.0	-0.1	-0.1	0.3	0.2	0.1	0.1	0.1	0.0	0.2	0.2	0.0	0.3
2/9/2024	12:20:28	0.3	0.0	-0.2	0.1	-0.2	0.2	0.2	0.0	0.2	-0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.0	0.2
2/9/2024	18:20:28	0.0	0.0	-0.2	-0.2	-0.2	0.0	0.1	0.2	0.3	-0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.1
2/10/2024	0:20:28	0.6	0.0	-0.2	0.0	-0.2	0.4	-0.2	-0.1	0.2	0.4	0.1	0.1	-0.1	0.0	0.1	0.2	0.0	0.2
2/10/2024	6:20:28	-0.4	0.0	-0.2	-0.1	-0.2	0.1	-0.1	0.2	0.1	-0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.2
2/10/2024	12:20:28	-0.4	-0.1	-0.2	0.0	-0.2	0.2	0.0	0.1	0.0	0.2	0.0	0.1	-0.1	0.0	0.1	0.1	0.0	0.1
2/10/2024	18:20:28	-0.2	-0.1	-0.1	0.1	-0.2	0.2	0.1	0.1	0.1	0.2	0.0	0.1	-0.1	0.0	0.1	0.1	0.0	0.1
2/11/2024	0:20:28	-0.3	0.0	-0.2	0.2	-0.2	0.3	0.1	0.2	0.2	0.0	0.0	0.1	-0.1	0.0	0.1	0.1	0.0	0.1
2/11/2024	6:20:28	0.6	0.0	-0.2	-0.2	-0.2	0.2	-0.1	0.8	0.2	0.0	0.0	0.1	-0.1	0.0	0.1	0.0	-0.1	0.2
2/11/2024	12:20:28	0.1	0.0	-0.2	-0.1	-0.2	0.3	-0.2	0.1	0.7	0.1	0.0	0.1	-0.1	0.0	0.0	0.1	0.0	0.1
2/11/2024	18:20:28	0.0	-0.1	-0.2	0.9	-0.2	0.3	-0.1	0.2	0.2	0.3	0.0	0.1	-0.1	0.0	0.1	0.0	-0.1	0.1
2/12/2024	0:20:28	-0.5	0.0	0.1	-0.4	-0.2	0.0	0.0	0.0	0.3	0.3	0.0	0.1	-0.1	0.0	0.0	0.1	-0.1	0.1
2/12/2024	6:20:28	0.2	-0.1	-0.2	-0.3	-0.2	0.2	0.1	0.1	0.4	0.1	0.0	0.1	-0.1	0.0	0.1	0.0	-0.1	0.1
2/12/2024	12:20:28	0.1	-0.1	-0.2	0.6	-0.2	0.1	0.0	0.2	0.3	0.2	0.0	0.1	-0.1	0.0	0.0	0.0	-0.1	0.1
2/12/2024	18:20:28	0.1	-0.1	-0.2	-0.2	-0.2	0.0	0.2	-0.1	0.4	0.1	0.0	0.1	-0.1	0.0	0.0	0.1	-0.1	0.1
2/13/2024	0:20:28	0.0	-0.1	-0.2	0.0	-0.2	0.1	0.3	-0.2	0.3	0.1	-0.1	0.1	-0.1	-0.1	0.0	0.0	-0.1	0.1
2/13/2024	6:20:28	0.0	-0.1	-0.2	0.0	-0.2	-0.1	0.1	0.3	0.1	-0.2	0.0	0.1	-0.1	-0.1	0.1	0.0	-0.1	0.1
2/13/2024	12:20:28	0.1	-0.1	-0.2	-0.3	-0.2	0.0	0.0	-0.1	0.0	1.0	0.0	0.1	-0.1	0.0	0.0	0.0	-0.1	0.1
2/13/2024	18:20:28	0.1	-0.1	-0.2	-0.2	-0.2	-0.2	0.1	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.0	-0.1	0.1
2/14/2024	0:20:28	-0.4	0.0	-0.2	-0.2	-0.2	0.1	0.0	-0.1	0.2	0.3	0.1	0.1	0.0	0.0	0.1	0.1	-0.1	0.2
2/14/2024	6:20:28	0.1	0.0	-0.2	-0.2	-0.2	0.1	0.1	0.0	0.7	0.3	0.1	0.1	0.1	0.0	0.1	0.2	0.0	0.3
2/14/2024	12:20:28	0.1	0.0	-0.2	-0.2	-0.2	-0.1	0.1	0.0	0.1	0.2	0.0	0.1	0.0	0.0	0.1	0.1	-0.1	0.2

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
2/14/2024	18:20:28	0.1	0.0	-0.2	-0.1	-0.2	0.2	0.1	0.2	0.3	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.1
2/15/2024	0:20:28	2.3	0.0	-0.2	0.0	-0.2	0.4	0.0	0.0	0.2	0.3	0.1	0.1	0.1	0.0	0.1	0.2	0.0	0.2
2/15/2024	6:20:28	0.3	0.0	-0.2	0.2	-0.3	0.2	-0.2	0.1	0.2	0.0	0.1	0.1	0.1	0.0	0.1	0.2	0.0	0.2
2/15/2024	12:20:28	0.0	0.0	-0.2	0.1	-0.2	-0.1	0.1	0.8	0.1	0.2	0.0	0.1	0.0	0.0	0.1	0.1	-0.1	0.2
2/15/2024	18:20:28	0.4	-0.1	-0.2	-0.1	-0.2	0.2	0.1	-0.1	0.3	0.1	0.0	0.1	-0.1	0.0	0.1	0.1	-0.1	0.1
2/16/2024	0:20:28	0.4	0.0	-0.2	0.0	-0.2	0.2	0.1	0.2	0.2	0.2	0.0	0.1	-0.1	0.0	0.1	0.1	-0.1	0.2
2/16/2024	6:20:28	-0.2	0.0	-0.2	0.0	-0.2	0.1	0.1	0.0	0.2	0.3	0.0	0.1	0.0	0.0	0.1	0.1	-0.1	0.3
2/16/2024	12:20:28	192.9	47.2	28.7	0.0	-0.2	163.8	0.1	0.2	0.4	0.1	19.0	11.0	-0.1	27.3	0.1	38.8	35.0	12.7
2/16/2024	18:20:28	258.7	46.2	133.9	0.1	-0.2	0.0	142.1	0.2	0.1	0.3	28.8	3.0	0.0	0.2	30.5	38.4	34.3	0.3
2/17/2024	0:20:28	169.3	47.5	-0.2	-0.2	-0.2	172.9	0.0	0.4	0.0	0.5	7.0	0.1	0.1	27.1	0.1	38.4	34.2	0.2
2/17/2024	6:20:28	183.5	47.2	-0.2	-0.2	197.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	31.5	0.1	0.1	38.3	34.1	0.1
2/17/2024	12:20:28	277.9	46.3	-0.2	193.4	-0.2	0.1	-0.1	0.2	0.1	119.7	0.1	32.0	0.2	0.0	0.1	38.1	34.1	29.5
2/17/2024	18:20:28	264.1	46.5	132.1	0.1	-0.2	0.6	144.0	0.7	0.1	0.0	29.0	3.8	0.0	0.0	30.9	38.1	34.1	0.4
2/18/2024	0:20:28	173.8	47.3	-0.2	0.0	-0.2	174.3	0.3	-0.1	0.3	0.2	3.8	0.1	0.1	27.1	0.1	38.3	34.2	0.2
2/18/2024	6:20:28	185.5	47.2	-0.2	0.1	197.4	0.7	0.2	0.2	0.2	0.3	0.1	0.1	31.6	0.0	0.1	38.2	34.1	0.2
2/18/2024	12:20:28	277.1	46.1	-0.2	192.5	-0.2	0.1	0.0	0.3	0.5	118.3	0.0	31.9	0.0	0.0	0.1	38.0	33.8	29.4
2/18/2024	18:20:28	233.3	46.8	85.1	-0.2	-0.2	0.2	144.1	0.0	0.1	0.5	29.4	3.6	0.0	0.0	30.9	38.2	34.1	0.5
2/19/2024	0:20:28	168.1	47.4	-0.2	-0.1	-0.2	173.3	0.2	0.1	0.1	0.2	7.7	0.1	0.0	27.2	0.1	38.2	34.0	0.2
2/19/2024	6:20:28	186.3	47.1	-0.2	0.1	196.2	0.3	0.2	0.3	0.2	0.1	0.0	0.1	31.6	0.0	0.1	38.2	34.0	0.2
2/19/2024	12:20:28	277.6	46.2	-0.2	192.9	-0.2	0.0	0.2	-0.2	0.2	118.4	0.0	32.0	0.1	0.0	0.1	37.9	33.8	29.5
2/19/2024	18:20:28	233.7	46.7	86.8	0.1	-0.2	0.1	147.1	0.0	0.2	-0.1	29.3	4.7	0.1	0.0	31.0	38.2	33.4	0.8
2/20/2024	0:20:29	177.3	47.3	-0.3	0.2	-0.2	170.9	0.1	0.0	0.5	0.2	6.1	0.1	0.2	27.2	0.1	38.3	33.5	0.3
2/20/2024	6:20:29	186.6	47.2	-0.3	0.2	198.3	0.1	0.0	0.3	0.2	0.0	0.1	0.1	31.9	0.0	0.2	38.2	33.4	0.4
2/20/2024	12:20:29	274.6	46.2	-0.2	191.2	-0.2	0.0	0.0	0.1	0.1	118.9	0.0	31.9	0.0	0.1	0.1	19.2	15.5	29.4
2/20/2024	18:20:29	241.0	46.8	86.9	0.0	-0.2	0.1	150.3	-0.1	0.3	0.7	29.3	5.1	0.0	0.0	30.9	10.6	10.1	1.0
2/21/2024	0:20:29	171.3	47.4	-0.2	0.0	-0.2	170.6	0.2	0.0	0.1	0.2	6.8	0.1	0.1	27.2	0.1	4.8	6.2	0.3
2/21/2024	6:20:29	186.3	47.2	-0.2	-0.1	197.7	0.2	0.1	0.1	0.2	0.1	0.1	0.2	31.7	0.0	0.2	1.9	3.7	0.3
2/21/2024	12:20:29	274.5	46.2	-0.2	193.0	0.1	0.1	-0.1	0.1	0.2	116.0	0.0	32.0	0.0	0.1	0.1	0.9	2.5	29.4
2/21/2024	18:20:29	241.8	46.7	87.2	-0.2	-0.2	0.1	148.7	0.0	0.2	0.1	29.3	5.9	0.0	0.1	31.0	0.3	1.5	1.0
2/22/2024	0:20:29	174.4	47.4	-0.3	-0.1	-0.2	172.8	0.4	0.0	0.2	0.3	7.2	0.1	0.1	27.3	0.2	0.2	0.8	0.3
2/22/2024	6:20:29	191.4	47.1	-0.2	0.1	198.3	0.2	-0.1	0.1	0.4	0.3	0.1	0.2	31.8	0.0	0.2	0.2	0.5	0.3
2/22/2024	12:20:29	270.7	46.2	-0.2	192.9	-0.1	0.2	-0.1	0.2	1.0	116.9	0.0	31.9	0.1	0.2	0.1	0.3	0.5	29.4
2/22/2024	18:20:29	237.5	46.7	86.6	0.0	-0.2	0.0	148.4	0.2	0.0	-0.2	29.4	6.4	0.1	0.1	31.0	0.1	0.3	2.4
2/23/2024	0:20:29	172.2	47.3	-0.2	-0.3	-0.2	174.7	0.0	0.1	0.1	0.0	7.2	0.1	0.1	27.0	0.1	0.1	0.1	0.3
2/23/2024	6:20:29	189.2	47.1	-0.3	0.8	195.9	0.2	0.2	0.4	0.3	0.1	0.1	0.2	31.6	0.1	0.1	0.2	0.1	0.3
2/23/2024	12:20:29	275.7	46.2	-0.2	194.5	-0.2	-0.1	0.1	-0.1	0.2	117.2	0.1	31.9	0.0	0.2	0.1	0.3	0.3	29.4
2/23/2024	18:20:29	228.3	46.9	85.4	0.0	-0.2	0.2	146.7	0.2	0.0	0.2	29.2	5.7	0.0	0.1	31.0	0.1	0.2	1.2
2/24/2024	0:20:29	178.8	47.4	-0.2	0.1	-0.2	177.0	0.3	0.4	0.3	0.1	8.1	0.2	0.0	26.9	0.1	0.1	0.0	0.3
2/24/2024	6:20:29	185.8	47.2	-0.2	-0.2	194.8	0.2	-0.2	0.2	0.3	0.8	0.1	0.1	31.4	0.1	0.1	0.1	0.0	0.2
2/24/2024	12:20:29	272.3	46.2	-0.2	194.1	-0.2	0.3	0.3	0.2	0.1	115.4	0.1	32.0	0.0	0.2	0.1	0.2	0.2	29.4
2/24/2024	18:20:29	237.3	46.8	86.9	0.1	-0.2	0.2	149.8	0.2	0.1	0.3	29.4	5.3	0.0	0.1	31.2	0.0	0.0	1.9
2/25/2024	0:20:29	175.5	47.5	-0.2	-0.2	-0.2	176.5	0.3	0.2	0.2	0.1	6.7	0.2	0.1	27.0	0.2	0.1	-0.1	0.3
2/25/2024	6:20:29	189.9	47.3	-0.3	-0.1	194.5	0.7	0.0	0.1	0.6	-0.1	0.1	0.2	31.5	0.1	0.2	0.2	-0.1	0.3
2/25/2024	12:20:29	276.9	46.2	-0.2	194.9	-0.2	0.2	0.1	-0.1	0.0	118.6	0.1	32.0	0.1	0.4	0.1	0.3	0.2	29.4
2/25/2024	18:20:29	231.8	46.8	85.7	0.1	-0.2	0.4	148.0	0.2	0.1	-0.1	29.3	5.2	0.1	0.1	31.1	0.1	0.0	2.3
2/26/2024	0:20:29	176.1	47.4	-0.2	-0.2	-0.2	176.8	0.1	0.5	0.1	0.0	6.0	0.2	0.1	26.9	0.2	0.1	-0.1	0.3
2/26/2024	6:20:29	193.2	47.2	-0.2	0.0	196.8	0.2	0.2	0.2	0.2	0.1	0.2	0.2	31.6	0.2	0.2	0.2	-0.1	0.4
2/26/2024	12:20:29	280.6	46.4	-0.2	196.4	-0.2	0.3	-0.1	0.3	0.2	117.7	0.1	32.1	0.1	0.4	0.1	0.3	0.3	29.5
2/26/2024	18:20:29	235.0	46.8	86.0	0.1	-0.2	0.0	149.2	0.2	0.1	0.0	29.3	5.7	0.1	0.2	31.2	0.1	0.1	2.0
2/27/2024	0:20:29	178.0	47.5	-0.2	-0.3	-0.2	176.1	0.1	0.0	0.1	0.1	7.0	0.2	0.1	26.9	0.1	0.1	0.0	0.3

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
2/27/2024	6:20:29	190.8	47.3	-0.2	0.7	194.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	31.4	0.1	0.2	0.1	-0.1	0.3
2/27/2024	12:20:29	273.9	46.2	-0.2	194.4	-0.2	0.0	0.1	-0.2	0.1	116.4	0.1	31.9	0.1	0.3	0.1	0.3	0.3	29.4
2/27/2024	18:20:29	236.5	46.8	86.9	0.0	-0.2	0.3	149.7	0.2	0.1	0.1	29.3	5.7	0.1	0.2	31.4	0.1	0.1	1.9
2/28/2024	0:20:29	178.0	47.5	-0.2	0.0	-0.2	176.2	0.0	0.3	0.3	0.1	6.7	0.2	0.2	26.9	0.1	0.1	0.0	0.3
2/28/2024	6:20:29	181.5	47.4	-0.2	-0.1	193.0	-0.1	0.0	0.1	0.2	0.3	0.1	0.2	31.2	0.1	0.1	0.1	0.0	0.3
2/28/2024	12:20:29	274.8	46.3	-0.2	192.6	-0.2	0.1	0.2	0.2	0.1	115.5	0.0	31.8	0.1	0.3	0.1	0.3	0.2	29.3
2/28/2024	18:20:29	235.5	46.9	87.2	-0.1	-0.2	0.1	153.1	-0.2	0.1	0.2	29.2	5.9	0.1	0.1	31.3	0.0	0.1	1.8
2/29/2024	0:20:29	181.2	47.5	-0.2	0.0	-0.2	175.9	-0.1	-0.2	0.2	0.1	6.9	0.2	0.2	26.9	0.1	0.0	-0.1	0.3
2/29/2024	6:20:29	185.0	47.4	-0.2	0.0	193.9	-0.1	0.1	-0.2	1.1	0.2	0.1	0.2	31.2	0.1	0.1	0.1	-0.1	0.3
2/29/2024	12:20:29	276.5	46.4	-0.2	192.6	-0.2	-0.3	-0.1	0.3	0.3	118.1	0.1	31.9	0.0	0.1	0.1	0.2	0.1	29.3
2/29/2024	18:20:29	235.0	46.8	86.9	-0.1	-0.2	-0.1	150.6	-0.3	0.3	0.2	29.2	5.5	0.0	0.1	31.4	0.0	0.0	0.6
3/1/2024	0:20:29	178.9	47.5	-0.2	-0.1	-0.2	177.7	0.1	-0.1	0.3	0.0	6.1	0.1	0.1	26.9	0.1	0.1	-0.1	0.2
3/1/2024	6:20:29	184.8	47.2	-0.2	0.0	192.4	0.1	0.3	0.1	0.2	0.1	0.1	0.1	31.1	0.1	0.1	0.1	-0.1	0.2
3/1/2024	12:20:29	279.6	46.2	0.1	191.7	-0.2	0.2	0.0	-0.1	0.2	118.1	0.0	31.8	0.0	0.4	0.0	0.2	0.1	29.3
3/1/2024	18:20:29	237.4	46.7	86.9	-0.1	-0.2	0.0	152.7	0.0	0.2	-0.1	29.2	5.9	0.0	0.1	31.3	0.0	0.0	1.2
3/2/2024	0:20:29	176.2	47.4	-0.2	-0.1	-0.2	174.1	0.2	-0.1	0.1	0.3	8.1	0.1	0.0	26.8	0.1	0.0	0.0	0.2
3/2/2024	6:20:29	184.9	47.2	-0.2	-0.1	191.6	0.2	-0.2	-0.1	0.3	0.1	0.1	0.1	31.0	0.1	0.1	0.1	-0.1	0.2
3/2/2024	12:20:29	270.6	46.2	-0.2	195.0	-0.2	-0.2	0.2	0.1	0.2	113.3	0.0	31.8	-0.1	0.3	0.1	0.1	0.1	29.4
3/2/2024	18:20:29	233.6	46.8	86.9	-0.2	-0.2	0.2	149.6	0.1	0.2	0.1	29.2	6.2	0.0	0.1	31.3	0.1	0.0	1.3
3/3/2024	0:20:29	179.6	47.4	-0.2	-0.1	-0.2	175.3	-0.1	0.0	0.2	0.3	8.0	0.1	0.0	26.8	0.1	0.1	0.0	0.1
3/3/2024	6:20:29	185.4	47.3	-0.2	-0.1	192.2	0.1	0.2	0.1	0.2	0.0	0.0	0.1	31.0	0.1	0.1	0.1	-0.1	0.2
3/3/2024	12:20:29	270.1	46.2	-0.2	193.5	-0.1	0.0	0.3	0.2	0.3	112.5	0.0	31.9	-0.1	0.7	0.1	0.2	0.1	29.6
3/3/2024	18:20:29	241.4	46.8	86.0	0.1	-0.2	0.0	149.2	0.3	0.2	0.2	29.2	6.2	0.0	0.1	31.4	0.0	0.0	0.9
3/4/2024	0:20:29	180.3	47.4	-0.2	-0.2	-0.2	177.1	0.2	0.3	0.0	0.3	5.9	0.1	0.0	26.9	0.1	0.0	-0.1	0.2
3/4/2024	6:20:29	186.8	47.3	-0.2	0.0	192.2	0.0	0.0	0.2	0.1	0.2	0.0	0.1	31.0	0.1	0.1	0.1	-0.1	0.1
3/4/2024	12:20:29	275.0	46.3	-0.2	195.4	-0.2	-0.1	0.0	0.3	0.2	114.7	0.0	31.9	0.0	0.1	0.1	0.2	0.1	29.5
3/4/2024	18:20:29	239.9	46.7	86.0	0.1	-0.2	0.2	149.4	0.2	0.1	0.3	29.3	5.7	0.0	0.0	31.3	0.0	0.0	0.8
3/5/2024	0:20:29	173.8	47.5	-0.2	-0.1	-0.2	174.0	0.1	0.0	0.4	0.2	7.0	0.1	0.0	27.2	0.1	0.1	-0.1	0.2
3/5/2024	6:20:29	189.7	47.2	-0.2	0.0	191.6	0.2	-0.1	0.1	0.1	0.2	0.0	0.1	31.0	0.0	0.1	0.1	-0.1	0.2
3/5/2024	12:20:29	278.7	46.2	-0.2	192.4	-0.2	0.2	0.0	0.0	0.0	111.0	0.0	31.8	0.0	0.2	0.0	0.2	0.1	29.4
3/5/2024	18:20:29	232.4	46.9	85.4	0.0	-0.2	0.2	148.0	0.0	0.0	0.6	29.2	5.8	0.0	0.1	31.3	0.0	0.0	0.8
3/6/2024	0:20:29	180.2	47.4	-0.2	0.0	-0.2	174.1	-0.1	0.8	0.3	0.0	6.9	0.1	0.0	26.8	0.1	0.1	0.0	0.2
3/6/2024	6:20:29	180.9	47.3	-0.2	-0.2	191.2	0.2	0.1	0.0	0.1	0.0	0.0	0.1	30.9	0.1	0.1	0.1	0.0	0.1
3/6/2024	12:20:29	265.3	46.3	-0.2	191.4	-0.1	0.3	0.2	-0.2	0.1	110.8	0.0	31.9	-0.1	0.2	0.1	0.1	0.1	29.4
3/6/2024	18:20:29	231.0	46.8	85.7	0.0	-0.2	1.0	148.5	0.3	0.2	0.1	29.1	5.8	-0.1	0.1	31.2	0.0	0.0	0.7
3/7/2024	0:20:29	176.9	47.4	-0.2	-0.1	-0.2	174.2	0.2	0.2	0.4	-0.3	7.3	0.1	0.0	26.7	0.1	0.0	-0.1	0.1
3/7/2024	6:20:29	182.2	47.3	-0.2	-0.2	190.9	0.2	0.6	0.1	0.4	0.2	0.0	0.1	30.8	0.1	0.1	0.0	-0.1	0.1
3/7/2024	12:20:29	275.4	46.3	-0.2	193.8	-0.2	0.1	0.1	0.0	0.3	113.3	0.0	31.9	0.0	0.3	0.1	0.2	0.1	29.5
3/7/2024	18:20:29	239.0	46.7	85.7	0.1	-0.2	-0.2	152.7	-0.1	0.2	0.0	29.2	6.5	0.0	0.1	31.4	0.0	0.0	1.5
3/8/2024	0:20:29	180.0	47.5	-0.2	-0.1	-0.2	177.2	0.1	0.0	0.2	0.3	7.1	0.1	0.0	26.7	0.1	0.0	-0.1	0.2
3/8/2024	6:20:29	182.2	47.2	-0.2	0.1	191.6	0.3	-0.1	0.0	0.3	0.1	0.0	0.1	30.8	0.1	0.1	0.0	-0.1	0.1
3/8/2024	12:20:29	270.8	46.3	-0.2	191.1	-0.1	0.3	0.1	0.0	0.2	110.6	0.0	31.8	0.2	0.4	0.0	0.2	0.2	29.4
3/8/2024	18:20:29	241.3	46.7	86.6	-0.3	-0.2	0.3	148.7	0.8	0.2	0.0	29.1	7.2	0.3	0.1	31.4	0.0	0.0	1.7
3/9/2024	0:20:29	176.0	47.4	-0.2	0.3	-0.2	174.4	0.0	0.1	0.4	0.0	7.2	1.4	0.4	26.7	0.1	0.0	0.0	0.1
3/9/2024	6:20:29	190.8	47.2	-0.2	0.0	190.2	0.1	0.0	0.1	0.1	0.4	0.0	0.1	30.8	0.1	0.1	0.0	-0.1	0.1
3/9/2024	12:20:29	269.1	46.3	-0.2	192.6	-0.2	0.3	1.0	0.0	0.1	111.4	0.0	31.7	0.3	0.3	0.0	0.1	0.2	29.3
3/9/2024	18:20:29	235.5	46.8	86.3	-0.3	-0.2	0.0	148.5	0.2	0.1	0.2	29.1	6.5	0.3	0.1	31.3	0.1	0.0	1.1
3/10/2024	0:20:29	175.6	47.4	-0.2	0.0	-0.2	174.2	0.5	0.0	0.2	0.3	7.1	1.0	0.5	26.8	1.9	0.0	0.0	0.1
3/10/2024	6:20:29	180.3	47.3	-0.2	0.1	189.5	0.2	-0.2	0.0	0.1	0.3	0.0	0.1	30.7	0.1	0.1	0.0	-0.1	0.1
3/10/2024	12:20:29	275.4	46.4	-0.2	193.2	-0.2	0.1	0.2	0.2	0.0	112.3	0.0	31.9	0.0	0.2	0.1	0.1	0.1	29.6

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
3/10/2024	18:20:29	233.7	46.8	85.7	0.1	-0.2	0.5	152.0	0.1	0.1	0.5	29.2	5.9	0.0	0.1	31.6	0.0	-0.1	1.2
3/11/2024	0:20:29	182.4	47.4	-0.2	-0.2	-0.2	178.6	0.0	0.2	0.3	0.2	5.6	0.1	0.0	26.9	0.1	0.0	-0.2	0.2
3/11/2024	6:20:29	179.9	47.3	-0.2	0.1	193.0	0.5	0.0	0.2	0.2	0.2	0.1	0.1	30.9	0.1	0.2	0.1	-0.2	0.3
3/11/2024	12:20:29	273.9	46.4	-0.2	195.6	-0.2	0.0	0.1	0.1	0.2	113.7	0.1	32.0	0.0	0.3	0.1	0.3	0.1	29.7
3/11/2024	18:20:29	236.7	46.7	86.3	0.0	-0.2	0.0	154.7	0.2	0.2	0.3	29.3	5.5	0.0	0.1	31.9	0.0	-0.1	0.7
3/12/2024	0:20:29	179.6	47.4	-0.2	-0.1	-0.2	179.4	0.1	0.2	0.1	0.1	0.1	0.1	0.1	26.9	0.2	0.0	-0.1	0.3
3/12/2024	6:20:29	191.8	47.3	-0.2	0.1	193.9	0.4	0.1	0.3	0.3	0.1	0.1	0.2	31.1	0.1	0.2	0.1	-0.1	0.3
3/12/2024	12:20:29	267.0	46.4	-0.2	192.5	-0.2	-0.1	-0.1	0.0	0.1	111.2	0.1	32.0	0.0	0.4	0.1	0.3	0.3	29.7
3/12/2024	18:20:29	241.4	46.9	86.9	0.1	-0.2	0.1	154.5	0.3	0.1	0.0	29.3	6.8	0.0	0.1	31.8	0.1	0.1	1.4
3/13/2024	0:20:29	182.1	47.5	-0.2	0.7	-0.2	175.9	0.0	0.2	0.7	0.4	5.1	0.2	0.0	26.9	0.1	0.1	0.0	0.3
3/13/2024	6:20:29	185.3	47.3	-0.2	0.0	193.0	0.2	0.0	0.3	0.2	0.0	0.1	0.2	31.0	0.1	0.2	0.1	0.0	0.3
3/13/2024	12:20:29	275.8	46.3	-0.2	193.0	-0.1	0.0	0.3	0.2	0.3	110.8	0.0	31.9	-0.1	0.4	0.1	0.3	0.3	29.5
3/13/2024	18:20:29	238.3	46.9	89.0	0.1	-0.2	0.0	151.3	0.0	0.2	0.2	29.2	7.2	0.0	0.1	31.7	0.1	0.1	1.7
3/14/2024	0:20:29	180.5	47.5	-0.2	-0.1	-0.2	178.6	0.0	0.0	0.3	0.2	5.8	0.8	0.0	26.9	0.1	0.0	0.0	0.2
3/14/2024	6:20:29	182.5	47.3	-0.2	-0.3	191.3	0.1	0.1	0.1	0.3	0.1	0.1	0.1	30.9	0.1	0.1	0.1	-0.1	0.3
3/14/2024	12:20:29	268.0	46.3	-0.2	194.1	-0.2	0.0	0.0	0.2	0.2	111.8	0.0	32.0	0.0	0.4	0.1	0.3	0.2	29.6
3/14/2024	18:20:29	241.3	46.7	91.6	0.1	-0.2	0.3	152.5	0.0	0.3	0.1	29.1	7.1	0.0	0.1	31.7	0.0	0.0	2.0
3/15/2024	0:20:29	170.9	47.5	-0.2	-0.2	-0.2	179.3	0.2	0.8	0.1	0.3	5.0	0.2	0.0	26.9	0.1	0.0	-0.1	0.2
3/15/2024	6:20:29	187.4	47.2	-0.2	-0.2	191.2	0.3	-0.2	-0.1	0.0	0.5	0.1	0.2	30.9	0.1	0.1	0.1	-0.1	0.2
3/15/2024	12:20:29	273.4	46.4	-0.2	191.1	-0.1	0.1	0.0	-0.2	0.1	111.5	0.0	31.8	0.0	0.5	0.0	0.2	0.2	29.5
3/15/2024	18:20:29	239.1	46.8	90.1	0.0	-0.2	0.0	154.5	0.1	0.2	0.3	29.2	7.2	0.0	0.2	31.6	0.0	0.1	1.7
3/16/2024	0:20:29	179.0	47.5	-0.2	-0.2	-0.2	177.5	-0.2	0.1	0.1	0.3	5.9	1.1	0.0	26.8	0.1	0.0	0.0	0.1
3/16/2024	6:20:29	185.2	47.3	-0.2	-0.1	191.2	0.2	0.4	0.1	0.2	0.1	0.0	0.1	30.8	0.1	0.1	0.1	0.0	0.2
3/16/2024	12:20:29	268.3	46.3	-0.2	189.3	-0.2	0.5	0.0	-0.1	0.3	110.6	0.0	31.9	0.0	0.3	0.1	0.3	0.1	29.5
3/16/2024	18:20:29	239.2	46.8	89.2	0.0	-0.2	0.3	154.1	0.2	0.3	0.4	29.2	6.8	-0.1	0.1	31.7	0.1	0.1	1.3
3/17/2024	0:20:29	176.6	47.5	-0.2	-0.2	-0.2	175.8	0.2	0.1	0.0	-0.2	5.6	0.1	-0.1	26.8	0.1	0.0	-0.1	0.1
3/17/2024	6:20:29	186.3	47.3	-0.2	0.0	190.3	0.2	-0.1	0.1	0.3	0.0	0.0	0.1	30.7	0.1	0.1	0.1	-0.1	0.1
3/17/2024	12:20:29	269.1	46.3	-0.2	191.2	-0.1	0.0	-0.1	-0.1	0.2	109.8	0.0	31.8	-0.1	0.7	0.0	0.2	0.1	29.4
3/17/2024	18:20:29	232.9	46.8	88.6	-0.3	-0.2	0.0	154.0	0.8	0.4	0.2	29.1	6.8	-0.1	0.2	31.5	0.1	0.1	1.4
3/18/2024	0:20:29	177.0	47.5	-0.2	0.1	-0.2	175.7	0.1	-0.1	0.4	0.9	5.5	0.2	0.0	26.7	0.1	0.0	-0.1	0.2
3/18/2024	6:20:29	182.2	47.4	-0.2	-0.3	191.5	0.1	0.0	-0.1	0.3	0.3	0.0	0.1	30.7	0.2	0.1	0.1	0.0	0.2
3/18/2024	12:20:29	271.6	46.3	-0.2	188.9	-0.2	-0.1	0.2	0.2	0.1	109.6	0.0	31.8	-0.1	0.3	0.0	0.1	0.2	29.4
3/18/2024	18:20:29	244.9	46.8	88.6	-0.1	-0.2	0.0	151.2	0.2	0.2	-0.1	29.2	6.5	-0.1	0.1	31.6	0.1	0.0	0.6
3/19/2024	0:20:29	177.7	47.4	-0.2	-0.1	-0.2	177.1	0.2	0.2	0.0	0.1	6.7	0.1	0.0	26.8	0.1	0.1	-0.1	0.2
3/19/2024	6:20:29	191.4	47.3	-0.2	0.9	191.3	0.0	0.1	0.3	0.1	0.2	0.1	0.2	30.8	0.1	0.1	0.0	-0.1	0.3
3/19/2024	12:20:29	279.6	46.2	-0.2	193.1	-0.2	0.2	-0.2	0.3	0.3	113.5	0.1	32.1	0.0	0.2	0.1	0.2	0.1	29.7
3/19/2024	18:20:29	244.4	46.8	89.2	0.0	-0.2	0.0	158.5	0.3	0.4	0.2	29.3	5.0	0.0	0.1	31.9	0.0	-0.1	0.4
3/20/2024	0:20:29	186.4	47.4	-0.2	0.1	-0.2	172.4	0.0	0.2	0.1	0.2	0.2	0.2	0.1	27.2	0.2	0.1	-0.1	0.3
3/20/2024	6:20:29	195.5	47.3	-0.2	0.2	193.6	0.0	0.1	0.0	0.2	0.7	0.2	0.2	31.1	0.1	0.3	0.2	-0.1	0.4
3/20/2024	12:20:29	277.7	46.3	-0.2	195.1	-0.2	0.2	-0.1	0.9	0.2	110.9	0.1	32.1	0.0	0.4	0.2	0.4	0.3	29.8
3/20/2024	18:20:29	13.8	51.1	-0.2	-0.2	-0.2	0.1	0.1	0.1	0.1	0.3	4.8	6.5	0.0	0.1	3.1	1.1	0.1	1.4
3/21/2024	0:20:29	15.5	49.3	-0.2	0.0	-0.2	0.1	0.0	0.1	0.3	0.3	0.2	0.2	0.1	0.1	0.2	0.4	-0.1	0.3
3/21/2024	6:20:29	15.1	50.2	-0.2	0.0	-0.2	0.1	0.2	0.1	0.3	0.3	0.1	0.2	0.1	0.1	0.2	0.3	0.0	0.3
3/21/2024	12:20:29	276.5	46.4	-0.2	192.9	-0.2	0.2	-0.2	0.0	0.1	112.4	0.1	32.2	0.0	0.5	0.1	0.4	0.3	29.6
3/21/2024	18:20:29	243.5	46.8	88.4	1.0	-0.2	-0.1	156.6	0.0	0.5	0.0	29.3	7.1	-0.1	0.2	31.9	0.1	0.1	1.0
3/22/2024	0:20:29	179.7	47.5	-0.2	0.1	-0.2	176.2	0.0	0.1	0.3	0.2	6.5	0.2	0.0	26.9	0.1	0.1	0.0	0.2
3/22/2024	6:20:29	182.4	47.4	-0.2	0.1	191.6	0.0	0.0	0.0	0.1	0.1	0.1	0.2	30.9	0.1	0.1	0.2	0.0	0.2
3/22/2024	12:20:29	272.1	46.3	-0.2	192.5	-0.2	0.0	0.1	0.0	0.1	112.6	0.1	32.0	0.0	0.2	0.1	0.2	0.1	29.5
3/22/2024	18:20:29	242.1	46.8	88.3	-0.2	-0.2	0.2	154.3	-0.1	0.3	0.4	29.3	4.2	0.0	0.2	31.8	0.2	0.1	0.3
3/23/2024	0:20:29	176.9	47.5	-0.2	-0.2	-0.2	174.5	0.3	-0.1	0.3	0.2	7.1	0.2	0.0	27.2	0.1	0.2	0.1	0.2

Hot Spot 6 System Data Log

Date	Time	System		Flow (SCFM)								Pressure (psig)							
		Flow (SCFM)	Pressure (psig)	M01	M02	M03	M04	M05	M06	M07	M08	M01	M02	M03	M04	M05	M06	M07	M08
3/23/2024	6:20:29	180.2	47.4	-0.2	0.1	190.4	0.0	0.0	0.5	0.1	0.1	0.1	0.1	30.8	0.1	0.1	0.2	0.0	0.2
3/23/2024	12:20:29	272.4	46.4	-0.2	192.5	-0.1	0.1	0.1	0.2	0.2	108.8	0.0	32.0	-0.1	0.4	0.0	0.2	0.2	29.5
3/23/2024	18:20:29	235.4	46.8	88.6	-0.4	-0.2	0.2	152.6	-0.1	0.3	-0.2	29.3	6.8	-0.1	0.1	31.6	0.1	0.1	0.9
3/24/2024	0:20:29	181.7	47.4	-0.2	0.4	-0.2	177.3	0.1	0.0	0.1	0.1	5.9	0.2	0.0	26.8	0.1	0.1	-0.1	0.3
3/24/2024	6:20:29	185.6	47.3	-0.2	-0.1	191.5	0.4	0.2	-0.1	0.1	0.0	0.1	0.1	30.8	0.3	0.1	0.1	-0.1	0.2
3/24/2024	12:20:29	267.6	46.4	-0.2	193.1	-0.1	0.1	-0.2	0.0	0.4	109.0	0.0	32.0	0.0	0.7	0.1	0.2	0.1	29.6
3/24/2024	18:20:29	235.2	46.8	88.0	-0.1	-0.2	0.3	153.5	0.2	0.2	0.1	29.2	5.8	0.0	0.1	31.7	0.0	0.0	0.8
3/25/2024	0:20:30	177.8	47.5	-0.2	-0.3	-0.2	176.6	0.0	0.1	0.1	0.2	6.1	0.1	0.0	26.8	0.2	0.0	-0.1	0.2
3/25/2024	6:20:30	186.5	47.4	-0.2	0.0	190.8	-0.1	-0.2	0.1	0.1	0.2	0.1	0.2	30.8	0.1	0.1	0.1	-0.1	0.2
3/25/2024	12:20:30	266.1	46.3	-0.2	193.6	-0.2	0.0	0.0	0.1	0.3	110.6	0.1	31.9	0.0	0.6	0.1	0.3	0.2	29.6
3/25/2024	18:20:30	237.9	46.7	88.3	-0.3	-0.2	0.0	154.3	0.2	0.1	0.2	29.2	6.7	0.0	0.4	31.8	0.0	0.0	0.6
3/26/2024	0:20:30	178.0	47.5	-0.2	0.0	-0.2	174.2	0.3	0.8	0.2	0.7	6.3	0.2	0.0	27.1	0.1	0.0	-0.1	0.2
3/26/2024	6:20:30	184.6	47.4	-0.2	-0.2	190.1	0.2	0.2	0.1	0.1	0.2	0.1	0.2	30.8	0.1	0.1	0.1	0.0	0.2
3/26/2024	12:20:30	266.2	46.3	-0.2	194.0	-0.2	0.5	-0.2	-0.1	0.9	109.1	0.0	31.9	0.1	0.4	0.1	0.3	0.2	29.6
3/26/2024	18:20:30	235.6	46.8	87.8	0.0	-0.2	0.0	153.1	0.4	0.2	0.0	29.2	6.7	0.2	0.2	31.6	0.1	0.1	1.0
3/27/2024	0:20:30	180.9	47.4	-0.2	-0.3	-0.2	176.8	0.2	0.2	0.3	0.1	6.5	0.3	0.3	26.8	0.1	0.0	-0.1	0.1
3/27/2024	6:20:30	184.3	47.2	-0.2	0.0	190.4	0.4	0.0	0.1	0.3	0.1	0.1	0.1	30.7	0.1	0.1	0.1	0.0	0.1
3/27/2024	12:20:30	265.5	46.4	-0.2	194.8	-0.2	0.2	0.0	0.0	0.1	108.6	0.0	31.9	-0.1	0.5	0.0	0.2	0.2	29.5
3/27/2024	18:20:30	240.7	46.8	88.6	0.1	-0.2	-0.1	153.3	0.1	0.3	0.1	29.2	5.9	0.0	0.3	31.6	0.0	0.0	0.3
3/28/2024	0:20:30	175.8	47.5	-0.2	0.4	-0.2	173.0	0.1	-0.1	0.7	0.2	6.4	0.1	0.0	27.1	0.1	0.1	0.0	0.1
3/28/2024	6:20:30	183.7	47.3	-0.2	-0.2	189.2	0.3	-0.2	-0.1	0.2	0.2	0.1	0.1	30.6	0.0	0.1	0.1	0.0	0.1
3/28/2024	12:20:30	268.2	46.2	-0.2	192.9	-0.2	-0.1	0.0	0.0	0.4	110.5	0.0	31.9	-0.1	0.1	0.1	0.0	0.0	29.5
3/28/2024	18:20:30	242.0	46.7	87.8	-0.1	-0.2	0.2	151.3	1.0	0.2	0.2	29.3	5.5	0.0	0.1	31.6	0.0	-0.1	0.4
3/29/2024	0:20:30	178.8	47.4	-0.2	0.1	-0.2	179.7	0.4	-0.1	0.2	0.4	5.3	0.2	0.0	26.7	0.1	0.0	-0.1	0.2
3/29/2024	6:20:30	186.0	47.3	-0.2	0.0	191.0	0.0	0.0	-0.1	0.3	0.2	0.1	0.2	30.7	0.1	0.1	0.0	-0.2	0.2
3/29/2024	12:20:30	272.5	46.3	-0.2	194.2	-0.2	0.2	0.0	0.7	0.3	107.5	0.1	32.0	0.0	0.3	0.1	0.3	0.1	29.6
3/29/2024	18:20:30	235.1	46.8	87.7	0.1	-0.2	-0.1	155.6	-0.2	0.1	-0.1	29.3	6.3	0.0	0.1	31.8	0.1	0.0	1.0
3/30/2024	0:20:30	186.3	47.5	-0.2	-0.1	-0.2	177.8	0.2	-0.1	0.1	0.3	0.1	0.2	0.0	26.8	0.2	0.0	-0.2	0.2
3/30/2024	6:20:30	186.7	47.4	-0.2	0.0	192.2	0.1	0.1	0.1	0.2	0.2	0.1	0.2	30.9	0.1	0.2	0.1	-0.1	0.3
3/30/2024	12:20:30	273.7	46.4	-0.2	193.2	-0.2	0.0	0.3	0.3	0.3	109.6	0.1	32.0	0.0	0.7	0.1	0.3	0.3	29.6
3/30/2024	18:20:30	240.3	46.8	87.2	-0.1	-0.2	0.1	154.2	-0.1	0.1	0.0	29.2	6.7	-0.1	0.2	31.8	0.1	0.1	0.9
3/31/2024	0:20:30	173.9	47.5	0.0	-0.1	-0.2	177.1	0.1	-0.2	0.1	0.1	5.8	0.2	0.0	26.8	0.1	0.0	0.0	0.2
3/31/2024	6:20:30	261.3	46.6	-0.2	184.9	0.1	0.2	0.1	-0.1	0.4	106.9	0.1	32.8	10.3	0.1	0.1	0.0	-0.1	30.6
3/31/2024	12:20:30	230.8	46.9	84.9	-0.2	-0.2	0.1	145.0	0.7	0.2	0.8	29.7	13.2	0.0	0.5	32.3	0.3	0.3	11.8
3/31/2024	18:20:30	172.0	47.5	-0.2	-0.1	-0.2	171.4	0.1	0.2	0.2	0.1	13.5	6.0	-0.1	27.8	10.8	0.1	0.1	0.7

Note

Readings are automatically recorded each hour; for presentation purposes only one reading every six hours is shown.

Manifold 6 was turned off during Phase Two air sparge well install and remained off.

From 9/28/23 – 12/7/23 - The flash drive used to save the logs was corrupted and the files could not be recovered, but the system operated normally.

From 12/7/23 – 2/16/24 - Readings display as “0” because of an error with the programmable logic controller, but the system operated normally.